

PROJECT MANUAL

RFQ/P NUMBER: 25.936

ELOP GROUP B PROJECT AT 8 SUSD ELEMENTARY SCHOOLS

**JOHN ADAMS ELEMENTARY SCHOOL – DSA# 02-122871
6402 INGLEWOOD AVE.
STOCKTON, CA 95207**

**LOTTIE GRUNSKY ELEMENTARY SCHOOL – DSA# 02-122872
1550 SCHOOL AVE.
STOCKTON, CA 95205**

**KENNEDY ELEMENTARY SCHOOL – DSA# 02-122874
630 PONCE DE LEON AVE.
STOCKTON, CA 95210**

**KOHL ELEMENTARY SCHOOL – DSA# 02-123092
4115 N. CROWN AVE.
STOCKTON, CA 95207**

**MONTEZUMA ELEMENTARY SCHOOL – DSA# 02-122873
2843 FARMINGTON ROAD
STOCKTON, CA 95206**

**VAN BUREN ELEMENTARY SCHOOL – DSA# 02-122875
1628 E. 10TH ST.
STOCKTON, CA 95206**

**VICTORY ELEMENTARY SCHOOL – DSA# 02-122876
1838 W. ROSE ST.
STOCKTON, CA 95203**

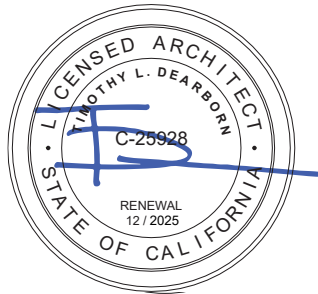
**WASHINGTON ELEMENTARY SCHOOL – DSA# 02-122877
1735 W. SONORA ST.
STOCKTON, CA 95203**

FEBRUARY 14, 2025

RFQ/P NUMBER: 25.936

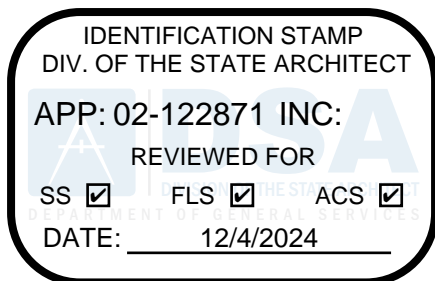
**STOCKTON UNIFIED SCHOOL DISTRICT
ELOP PORTABLE AND SITEWORK PROJECT
AT
JOHN ADAMS ELEMENTARY SCHOOL
6402 INGLEWOOD AVE
STOCKTON, CA 95207**

DSA Application #: 02-122871



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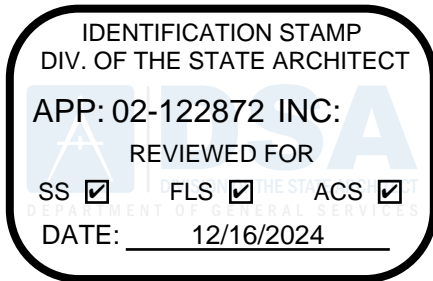


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RFQ/P NUMBER: 25.936

**STOCKTON UNIFIED SCHOOL DISTRICT
ELOP PORTABLE AND SITEWORK PROJECT
AT
LOTTIE GRUNSKY ELEMENTARY SCHOOL
1550 SCHOOL AVE
STOCKTON, CA 95205**



DSA Application #: 02-122872

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ELOP PORTABLE AND SITEWORK PROJECT
AT
KENNEDY ELEMENTARY SCHOOL
630 PONCE DE LEON AVENUE
STOCKTON, CA 95210**

DSA Application #: 02-122874



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APP: 02-122874 INC:
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DATE: 12/13/2024



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ELOP PORTABLE AND SITEWORK PROJECT
AT
KOHL ELEMENTARY SCHOOL
4115 N. CROWN AVENUE
STOCKTON, CA 95207**

DSA Application #: 02-123092



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MONTEZUMA ELEMENTARY SCHOOL
2843 FARMINGTON ROAD
STOCKTON, CA 95206**

DSA Application #: 02-122873

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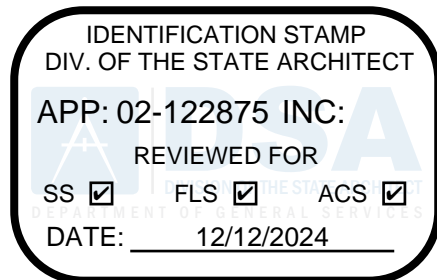
**STOCKTON UNIFIED SCHOOL DISTRICT
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1628 E. 10TH STREET
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DSA Application #: 02-122875



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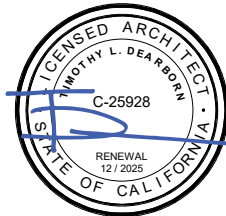
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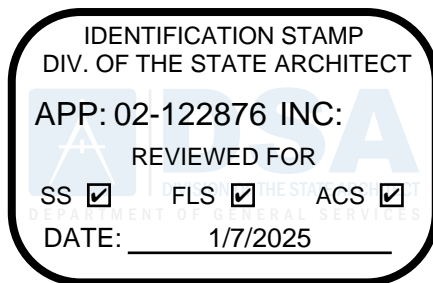
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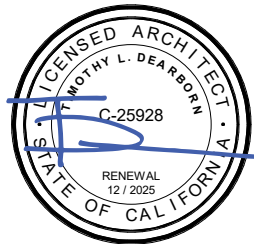
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**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

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**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
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**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

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STOCKTON UNIFIED SCHOOL DISTRICT**

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PC DRAWINGS - STRUCTURAL

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.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & RFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.2 - LIST OF DRAWINGS – GRUNSKY ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
UT1	COMPOSITE UTILITY PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

AA1.0	DEMO SITE PLAN
AA1.1	SITE PLAN
AA1.2	SITE PLAN – ENLARGED AREA OF WORK
AA1.3	PLASTER DETAILS
AA1.4	SITE DETAILS
AA1.5	SITE DETAILS
AA2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
AA2.2	ELOP BUILDING FLOOR PLAN
AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
AA6.1	ELOP BUILDING SECTIONS
AA6.2	ELOP BUILDING SECTIONS
AA7.0	ELOP BUILDING INTERIOR ELEVATIONS

MECHANICAL

M0.0	MECAHNICAL LEGEND, NOTES, & SITE
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ELECTRICAL

E001	COVER SHEET – ELECTRICAL
E100	SITE PLAN – ELECTRICAL
E200	FLOOR PLANS – ELECTRICAL, ONE-LINE DIAGRAM- POWER, SIGNAL RISER DIAGRAM – SITE FIRE ALARM RISER DIAGRAM, DETAILS, NOTES, DIAGRAMS, MATRIX, CALCULATIONS
E400	TITLE 24 - OUTDOOR LIGHTING COMPLIANCE
E500	FORMS

PC DRAWINGS - COVER

.A0.0.1	PROJECT OPTIONS SCHEDULE
.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES

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.A0.2	SIGNAGE AND SYMBOLS
.A0.3	DSA-103 T & I CONCRETE FLOORS
.A0.4	DSA-103 T & I PLYWOOD FLOORS
.A0.5	CAL GREEN SPEC'S
.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

PC DRAWINGS - ARCHITECTURAL

.A0.0	COVER SHEET
.A1.1	36x40 FLOOR PLAN
.A2.2	ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)
.A2.9	ARCHITECTURAL DETAILS (FLOOR)
.A3.0.1	FIRE SEPARATION & PENETRATION DETAILS
.A3.1	SINGLE OCC. BATHROOM
.A3.2	RCP
.A3.2.1	CEILING NOTES
.A3.3	CEILING DETAILS (T-GRID)
.A4.0.1	ROOF PLAN MONO SLOPE (STANDING SEAM)
.A4.1	ROOF DETAILS (STANDING SEAM)
.A5.0	SIDEWALL ELEVATION
.A5.1	ENDWALL ELEVATIONS
.A5.2	INTERIOR ELEVATIONS
.A6.0	SECTION - STANDING SEAM (MONO)
.A6.2	SECTION
.A7.0	ADDITIONAL OPTION DETAILS
.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

PC DRAWINGS - MEP

.E0.1	ELECTRICAL GENERAL NOTES
.E1.2	ELECTRICAL PLAN 36X40
.E1.3	ELECTRICAL SCHEDULE 36X40
.M0.1	MISCELLANEOUS NOTES & DETAILS
.M.02	MISCELLANEOUS NOTES & DETAILS
.M2.9	24'X40' T24 CZ 14 (WALL AC)
.M2.10	24'X40' T24 CZ 14 (WALL AC)
.M2.11	24'X40' T24 CZ 14 (WALL AC)
.M2.12	24'X40' T24 CZ 14 (WALL AC)
.M2.13	24'X40' T24 CZ 14 (WALL AC)
.M2.14	24'X40' T24 CZ 16 (WALL AC)
.M3.3	ENVELOPE & NOTES
.M6.1	MECHANICAL CEILING PLAN 36X40
.P1.0	TYPICAL PLUMBING DETAILS

PC DRAWINGS - FOUNDATION

.F2.10	CONCRETE FOUNDATION PLAN
.F2.20	CONCRETE FOUNDATION DETAILS
.F2.22	CONCRETE FOUNDATION DETAILS
.F2.23	CONCRETE FOUNDATION DETAILS

PC DRAWINGS - STRUCTURAL

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**LIST OF DRAWINGS – GRUNSKY ES
DOCUMENT 00 01 15.2-2**

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.S0.1	STRUCTURL GEN NOTES
.S1.0.4	WD SHTH'G FLR FRM'G PLAN (50+1 5 PSF)
.S1.2	STRUCTURAL DETAILS (FLOOR)
.S3.0.3	MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.
.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & RFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.3 - LIST OF DRAWINGS – KENNEDY ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
UT1	COMPOSITE UTILITY PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

AA1.0	DEMO SITE PLAN
AA1.1	SITE PLAN
AA1.2	SITE PLAN – ENLARGED AREA OF WORK
AA1.3	PLASTER DETAILS
AA1.4	SITE DETAILS
AA1.5	SITE DETAILS
AA2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
AA2.2	ELOP BUILDING FLOOR PLAN
AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
AA6.1	ELOP BUILDING SECTIONS
AA6.2	ELOP BUILDING SECTIONS
AA7.0	ELOP BUILDING INTERIOR ELEVATIONS

MECHANICAL

M0.0	MECHANICAL LEGEND, NOTES, & SITE PLAN
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ELECTRICAL

E001	COVER SHEET – ELECTRICAL
E100	SITE PLAN – ELECTRICAL
E200	FLOOR PLANS – ELECTRICAL, ONE-LINE DIAGRAM- POWER, SIGNAL RISER DIAGRAM – SITE FIRE ALARM RISER DIAGRAM, DETAILS, NOTES, DIAGRAMS, MATRIX, CALCULATIONS
E400	TITLE 24 - OUTDOOR LIGHTING COMPLIANCE
E500	FORMS

PC DRAWINGS - COVER

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.A0.0.1	PROJECT OPTIONS SCHEDULE
.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES
.A0.2	SIGNAGE AND SYMBOLS
.A0.3	DSA-103 T & I CONCRETE FLOORS
.A0.4	DSA-103 T & I PLYWOOD FLOORS
.A0.5	CAL GREEN SPEC'S
.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

PC DRAWINGS - ARCHITECTURAL

.A0.0	COVER SHEET
.A1.1	36x40 FLOOR PLAN
.A2.2	ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)
.A2.9	ARCHITECTURAL DETAILS (FLOOR)
.A3.0.1	FIRE SEPARATION & PENETRATION DETAILS
.A3.1	SINGLE OCC. BATHROOM
.A3.2	RCP
.A3.2.1	CEILING NOTES
.A3.3	CEILING DETAILS (T-GRID)
.A4.0.1	ROOF PLAN MONO SLOPE (STANDING SEAM)
.A4.1	ROOF DETAILS (STANDING SEAM)
.A5.0	SIDEWALL ELEVATION
.A5.1	ENDWALL ELEVATIONS
.A5.2	INTERIOR ELEVATIONS
.A6.0	SECTION - STANDING SEAM (MONO)
.A6.2	SECTION
.A7.0	ADDITIONAL OPTION DETAILS
.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

PC DRAWINGS - MEP

.E0.1	ELECTRICAL GENERAL NOTES
.E1.2	ELECTRICAL PLAN 36X40
.E1.3	ELECTRICAL SCHEDULE 36X40
.M0.1	MISCELLANEOUS NOTES & DETAILS
.M.02	MISCELLANEOUS NOTES & DETAILS
.M2.9	24'X40' T24 CZ 14 (WALL AC)
.M2.10	24'X40' T24 CZ 14 (WALL AC)
.M2.11	24'X40' T24 CZ 14 (WALL AC)
.M2.12	24'X40' T24 CZ 14 (WALL AC)
.M2.13	24'X40' T24 CZ 14 (WALL AC)
.M2.14	24'X40' T24 CZ 16 (WALL AC)
.M3.3	ENVELOPE & NOTES
.M6.1	MECHANICAL CEILING PLAN 36X40
.P1.0	TYPICAL PLUMBING DETAILS

PC DRAWINGS - FOUNDATION

.F2.10	CONCRETE FOUNDATION PLAN
.F2.20	CONCRETE FOUNDATION DETAILS
.F2.22	CONCRETE FOUNDATION DETAILS
.F2.23	CONCRETE FOUNDATION DETAILS

PC DRAWINGS - STRUCTURAL

.S0.1	STRUCTURL GEN NOTES
.S1.0.4	WD SHTH'G FLR FRM'G PLAN (50+1 5 PSF)
.S1.2	STRUCTURAL DETAILS (FLOOR)
.S3.0.3	MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.
.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & RFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.4 - LIST OF DRAWINGS – KOHL OPEN ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
GP2	GOPHER SLAB DETAIL
UT1	COMPOSITE UTILITY PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

AA1.0	DEMO SITE PLAN
AA1.1	SITE PLAN
AA1.2	SITE PLAN – ENLARGED AREA OF WORK
AA1.3	SITE DETAILS
AA1.4	SITE DETAILS
AA2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
AA2.2	ELOP BUILDING FLOOR PLAN
AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
AA6.1	ELOP BUILDING SECTIONS
AA6.2	ELOP BUILDING SECTIONS
AA7.0	ELOP BUILDING INTERIOR ELEVATIONS

MECHANICAL

M0.0	MECAHNICAL LEGEND, NOTES, & SITE PLAN
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ELECTRICAL

E001	COVER SHEET – ELECTRICAL
E100	SITE PLAN – ELECTRICAL
E200	FLOOR PLANS – ELECTRICAL, ONE-LINE DIAGRAM-POWER, SIGNAL RISER DIAGRAM – SITE
E400	FIRE ALARM RISER DIAGRAM, DETAILS, NOTES, DIAGRAMS, MATRIX, CALCULATIONS
E500	TITLE 24 - OUTDOOR LIGHTING COMPLIANCE FORMS

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FIRE SPRINKLER

FP-1	FSP PIPING PLAN
FP-2	DETAILS
FP-3	HYDRAULIC PLAN

PC DRAWINGS - COVER

.A0.0.1	PROJECT OPTIONS SCHEDULE
.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES
.A0.2	SIGNAGE AND SYMBOLS
.A0.3	DSA-103 T & I CONCRETE FLOORS
.A0.4	DSA-103 T & I PLYWOOD FLOORS
.A0.5	CAL GREEN SPEC'S
.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

PC DRAWINGS - ARCHITECTURAL

.A0.0	COVER SHEET
.A1.1	36x40 FLOOR PLAN
.A2.2	ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)
.A2.9	ARCHITECTURAL DETAILS (FLOOR)
.A3.0.1	FIRE SEPARATION & PENETRATION DETAILS
.A3.1	SINGLE OCC. BATHROOM
.A3.2	RCP
.A3.2.1	CEILING NOTES
.A3.3	CEILING DETAILS (T-GRID)
.A4.0.1	ROOF PLAN MONO SLOPE (STANDING SEAM)
.A4.1	ROOF DETAILS (STANDING SEAM)
.A5.0	SIDEWALL ELEVATION
.A5.1	ENDWALL ELEVATIONS
.A5.2	INTERIOR ELEVATIONS
.A6.0	SECTION - STANDING SEAM (MONO)
.A6.2	SECTION
.A7.0	ADDITIONAL OPTION DETAILS
.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

PC DRAWINGS - MEP

.E0.1	ELECTRICAL GENERAL NOTES
.E1.2	ELECTRICAL PLAN 36X40
.E1.3	ELECTRICAL SCHEDULE 36X40
.M0.1	MISCELLANEOUS NOTES & DETAILS
.M.02	MISCELLANEOUS NOTES & DETAILS
.M2.9	24'X40' T24 CZ 14 (WALL AC)
.M2.10	24'X40' T24 CZ 14 (WALL AC)
.M2.11	24'X40' T24 CZ 14 (WALL AC)
.M2.12	24'X40' T24 CZ 14 (WALL AC)
.M2.13	24'X40' T24 CZ 14 (WALL AC)
.M2.14	24'X40' T24 CZ 16 (WALL AC)
.M3.3	ENVELOPE & NOTES
.M6.1	MECHANICAL CEILING PLAN 36X40
.P1.0	TYPICAL PLUMBING DETAILS

PC DRAWINGS - FOUNDATION

.F2.10	CONCRETE FOUNDATION PLAN
.F2.20	CONCRETE FOUNDATION DETAILS
.F2.22	CONCRETE FOUNDATION DETAILS
.F2.23	CONCRETE FOUNDATION DETAILS

PC DRAWINGS - STRUCTURAL

.S0.1	STRUCTURL GEN NOTES
.S1.0.4	WD SHTH'G FLR FRM'G PLAN (50+1 5 PSF)
.S1.2	STRUCTURAL DETAILS (FLOOR)
.S3.0.3	MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.
.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & RFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.5 - LIST OF DRAWINGS – MONTEZUMA ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
UT1	COMPOSITE UTILITY PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

AA1.0	DEMO SITE PLAN
AA1.1	SITE PLAN
AA1.2	SITE PLAN – ENLARGED AREA OF WORK
AA1.3	PLASTER DETAILS
AA1.4	SITE DETAILS
AA1.5	SITE DETAILS
AA2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
AA2.2	ELOP BUILDING FLOOR PLAN
AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
AA6.1	ELOP BUILDING SECTIONS
AA6.2	ELOP BUILDING SECTIONS
AA7.0	ELOP BUILDING INTERIOR ELEVATIONS

ELECTRICAL

E001	COVER SHEET – ELECTRICAL
E100	SITE PLAN – ELECTRICAL
E200	FLOOR PLANS – ELECTRICAL, ONE-LINE DIAGRAM-POWER, SIGNAL RISER DIAGRAM – SITE
E400	FIRE ALARM RISER DIAGRAM, DETAILS, NOTES, DIAGRAMS, MATRIX, CALCULATIONS

PC DRAWINGS - COVER

.A0.0.1	PROJECT OPTIONS SCHEDULE
.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES
.A0.2	SIGNAGE AND SYMBOLS
.A0.3	DSA-103 T & I CONCRETE FLOORS
.A0.4	DSA-103 T & I PLYWOOD FLOORS
.A0.5	CAL GREEN SPEC'S

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.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

PC DRAWINGS - ARCHITECTURAL

.A0.0	COVER SHEET
.A1.1	36x40 FLOOR PLAN
.A2.2	ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)
.A2.9	ARCHITECTURAL DETAILS (FLOOR)
.A3.0.1	FIRE SEPARATION & PENETRATION DETAILS
.A3.1	SINGLE OCC. BATHROOM
.A3.2	RCP
.A3.2.1	CEILING NOTES
.A3.3	CEILING DETAILS (T-GRID)
.A4.0.1	ROOF PLAN MONO SLOPE (STANDING SEAM)
.A4.1	ROOF DETAILS (STANDING SEAM)
.A5.0	SIDEWALL ELEVATION
.A5.1	ENDWALL ELEVATIONS
.A5.2	INTERIOR ELEVATIONS
.A6.0	SECTION - STANDING SEAM (MONO)
.A6.2	SECTION
.A7.0	ADDITIONAL OPTION DETAILS
.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

PC DRAWINGS - MEP

.E0.1	ELECTRICAL GENERAL NOTES
.E1.2	ELECTRICAL PLAN 36X40
.E1.3	ELECTRICAL SCHEDULE 36X40
.M0.1	MISCELLANEOUS NOTES & DETAILS
.M.02	MISCELLANEOUS NOTES & DETAILS
.M2.9	24'X40' T24 CZ 14 (WALL AC)
.M2.10	24'X40' T24 CZ 14 (WALL AC)
.M2.11	24'X40' T24 CZ 14 (WALL AC)
.M2.12	24'X40' T24 CZ 14 (WALL AC)
.M2.13	24'X40' T24 CZ 14 (WALL AC)
.M2.14	24'X40' T24 CZ 16 (WALL AC)
.M3.3	ENVELOPE & NOTES
.M6.1	MECHANICAL CEILING PLAN 36X40
.P1.0	TYPICAL PLUMBING DETAILS

PC DRAWINGS - FOUNDATION

.F2.10	CONCRETE FOUNDATION PLAN
.F2.20	CONCRETE FOUNDATION DETAILS
.F2.22	CONCRETE FOUNDATION DETAILS
.F2.23	CONCRETE FOUNDATION DETAILS

PC DRAWINGS - STRUCTURAL

.S0.1	STRUCTURL GEN NOTES
.S1.0.4	WD SHTH'G FLR FRM'G PLAN (50+1 5 PSF)
.S1.2	STRUCTURAL DETAILS (FLOOR)
.S3.0.3	MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.

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.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & REFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.6 - LIST OF DRAWINGS – VAN BUREN ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
UT1	WATER AND STORMDRAIN PLAN
SS1	SEWER PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

A1.0	DEMO SITE PLAN
A1.1	SITE PLAN
A1.2	SITE PLAN – ENLARGED AREA OF WORK
A1.3	PLASTER DETAILS
A1.4	SITE DETAILS
A1.5	SITE DETAILS
A2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
A2.2	ELOP BUILDING FLOOR PLAN
A2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
A5.0	ELOP BUILDING EXTERIOR ELEVATIONS
A6.1	ELOP BUILDING SECTIONS
A6.2	ELOP BUILDING SECTIONS
A7.0	ELOP BUILDING INTERIOR ELEVATIONS

MECHANICAL

M0.0	MECHANICAL LEGEND, NOTES, & SITE PLAN
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ELECTRICAL

E001	COVER SHEET – ELECTRICAL
E100	SITE PLAN – ELECTRICAL
E200	FLOOR PLANS – ELECTRICAL, ONE-LINE DIAGRAM-POWER, SIGNAL RISER DIAGRAM – SITE
E400	FIRE ALARM RISER DIAGRAM, DETAILS, NOTES, DIAGRAMS, MATRIX, CALCULATIONS
E500	TITLE 24 - OUTDOOR LIGHTING COMPLIANCE FORMS

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

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PC DRAWINGS - COVER

.A0.0.1	PROJECT OPTIONS SCHEDULE
.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES
.A0.2	SIGNAGE AND SYMBOLS
.A0.3	DSA-103 T & I CONCRETE FLOORS
.A0.4	DSA-103 T & I PLYWOOD FLOORS
.A0.5	CAL GREEN SPEC'S
.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

PC DRAWINGS - ARCHITECTURAL

.A0.0	COVER SHEET
.A1.1	36x40 FLOOR PLAN
.A2.2	ARCHITECTURAL DETAILS (WOOD FRAMING PLASTER FINISH)
.A2.9	ARCHITECTURAL DETAILS (FLOOR)
.A3.0.1	FIRE SEPARATION & PENETRATION DETAILS
.A3.1	SINGLE OCC. BATHROOM
.A3.2	RCP
.A3.2.1	CEILING NOTES
.A3.3	CEILING DETAILS (T-GRID)
.A4.0.1	ROOF PLAN MONO SLOPE (STANDING SEAM)
.A4.1	ROOF DETAILS (STANDING SEAM)
.A5.0	SIDEWALL ELEVATION
.A5.1	ENDWALL ELEVATIONS
.A5.2	INTERIOR ELEVATIONS
.A6.0	SECTION - STANDING SEAM (MONO)
.A6.2	SECTION
.A7.0	ADDITIONAL OPTION DETAILS
.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

PC DRAWINGS - MEP

.E0.1	ELECTRICAL GENERAL NOTES
.E1.2	ELECTRICAL PLAN 36X40
.E1.3	ELECTRICAL SCHEDULE 36X40
.M0.1	MISCELLANEOUS NOTES & DETAILS
.M.02	MISCELLANEOUS NOTES & DETAILS
.M2.9	24'X40' T24 CZ 14 (WALL AC)
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.M2.13	24'X40' T24 CZ 14 (WALL AC)
.M2.14	24'X40' T24 CZ 16 (WALL AC)
.M3.3	ENVELOPE & NOTES
.M6.1	MECHANICAL CEILING PLAN 36X40
.P1.0	TYPICAL PLUMBING DETAILS

PC DRAWINGS - FOUNDATION

.F2.10	CONCRETE FOUNDATION PLAN
.F2.20	CONCRETE FOUNDATION DETAILS
.F2.22	CONCRETE FOUNDATION DETAILS

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

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.F2.23

CONCRETE FOUNDATION DETAILS

PC DRAWINGS - STRUCTURAL

.S0.1	STRUCTURL GEN NOTES
.S1.0.4	WD SHTH'G FLR FRM'G PLAN (50+1 5 PSF)
.S1.2	STRUCTURAL DETAILS (FLOOR)
.S3.0.3	MONO SLOPE ROOF FRM'G PLAN CROSS STRAP OPT.
.S3.1	STRUCTURAL DETAILS (ROOF)
.S3.3	ROOF PERIMETER TRUSS
.S4.1	WD WALL FRAMING ELEVATIONS
.S4.2	WALL DETAILS (WOOD FRAMING)
.S4.4	TYP FRAMING
.S4.5	FRAMING SCHEDULES
.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

.ALT-D1	SCHEDULES AND DETAILS
.ALT-01	FLOOR PLAN & RFLECTED CEILING PLAN
.ALT-02	ELECTRICAL PLAN & MECHANICAL PLAN
.ALT-03	ROOF PLAN & PLUMBING PLAN
.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

00 01 15.7 - LIST OF DRAWINGS – VICTORY ES

DRAWINGS

Sheet number

Description

GENERAL

G0.0	COVER SHEET
G0.1	ABBREVIATIONS, DESIGN DATA, SYMBOL LEGEND & SHEET INDEX
G1.1	SITE PLAN – LOCAL FIRE AUTHORITY REVIEW
G1.2	SITE PLAN – ACCESSIBILITY REVIEW

CIVIL

GN1	GENERAL NOTES AND SPECIFICATIONS
TO1	EXISTING TOPOGRAPHY AND DEMOLITION PLAN
CS1	CALCULATED SITE PLAN
GP1	GRADING PLAN
UT1	COMPOSITE UTILITY PLAN
CD1	CONSTRUCTION DETAILS
ER1	EROSION CONTROL PLAN
ER2	EROSION CONTROL NOTES AND DETAILS

ARCHITECTURAL

AA1.0	DEMO SITE PLAN
AA1.1	SITE PLAN
AA1.2	SITE PLAN – ENLARGED AREA OF WORK
AA1.3	PLASTER DETAILS
AA1.4	SITE DETAILS
AA1.5	SITE DETAILS
AA2.1	ELOP BUILDING FOUNDATION / CRAWL SPACE PLAN
AA2.2	ELOP BUILDING FLOOR PLAN
AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
AA6.1	ELOP BUILDING SECTIONS
AA6.2	ELOP BUILDING SECTIONS
AA7.0	ELOP BUILDING INTERIOR ELEVATIONS

MECHANICAL

M0.0	MECAHNICAL LEGEND, NOTES, & SITE PLAN
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**ELOP GROUP B PROJECTS
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PC DRAWINGS - COVER

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.A0.1	TYPICAL KEY PLAN AND SCHEDULES, GEN NOTES
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.A0.6	CAL GREEN CHECKLIST
.A0.7	CAL GREEN CHECKLIST
.A0.8	CAL GREEN CHECKLIST

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.A5.0	SIDEWALL ELEVATION
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.A6.2	SECTION
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.A7.1	ADDITIONAL OPTION DETAILS
.A7.2	ADDITIONAL OPTION DETAILS

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.F2.22	CONCRETE FOUNDATION DETAILS

.F2.23

CONCRETE FOUNDATION DETAILS

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.S5.0	LONG. SECTION - (MONO)

PC DRAWINGS - ALTERATIONS

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.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

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00 01 15.8 - LIST OF DRAWINGS – WASHINGTON ES

DRAWINGS

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AA2.3	ELOP BUILDING ELECTRICAL FLOOR PLAN
AA5.0	ELOP BUILDING EXTERIOR ELEVATIONS
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E500	FORMS

PC DRAWINGS - COVER

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

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.ALT-04	FIRE ALARM
.ALT-05	INTERIOR ELEVATIONS
.ALT-06	EXTERIOR ELEVATIONS

END OF DOCUMENT

**STOCKTON UNIFIED SCHOOL DISTRICT
REQUEST FOR QUALIFICATIONS AND PROPOSALS (RFQ/P) # 25.936
LEASE-LEASEBACK CONSTRUCTION SERVICES**

Stockton Unified School District ("District") is seeking proposals from qualified persons, firms, partnerships, corporations, associations, or professional organizations to provide constructability review, value engineering, master scheduling, cost estimating, budgeting, and construction services for the development and construction for the **ELOP Group B Project at 8 SUSD Elementary Schools** ("Project"), in accordance with the lease-leaseback structure set forth in Education Code section 17406, et seq.

The Request for Qualifications and Proposals ("RFQ/P"), which includes instructions for its completion, is enclosed for your consideration. Respondents to this RFQ/P shall submit a completed Statement of Qualifications ("SOQ") along with the Proposal (collectively "RFQ/P Packet"). Respondents must mail or deliver five (5) bound copies, one (1) unbound copy, and one (1) electronic copy on USB flashdrive of the RFQ/P Packet conforming to the requirements of this RFQ/P to:

STOCKTON UNIFIED SCHOOL DISTRICT
ATTN: Vickie Brum, Director of Facilities and Planning
1944 N. El Pinal Drive
Stockton, CA 95205
RE: RFQ/P # 25.936

ALL RESPONSES ARE DUE BY 2:00 P.M. ON Tuesday, March 18, 2025. Oral, telegraphic, facsimile, telephone or email RFQ/P Packets will not be accepted. RFQ/P Packets received after this date and time will not be accepted and returned unopened.

A mandatory information meeting will be conducted on **Tuesday February 25, 2025**, at **1:30 P.M.** at the following school sites, beginning with **Kohl Open Elementary School – 4115 Crown Ave., Stockton, CA 95207**, and then **Lottie Grunsky Elementary School – 1550 School Ave., Stockton, CA 95205**.

Respondents must attend the information meeting at both sites.

Questions regarding this RFQ/P may be directed to **Timothy Dearborn** Tim@architechnica.net, **Lewis Pablo** Lpablo@stocktonusd.net, and **Ryan Lancaster** Rlancaster@stocktonusd.net, and must be submitted in writing on or by **2:00 P.M. ON Thursday, March 6, 2025**.

This Project is subject to labor compliance monitoring and enforcement of compliance with prevailing wage requirements by the Department of Industrial Relations pursuant to Labor Code § 1771.4, and skilled and trained workforce requirement pursuant to Public Contract Code § 2600. Contractors of all tiers must be currently registered and qualified to perform public work pursuant to Labor Code § 1725.5. All Respondents must be prequalified by the District in accordance with Public Contract Code § 20111.6. First tier electrical, mechanical and plumbing subcontractors must be prequalified prior to the time subcontractor bids are submitted.

RFQ/P SCHEDULE SUMMARY

DATE	ACTION ITEM
February 14, 2025	Release of RFQ/P.
February 14, 2025	RFQ/P packages available for distribution.
Week of February 11, 2025	First advertisement of RFQ/P in trade journal and local newspaper.
Week of February 18, 2025	Second advertisement of RFQ/P in trade journal and local newspaper.
February 25, 2025 at 1:30 P.M.	Mandatory Informational Meeting.
March 6, 2025 at 2:00 P.M.	Last day to receive written questions from Respondents.
March 13, 2025	Last day for District to issue addenda to answer questions/clarifications.
March 18, 2025 at 2:00 P.M.	Deadline for submissions in response to RFQ/P.
Week of March 23, 2025	Release of shortlist of qualified Respondents and interview notifications.
Week of ____TBD____	Interviews of qualified Respondents.
TBD	Notice to selected developer to commence contract negotiation.

The District reserves the right to change the dates on the schedule without prior notice.

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**STOCKTON UNIFIED SCHOOL DISTRICT
REQUEST FOR QUALIFICATIONS AND PROPOSALS
LEASE-LEASEBACK CONSTRUCTION SERVICES**

I. INTRODUCTION

Stockton Unified School District ("District") is a California public school district. The District educates approximately 38,000 students and embraces 53 diverse school communities. In partnership with parents and the community, the District's goal is to graduate every student college, career, and community ready. In doing so, we lift all youth out of circumstances of poverty and scarcity. The District partners with world-class universities, innovative businesses and nonprofit organizations, and engaged community leaders to prepare our students for college, career and life.

This Request for Qualifications and Proposals ("RFQ/P") defines the services sought from Respondents and generally outlines the Project requirements. Respondents to this RFQ/P shall submit a completed Statement of Qualifications ("SOQ") along with the Proposal (collectively "RFQ/P Packet").

I. PROJECT DESCRIPTION AND SCOPE OF SERVICES

A. General

The purpose of this RFQ/P is to select a qualified person, firm, partnership, corporation, association, or professional organization to provide constructability review, value engineering, master scheduling, cost estimating, budgeting, and construction services for the development and construction for the **ELOP Group B Project at 8 SUSD Elementary Schools** Project ("Project"), in accordance with the lease-leaseback structure set forth in Education Code section 17406 et seq. Selected developer shall have experience with the construction of public school facilities and complying with the requirements of the Office of Public School Construction ("OPSC"), the Division of the State Architect ("DSA"), and Title 24 of the California Code of Regulations.

To submit a proposal, Respondents must be properly licensed by the California Contractors State License Board and registered with the Department of Industrial Relations ("DIR") as required by law. Only Respondents who have been prequalified by the District in accordance with Public Contract Code section 20111.6 are eligible to respond to this RFQ/P.

The selected developer will be required to comply with the prevailing wage requirements, the skilled and trained workforce requirements, and the District's bonding and insurance requirements. This Project is funded in whole or in part with federal funds, and therefore the selected developer shall comply with the Davis-Bacon Act, applicable reporting requirements such as **APPENDICES C-4** and **C-5**, and any other applicable requirements for federal funding. The selected developer shall be required to work cooperatively with District staff, the Governing Board, all other technical consultants, the architect, the project inspector, and any program and/or construction manager, if any, retained by the District for the Project, citizens' oversight committee, other District committees, and the community at large to deliver a timely and professional completion of the Project.

The Project is further defined in the attached **APPENDIX A**, along with the District's construction budget and schedule for the Project. Respondents' Proposal shall include Respondent's proposed fees and costs to perform the Project if the Respondent is awarded the contract.

The District intends to select one Respondent that best meet the District's needs to perform the Project. The criteria on which the District makes its determination will be based on the District's adopted best value methodology and criteria provided in this RFQ/P.

B. Scope of Work

Although the final scope of work will be negotiated in the executed Agreement (defined below at subparagraph G), the selected developer shall be responsible for performing the following scope of work, at a minimum:

Preconstruction Services:

1. Review design and support documentation for content, constructability, completeness, scheduling, clarity, consistency, and coordination.
2. Undertake value-engineering analysis and prepare reports with recommendations to District and Architect of Record to maintain established program budget and specifications.
3. Provide detailed cost estimates.
4. Expedite design reviews, including modifications, if any, based on value analysis.
5. Provide a proposed Guaranteed Maximum Price ("GMP") for the construction of the project with identified subcontractor bids and self-performed work.

Construction Services:

1. Construction of the Project.
2. Coordination of record drawings and specifications.
3. Compilation of operations and maintenance manuals, warranties/guarantees, and certificates.
4. Obtaining occupancy permits and coordinating testing, documentation, and governmental inspections and approvals.
5. Preparation of accounting and closeout reports and occupancy plan reports.
6. Other responsibilities as necessary for the completion of the program.

C. Portable Building

The Project will include a portable building, provided by Class Leasing under a separate contract. The successful respondent will be required to install the portable building and complete interior and exterior improvements to the portable building as shown on the DSA approved plans.

D. Lease-Leaseback Structure

The Project will be funded from various sources, and any agreement reached will conform to the statutory framework for the lease-leaseback delivery method pursuant to Education Code section 17406 et seq. Financing for a portion of the construction of the Project will be included in the Agreement attached to this RFQ/P as **APPENDIX B**. During construction, the District

shall pay tenant improvement payments. Once the Project is complete, the developer shall lease the completed facilities back to the District for a predetermined monthly lease payment amount. However, the District intends that the lease will include an early termination payment option for the District.

E. District Project Management Description

District's Governing Board will be responsible for making final decisions, but the Superintendent will be responsible for day-to-day decisions and may designate a project manager who will be the primary point of contact between the selected developer and the District.

F. Prequalification of Designated Subcontractors

If used, contractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43, and/or C-46 licenses (collectively, "MEP subcontractors") shall be prequalified by the District to perform electrical, mechanical and/or plumbing construction work as a first-tier subcontractor on the Project pursuant to Public Contract Code section 20111.6.

G. Registration of Respondent and All Tiers of Subcontractors

The selected developer(s) shall not allow any employee or subcontractor to commence work on any contract or any subcontract until the proof of registration with the Department of Industrial Relations required of the developer or subcontractor has been provided to and accepted by the District.

H. Form of Agreement

Selected developer must be able to execute the District's standard form of Site Lease and Facilities Lease ("Agreement"), attached to this RFQ/P as **APPENDIX B**. After the plans and specifications have been approved by DSA, the Facilities Lease will be amended to include the agreed upon Guaranteed Maximum Price.

I. Indemnity

Respondents to this RFQ/P must acknowledge that they have reviewed the District's indemnity provision set forth in the Facilities Lease (**APPENDIX B**) and must agree to the indemnity provision and confirm in writing that, if given the opportunity to contract with the District, the Respondent has no substantive objections to the use of the District's standard indemnity provision.

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J. Insurance

The District requires at least the following insurance coverage from the selected developer:

COMMERCIAL GENERAL LIABILITY	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$5,000,000 per occurrence; \$10,000,000 in aggregate
AUTOMOBILE LIABILITY – ANY AUTO	Combined Single Limit	\$1,000,000
WORKERS' COMPENSATION		Statutory limits pursuant to State law
EMPLOYER'S LIABILITY		\$1,000,000
BUILDER'S RISK (COURSE OF CONSTRUCTION)		Issued for the value and scope of Work.
POLLUTION LIABILITY		\$1,000,000 per claim; \$2,000,000 aggregate

The limits of insurance for those subcontractors whose scope of work does not exceed One million dollars (\$1,000,000) shall not be less than the following amounts:

COMMERCIAL GENERAL LIABILITY	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$2,000,000 per occurrence; \$4,000,000 in aggregate
AUTOMOBILE LIABILITY – ANY AUTO	Combined Single Limit	\$1,000,000
WORKERS' COMPENSATION		Statutory limits pursuant to State law
EMPLOYER'S LIABILITY		\$1,000,000

Selected developer shall provide to the District certificate(s) of insurance and endorsements satisfactory to the District. Insurance policy(ies) shall not be amended or modified and coverage amounts shall not be reduced without thirty (30) days' written notice to District prior to modification and/or cancellation. For Commercial General Liability and Automobile Liability, District shall be named as an additional insured on all policies. Selected developer's policy(ies) shall be primary; any insurance carried by the District shall only be secondary and supplemental. Selected developer shall not allow any employee or subcontractor to commence work on any contract or any subcontract until the proof of insurance required of the developer or subcontractor has been provided to and accepted by the District.

II. FULL OPPORTUNITY

No respondent will be discriminated against on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, reproductive health decisionmaking, medical condition, genetic information, marital status, sex, gender, gender

identity, gender expression, age, sexual orientation, or veteran or military status in any consideration leading to the award of the contract. The District also affirmatively ensures that Disadvantaged Business Enterprises ("DBE"), Small Local Business Enterprises ("SLBE"), Small Emerging Local Business Enterprises ("SELBE"), and Disabled Veterans Business Enterprises ("DVBE") shall be afforded full opportunity to respond to this RFQ/P.

III. LIMITATIONS

This RFQ/P is neither a formal request for bids, nor an offer by the District to contract with any party responding to this RFQ/P. The District reserves the right to add additional prequalified Respondents for consideration after distribution of this RFQ/P if it is found to be in the best interest of the District. All decisions concerning selection of the developer will be made in the best interests of the District. The awarding of the contract pursuant to this RFQ/P, if at all, is at the sole discretion of the District.

The District makes no representation that participation in the RFQ/P process will lead to an award of contract or any consideration whatsoever. The District shall in no event be responsible for the cost of preparing any RFQ/P Packet in response to this RFQ/P.

RFQ/P Packets and any other supporting materials submitted to the District in response to this RFQ/P will not be returned and will become the property of the District unless portions of the materials are designated as proprietary at the time of submittal, and are specifically requested to be returned. Vague designations and/or blanket statements regarding entire pages or documents are insufficient and will not bind the District to protect the designated matter from disclosure. Pursuant to *Michaelis, Montanari, & Johnson v. Superior Court* (2006) 38 Cal.4th 1065, RFQ/P Packets shall be held confidential by the District and shall not be subject to disclosure under the California Public Records Act until after either: (1) the District and the successful Respondent have completed negotiations and entered into an Agreement, or (2) the District has rejected all Proposals. Furthermore, the District will have no liability to the Respondent or other party as a result of any public disclosure of any RFQ/P Packet.

IV. RESTRICTIONS ON LOBBYING AND CONTACTS

From the period beginning on the date of the issuance of this RFQ/P and ending on the date of the award of the contract, no person, or entity submitting in response to this RFQ/P, nor any officer, employee, representative, agent, or consultant representing such a person or entity shall contact through any means or engage in any discussion regarding this RFQ/P, the evaluation or selection process/or the award of the contract with any member of the District, Governing Board, selection members, or any member of the Citizens' Oversight Committee. Any such contact shall be grounds for the disqualification of the Respondent submitting an RFQ/P Packet.

V. MANDATORY INFORMATIONAL MEETING AND SITE WALK

Respondents must attend the mandatory informational meeting and site walk, to be conducted on **Tuesday, February 25, 2025, at 1:30 P.M.** The meeting will begin at Kohl Open Elementary School – 4115 Crown Ave., Stockton, CA 95207 and then proceed to Lottie Grunsky Elementary School – 1550 School Ave., Stockton, CA 95205. At this mandatory meeting, District representatives may distribute information and materials to further describe the Project, the scope of work, and walk the proposed Project site. Respondents shall consider and address the materials and information distributed at the meeting in their RFQ/P Packets. Respondents that fail to attend the mandatory informational meeting, in its entirety, shall be ineligible for responding to this RFQ/P.

VI. SUBMITTAL FORMAT

A. Format

Material must be in 8½ x 11-inch format with font no less than 11-point font size. The RFQ/P Packets shall include divider tabs labeled with boldface headers below (e.g. the first tab would be entitled "Executive Summary," the second tab would be entitled "Table of Contents," etc.) Five (5) bound copies, one (1) unbound copy, and one (1) electronic copy of the RFQ/P Packet shall be submitted. Each submittal shall not contain more than thirty (30) single-sided pages, and excluding front and back covers, tabs, certificates of insurance, detailed schedule charts, and Comments to the Form of Agreement (Tab 11). Any double-sided page is counted as two single-sided pages. Submittals containing more than the authorized number of pages will not be considered.

The unbound copy, marked "Copy for Reproduction," shall be formatted as follows:

- No divider sheets or tab
- Text printed on one side only (i.e., no back-to-back pages)
- Pages with proprietary information removed
- A cover sheet listing the firm's name, the total number of pages, and identification of those pages that were removed due to proprietary information

B. General Overview

Each RFQ/P Packet shall include a description of the type, technical experience, backgrounds, qualifications and expertise of the Respondent. The description shall show that the firm possesses the demonstrated skills and professional experience to perform the general functions of the Project and fulfill the goals and vision of the District as its developer for the Project. Submittals shall describe in detail the Respondent's methods and plan for carrying out the Project. Included in this information must be a description of construction scheduling, staging, and logistics based on timelines and information provided by the District in this RFQ/P and the mandatory informational meeting. Describe the Respondent's approach to the Project, including any creative methodology and/or technology that the Respondent uses or unique resources that the Respondent can offer to the District and Project.

C. Contents

Respondents shall comply with the following requirements for its RFQ/P Packet:

1. TAB 1 – Executive Summary (max. 1 page)

This should be an overview of the entire RFQ/P Packet with a description of the general approach and/or methodology the Respondent will use to meet the goals and fulfill the general functions as set forth in this RFQ/P.

2. TAB 2 – Table of Contents

This should be a complete and clear listing of the headings and pages to allow easy reference to key information.

3. TAB 3 – Cover Letter Identifying Respondent (max. 1 page)

This should be a letter of introduction signed by an authorized officer of the Respondent. If the Respondent is a joint venture, duplicate the signature block and have a principal or officer sign on behalf of each party to the joint venture. The letter shall also include:

- a.** Respondent's name.
- b.** Address, include any branch office address and point of contact.
- c.** Telephone number.
- d.** Facsimile number.
- e.** E-Mail address.
- f.** Identify team.
- g.** Clearly identify the individual(s) who are authorized to speak for the Respondent during the evaluation process.
- h.** And, the following statement:

"[RESPONDENT'S NAME] received a copy of the District's Site Lease and Facilities Lease ("Agreement") attached as Appendix B to the RFQ/P. [RESPONDENT'S NAME] has reviewed the indemnity provisions and insurance requirements contained in the Agreement. If given the opportunity to contract with the District, [RESPONDENT'S NAME] has no objections to the use of the Agreement."

- i.** Respondent shall certify that no official or employee of the District, nor any business entity in which an official of the District has an interest, has been employed or retained to solicit or assist in the procuring of the resulting contract(s), nor that any such person will be employed in the performance of any/all contract(s) without immediate divulgence of this fact to the District.

4. TAB 4 - Respondent Information

- a.** A brief history of the Respondent. Please include any former names of the Respondent and the number of years the Respondent has participated in construction as a general contractor under each name. List any reasons for change or name or corporate structure.
- b.** Organizational chart for Respondent. This shall include the names of all key personnel, joint venture partners, and sub-consultants with their titles and specific task assignments for the Project. Resumes of personnel to be involved with the Project should be included, including their school construction experience. The District's evaluation will consider the entire team. Therefore, no changes in the Respondent's composition will be allowed without prior written approval by the District.

Identify up to three (3) persons who will be primarily responsible for working with the District and their respective roles and

responsibilities, including Superintendent and Foreman. If Respondent is selected for an interview, the identified individuals must attend the interview and any required in-person presentations.

- c. Description of Respondent's technical competence, including a description of in-house resources (e.g. computer capabilities, software applications, modeling programs, etc.), and Respondent's ability to draw upon multi-disciplinary staff to address the services required under the RFQ/P.
- d. Provide the volume of construction in dollars for each of the past three (3) years.
- e. Provide a statement regarding the Respondent's availability and resources.
- f. Provide a statement on financial resources, bonding capacity and insurance coverage.
- g. Provide a claims statement *for all resolved or ongoing claims*: Submit a statement indicating any and all suits or claims in which the Respondent or its personnel instigated a claim and/or litigation regarding construction projects within the past five (5) years and indicating any and all claims in which claims and/or litigation have been pursued against the Respondent or its personnel. For each listed claim and/or litigation: state the issues in the claim and/or litigation, the status of the claim/litigation, the names of the parties involved, and the outcome, if any.

Respondent's claims statement **must** include resolved *and* ongoing claims. Respondent's claims statement **must** include claims history for Respondent *and* its personnel, as well as Associated Firms.

"Associated Firms" are businesses, corporations, companies, partnerships, or other entities associated with Respondent and/or its personnel (e.g., firm name changes, association as prior owner, general partner, limited partner, or other officer).

- h. Contractor license number and whether license has been revoked or suspended in the last five (5) years. Respondent must hold a General Building Contractor License (B License), which is current, valid and in good standing with the Contractor's State License Board. Provide the following for each license:
 - i. Exact name of license holder on file.
 - ii. License Classification.
 - iii. License Number.
 - iv. Date Issued.
 - v. Expiration Date.

- vi. Whether license has been suspended or revoked in the past five (5) years. If so, explain.
- i. Provide signatory status.
- j. Location of nearest local office and main office, if different.
- k. Certificate(s) of Insurance identifying the firm's current insurance coverages.
- l. Provide Non-Collusion Declaration. (**APPENDIX C-1.**)
- m. Provide Iran Contracting Act Certification. (**APPENDIX C-2.**)
- n. Provide Off-Road Diesel-Fueled Fleet Certification. (**APPENDIX C-3.**)
- o. Provide Federal Debarment Certification (**APPENDIX C-5.**)
- p. Provide Byrd Anti-Lobbying Certification (**APPENDIX C-6.**)

5. TAB 5 – Methods and Strategic Plan

Detailed description of Respondent's methods and plan for carrying out the Project, including:

- a. The technical and managerial approach to the Respondent's partnership with the District. Take into account the District's goals for the Project and the general functions required. Respondent may identify additional necessary tasks and discuss these in its proposed method to accomplish the work.
- b. How Respondent plans to incorporate skilled and trained workforce into the Project.
- c. How Respondent plans to incorporate local subcontracting teams into the Project.
- d. How Respondent plans to incorporate construction means and methods into the Project.
- e. Proposed cost for completing preconstruction services for the Project for which the Proposal is being submitted.
- f. Detailed discussion of costs related to fees, general conditions, insurance, supervision, and management of the construction portion of the scope of work.

Emphasis will be given to the methods and strategic plan as they relate to preconstruction services and how the preconstruction services will transition into the construction services.

6. TAB 6 – Prior Relevant Experience

Description of the Respondent's experience with respect to the areas of public schools or similar construction over the past five (5) years. Specifically, please provide a list of completed or ongoing projects the Respondent has been involved with for the past five (5) years where

the total project contracts exceeded fifty million dollars (\$50,000,000) per project. Within that list:

- a.** Identify the method (e.g. lease-leaseback, bid-build, etc.) by which each project was constructed. For lease-leaseback projects, include the total cost of each project and a breakdown of the total cost by preconstruction services and construction services.
- b.** Include a discussion of Respondent's experience with working with the DSA on public school projects.
- c.** Identify and include discussion of Respondent's experience with projects performed in an occupied building and/or immediately adjacent to an occupied building and/or campus.
- d.** Identify and include a discussion on Respondent's experience with modular construction.
- e.** Identify whether the project is completed or ongoing.
- f.** Identify if any of the projects had phased completion.

For the projects listed, above, be sure to also include the following information:

- a.** Project's name and description;
- b.** Firm's role;
- c.** Award and completion dates;
- d.** Project's initial contract price and final contract price;
- e.** Amount of fees received;
- f.** Staffing, including Respondent's team members, subcontractors and consultants;
- g.** Relationship with owner/client;
- h.** References: Provide a contact name, telephone number and email address for the owner; and
- i.** Discussion of claims, demands, and/or litigation arising from the project and involving the Respondent, and resolution of the same.
- j.** Include examples of other similar project assignments on the part of the Respondent.
- k.** Prefabrication and/or modular components as a percent of the project's hard costs, and as a percent of total project square footage; specific prefabrication/modular vendor and model(s).

List projects Respondent has successfully completed that had some or all of the following obstacles, including the creative solutions from the Respondent on how these obstacles were overcome:

- a.** A very aggressive schedule.
- b.** Significant budgetary restrictions.
- c.** Be prepared to expand upon what you did to accommodate:
 - i. The complexity of the project;
 - ii. The needs of the clients;
 - iii. Minimizing inconvenience; and
 - iv. Maximizing safety.

7. TAB 7 – Contracting History

If any of the following have occurred, please describe in detail the circumstances of each occurrence:

- a.** Failure to enter into a contract or professional services agreement once selected.
- b.** Withdrawal of a proposal or bid as a result of an error.
- c.** Termination or failure to complete a contract.
- d.** Debarment by any municipal, county, state, federal, or local agency.
- e.** Involvement in litigation, arbitration, or mediation, whether concluded or ongoing.
- f.** Conviction of the Respondent or its principals for violating any state or federal antitrust laws by bid or proposal rigging, collusion, or restrictive competition between bidders or proposers, or conviction of any other federal or state law related to bidding or performance of services.
- g.** Knowing concealment of any deficiency in the performance of a prior contract.
- h.** Falsification of information or submission of deceptive or fraudulent statement in connection with a contract.
- i.** Willful disregard for applicable rules, laws, or regulations.
- j.** Failure to disclose information regarding any of the above may be deemed to indicate an unsatisfactory record of performance. Information regarding any of the above may be considered in determining the suitability of Respondent to perform the needed services. Accordingly, Respondent may describe mitigating factors as part of description of any of the above.

8. TAB 8 – Pricing and Contingency

The pricing will be evaluated based on the: (1) preconstruction services cost or method of calculation; (2) Respondent's fee, which includes profit and overhead; (3) general conditions cost; (4) bonds and insurance percentage; (5) construction contingency to be applied to errors and omissions; and (6) allowances, if any.

After the Agreement is awarded and DSA approves the plans and specifications, the selected developer will be required to provide a Guaranteed Maximum Price ("GMP") for the Project. As part of the District review of the GMP, the District will expect to have access to all subcontractor bids, contingency breakdown and tracking documents, general conditions breakdown and tracking documents, and Respondent's fees. The GMP shall include all of Respondent's cost for labor, materials, equipment, overhead and profit, general conditions, contractor contingency, and allowances, if any, but shall specifically exclude the amount of the District contingency. In the event the selected developer realizes a savings on any aspect of the Project, such savings shall be added to the District contingency and expended consistent with the District contingency. In addition, any portion of the contractor contingency and/or allowance remaining after completion of the Project shall be added to the District contingency. The Facilities Lease will be amended to include the agreed upon GMP, if the District proceeds with the construction phase of the Project.

9. TAB 9 – Insurance

Each Respondent must demonstrate that it can maintain adequate insurance as required herein. Therefore, each RFQ/P Packet must include a letter from the Respondent's insurance company indicating its ability to provide insurance coverage on behalf of Respondent in accordance with the insurance requirements in **APPENDIX B**.

10. TAB 10 – Assurances

The Respondent must acknowledge each of the following items and confirm that it will be willing and able to perform these items:

Preconstruction Services: Respondent shall provide services that relate to the organization and development of the Project prior to the start of construction including the following:

- **Site Evaluation:** Consult with District staff in relation to the existing site. Selected developer should make site visits, as needed to review the current site conditions. During this evaluation, selected developer may make recommendations relating to soils investigations and utility locations and capacities, in order to minimize unforeseen conditions.
- **Plan Review:** Provide plan review and constructability services. Refer to the Facilities Lease for the required scope. Place an emphasis on ensuring that the Project can be completed within the established schedule and within the available budget. During the review, selected developer shall review the documents for clarity, consistency, constructability and coordination. The results of the review shall be provided in writing and as notations on the documents to the District. The selected developer shall also make recommendations to the District with respect to constructability, construction cost, sequence of construction, and construction duration.
- **Pre-construction Meetings:** Attend meetings at the Project site with the architect of record and the District every two (2) weeks, until the Notice to

Proceed with Construction is issued (meeting duration is approximately 2 hours).

- **Value Engineering:** Provide a detailed analysis of all major Project systems with an emphasis on possible value engineering possibilities.
- **Detailed Construction Critical Path Schedule:** Produce detailed construction critical path schedules to be incorporated into the Project documents including identification of the Project critical path and agency approvals.
- **Preliminary and Detailed Estimates:** Provide preliminary construction estimates using like-kind construction costs. Upon receipt of the Project plans and specifications, provide detailed construction estimates showing the values of all major components of the Project.
- **Construction Planning:** Plan the phases and staging of construction, staging areas, temporary fencing, office trailer placement, access, etc. as required.
- **Other services:** Any other services that are reasonable and necessary to control the budget and schedule.

Construction Services:

- **Project Accounting and Management Systems:** In coordination with District staff, develop the Project accounting and budget management systems. A process of up-to-date costs management will be necessary. During construction, monthly reporting will be required.
- **General Conditions:** List what is included in the Respondent's general conditions (including full-time and part-time personnel) and a monthly value of the general conditions. Indicate what would be included as a cost of work versus a line item in the general conditions. See **APPENDIX C-4** for an example.
- **Management of Project:** Administer and coordinate on a daily basis the work of all trade contractors the successful Respondent hires to work on the Project. Enforce strict performance, scheduling, and notice requirements. Document the progress and costs of the Project. Report proactively on potential schedule impacts. Recommend potential solutions to schedule problems.
- **Trade Contractors:** Pursuant to Public Contract Code section 20111.6, each prospective MEP Contractor holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43, and/or C-46 licenses shall be prequalified by the District to perform electrical, mechanical and/or plumbing construction work as a first-tier subcontractor on the Project.

11. TAB 11 – Comments to Form of Agreement

Respondents must thoroughly review the Agreement attached to this RFQ/P as **Appendix B** and confirm in writing that, if given the opportunity to contract with the District, Respondent has no substantive objections to the use of the District's standard agreement. Respondent must also identify any term or condition of the Agreement that Respondent requests modifying, deleting, or adding. Respondents must set forth a clear explanation of what modification would be sought and specific alternate language. Comments on the form of Agreement will be excluded from the page count. ***If selected, Respondent will be***

precluded from negotiating changes that have not been identified in its RFQ/P Packet. The District will review, but is not obligated to accept, any proposed changes.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

VII. SELECTION CRITERIA

A. Best Value Evaluation

The RFQ/P Packets will be evaluated based on the District's adopted criteria and rating system to determine the qualified Respondent(s) providing the best value to the District for all candidates that meet the pass / fail criteria listed below (i.e., receive a PASS).

CRITERIA ITEM	DESCRIPTION	MAXIMUM POINTS
Conflict of Interest	Is there a conflict of interest?	PASS / FAIL
Safety	Safety record	PASS / FAIL
Form of Agreement	Agreement to use District Form of Agreement	PASS / FAIL
Technical Expertise	Relevant experience with like-projects, prior lease-leaseback experience, value-engineering experience, constructability experience, references	26 points
Interview (If used, score; if not used, all respondents receive 0 points.)	Proposed team attendance, performance, approach to work	22 points
Price Points	All aspects for Respondent's fee proposal	22 points
Staffing	Management and staffing approach, including skilled and trained workforce	16 points
Schedule/Liquidated Damages	History of meeting project schedules and completion dates	7 points
Claims/Litigation	Acceptable history of claims and litigation	7 points
<u>TOTAL: MAXIMUM 100 POINTS</u>		

Based on these criteria, District staff assign points to each proposer and then calculate the total points awarded to the proposer. The more points, the higher the proposer is ranked. The highest ranked proposer reflects the best combination of price and qualifications for the Project.

B. District Investigations

The District may perform investigations of Respondents that extend beyond contacting the references identified in the proposals.

C. Interviews

The District may invite some of the finalists to meet with a District selection committee. Key proposed Project staff will be expected to attend the interview. The interview will be an opportunity for the District selection committee to review the proposal, the firm's history, and other matters the committee deems relevant to evaluation with the firm. The interview will start with the firm presenting its proposal and its Project team. The finalists may be required to submit in advance of the interview a more detailed fee proposal. If requested, this fee proposal shall include all charges and costs proposed to be charged to the District, including rates for extra work.

Any comments or objections to the form of Agreement attached hereto as **APPENDIX B** to this RFQ/P shall be provided in writing in the RFQ/P Packet and may be the subject of inquiry at the interview. District reserves the right to accept, reject or negotiate requested revisions. Any comments or objections to the form of Agreement not provided in writing before the interview will not be entertained by the District.

D. Selection Process

RFQ/P Packets shall be evaluated and the Project awarded in the following manner:

1. All proposals received shall be reviewed to determine those that meet the format requirements and the standards specified in RFQ/P.
2. District shall evaluate the qualifications of the Respondents based solely upon the adopted criteria and evaluation methodology and shall assign a best value score to each proposal. Once the evaluation is complete, all responsive proposals shall be ranked from the highest best value to the lowest best value to the District.
3. The District's Governing Board shall award the Project to the responsive proposer whose proposal is determined, in writing by the Governing Board, to be the best value to the District.
4. If the selected developer refuses or fails to execute the tendered proposed contract, the Governing Board may award the contract to the proposer with the second highest best value score if it deems it to be for the best interest of the District. If the second selected developer refuses or fails to execute the tendered instrument, the Governing Board may award the instrument to the proposer with the third highest best value score if it deems it to be for the best interest of the District.
5. Notwithstanding any other law, upon issuance of a contract award, the District shall publicly announce its award, identifying the entity to which the award is made, along with a statement regarding the basis of the award. The statement regarding the District's contract award and the contract file shall provide sufficient information to satisfy an external audit.

E. Final Determination and Award

It is expected that the selection committee will make recommendations to District staff regarding the candidates and awarding the contract. The awarding of contract(s) is at the sole discretion of the District.

The District reserves the right to contract with any entity responding to this RFQ/P for all or any portion of the work described herein and/or in an agreement offered to the entity, to

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

reject any proposal as non-responsive, and/or not to contract with any firm for the services described herein. The District makes no representation that participation in the RFQ/P process will lead to an award of contract or any consideration whatsoever. The District reserves the right to seek proposals from or to contract with any firm not participating in this process. The District shall in no event be responsible for the cost of preparing any RFQ/P Packet in response to this RFQ/P.

The RFQ/P packet, and any other supporting materials submitted to the District in response to this RFQ/P will not be returned and will become the property of the District, unless portions of the materials are designated as proprietary at the time of submittal and are specifically requested to be returned. This RFQ/P does not commit the District to negotiate an agreement with any proposing firm or individual.

VIII. SUBMISSION GUIDELINES

Respondents to this RFQ/P should mail or deliver five (5) bound copies, one (1) unbound copy, and one (1) electronic copy on a USB flashdrive of the RFQ/P Packet conforming to the requirements of this RFQ/P to:

STOCKTON UNIFIED SCHOOL DISTRICT
ATTN: Vickie Brum, Director of Facilities and Planning
1944 N. El Pinal Drive
Stockton, CA 95205
RE: RFQ/P #25.936

ALL RESPONSES ARE DUE BY 2:00 P.M., ON Tuesday, March 18, 2025 Oral, telegraphic, facsimile, telephone or email RFQ/P Packets will not be accepted. RFQ/P Packets received after this date and time will not be accepted and returned unopened.

Each submittal must conform and be responsive to the requirements set forth in this RFQ/P. The District reserves the right to waive any informalities or irregularities in the RFQ/P Packets. The District also reserves the right to reject any and all RFQ/P Packets and to negotiate contract terms with one or more Respondents. The District retains the sole discretion to determine issues of compliance and to determine whether a respondent is responsive, responsible, and qualified.

The District hereby notifies all Respondents that it will affirmatively insure that, in any contract entered into pursuant to this advertisement, no respondent will be discriminated against on the grounds of race, religious creed, color, national origin, ancestry, physical disability, mental disability, reproductive health decisionmaking, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or veteran or military status on consideration for the award.

WE THANK YOU FOR YOUR INTEREST IN THE DISTRICT'S PROJECT.

**APPENDIX A
Project Description**

Project Name: ELOP Group B Project at 8 SUSD Elementary Schools

New 1440 sf portable classroom building set on a concrete foundation at grade with site work and utility infrastructure necessary to connect the building to the school's utility and low voltage systems.

Class Leasing provides the portable classroom buildings. Class Leasing delivers the portable classroom buildings to the school sites.

Contractor is responsible for installing the portable classroom buildings on the concrete foundations provided as part of this contract.

Project Sites:

1. Adams Elementary School: DSA# 02-122871
2. Grunsky Elementary School: DSA#02-122872
3. Kennedy Elementary School: DSA#02-122874
4. Kohl Open Elementary School: DSA# 02-123092 (approval pending)
5. Montezuma Elementary School: DSA# 02-122873
6. Van Buren Elementary School: DSA# 02-122875
7. Victory Elementary School: DSA# 02-122876
8. Washington Elementary School: DSA# 02-122877

Completion Date: TBD

Project Estimate: \$5,800,000

Architect: ARCHITECHNICA
555 W Benjamin Holt Drive, Suite 423
Stockton, CA 95207
Timothy L. Dearborn, AIA – Principal Architect
(209) 952-5850
tim@architechnica.net

**APPENDIX B
Form of Agreement**

See Attached:

Site Lease
Facilities Lease
LLB Contract Documents

APPENDIX C-1

**NON-COLLUSION DECLARATION
(Public Contract Code Section 7106)**

The undersigned declares:

I am the _____ of _____, the party making the foregoing
[Title] [Name of Firm]
bid/proposal.

The bid/proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid/proposal is genuine and not collusive or sham. The bidder/proposer has not directly or indirectly induced or solicited any other bidder/proposer to put in a false or sham bid. The bidder/proposer has not directly or indirectly colluded, conspired, connived, or agreed with any bidder/proposer or anyone else to put in a sham bid/proposal, or to refrain from bidding/proposing. The bidder/proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid/proposal price of the bidder/proposer or any other bidder/proposer, or to fix any overhead, profit, or cost element of the bid/proposal price, or of that of any other bidder/proposer. All statements contained in the bid/proposal are true. The bidder/proposer has not, directly or indirectly, submitted his or her bid/proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid/proposal, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder/proposer that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder/proposer.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____,
[Date]
at _____, _____.
[City] [State]

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

APPENDIX C-2

IRAN CONTRACTING ACT CERTIFICATION
(Public Contract Code Sections 2202-2208)

Prior to bidding on or submitting a proposal for a contract for goods or services of \$1,000,000 or more, the bidder/proposer must submit this certification pursuant to Public Contract Code section 2204.

The bidder/proposer must complete **ONLY ONE** of the following two options. To complete OPTION 1, check the corresponding box **and** complete the certification below. To complete OPTION 2, check the corresponding box, complete the certification below, and attach documentation demonstrating the exemption approval.

☐ **OPTION 1.** Bidder/Proposer is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

☐ **OPTION 2.** Bidder/Proposer has received a written exemption from the certification requirement pursuant to Public Contract Code sections 2203(c) and (d). *A copy of the written documentation demonstrating the exemption approval is included with our bid/proposal.*

CERTIFICATION:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the bidder/proposer to the OPTION selected above. This certification is made under the laws of the State of California.

<i>Vendor Name/Financial Institution (Printed)</i>	<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

END OF DOCUMENT

APPENDIX C-3

OFF-ROAD DIESEL-FUELED FLEET CERTIFICATION

Title 13 CCR sections 2449, 2449.1, and 2449.2, in compliance with Government Code sections 11346.2, subdivision (a)(3), and 11346.8, subdivision (c), applies to construction contractors who own or operate within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road.

Section 2449(i), in relevant part, provides:

- (1) For a project involving the use of vehicles subject to this regulation, the prime contractor must obtain copies of the valid Certificate of Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.
- (2) No prime contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.
- (3) The Certificates of Reported Compliance received by the prime contractor for a project must be retained for three (3) years after that project's completion. Upon request by California Air Resources Board ("CARB"), these records must be provided to CARB within five (5) business days of the request.
- (4) Situations in which prime contractors or public works awarding bodies, as applicable, are contracting for projects that are considered emergency operations, as defined in section 2449(c)(18), are exempt from the requirements in section 2449(i)(1)-(3), but must still retain records verifying vehicles subject to the regulation that are operating on the emergency operations project are actually being operated on the project for emergency operations only. These records must include a description of the emergency, the address or a description of the specific location of the emergency, the dates on which the emergency operations were performed, and an attestation by the fleet that the vehicles are operated on the project for emergency operations only.

Section 2449(j), in relevant part, also states:

- (1) Between March 1 and June 1 of each year, a prime contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in section 2449(n), from all fleets that have an ongoing contract with the prime contractor as of March 1 of that year. Prime contractors must not write contracts to evade this requirement.
- (2) Prime contractors shall only allow fleets with valid Certificates of Reported Compliance on the prime contractor's job sites.

- (3) If the prime contractor discovers that any fleet intending to operate vehicles subject to this regulation for the prime contractor does not have a valid Certificate of Reported Compliance, as defined in section 2449(n), or if the prime contractor observes any noncompliant vehicles subject to the regulation on the prime contractor's job site, then the prime contractor must report specified information regarding the fleet to CARB within five (5) business days of such discovery.
- (4) Upon request by CARB, the prime contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for the prime contractor.
- (5) The prime contractor shall prominently display signage for any project where vehicles subject to this regulation will operate for eight (8) calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. The signage must include specified information regarding idling regulations for In-Use Off-Road Diesel-Fueled Fleets with directions on how to report observed noncompliance of the provided regulations to CARB.

I am aware of the provisions of Title 13 CCR sections 2449, 2449.1, and 2449.2, which apply to every contractor who owns or operates off-road diesel fleet vehicles in California, and I will comply with such provisions, including providing Certificate(s) of Reported Compliance for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, with its bid.

Date: _____

Proper Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

Bidder must attach valid Certificate(s) Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets provided by CARB for the fleet selected for the contract and their listed subcontractors, if applicable, to this form.

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

APPENDIX C-4

**Allowable General Condition Costs
Construction Phase Scope Detail**

Project (On Site Jobsite Staff)		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Operations Manager		X		
2	Project Manager		X		
3	Project Superintendent		X		
4	Project Engineer		X		
5	Home Office Engineer		X		
6	Scheduling Engineer		X		
7	Field Engineer		X		
8	Draftsman/Detailer		X		
9	Record Drawings		X		
10	Field Accountant		X		
11	Timekeeper/Checker		X		
12	Secretarial/Clerk Typist		X		
13	Independent Surveyor	X			
14	Safety &. E.E.O. officer		X		
15	Runner/Water Boy		X		
16	Vacation Time/Job Site Staff		X		
17	Sick Leave/Job Site Staff		X		
18	Bonuses/Job Site Staff			X	
19	Quality Control Program		X		
20	Qualified SWPPP Practitioner (QSP)	X			
21	SWPPP Creation, Approval, Notifications	X			

Temporary Utilities		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Telephone Installation		X		
2	Telephone Monthly Charges		X		
3	Elect Power Installation	X			
4	Elect Power Distribution - Wiring/Spider boxes/ Lighting for construction	X			
5	Elect Power Monthly Charges				X
6	Water Service for construction	X			
7	Heating & Cooling Costs for construction	X			
8	Light Bulbs & Misc. Supplies for construction	X			
9	Clean-Up-Periodical	X			
10	Clean-Up-Final	X			
11	Dump Permits and Fees	X			
12	Recycling/Trash Dumpster Removal/Hauling	X			
13	Flagger/Traffic Control	X			
14	Dust Control	X			
15	Temporary Road and Maintenance if	X			
16	Trash Chute & Hopper (if applicable)	X			

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Direct Job Costs		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Wages of Construction Labor	X			
2	Labor/Fringe Benefits & Burden	X			
3	Subcontract Costs	X			
4	Material & Equipment/Included		X		
	a. Contractor Owned Equip, trucks		X		
	b. Small Tools - Purchase		X		
	c. Small Tools - Rental		X		
5	Warranty Work & Coordination			X	

Temporary Facilities		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Office Trailer including shared office for IOR & CM (office must include lockable door, 2 desks, 2 chairs, 1 file cabinet, and Wi-Fi connection)		X		
2	Storage Trailer & Tool Shed Rental		X		
3	Office Furniture/Equip/computers		X		
4	Xerox Copies/Misc. Printing		X		
5	Postage/UPS/FedEx		X		
6	Project Photographs		X		
7	Temporary Toilets		X		
8	Project Sign		X		
9	Temporary Fencing/Enclosures		X		
10	Covered Walkways if required	X			
11	Barricades	X			
12	Temporary Stairs	X			
13	Opening Protection	X			
14	Safety Railing & Nets	X			
15	Drinking Water/Cooler/Cup		X		
16	Safety/First Aid Supplies		X		
17	Fire Fighting Equipment		X		
18	Security Guards		X		
19	Watchman Service		X		
20	Phone/fax lines, cell phones, Wi-Fi		X		
21	Temporary "Swing space" portables to house teachers and students as required for phasing				X
22	Utility connections and civil work needed for temporary "swing space" portables as required for phasing	X			

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Miscellaneous Project Costs		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Performance and Payment Bonds				
2	Developer-provided insurance				
3	Printing - Drwgs & Specs (Max of 15 sets)				X
4	Initial Soils Investigation				X
5	Testing and Inspection				X
6	Maintenance After Occupancy				X
7	Facility Operator/Training	X			
8	Fees				X

Hoisting		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Hoist & Tower Rental	X			
2	Hoist Landing & Fronts	X			
3	Hoist Operator	X			
4	Hoist Safety Inspections	X			
5	Hoist Material Skips/Hoppers	X			
6	Erect & Dismantle Hoists	X			
7	Crane Rental	X			
8	Crane Operators	X			
9	Crane Safety Inspections	X			
10	Erect & Dismantle Crane	X			
11	Fuel, Repairs, Maintenance	X			
12	Crane Raising/Jumping Costs	X			
13	Safety Inspections	X			
14	Forklift Rental	X			
15	Forklift Operator	X			
16	Forklift Safety Inspections	X			
17	Fuel, Repairs, Maintenance	X			

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STOCKTON UNIFIED SCHOOL DISTRICT**

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Contractor's Main Office Staff		Direct Cost of the Work	General Conditions	Overhead and Profit	Paid by District
1	Corporate Executives			X	
2	Principal in Charge			X	
3	Estimating Cost Engineering			X	
4	Value Engineering			X	
5	Scheduling			X	
6	Drafting and Detailing			X	
7	Purchasing & Contracts			X	
8	Accounting & Bookkeeping			X	
9	Safety & E.E.O Officer			X	
10	Secretarial			X	
11	Clerk/Typist			X	
12	Computer/Data Processing			X	
13	Legal (General Services/Pertaining to			X	
14	Travel & Subsistence			X	
15	Fringe Benefits & Burden			X	
16	Vacation Time/Main Office			X	
17	Bonuses/Main Office			X	
General Conditions Total Cost transfer to Fee Proposal			\$		

APPENDIX C-5

FEDERAL DEBARMENT CERTIFICATION

1. Bidder certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or Board;

b. Have not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where Bidder is unable to certify to any of the statements in this certification, Bidder shall attach an explanation to this certification.

3. Bidder agrees to include the following certification in all subcontracts, for all lower tiers:

"Debarment and Suspension Certification – By submission of its proposal, the contractor (or vendor, or consultant, depending on the transaction) certifies to the best of its knowledge and belief that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency in accordance with 2 CFR 200.213 and 2 CFR 180."

Date: _____

Name of Developer: _____

Signature: _____

Print Name: _____

Title: _____

APPENDIX C-6

BYRD ANTI-LOBBYING CERTIFICATION

**Applicable to Grants, Subgrants, Cooperative Agreements, and Contracts
Exceeding \$100,000 in Federal Funds**

Submission of this certification is a prerequisite for making or entering into this transaction and is imposed by section 1352, Title 31, U.S. Code. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The undersigned certifies, to the best of their knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents of all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub- recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Contractor

Address

Certified by: (type or print)

Title

Signature

Date

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

Disclosure of Lobbying Activities

Approved by OMB
0348-004

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See following page for public burden disclosure)

1. Type of Federal Action: <input type="checkbox"/> contract <input type="checkbox"/> grant <input type="checkbox"/> cooperative agreement loan <input type="checkbox"/> loan guarantee <input type="checkbox"/> loan insurance	2. Status of Federal Action: <input type="checkbox"/> proposal/offer/application <input type="checkbox"/> initial award <input type="checkbox"/> post-award	3. Report Type: <input type="checkbox"/> initial filing <input type="checkbox"/> material change For material change only: Year _____ quarter _____ Date of last report _____
4. Name and Address of Reporting Entity: _____ Prime _____ Subawardee Tier _____ if Known: Congressional District, if known:		5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime: Congressional District, if known:
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable: _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$	
10a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):	10b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: ____	
Federal Use Only	Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)	

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to Title 31, U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subawardee recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

SITE LEASE

For all or a portion of the following Sites:

ELOP Group B Project at 8 SUSD Elementary Schools

1. Adams Elementary School – 6402 Inglewood Ave., Stockton, CA 95207
APN: 081-26-013
2. Grunsky Elementary School – 1550 N School Ave., Stockton, CA 95205
APN: 117-27-016, 117-27-017, and 117-27-027
3. Kennedy Elementary School – 630 Ponce De Leon Ave., Stockton, CA 95210
APN: 079-48-001
4. Kohl Open Elementary School – 4115 N Crown Ave., Stockton, CA 95207
APN: 110-19-007
5. Montezuma Elementary School – 2843 Farmington Rd., Stockton, CA 95205
APN: 173-04-032
6. Van Buren Elementary School – 1628 E Tenth St., Stockton, CA 95206
APN: 169-27-007
7. Victory Elementary School – 1838 W Rose St., Stockton, CA 95203
APN: 133-43-006 and 133-43-007
8. Washington Elementary School – 1735 W Sonora St., Stockton, CA 95203
APN: 145-10-001

By and between

Stockton Unified School District
56 South Lincoln Street
Stockton, CA 95203

And

[Developer]
[Address]

Dated as of _____, 20__

SITE LEASE

This site lease ("Site Lease") dated as of _____, 20__ ("Effective Date"), is made and entered into by and between the Stockton Unified School District, a school district duly organized and validly existing under the laws of the State of California, as lessor ("District"), and _____ ("Developer"), a [California corporation] duly organized and existing under the laws of the State of [California], as lessee (together, the "Parties").

RECITALS

WHEREAS, the District currently owns a parcel of land located at [Address], known as [Name of] School, as more particularly described in **Exhibit A** and shown on **Exhibit B** attached hereto and incorporated herein by this reference ("Site"); and

WHEREAS, the District desires to provide for the development and construction of certain work to be performed on portions of the Site, including construction of improvements to be known as the [Name of] Project ("Project"); and

WHEREAS, as more particularly described in the Facilities Lease between the Parties dated as of the Effective Date, the Developer agrees to perform the work of the Project and lease the completed Project and Site back to the District ("Facilities Lease"), which Facilities Lease is incorporated herein by this reference; and

WHEREAS, the Governing Board of the District ("Board") has determined that it is in the best interests of the District and for the common benefit of the citizens residing in the District to construct the Project by leasing the Site to Developer and by immediately entering into the Facilities Lease under which Developer will construct the Project and lease back the completed Project and Site from Developer; and

WHEREAS, the District further determines that it has entered into this Site Lease and the Facilities Lease pursuant to Education Code section 17406 as the best available and most expeditious means for the District to satisfy its substantial need for the facilities to be provided by the Project and to accommodate and educate District students; and

WHEREAS, this Site Lease and Facilities Lease are awarded based on a competitive solicitation process pursuant to Education Code section 17406 and in compliance with the required procedures and guidelines for evaluating the qualifications of proposers adopted and published by the Board to the proposer providing the best value to the school district, taking into consideration the proposer's demonstrated competence and professional qualifications necessary for the satisfactory performance of the services required; and

WHEREAS, the selection of the Developer was conducted in a fair and impartial manner; and

WHEREAS, based on the above findings, the District is authorized under Education Code section 17406 to lease the Site to Developer and to have Developer develop and cause the construction of the Project thereon and lease the completed Project and Site back to the District by means of the Facilities Lease, and the Board has duly authorized the execution and delivery of this Site Lease in order to effectuate the foregoing; and

WHEREAS, the Parties have performed all acts, conditions and things required by law to exist, to have happened, and to have been performed prior to and in connection with the execution and entering into this Site Lease, and those conditions precedent do exist, have

happened, and have been performed in regular and due time, form, and manner as required by law, and the Parties hereto are now duly authorized to execute and enter into this Site Lease; and

WHEREAS, Developer as lessee is authorized and competent to lease the Site from District and to develop and cause the construction of the Project on the Site, and has duly authorized the execution and delivery of this Site Lease.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants contained herein, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereto do hereby agree as follows:

TERMS

1. Definitions

Unless the context clearly otherwise requires, all words and phrases defined in the Facilities Lease shall have the same meaning in this Site Lease.

2. Exhibits

The following Exhibits are attached to and by reference incorporated and made a part of this Site Lease.

2.1. Exhibit A - Legal Description of the Site: The legal description of the real property constituting the Site.

2.2. Exhibit B - Description of the Project: The map or diagram depiction of the Project on the Site.

3. Lease of the Site

The District hereby leases to the Developer, and the Developer hereby leases from the District the Site, subject only to Permitted Encumbrances, in accordance with the provisions of this Site Lease, to have and to hold for the term of this Site Lease. This Site Lease shall only take effect if the Facilities Lease is executed by the District and Developer within three (3) days of execution of this Site Lease.

4. Leaseback of the Project and Site

The Parties agree that the completed Project and Site will be leased back to the District pursuant to the Facilities Lease for the term thereof.

5. Term

The term of this Site Lease shall commence as of the Effective Date and shall terminate on the last day of the Term of the Facilities Lease, provided the District has paid to the Developer, or its assignee, all payments which may be due under the Facilities Lease, and provided this Site Lease has not been terminated pursuant to the termination provisions of the Facilities Lease.

6. Payment

In consideration for the lease of the Site by the District to the Developer and for other good and valuable consideration, the Developer shall pay One Dollar (\$1.00) to the District upon execution of this Site Lease.

7. Termination

7.1. Termination Upon Purchase of Project

If the District exercises its option to purchase the Project pursuant to the Facilities Lease, then this Site Lease shall terminate concurrently with the District's buy out and termination of the Facilities Lease.

7.2. Termination Due to Default by Developer

If Developer defaults pursuant to the provision(s) of the Facilities Lease and the District terminates the Facilities Lease pursuant to the Facilities Lease provision(s) allowing termination, then the Developer shall be deemed to be in default of this Site Lease and this Site Lease shall also terminate at the same time as the Facilities Lease.

7.3. Termination Due to Default by District

If District defaults pursuant to the provision(s) of the Facilities Lease, the Developer, or its assignee, will have the right, for the then remaining term of this Site Lease, to:

7.3.1. Take possession of the Site.

7.3.2. If it deems it appropriate, cause appraisal of the Site and a study of the then reasonable uses thereof.

7.3.3. Re-let the Site; and

7.3.4. Stop all Work associated with the Site Lease.

8. Title to Site

During the term of this Site Lease, the District shall hold fee title to the Site, including the Site, and nothing in this Site Lease or the Facilities Lease shall change, in any way, the District's ownership interest in the Site.

9. Improvements

Title to all improvements made on the Site during the term hereof shall be held, vest and transfer pursuant to the terms of the Facilities Lease.

10. No Merger

The leaseback of the completed Project and Site by the Developer to the District pursuant to the Facilities Lease shall not affect or result in a merger of the estates of the District in the Site, and the Developer shall continue to have a leasehold estate in the Site pursuant to this Site Lease throughout the term hereof.

11. Right of Entry

The District reserves the right for any of its duly authorized representatives to enter upon the Site at any reasonable time to inspect the same, provided the District follows all safety precautions required by the Developer.

12. Quiet Enjoyment

Subject to any rights the District may have under the Facilities Lease (in the absence of an Event of Default) to possession and enjoyment of the Site, the District hereby covenants and agrees that it will not take any action to prevent the Developer from having quiet and peaceable possession and enjoyment of the Site during the term hereof and will, at the request of the Developer, to the extent that it may lawfully do so, join in any legal action in which the Developer asserts its right to such possession and enjoyment.

13. Waste

The Developer agrees that at all times that it is in possession of the Site, it will not commit, suffer or permit any waste on the Site, and that it will not willfully or knowingly use or permit the use of the Site for any illegal purpose or act.

14. Further Assurances and Corrective Instruments

The Parties shall, from time to time, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such supplements hereto and such further instruments as may reasonably be required for correcting any inadequate or incorrect description of the Site hereby leased or intended so to be or for carrying out the expressed intention of this Site Lease and the Facilities Lease.

15. Representations of the District

The District represents, covenants and warrants to the Developer as follows:

15.1. Due Organization and Existence

The District is a school district, duly organized and existing under the Constitution and laws of the State of California.

15.2. Authorization

The District has the full power and authority to enter into, to execute and to deliver this Site Lease, and to perform all of its duties and obligations hereunder, and has duly authorized the execution of this Site Lease.

15.3. No Violations

To the best of the District's actual knowledge, neither the execution and delivery of this Site Lease nor the Facilities Lease, nor the fulfillment of or compliance with the terms and conditions hereof or thereof, nor the consummation of the transactions contemplated hereby or thereby, conflicts with or results in a breach of the terms, conditions or provisions of any restriction or any agreement or instrument to which the District is now a party or by which the District is bound, or constitutes a default under any of the foregoing, or results in the creation or imposition of any lien, charge

or encumbrance whatsoever upon any of the property or assets of the District, or upon the Site, except Permitted Encumbrances.

15.4. CEQA Compliance

The District has complied with all assessment requirements imposed upon it by the California Environmental Quality Act (Public Resource Code Section 21000 *et seq.* ("CEQA")) in connection with the Project, and no further environmental review of the Project is necessary pursuant to CEQA before the construction of the Project may commence.

15.5. Condemnation Proceedings

15.5.1. District covenants and agrees, but only to the extent that it may lawfully do so, that so long as this Site Lease remains in effect, the District will not seek to exercise the power of eminent domain with respect to the Project so as to cause a full or partial termination of this Site Lease and the Facilities Lease.

15.5.2. If for any reason the foregoing covenant is determined to be unenforceable or in some way invalid, or if District should fail or refuse to abide by such covenant, then, to the extent they may lawfully do so, the Parties agree that the financial interest of Developer shall be as indicated in the Facilities Lease.

15.6. Use and Zoning

To the best of the District's actual knowledge, the Site is properly zoned for its intended purpose and the use or activities contemplated by this Site Lease will not conflict with local, state or federal law.

15.7. Taxes

To the best of the District's actual knowledge, all taxes and assessments are paid current and such taxes and assessments will continue to be paid to the extent that the District is not exempt.

16. Representations of the Developer

The Developer represents, covenants and warrants to the District as follows:

16.1. Due Organization and Existence

The Developer is a [California company] duly organized and existing under the laws of the State of [California], has power to enter into this Site Lease and the Facilities Lease; is possessed of full power to lease, leaseback, and hold real and personal property and has duly authorized the execution and delivery of all of the aforesaid agreements.

16.2. Authorization

The Developer has the full power and authority to enter into, to execute and to deliver this Site Lease, and to perform all of its duties and obligations hereunder, and has duly authorized the execution of this Site Lease.

16.3. No Violations

Neither the execution and delivery of this Site Lease or the Facilities Lease, nor the fulfillment of or compliance with the terms and conditions hereof or thereof, nor the consummation of the transactions contemplated hereby or thereby, conflicts with or results in a breach of the terms, conditions or provisions of any restriction or any agreement or instrument to which the Developer is now a party or by which the Developer is bound, or constitutes a default under any of the foregoing, or results in the creation or imposition of any lien, charge or encumbrance whatsoever upon any of the property or assets of the Developer, or upon the Site, except for Permitted Encumbrances.

16.4. No Bankruptcy

Developer is not now nor has it ever been in bankruptcy or receivership.

16.5. No Litigation

There is no pending or, to the knowledge of Developer, threatened action or proceeding before any court or administrative agency which will materially adversely affect the ability of Developer to perform its obligations under this Site Lease or the Facilities Lease.

17. Insurance and Indemnity

The Developer and the District shall comply with the insurance requirements and the indemnity requirements as indicated in the Facilities Lease.

18. Assignment and Subleasing

This Site Lease may be assigned and/or the Site subleased, as a whole or in part, by the Developer only upon the prior written consent of the District to such assignment or sublease, which shall not be unreasonably withheld.

19. Restrictions on District

The District agrees that it will not mortgage, sell, encumber, assign, transfer or convey the Site or any portion thereof during the term of this Site Lease in any way that would interfere with or diminish Developer's interests indicated in this Site Lease.

20. Liens and Further Encumbrances

Developer agrees to keep the Site and every part thereof free and clear of any and all encumbrances and/or liens, including without limitation, pledges, charges, encumbrances, claims, mechanic liens and/or other liens for or arising out of or in connection with work or labor done, services performed, or materials or appliances used or furnished for or in connection with the Site or the Project. Pursuant to the Facilities Lease, Developer further agrees to pay promptly and fully and discharge any and all claims on which any encumbrance and/or lien may or could be based, and to save and hold District free and harmless from any and all such liens, mortgages, and claims of liens and suits or other proceedings pertaining thereto. This subsection does not apply to Permitted Encumbrances.

21. Notices

All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed to have been received five (5) days after deposit in the United States mail in registered or certified form with postage fully prepaid or one (1) business day after deposit with an overnight delivery service with proof of actual delivery:

If to District:

Stockton Unified School District
56 South Lincoln Street
Stockton, CA 95203
ATTN: [Name, Title]

With a copy to:

Dannis Woliver Kelley
750 B Street, Suite 2600
San Diego, CA 92101
ATTN: Karina K. Samaniego, Esq.

If to Developer:

[Developer]
[Address]
[City], [State] [Zip Code]
Attn: [Name, Title]

With a copy to:

The Developer and the District, by notice given hereunder, may designate different addresses to which subsequent notices, certificates or other communications will be sent.

22. Binding Effect

This Site Lease shall inure to the benefit of and shall be binding upon the Developer and the District and their respective successors and assigns.

23. No Additional Waiver Implied by One Waiver

In the event any agreement contained in this Site Lease should be breached by either party and thereafter waived by the other party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive future compliance with any term hereof or any other breach hereunder.

24. Severability

In the event any provision of this Site Lease shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof, unless elimination of such invalid provision materially alters the rights and obligations embodied in this Site Lease or the Facilities Lease.

25. Amendments, Changes and Modifications

Except as to the termination rights of both Parties as indicated in the Facilities Lease, this Site Lease may not be amended, changed, modified, altered or terminated without the written agreement of both Parties hereto.

26. Obligations Absolute

The Developer agrees that the obligations of the Developer are absolute and unconditional and not subject to any charges or setoffs against the District whatsoever.

27. Execution in Counterparts

This Site Lease may be executed in several counterparts, each of which shall be an original and all of which shall constitute one and the same instrument.

28. Developer and District Representatives

Whenever under the provisions of this Site Lease approval by the Developer or the District is required, or the Developer or the District is required to take some action at the request of the other, such approval or such request shall be given for the Developer by the Developer Representative and for the District by the District Representative, and any party hereto shall be authorized to rely upon any such approval or request.

29. Applicable Law; Venue

This Site Lease shall be governed by and construed in accordance with the laws of the State of California, and venued in the County within which the Site is located.

30. Attorney's Fees

If either party brings an action or proceeding involving the Site or to enforce the terms of this Site Lease or to declare rights hereunder, each party shall bear the cost of its own attorneys' fees.

31. Captions

The captions or headings in this Site Lease are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Site Lease.

32. Prior Agreements

This Site Lease and the corresponding Facilities Lease collectively contain all of the agreements of the Parties hereto with respect to any matter covered or mentioned in this Site Lease and no prior agreements or understanding pertaining to any such matter shall be effective for any purpose.

33. Further Assurances

Parties shall promptly execute and deliver all documents and instruments reasonably requested to give effect to the provisions of this Site Lease.

34. Recitals Incorporated

The Recitals set forth at the beginning of this Site Lease are hereby incorporated into its terms and provisions by this reference.

35. Time of the Essence

Time is of the essence with respect to each of the terms, covenants, and conditions of this Site Lease.

36. Interpretation

None of the Parties hereto, nor their respective counsel, shall be deemed the drafters of this Site Lease or the Facilities Lease for purposes of construing the provisions of each. The language in all parts of this Site Lease shall in all cases be construed according to its fair meaning, not strictly for or against any of the Parties hereto.

IN WITNESS WHEREOF, the Parties have caused this Site Lease to be executed by their respective officers who are duly authorized, as of the Effective Date.

ACCEPTED AND AGREED on the date indicated below:

Dated: _____, 20__

Dated: _____, 20__

Stockton Unified School District

[Developer]

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT A

LEGAL DESCRIPTION OF SITE

Attached is the Legal Description for:

[Name of] Project

[Address]

APN: _____

<INSERT>

EXHIBIT B

DESCRIPTION OF PROJECT

Attached is a map or diagram showing the location of the Site that is subject to this Site Lease and upon which Developer will construct the Project.

<INSERT>

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

FACILITIES LEASE

For all or a portion of the following Sites:

ELOP Group B Project at 8 SUSD Elementary Schools

1. Adams Elementary School – 6402 Inglewood Ave., Stockton, CA 95207
APN: 081-26-013
2. Grunsky Elementary School – 1550 N School Ave., Stockton, CA 95205
APN: 117-27-016, 117-27-017, and 117-27-027
3. Kennedy Elementary School – 630 Ponce De Leon Ave., Stockton, CA 95210
APN: 079-48-001
4. Kohl Open Elementary School – 4115 N Crown Ave., Stockton, CA 95207
APN: 110-19-007
5. Montezuma Elementary School – 2843 Farmington Rd., Stockton, CA 95205
APN: 173-04-032
6. Van Buren Elementary School – 1628 E Tenth St., Stockton, CA 95206
APN: 169-27-007
7. Victory Elementary School – 1838 W Rose St., Stockton, CA 95203
APN: 133-43-006 and 133-43-007
8. Washington Elementary School – 1735 W Sonora St., Stockton, CA 95203
APN: 145-10-001

By and between

Stockton Unified School District
56 South Lincoln Street
Stockton, CA 95203

And

[Developer]
[Address]

Dated as of _____, 20__

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**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

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Exhibits A - H

FACILITIES LEASE

This facilities lease ("Facilities Lease"), dated as of _____, 20__ ("Effective Date"), is made and entered into by and between [Name of Developer] ("Developer"), a [California corporation] duly organized and existing under the laws of the State of [California], as sublessor, and Stockton Unified School District, a school district duly organized and validly existing under the laws of the State of California, as sublessee ("District") (together, the "Parties").

RECITALS

WHEREAS, the District is authorized under Section 17406 of the Education Code of the State of California to lease a site to a developer and to have that developer develop and construct the project on the site and to lease back to the District the completed project and site; and

WHEREAS, on the date hereof, the District has leased to Developer, a parcel of land located at [Address], known as [Name of] School, particularly described in **Exhibit A** and shown on **Exhibit B** attached hereto and incorporated herein by reference ("Site"); and

WHEREAS, District and Developer have executed a site lease at the same time as this Facilities Lease whereby the District is leasing the Site to Developer ("Site Lease"); and

WHEREAS, the District desires to provide for the development and construction of certain work to be performed on portions of the Site which will include construction of improvements to be known as the [Name of] Project ("Project"); and

WHEREAS, District has retained [Name of Architect] ("Architect") to prepare plans and specifications for the Project ("Plans and Specifications") and to act as the Design Professional in General Responsible Charge for the Project; and

WHEREAS, the Governing Board of the District ("Board") has determined that it is in the best interests of the District and for the common benefit of the citizens residing in the District to construct the Project by leasing the Site to Developer and by simultaneously entering into this Facilities Lease under which the District will lease back the completed Project and site from Developer and if necessary, make Lease Payments; and

WHEREAS, the District further acknowledges and agrees that it has entered into the Site Lease and the Facilities Lease pursuant to Education Code Section 17406 as the best available and most expeditious means for the District to satisfy its substantial need for the facilities to be provided by the Project and to accommodate and educate District students and to utilize its facilities proceeds expeditiously; and

WHEREAS, this Site Lease and Facilities Lease are awarded based a competitive solicitation process pursuant to Education Code section 17406 and in compliance with the required procedures and guidelines for evaluating the qualifications of proposers adopted and published by the Board to the proposer providing the best value to the school district, taking into consideration the proposer's demonstrated competence and professional qualifications necessary for the satisfactory performance of the services required; and

WHEREAS, the selection of Developer was conducted in a fair and impartial manner; and

WHEREAS, Developer has reviewed the Lease Documents; and

WHEREAS, Developer represents that it has the expertise and experience to perform the services set forth in this Facilities Lease; and

WHEREAS, the Parties have performed all acts, conditions and things required by law to exist, to have happened and to have been performed precedent to and in connection with the execution and entering into of this Facilities Lease and all those conditions precedent do exist, have happened and have been performed in regular and due time, form and manner as required by law, and the Parties hereto are now duly authorized to execute and enter into this Facilities Lease; and

WHEREAS, Developer is authorized to lease the Site as lessee and to develop the Project by constructing the Project on the Site and to lease the completed Project and Site back to the District, and has duly authorized the execution and delivery of this Facilities Lease.

NOW, THEREFORE, in consideration of the above recitals and of the mutual covenants hereinafter contained, the Parties hereto do hereby agree as follows:

TERMS

1. Definitions

In addition to the terms and entities defined above or in subsequent provisions, and unless the context otherwise requires, the terms defined in this section shall, for all purposes of this Facilities Lease, have the meanings herein specified.

1.1 "Developer" or "Lessor" means _____, a [California corporation], organized and existing under the laws of the State of [California], Contractor's license number _____ issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code, and its successors and assigns.

1.2 "Developer's Representative" means the Managing Member of Developer, or any person authorized to act on behalf of Developer under or with respect to this Facilities Lease.

1.3 "Contract Documents" are defined in **Exhibit D** to this Facilities Lease.

1.4 "District" or "Lessee" means the Stockton Unified School District, a school district duly organized and existing under the laws of the State of California.

1.5 "District Representative" means the Superintendent of the District, or any other person authorized by the Governing Board of the District to act on behalf of the District under or with respect to this Facilities Lease.

1.6 "Permitted Encumbrances" means, as of any particular time:

1.6.1 Liens for general ad valorem taxes and assessments, if any, not then delinquent, or which the District may permit to remain unpaid;

1.6.2 The Site Lease.

1.6.3 This Facilities Lease.

1.6.4 Easements, rights of way, mineral rights, drilling rights and other rights, reservations, covenants, conditions or restrictions which exist of record as of the date of this Facilities Lease.

1.6.5 Easements, rights of way, mineral rights, drilling rights and other rights, reservations, covenants, conditions or restrictions established following the date of recordation of this Facilities Lease and to which Developer and the District consent in writing which will not impair or impede the operation of the Site.

2. Exhibits

The following Exhibits are attached to and by reference incorporated and made a part of this Facilities Lease:

2.1 Exhibit A - Legal Description of the Site: The description of the real property constituting the Site.

2.2 Exhibit B - Description of the Project: The map or diagram depiction of the Project.

2.3 Exhibit C - Guaranteed Maximum Price and Other Project Cost, Funding, and Payment Provisions: A detailed description of the Guaranteed Maximum Price and the provisions related to the payment of that amount to Developer, including Attachment 3, the Schedule of Lease Payments and Payoff Dates and Amounts.

2.4 Exhibit D - General Construction Provisions: The provisions generally describing the Project's construction.

2.5 Exhibit D-1 – Special Conditions Provisions: The provisions describing conditions specific to the Project's construction.

2.6 Exhibit E - Memorandum of Commencement Date: The Memorandum which will memorialize the commencement and expiration dates of the Lease Term.

2.7 Exhibit F - Construction Schedule

2.8 Exhibit G – Schedule of Values

2.9 Exhibit H – Project Labor Agreement

3. Lease of Project and Site

3.1 Developer hereby leases the completed Project to the District, and the District hereby leases said completed Project and Site from Developer upon the terms and conditions set forth in this Facilities Lease.

3.2 The leasing by Developer to the District of the completed Project and Site shall not affect or result in a merger of the District's leasehold estate pursuant to this Facilities Lease and its fee estate as lessor under the Site Lease. Developer shall

continue to have and hold a leasehold estate in the Site pursuant to the Site Lease throughout the Term thereof and the Term of this Facilities Lease.

3.3 As to the Site, this Facilities Lease shall be deemed and constitute a sublease.

4. Term

4.1 Facilities Lease is Legally Binding

This Facilities Lease is legally binding on the Parties upon execution by the Parties and the District Board's approval of this Facilities Lease. The "Term" of this Facilities Lease for the purposes of District's obligation to make Lease Payments shall commence on the date when Developer delivers possession of the Project to District and when all improvements to be provided by Developer are determined by the District to be completed as set forth in **Exhibit D** to this Facilities Lease.

Unless earlier terminated pursuant to the provisions of the Contract Documents, the Term of this Facilities Lease for the purposes of District's obligations to make Lease Payments shall terminate [one (1) year] thereafter or upon payment of the final lease payment.

4.2 After Developer has completed construction of the Project and the District has accepted the Project, the Parties shall execute the Memorandum of Commencement Date attached hereto as **Exhibit E** to memorialize the commencement date of the Lease Payments and expiration date of the Term. Notwithstanding this Term, the Parties hereby acknowledge that each has obligations, duties, and rights under this Facilities Lease that exist upon execution of this Facilities Lease and prior to the beginning of the Lease Payment obligations.

4.3 The Term may be extended or shortened upon the occurrence of the earliest of any of the following events, which shall constitute the end of the Term:

4.3.1 An Event of Default by District as defined herein and Developer's election to terminate this Facilities Lease as permitted herein; or

4.3.2 An Event of Default by Developer as defined herein and District's election to terminate this Facilities Lease as permitted herein; or

4.3.3 Consummation of the District's purchase option pursuant to the Guaranteed Maximum Price and Other Project Cost, Funding, and Payment Provisions indicated in **Exhibit C** ("Guaranteed Maximum Price Provisions"); or

4.3.4 A third-party taking of the Project under Eminent Domain, only if the Term is ended as indicated more specifically herein; or

4.3.5 Damage or destruction of the Project, only if the Term is ended as indicated more specifically herein.

5. Payment

In consideration for the lease of the completed Project and Site by Developer back to the District and for other good and valuable consideration, the District shall make all necessary payments pursuant to the Guaranteed Maximum Price Provisions indicated in **Exhibit C**.

6. Title

6.1 During the Term of this Facilities Lease, the District shall hold fee title to the Site, including the Project, and nothing in this Facilities Lease or the Site Lease shall change, in any way, the District's ownership interest.

6.2 During the Term of this Facilities Lease, Developer shall have a leasehold interest in the Site pursuant to the Site Lease.

6.3 During the Term of this Facilities Lease, Developer shall hold title to the Project improvements provided by Developer which comprise fixtures, repairs, replacements or modifications thereto.

6.4 If the District exercises its Purchase Option pursuant to the Guaranteed Maximum Price Provisions indicated in **Exhibit C** or if District makes all necessary payments under the Guaranteed Maximum Price Provisions indicated in **Exhibit C**, all right, title and interest of Developer, its assigns and successors in interest in and to the Project and the Site shall be transferred to and vested in the District at the end of the Term. Title shall be transferred to and vested in the District hereunder without the necessity for any further instrument of transfer; provided, however, that Developer agrees to execute any instrument requested by District to memorialize the termination of this Facilities Lease and transfer of title to the Project.

7. Quiet Enjoyment

Upon District's possession of the Project, Developer shall thereafter provide the District with quiet use and enjoyment of the Project, and the District shall during the Term peaceably and quietly have and hold and enjoy the Project, without suit, trouble or hindrance from Developer, except as otherwise may be set forth in this Facilities Lease. Developer will, at the request of the District and at Developer's cost, join in any legal action in which the District asserts its right to such possession and enjoyment to the extent Developer may lawfully do so. Notwithstanding the foregoing, Developer shall have the right to inspect the Project and the Site as provided herein.

8. Representations of the District

The District represents, covenants and warrants to Developer as follows:

8.1 Due Organization and Existence

The District is a school district, duly organized and existing under the Constitution and laws of the State of California.

8.2 Authorization

The District has the full power and authority to enter into, to execute and to deliver this Facilities Lease, and to perform all of its duties and obligations hereunder, and has duly authorized the execution of this Facilities Lease.

8.3 No Violations

Neither the execution and delivery of this Facilities Lease nor the Site Lease, nor the fulfillment of or compliance with the terms and conditions hereof or thereof, nor the

consummation of the transactions contemplated hereby or thereby, conflicts with or results in a breach of the terms, conditions or provisions of any restriction or any agreement or instrument to which the District is now a party or by which the District is bound, or constitutes a default under any of the foregoing, or results in the creation or imposition of any lien, charge or encumbrance whatsoever upon any of the property or assets of the District, or upon the Site, except Permitted Encumbrances.

8.4 Condemnation Proceedings

8.4.1 District covenants and agrees, but only to the extent that it may lawfully do so, that so long as this Facilities Lease remains in effect, the District will not seek to exercise the power of eminent domain with respect to the Project so as to cause a full or partial termination of this Facilities Lease.

8.4.2 If for any reason the foregoing covenant is determined to be unenforceable or in some way invalid, or if District should fail or refuse to abide by such covenant, then, to the extent it may lawfully do so, District agrees that the financial interest of Developer shall be as indicated in this Facilities Lease.

9. Representations of Developer

Developer represents, covenants and warrants to the District as follows:

9.1 Due Organization and Existence

Developer is a [California company] duly organized and existing under the laws of the State of [California], has the power to enter into this Facilities Lease and the Site Lease; is possessed of full power to lease, lease back, and hold real and personal property and has duly authorized the execution and delivery of all of the aforesaid agreements.

9.2 Authorization

Developer has the full power and authority to enter into, to execute and to deliver this Facilities Lease, and to perform all of its duties and obligations hereunder, and has duly authorized the execution of this Facilities Lease.

9.3 No Violations

Neither the execution and delivery of this Facilities Lease and the Site Lease, nor the fulfillment of or compliance with the terms and conditions hereof or thereof, nor the consummation of the transactions contemplated hereby or thereby, conflicts with or results in a breach of the terms, conditions or provisions of any restriction or any agreement or instrument to which Developer is now a party or by which Developer is bound, or constitutes a default under any of the foregoing, or results in the creation or imposition of any lien, charge or encumbrance whatsoever upon any of the property or assets of Developer, or upon the Site, except Permitted Encumbrances.

9.4 No Bankruptcy

Developer is not now nor has it ever been in bankruptcy or receivership.

9.5 No Encumbrances

Developer shall not pledge any District payments of any kind, related to the Site Lease, this Facilities Lease, or in any way derived from the Site, and shall not mortgage or encumber the Site, except as may be specifically permitted pursuant to the provisions of this Facilities Lease related to Developer's financing the construction of the project.

9.6 Continued Existence

Developer shall not voluntarily commence any act intended to dissolve or terminate the legal existence of Developer, at or before the latest of the following:

9.6.1 Eighteen (18) months following completion of the Project.

9.6.2 One (1) year following expiration or earlier termination of the Term.

9.6.3 After dismissal and final resolution of any and all disputes between the Parties and/or any third-party claims related, in any way, to the Project.

While the lease documents are in effect, Developer shall give District one hundred twenty (120) days written notice prior to dissolving or terminating the legal existence of Developer.

10. Preconstruction Services

10.1 Scope of the Preconstruction Services

Developer shall perform management and coordination services, plan and specification constructability reviews, provide value-engineering reviews and recommendations and other reviews as necessary to verify that the drawings and specifications are clear and reasonably accurate to minimize the need for changes during the construction phase of the project, including but not limited to the following:

10.1.1 General Services

10.1.1.1 Developer shall attend meetings between the Architect, the District, District site personnel, and any other applicable consultants of the District as required to discuss the Project, including budget, scope and schedule.

10.1.1.2 Developer shall assist the Architect with making formal presentations to the governing board of District. Such assistance is anticipated to include floor plans and elevations necessary for any architectural presentation.

10.1.1.3 Developer shall prepare a rough schedule in a format acceptable to District, and update as necessary.

10.1.1.4 Developer shall prepare and update the components of the Guaranteed Maximum Price and shall be primarily responsible for ensuring that the Project can and is constructed for no more than that amount.

10.1.1.5 While the Architect is anticipated to provide primary assistance, Developer shall assist District with City land use issues.

10.1.1.6 Architect shall act as lead and Developer will assist District and Architect with DSA review, input, and timeframe for same.

10.1.1.7 Architect shall act as lead and Developer will assist with review and comment upon geotechnical / soils investigation and report.

10.1.1.8 Architect shall act as lead and Developer will assist with review and comment upon survey of the Site for the Project.

10.1.1.9 When requested, Developer will prepare meeting minutes.

10.1.1.10 Prepare schedule for preconstruction deliverables, subject to District's approval, and provide preconstruction deliverables within time frames of approved preconstruction schedule.

10.1.2 Review of Design Documents.

10.1.2.1 Review Project design and budget with District and Architect based on the 100% Construction Documents submitted to DSA to:

10.1.2.1.1 Provide recommendations on site use and improvements, selection of materials, building systems and equipment and methods of Project delivery;

10.1.2.1.2 Provide recommendations on relative feasibility of construction methods, availability of materials and labor, time requirements for procurement, installation and construction of the Project and subparts thereof if requested, and factors relating to cost including, but not limited to, construction costs of alternate designs of materials, preliminary budgets and possible economics that could be achieved through alternate methods or substitutions;

10.1.2.1.3 Provide recommendations on relative feasibility of construction methods, availability of materials and labor, time requirements for procurement, installation and construction of the Project and subparts thereof if requested, and factors relating to cost including, but not limited to, construction costs of alternate designs of materials, preliminary budgets and possible economics that could be achieved through alternate methods or substitutions;

10.1.2.1.4 Provide plan review.

10.1.2.1.5 Value-engineering. Prepare a value-engineering report for District review and approval that:

10.1.2.1.5.1 Details areas of cost saving (e.g. construction processes/procedures, specified materials and equipment, and equipment or other aspects of the

design documents that can be modified to reduce costs and/or the time for achieving final completion of the Project and/or to extend life-cycle and/or to reduce maintenance/operations costs, without diminution in the quality of materials/equipment/workmanship, scope or intended purposes of the Project);

10.1.2.1.5.2 Provides detailed estimate for proposed value-engineering items;

10.1.2.1.5.3 Defines methodology or approaches that maximize value; and

10.1.2.1.5.4 Identifies design choices that can be more economically delivered.

10.1.2.1.6 Constructability Review. Prepare detailed interdisciplinary constructability review within Fourteen (14) days of receipt of the plans from the District that:

10.1.2.1.6.1 Ensures construction documents are well coordinated and reviewed for errors;

10.1.2.1.6.2 Identifies to the extent known, construction deficiencies and areas of concern;

10.1.2.1.6.3 Back-checks design drawings for inclusion of modifications; and

10.1.2.1.6.4 Provides the District with written confirmation that:

10.1.2.1.6.4.1 Requirements noted in the design documents prepared for the Project are consistent with and conform to the District's Project requirements and design standards.

10.1.2.1.6.4.2 Various components have been coordinated and are consistent with each other so as to minimize conflicts within or between components of the design documents.

10.1.2.2 Confirm Modifications to Design Drawings. If the District accepts Developer's comments, including the value-engineering and/or constructability review comments, review the design documents to confirm that those comments are properly incorporated into the final design documents.

10.1.2.3 In doing so, it is recognized that Developer is not acting in the capacity of a licensed design professional, and that Developer's examination is made in good faith to facilitate construction and does not create an affirmative responsibility of a design professional to detect errors, omissions or inconsistencies in the Contract Documents or to

ascertain compliance with applicable laws, building codes or regulations. However, nothing in this provision shall abrogate Developer's responsibilities for discovering and reporting any error, inconsistency, or omission pursuant to the Contract within the Developer's standard of care including, without limitation, any applicable laws, ordinance, rules, or regulations.

10.1.3 Budget of Project Costs.

10.1.3.1 At each stage of plan review indicated above, Developer will update and refine the budget of the Guaranteed Maximum Price based on the most recent set of design documents. Developer shall also advise the District and the Architect if it appears that the total construction costs may exceed the Guaranteed Maximum Price established by the District and shall make recommendations for corrective action. Developer will further provide input to the District and Architect relative to value of construction, means and methods for construction, duration of construction of various building methods and constructability.

10.1.3.2 In each budget of the Guaranteed Maximum Price, Developer shall include values of scopes of work subdivided into component parts in sufficient detail to serve as the basis for progress payments during construction. This budget of the Guaranteed Maximum Price shall include, at a minimum, the following information divided into at least the following categories for each site:

10.1.3.2.1 Overhead and profit;

10.1.3.2.2 Supervision;

10.1.3.2.3 General conditions;

10.1.3.2.4 Layout & Mobilization (not more than 1%);

10.1.3.2.5 Submittals, samples, shop drawings (not more than 3%);

10.1.3.2.6 Bonds and insurance (not more than 2%);

10.1.3.2.7 Close-out documentation (not less than 3%);

10.1.3.2.8 Demolition;

10.1.3.2.9 Installation;

10.1.3.2.10 Rough-in;

10.1.3.2.11 Finishes;

10.1.3.2.12 Testing;

10.1.3.2.13 Owner and Maintenance Manuals; and

10.1.3.2.14 Punchlist and District acceptance.

10.1.4 Construction Schedule and Phasing Plan

Developer shall prepare a preconstruction schedule to guide the design team through to bid dates. That schedule shall show the multiple phases and interrelations of design, constructability review, and estimating. Developer shall also prepare a full construction schedule for the Project detailing the construction activities. Developer shall further investigate, recommend and prepare a schedule for the purchase of materials and equipment requiring long lead time procurement, and coordinate the schedule with the early preparation of portions of the Contract Documents by the Architect.

10.1.5 Construction Planning and Bidding

10.1.5.1 For all of Developer's activities relating to construction planning and bidding, Developer shall comply with all applicable legal requirements, including but not limited to those set forth in Education Code section 17406.

10.1.5.2 Consult with District staff in relation to the existing site. Selected developer should make site visits, as needed to review the current site conditions. During this evaluation, Respondent may make recommendations relating to soils investigations and utility locations and capacities, in order to minimize unforeseen conditions.

10.1.5.3 Attend meetings at the Site with the Architect and the design team as needed.

10.1.5.4 Provide plan review and constructability services with an emphasis on ensuring that the Project can be completed within the established schedule and within the available budget.

10.1.5.5 Provide a detailed analysis of all major Project systems with an emphasis on possible value engineering possibilities.

10.1.5.6 Prepare and distribute specifications and drawings provided by District to facilitate bidding to Developer's subcontractors.

10.1.5.7 Review the drawings and specifications to eliminate areas of conflict and overlapping in the work to be performed by various subcontractors, and with a view to eliminating change order requests by the Architect or subcontractors.

10.1.5.8 Conduct pre-bid conferences. Coordinate with District and the Architect in responding to subcontractor questions or providing clarification to all subcontractors.

10.1.5.9 DSA approved plans shall be utilized to receive subcontractor bids and develop the GMP in accordance with the lease-leaseback agreement forms, including the requirement that Developer engage in competitive bidding for subcontractors for all

scopes of work on the Project that constitute more than one half of one percent (0.5%) of the GMP. The District representative shall be present during the receipt of bids from subcontractors.

10.1.5.10 Each phase GMP shall be presented to the District in the following manner within a three ring binder as well as electronically on an external memory device such as a USB drive:

10.1.5.10.1 Cover sheet, signed by Developer indicating the GMP dollar amount with a certification, indicating that the GMP is all inclusive per the plans, specifications and addenda (contract documents). Also include certification stating, "Developer hereby certifies that they have reviewed all subcontractor proposals and whether the subcontractor excluded portions of their scope Developer has included all costs for a complete GMP in accordance with plans, specifications and addenda."

10.1.5.10.2 A bid tabulation sheet indicating the breakdown by subcontractor/trade along with the appropriate general condition amount, other fees (as submitted with the response to the RFQ/P).

10.1.5.10.3 Behind the bid tabulation sheet mentioned in subdivision 10.1.5.5.2 above should be a sheet that indicates what is included in the general conditions, which should match what was submitted in the response to the RFQ/P.

10.1.5.10.4 Copies of all subcontractor bids received divided by trade that corresponds to the final spread sheet with a cover sheet indicating the scope and subcontractors that provided bids as well as those that were asked to bid, but did not submit a proposal. This sheet should have the dollar amounts for each subcontractor that provided a bid with the first column being the proposed subcontractor for that trade.

10.1.5.10.5 Behind subdivision 10.1.5.5.4 above should be the bids for that trade with the proposed subcontractor bid on top and the other subcontractor bids in descending order based on best value score.

10.1.5.10.6 The minimum number of bona fide bids from contractors for a specific trade shall be as follows:

10.1.5.10.6.1 Two (2) bids for subcontracts up to One Hundred Thousand Dollars (\$100,000);

10.1.5.10.6.2 Three (3) bids for subcontracts over One Hundred Thousand Dollars (\$100,000).

10.1.5.10.7 If Developer intends to propose to self-perform portion(s) of the construction of the Project, it must receive the District's prior written approval. If approved, Developer must provide its pricing (its bid) to the District twenty-four (24) hours

prior to Developer's receipt of Subcontractor bids for those portion(s) of the Work.

10.1.5.10.7.1 Regardless of the scope of work and not in any way reducing the number of Subcontractor bids based on the other requirements of the Contract Documents, the minimum number of bona fide bids from Subcontractors for scope(s) of Work that Developer is bidding to self-perform shall be Two (2) Bids, not including Developer's pricing/bid.

10.1.5.11 Produce detailed construction CPM schedules to be incorporated into the Project documents including identification of the Project critical path and agency approvals.

10.1.5.12 Plan the phases and staging of construction, staging areas, temporary fencing, office trailer placement, access, etc. as required.

10.1.5.13 Any other services that are reasonable and necessary to control the budget and schedule. List those areas where subconsultants will be required and where the Respondent has in-house expertise. Provide resumes of persons providing each of these services and for key personnel assigned to the Project.

10.2 Schedule

Preconstruction services outlined above will commence on the date the District issues a Notice to Proceed with Preconstruction Services for the Agreement, and conclude upon approval of the Amendment to the Lease Agreements by District's Board, or termination of this Agreement by either party per the Agreement's terms. Any extension shall be subject to reasonable approval in writing by the Parties.

10.3 Ownership of Records

It is mutually agreed that all materials prepared by Developer under this Agreement shall become the property of the District and Developer shall have no property right therein whatsoever. Developer hereby assigns to District any copyrights associated with the materials prepared pursuant to the Agreement.

10.4 Open Book Policy

There will be an open book policy with Developer and its construction team. District shall have access to all subcontractor bids, value engineering back-up, contingency breakdown & tracking, and Developer fees.

10.5 Compensation to Developer for Preconstruction Services

District agrees to reimburse Developer in the total amount not to exceed [AMOUNT IN WORDS] DOLLARS (\$[AMOUNT IN NUMBERS]), for the performance of services contemplated by this Agreement. Developer shall be paid monthly for the actual fees and allowed costs and expenses for all time and materials required and expended for work requested and specified by the District as completed. Said amount shall be paid

within thirty (30) days upon submittal to and verification by the District of a monthly billing statement showing completion of the tasks for that month on a line item basis. In the event Developer and District continue with the lease/leaseback agreements for the development of the Project, this compensation for services rendered will be included as part of the Guaranteed Maximum Price ("GMP") to be paid to Developer by District.

Developer shall be responsible for any and all costs and expenses incurred by Developer, including but not limited to the costs of hiring sub-consultants, contractors and other professionals, review of the Project's Plans and Specifications, review and preparation of necessary documentation relating to the development of the Project, all travel-related expenses, as well as for meetings with District and its representatives, long distance telephone charges, copying expenses, salaries of Developer staff and employees working on the Project, overhead, and any other reasonable expenses incurred by Developer in performance of the services contemplated by this Agreement.

10.6 Termination before Construction Phase

10.6.1 Before the notice to proceed with the Construction Phase is issued by the District, this Agreement may be terminated at any time without cause by District upon fourteen (14) days written notice to Developer. In the event of such a termination by District, the District shall pay Developer for all undisputed services performed and expenses incurred per this Agreement, supported by documentary evidence, including, but not limited to, payroll records, invoices from third parties retained by Developer pursuant to this Agreement, and expense reports up until the date of notice of termination plus any sums due Developer for Board-approved extra services. In ascertaining the services actually rendered hereunder up to the date of termination of this Agreement, consideration shall be given to completed work and work in process that would best serve the District if a completed product was presented.

10.6.2 In the event that the Parties do not reach an agreement on the GMP, this Agreement will be terminated at that time. In the event of such a termination, the District shall pay Developer no more than the not to exceed amount in Section 10.5 above.

10.7 Construction Phase

Developer shall not commence work for which a contractor is required to be licensed in accordance with Article 5 (commencing with Section 7065) of Chapter 9 of Division 3 of the Business and Professions Code and for which Division of the State Architect approval is required can be performed before receipt of the required Division of the State Architect approval.

11. Construction of Project

11.1 Construction of Project

11.1.1 Developer agrees to cause the Project to be developed, constructed, and installed in accordance with the terms hereof and the Construction Provisions set forth in **Exhibit D**, including those things reasonably inferred from the Contract Documents as being within the scope of the Project and

necessary to produce the stated result even though no mention is made in the Contract Documents.

11.1.2 Contract Time / Construction Schedule

It is hereby understood and agreed that the Contract Time for this Project shall be [days in words] ([days in numbers]) calendar days, commencing with the date upon which the Facilities Lease and the Site Lease are fully executed and delivered to both Parties and ending with completion of the Work which will occur no later than [Date] ("Contract Time"). The Construction Schedule must be approved by the District.

11.1.3 Schedule of Values

Developer will provide a schedule of values, approved by the District, which will be attached hereto as **Exhibit G** ("Schedule of Values"). The Schedule of Values must be approved by the District.

11.1.4 Liquidated Damages

Time is of the essence for all work Developer must perform to complete the Project. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Developer's delay; therefore, Developer agrees that it shall pay to the District the sum of _____ Dollars (\$_____) per day as liquidated damages for each and every day's delay beyond the Contract Time.

11.1.4.1 It is hereby understood and agreed that this amount is not a penalty.

11.1.4.2 In the event any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due Developer under this Facilities Lease. The District's right to assess liquidated damages is as indicated herein and in **Exhibit D**.

11.1.4.3 The time during which the construction of the Project is delayed for cause as hereinafter specified may extend the time of completion for a reasonable time as the District may grant.

11.1.5 Guaranteed Maximum Price

Developer will cause the Project to be constructed within the GMP as set forth and defined in the GMP provisions in **Exhibit C**, and Developer will not seek additional compensation from District in excess of that amount.

11.1.6 Modifications

If the DSA requires changes to the Contract Documents submitted by District to Developer, and those changes change the construction costs and/or construction time for the Project, then those changed costs or time will be handled as a modification pursuant to the provisions of **Exhibit D**.

**11.1.7 Labor Compliance Monitoring and Enforcement by
Department of Industrial Relations**

This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Developer specifically acknowledges and understands that it shall perform the Work of this Contract while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code.

12. Maintenance

Following delivery of possession of the Project by Developer to District, the repair, improvement, replacement and maintenance of the Project and the Site shall be at the sole cost and expense and the sole responsibility of the District, subject only to all punch list items and warranties against defects in materials and workmanship of Developer as provided in **Exhibit D**. The District shall pay for or otherwise arrange for the payment of the cost of the repair and replacement of the Project resulting from ordinary wear and tear. The District waives the benefits of subsections 1 and 2 of Section 1932 of the California Civil Code, but such waiver shall not limit any of the rights of the District under the terms of this Facilities Lease.

13. Utilities

Following delivery of possession of the Project by Developer to District, the cost and expenses for all utility services, including, but not limited to, electricity, natural gas, telephone, water, sewer, trash removal, cable television, janitorial service, security, heating, water, internet service, data transmission, and all other utilities of any type shall be paid by District.

14. Taxes and Other Impositions

All ad valorem real property taxes, special taxes, possessory interest taxes, bonds and special lien assessments or other impositions of any kind with respect to the Project, the Site and the improvements thereon, charged to or imposed upon either Developer or the District or their respective interests or estates in the Project, shall at all times be paid by District. In the event any possessory interest tax is levied on Developer, its successors and assigns, by virtue of this Facilities Lease or the Site Lease, District shall pay such possessory interest tax directly, if possible, or shall reimburse Developer, its successors and assigns for the full amount thereof within forty-five (45) days after presentation of proof of payment by Developer.

15. Insurance

15.1 Developer's Insurance

Developer shall comply with the insurance requirements as indicated here and in **Exhibit D-1**, if applicable.

15.1.1 Commercial General Liability and Automobile Liability Insurance

15.1.1.1 Developer shall procure and maintain, during the life of the Project, Commercial General Liability Insurance in a form at least as broad as Insurance Services (ISO) Form CG 00 01 that shall

protect Developer, its agents, representative, employees, or subcontractors, District, its Board Members, employees, agents, Construction Manager(s), Project Manager(s), Project Inspector(s), and Architect(s) from all claims for products and completed operations, property damage, bodily injury and personal injury, death, advertising injury and medical payments arising from, or in connection with, the performance of the Work of the Project within the Contract Documents at the required limits, or Developer shall procure and maintain these coverages separately. Developer shall procure and maintain Automobile Liability in a form at least as broad as ISO Form CA 0001 covering Code 1 (any auto) at the required limits, or Developer shall procure and maintain these coverages separately.

15.1.1.2 Developer's deductible or self-insured retention for its Commercial General Liability Insurance policy shall not exceed five thousand dollars (\$5,000) for deductible or twenty-five thousand dollars (\$25,000) for self-insured retention, respectively, unless approved in writing by District.

15.1.1.3 All such policies shall be written on an occurrence form.

15.1.2 Excess Liability Insurance

15.1.2.1 If Developer's underlying policy limits are less than required, subject to 15.1.2.3 below, Developer may procure and maintain, during the life of the Project, an Excess Liability Insurance Policy to meet the policy limit requirements of the required policies in order to satisfy, in aggregate with its underlying policy, the insurance requirements herein including, but not limited to, primary and non-contributory, additional insured, Self-Insured Retentions (SIRs), indemnity, and defense requirements. The Excess Liability Insurance Policy shall be provided on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying Commercial General Liability insurance. No insurance policies maintained by the Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until Developer's primary and excess liability policies are exhausted.

15.1.2.2 There shall be no gap between the per occurrence amount of any underlying policy and the start of the coverage under the Excess Liability Insurance Policy. Any Excess Liability Insurance Policy shall protect Developer, District, its Board Members, employees, agents, Construction Manager(s), Project Manager(s), Project Inspector(s), and Architect(s) in amounts and including the provisions as set forth in **Exhibit D-1** and/or the Supplementary Conditions (if any), and that complies with all requirements for Commercial General Liability and Automobile Liability and Employers' Liability Insurance.

15.1.2.3 The District, in its sole discretion, may accept the Excess Liability Insurance Policy that brings Developer's primary limits to the minimum requirements herein.

15.1.3 Subcontractor

Developer shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part, the insurance required herein by procuring and maintaining an Excess Liability Insurance Policy) with minimum limits at least equal to the amount required of Developer except where smaller minimum limits are permitted as set forth below. For Commercial General Liability coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

15.1.4 Workers' Compensation and Employer's Liability Insurance

15.1.4.1 In accordance with provisions of section 3700 of the California Labor Code, Developer and every Subcontractor shall be required to secure the payment of compensation to its employees.

15.1.4.2 Developer shall procure and maintain, during the life of the Project, Workers' Compensation Insurance and Employer's Liability Insurance for all of its employees engaged in work under the Project, on/or at the Site of the Project. This coverage shall cover, at a minimum, medical and surgical treatment, disability benefits, rehabilitation therapy, and survivors' death benefits. Developer shall require its Subcontractor(s), if any, to procure and maintain Workers' Compensation Insurance and Employer's Liability Insurance for all employees of Subcontractor(s). Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by Developer's insurance. If any class of employee or employees engaged in Work on the Project, on or at the Site of the Project, is not protected under the Workers' Compensation Insurance, Developer shall provide, or shall cause a Subcontractor to provide, adequate insurance coverage for the protection of any employee(s) not otherwise protected before any of those employee(s) commence work.

15.1.4.3 The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of District for all work performed by Developer, its employees, agents and subcontractors.

15.1.5 Builder's Risk Insurance: Builder's Risk "All Risk" Insurance

15.1.5.1 Developer shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the Project and no coinsurance penalty provisions, or similar first party property coverage acceptable to the District. The cost value basis shall be consistent with the total replacement cost of all insurable Work of the Project included within the Contract Documents. Coverage is to insure against all risks of

accidental physical loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, rain, dust, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

15.1.6 Pollution Liability Insurance

15.1.6.1 Developer shall procure and maintain Pollution Liability Insurance in a form at least as broad as ISO Form CG 2415 that shall protect Developer, District, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Facilities Lease, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims, or Developer shall procure and maintain these coverages separately. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos.

15.1.6.2 Contractor warrants that any retroactive date applicable to coverage under the policy shall predate the effective date of the Contract and that continuous coverage will be maintained or an extended reporting or discovery period will be exercised for a period of three (3) years, beginning from the time that the Work under the Contract is completed.

15.1.6.3 If the services involve lead-based paint or asbestos identification/remediation, Developer's Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, Developer's Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

15.1.6.4 If Developer is responsible for removing any pollutants from a site, then Developer shall ensure that Any Auto, including owned, non-owned, and hired, are included within the above policies and at the required limits, to cover its automobile exposure for transporting the pollutants from the site to an approved disposal site. This coverage shall include the Motor Carrier Act Endorsement, MCS 90.

**15.1.7 Proof of Carriage of Insurance and Other Requirements
Endorsements and Certificates**

15.1.7.1 Developer shall not commence Work nor shall it allow any Subcontractor to commence Work on the Project, until Developer and its Subcontractor(s) have procured all required insurance and Developer has delivered in duplicate to the District complete endorsements (or entire insurance policies) and certificates indicating the required coverages have been obtained, and the District has approved these documents.

15.1.7.2 Endorsements, certificates, and insurance policies shall include the following:

15.1.7.2.1 A clause stating the following, or other language acceptable to the District:

"This policy shall not be canceled and the coverage amounts shall not be reduced until notice has been mailed to District, Architect, and Construction Manager stating date of cancellation by the insurance carrier. Date of cancellation may not be less than thirty (30) days after date of mailing notice."

15.1.7.2.2 Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation notice will be sent, and length of notice period.

15.1.7.2.3 All endorsements, certificates and insurance policies shall state that District, its Board Members, employees and agents, Construction Manager(s), Project Manager(s), Inspector(s) and Architect(s) are named additional insureds under all policies except Workers' Compensation Insurance and Employers' Liability Insurance. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

15.1.7.2.4 All endorsements shall waive any right to subrogation against any of the named additional insureds.

15.1.7.2.5 Developer's and Subcontractors' insurance coverage at least as broad as ISO CG 20 01 04 13 shall be primary and non-contributory to any insurance or self-insurance maintained by District, its Board Members, employees and/or agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s), and/or Architect(s). This requirement shall also apply to any Excess liability policies.

15.1.7.2.6 Developer's insurance limit shall apply separately to each insured against whom a claim is made or suit is brought.

15.1.7.3 No policy shall be amended, canceled, or modified, and the coverage amounts shall not be reduced, until Developer or Developer's broker has provided written notice to District, Architect, and Construction Manager stating date of the amendment, modification, cancellation or reduction, and a description of the change. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.

15.1.7.4 Insurance written on a "claims made" basis shall be retroactive to a date that coincides with or precedes Developer's commencement of Work, including subsequent policies purchased as renewals or replacements. Said policy is to be renewed by Developer and all Subcontractors for a period of five (5) years following completion of the Work or termination of this Facilities Lease. Such insurance must have the same coverage and limits as the policy that was in effect during the term of this Facilities Lease, and will cover Developer and all Subcontractors for all claims made. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy from with a retroactive date prior to the effective date of this Facilities Lease, or the start of Work date, the Developer must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work. A copy of the claims reporting requirements must be submitted to the District for review.

15.1.7.5 Developer's and Subcontractors' insurance policy(s) shall be primary and non-contributory to any insurance or self-insurance maintained by District, its Board Members, employees and/or agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s), and/or Architect(s).

15.1.7.6 All of Developer's insurance shall be with insurance companies with an A.M. Best rating of no less than A: XI.

15.1.7.7 The insurance requirements set forth herein shall in no way limit Developer's liability arising out of or relating to the performance of the Work or related activities.

15.1.7.8 Failure of Developer and/or its Subcontractor(s) to comply with the insurance requirements herein shall be deemed a material breach of the Facilities Lease and constitute a Default by Developer pursuant to this Facilities Lease.

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15.1.8 Insurance Policy Limits

The limits of insurance shall not be less than the following amounts:

COMMERCIAL GENERAL LIABILITY	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$5,000,000 per occurrence; \$10,000,000 in aggregate
AUTOMOBILE LIABILITY – ANY AUTO	Combined Single Limit	\$1,000,000
WORKERS' COMPENSATION		Statutory limits pursuant to State law
EMPLOYER'S LIABILITY		\$1,000,000 per accident for bodily injury or disease
BUILDER'S RISK (COURSE OF CONSTRUCTION)		Full replacement value for scope of Work.
POLLUTION LIABILITY		\$1,000,000 per claim; \$2,000,000 aggregate

If Developer normally carries insurance in an amount greater than the minimum amounts required by District, that greater amount shall become the minimum required amount of insurance for purposes of the Contract. Therefore, Developer hereby acknowledges and agrees that all insurance carried by it shall be deemed liability coverage for all actions it performs in connection with the Contract.

The limits of insurance for those subcontractors whose subcontract does not exceed One Million Dollars (\$1,000,000) shall not be less than the following amounts:

COMMERCIAL GENERAL LIABILITY	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$2,000,000 per occurrence; \$4,000,000 in aggregate
AUTOMOBILE LIABILITY – ANY AUTO	Combined Single Limit	\$1,000,000
WORKERS' COMPENSATION		Statutory limits pursuant to State law
EMPLOYER'S LIABILITY		\$1,000,000 per accident for bodily injury or disease

Notwithstanding anything in this Facilities Lease to the contrary, the above insurance requirements may be modified as appropriate for subcontractors, with District's prior written approval.

15.2 District's Insurance

15.2.1 Rental Interruption Insurance

District shall at all times from and after District's acceptance of the Project, for the benefit of District and Developer, as their interests may appear, maintain rental interruption insurance to cover loss, total or partial, of the use of the Project due to damage or destruction, in an amount at least equal to the maximum estimated Lease Payments payable under this Facilities Lease during the current or any future twenty-four (24) month period. This insurance may be maintained as part of or in conjunction with any other insurance coverage carried by the District, and such insurance may be maintained in whole or in part in the form of participation by the District in a joint powers agency or other program providing pooled insurance. This insurance may not be maintained in the form of self-insurance.

15.2.2 Property Insurance

District shall at all times from and after District's acceptance of the Project, carry and maintain in force a policy of property insurance for 100% of the insurable replacement value with no coinsurance penalty, on the Site and the Project, together with all improvements thereon, under a standard "all risk" contract insuring against loss or damage. Developer shall be named as additional insureds or co-insureds thereon by way of endorsement. District shall have the right to procure the required insurance through a joint powers agency or to self-insure against such losses or portion thereof as is deemed prudent by District.

16. Indemnification and Defense

16.1 To the fullest extent permitted by California law, Developer shall indemnify, keep and hold harmless the District, the Architect(s) and Construction Manager(s), their respective consultants, separate contractors, board members, officers, representatives, agents, and employees, in both individual and official capacities ("Indemnitees"), against all suits, claims, injury, damages, losses, and expenses ("Claims"), including but not limited to attorney's fees and costs, caused by, arising out of, resulting from, or incidental to the performance of the Work under this Contract by Developer or its Subcontractors, vendors and/or suppliers. However, Developer's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability to the extent the Claim(s) is/are caused by the active negligence or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction. This indemnification and hold harmless obligation of Developer shall not be construed to negate, abridge, or otherwise reduce any right or obligation of indemnity that would otherwise exist or arise as to any Indemnitee or other person described herein. This indemnification and hold harmless obligation includes, but is not limited to, any failure or alleged failure by Developer to comply with any law and/or provision of the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Developers obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the DIR.

16.2 To the furthest extent permitted by California law, Developer shall also defend, at the inception of the claim Indemnitees, and at its own expense, including but not

limited to attorneys' fees and costs, against all Claims caused by, arising out of, resulting from, or incidental to the performance of the Work under this Facilities Lease by Developer, its Subcontractors, vendors, or suppliers. However, without impacting Developer's obligation to provide an immediate and ongoing defense of Indemnitees, Developer's defense obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability to the extent caused by the active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction. The District shall have the right to accept or reject any legal representation that Developer proposes to defend the Indemnitees. If conflict of interest bars joint representation of Developer and Indemnitees, District shall have the right to select its own counsel, subject to Developer's reasonable right of rejection. If any Indemnitee provides its own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Developer shall reimburse such Indemnitee for any expenditures. Even if the Developer assumes the defense of the District with acceptable counsel, the District, at its sole option, may participate in the defense, at its own expense, with counsel of its own choice without relieving the Developer of any of its obligations hereunder. Developer's defense obligation shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any Indemnitee or other person described herein. Developer's defense obligation includes, but is not limited to, any failure or alleged failure by Developer to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Developer's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the DIR. Developer shall give prompt notice to the District in the event of any Claim(s).

16.3 Without limitation of the provisions herein, if Developer's obligation to indemnify and hold harmless the Indemnitees or its obligation to defend Indemnitees as provided herein shall be determined to be void or unenforceable, in whole or in part, it is the intention of the Parties that these circumstances shall not otherwise affect the validity or enforceability of Developer's agreement to indemnify, defend, and hold harmless the rest of the Indemnitees, as provided herein. Further, Developer shall be and remain fully liable on its agreements and obligations herein to the fullest extent permitted by law.

16.4 Pursuant to Public Contract Code section 9201, the District shall provide timely notification to Developer of the receipt of any third-party Claim relating to this Contract. The District shall be entitled to recover its reasonable costs incurred in providing said notification.

16.5 In any and all Claims against any of the Indemnitees by any employee of Developer, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, Developer's indemnification obligation herein shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Developer or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

16.6 The District may retain so much of the moneys due to Developer as shall be considered necessary, until disposition of any such Claims or until the District, Architect(s) and Construction Manager(s) have received written agreement from

Developer that Developer will unconditionally defend the District, the Architect(s) and Construction Manager(s), their respective officers, agents and employees, and pay any damages due by reason of settlement or judgment.

16.7 Developer's defense and indemnification obligations hereunder shall survive the completion of Work, including the warranty/guarantee period, and/or the termination of the Contract.

17. Eminent Domain

17.1 Total Taking After Project Delivery

If, following delivery of possession of the Project by Developer to District, all of the Project and the Site is taken permanently under the power of eminent domain, the Term shall cease as of the day possession shall be so taken.

17.1.1 The financial interest of Developer shall be limited to the amount of principal payments pursuant to the GMP provisions indicated in **Exhibit C** that are then due or past due together with all remaining and succeeding principal payments pursuant to the GMP provisions indicated in **Exhibit C** for the remainder of the original Term. For example, if all of the Project and the Site is taken at the end of the third year of the Term, Developer shall be entitled to receive from the eminent domain award the sum of all principal payments pursuant to the GMP provisions indicated in **Exhibit C** that would have been owing for the fourth year through the end of the Term had there been no taking.

17.1.2 The balance of the award, if any, shall be paid to the District.

17.2 Total Taking Prior to Project Delivery

If all of the Project and the Site is taken permanently under the power of eminent domain and Developer is still performing the work of the Project and has not yet delivered possession of the Project to District, the Term shall cease as of the day possession shall be so taken. The financial interest of Developer shall be the amount Developer has expended to date for work performed on the Project, subject to documentation reasonably satisfactory to the District.

17.3 Partial Taking

If, following delivery of possession of the Project by Developer to District, less than all of the Project and the Site is taken permanently, or if all of the Project and the Site or any part thereof is taken temporarily, under the power of eminent domain.

17.3.1 This Facilities Lease shall continue in full force and effect and shall not be terminated by virtue of that partial taking and the Parties waive the benefit of any law to the contrary, and

17.3.2 There shall be a partial abatement of any principal payments pursuant to the GMP provisions indicated in **Exhibit C** as a result of the application of the net proceeds of any eminent domain award to the prepayment of those payments hereunder. The Parties agree to negotiate, in good faith, for an equitable split of the net proceeds of any eminent domain

award and a corresponding reduction in the payments required pursuant to the GMP provisions indicated in **Exhibit C**.

18. Damage and Destruction

If, following delivery of possession of all or a portion of the Project by Developer to District, the Project is totally or partially destroyed due to fire, acts of vandalism, flood, storm, earthquake, Acts of God, or other casualty beyond the control of either party hereto, the Term shall end and District shall no longer be required to make any payments required pursuant to the GMP provisions indicated in **Exhibit C** that are then due or past due or any remaining and succeeding principal payments pursuant to the GMP provisions indicated in **Exhibit C** for the remainder of the original Term.

19. Abatement

19.1 If, after the Parties have executed the Memorandum of Commencement Date attached hereto as **Exhibit E**, the Project becomes destroyed or damaged beyond repair, the District may determine its use of the Project abated. Thereafter, the District shall have no obligation to make, nor shall Developer have the right to demand, the Lease Payments as indicated in the GMP provisions indicated in **Exhibit C** to this Facilities Lease. The Term shall cease at that time.

19.2 The Parties hereby agree that the net proceeds of the District's rental interruption insurance that the District must maintain during the Term, as required herein, shall constitute a special fund for the payment of the Lease Payments indicated in the GMP provisions indicated in **Exhibit C**.

19.3 The District shall as soon as practicable after such event, apply the net proceeds of its insurance policy intended to cover that loss ("Net Proceeds"), either to:

19.3.1 Repair the Project to full use.

19.3.2 Replace the Project, at the District's sole cost and expense, with property of equal or greater value to the Project immediately prior to the time of the destruction or damage, and that replacement, once completed, shall be substituted in this Facilities Lease by appropriate endorsement; or

19.3.3 Exercise the District's purchase option as indicated in the GMP provisions in **Exhibit C** to this Facilities Lease.

19.4 The District shall notify Developer of which course of action it desires to take within thirty (30) days after the occurrence of the destruction or damage. The Net Proceeds of all insurance payable with respect to the Project shall be available to the District and shall be used to discharge the District's obligations under this Section.

20. Access

20.1 By Developer

Developer shall have the right at all reasonable times to enter upon the Site to construct the Project pursuant to this Facilities Lease. Following the acceptance of the Project by District, Developer may enter the Project at reasonable times with advance

notice and arrangement with District for purposes of making any repairs required to be made by Developer.

20.2 By District

The District shall have the right to enter upon the Site at all times. District shall comply with all safety precautions and procedures required by Developer.

21. Assignment, Subleasing

21.1 Assignment and Subleasing by the District

Any assignment or sublease by District shall be subject to all of the following conditions:

21.1.1 This Facilities Lease and the obligation of the District to make the payments required pursuant to the GMP provisions indicated in **Exhibit C** shall remain obligations of the District; and

21.1.2 The District shall, within thirty (30) days after the delivery thereof, furnish or cause to be furnished to Developer a true and complete copy of any assignment or sublease.

21.2 Assignment by Developer

Developer may assign its right, title and interest in this Facilities Lease, in whole or in part to one or more assignees, only after the written consent of District, which District will not unreasonably withhold. No assignment shall be effective against the District unless and until the District has consented in writing. Notwithstanding anything to the contrary contained in this Facilities Lease, no consent from the District shall be required in connection with any assignment by Developer to a lender for purposes of financing the Project as long as there are not additional costs to the District.

22. Termination, Default And Suspension

22.1 Termination; Lease Terminable Only As Set Forth Herein

22.1.1 Except as otherwise expressly provided in this Facilities Lease, this Facilities Lease shall not terminate, nor shall District have any right to terminate this Facilities Lease or be entitled to the abatement of any necessary payments pursuant to the GMP provisions in **Exhibit C** or any reduction thereof. The obligations hereunder of District shall not be otherwise affected by reason of any damage to or destruction of all or any part of the Project; the taking of the Project or any portion thereof by condemnation or otherwise; the prohibition, limitation or restriction of District's use of the Project; the interference with such use by any private person or contractor; the District's acquisition of the ownership of the Project (other than pursuant to an express provision of this Facilities Lease); any present or future law to the contrary notwithstanding. It is the intention of the Parties hereto that all necessary payments pursuant to the GMP provisions indicated in **Exhibit C** shall continue to be payable in all events, and the obligations of the District hereunder shall continue unaffected unless the requirement to pay or perform the same shall be terminated or modified pursuant to an express provision of this Facilities Lease.

22.1.2 Nothing contained herein shall be deemed a waiver by the District of any rights that it may have to bring a separate action with respect to any Event of Default by Developer hereunder or under any other agreement to recover the costs and expenses associated with that action. The District covenants and agrees that it will remain obligated under this Facilities Lease in accordance with its terms.

22.1.3 Following completion of the Project, the District will not take any action to terminate, rescind or avoid this Facilities Lease, notwithstanding the bankruptcy, insolvency, reorganization, composition, readjustment, liquidation, dissolution, winding-up or other proceeding affecting Developer or any assignee of Developer in any such proceeding, and notwithstanding any action with respect to this Facilities Lease which may be taken by any trustee or receiver of Developer or of any assignee of Developer in any such proceeding or by any court in any such proceeding. Following completion of the Project, except as otherwise expressly provided in this Facilities Lease, District waives all rights now or hereafter conferred by law to quit, terminate or surrender this Facilities Lease or the Project or any part thereof.

22.1.4 District acknowledges that Developer may assign an interest in some or all of the necessary payments pursuant to the GMP provisions indicated in **Exhibit C** to a lender in order to obtain financing for the cost of constructing the Project and that the lender may rely on the foregoing covenants and provisions in connection with such financing.

22.2 District's Request for Assurances

If District at any time reasonably believes Developer is or may be in default under this Contract, District may in its sole discretion notify Developer of this fact and request written assurances from Developer of performance of Work and a written plan from Developer to remedy any potential default under the terms of this Contract that the District may advise Developer of in writing. Developer shall, within ten (10) calendar days of District's request, deliver a written cure plan that meets the District's requirements in its request for assurances. Developer's failure to provide such written assurances of performance and the required written plan, within ten (10) calendar days of request, will constitute a material breach of this Contract sufficient to justify termination for cause.

22.3 District's Right to Terminate Developer for Cause

22.3.1 Grounds for Termination

The District, in its sole discretion, without prejudice to any other right or remedy, may terminate the Site Lease and Facilities Lease and/or terminate Developer's right to perform the work of the Facilities Lease based upon any of the following:

22.3.1.1 Developer refuses or fails to execute the Work or any separable part thereof; or

22.3.1.2 Developer fails to complete said Work within the time specified or any extension thereof; or

22.3.1.3 Developer persistently fails or refuses to perform Work or provide material of sufficient quality as to be in compliance with the Facilities Lease; or

22.3.1.4 Prior to completion of the Project, Developer is adjudged a bankrupt, files a petition for relief as a debtor, or a petition is filed against Developer without its consent, and the petition not dismissed within sixty (60) days; or

22.3.1.5 Prior to the completion of the Project, Developer makes a general assignment for the benefit of its creditors, or a receiver is appointed on account of its insolvency; or

22.3.1.6 Developer persistently or repeatedly refuses and/or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified; or

22.3.1.7 Developer fails to make prompt payment to Subcontractors, or for material, or for labor; or

22.3.1.8 Developer persistently disregards laws, or ordinances, or instructions of District as indicated in **Exhibit D**, or otherwise in violation of **Exhibit D**; or

22.3.1.9 Developer fails to supply labor, including that of Subcontractors, that is sufficient to prosecute the Work or that can work in harmony with all other elements of labor employed or to be employed on the Work; or

22.3.1.10 Developer or its Subcontractor(s) is/are otherwise in breach, default, or in substantial violation of any provision of this Facilities Lease, including but not limited to a lapse in licensing or registration.

22.3.2 Notification of Termination

22.3.2.1 Upon the occurrence at District's sole determination of any of the above conditions, or upon Developer's failure to perform any material covenant, condition or agreement in this Facilities Lease, District may, without prejudice to any other right or remedy, serve written notice upon Developer and its Surety of District's termination of this Facilities Lease and/or Developer's right to perform the Work of this Facilities Lease. This notice will contain the reasons for termination.

22.3.2.2 Unless, within fifteen (15) days after the service of the notice, any and all condition(s) shall cease, and any and all violation(s) shall cease, or arrangement satisfactory to District for the correction of the condition(s) and/or violation(s) be made, this Facilities Lease and the Site Lease shall cease and terminate; provided, however, if the failure stated in the notice cannot be corrected within fifteen (15) days after the service of notice, District

may consent to an extension of time, provided Developer instituted and diligently pursued corrective action within the applicable fifteen (15)-day period and until the violation is corrected. Upon District determination, Developer shall not be entitled to receive any further payment until the entire Work is finished.

22.3.2.3 Upon Termination, District may immediately serve written notice of tender upon Surety whereby Surety shall have the right to take over and perform this Facilities Lease only if Surety:

22.3.2.3.1 Within three (3) days after service upon it of the notice of tender, gives District written notice of Surety's intention to take over and perform this Facilities Lease; and

22.3.2.3.2 Commences performance of this Facilities Lease within three (3) days from date of serving of its notice to District.

22.3.2.4 Surety shall not utilize Developer in completing the Project if the District notifies Surety of the District's objection to Developer's further participation in the completion of the Project. Surety expressly agrees that any developer which Surety proposes to fulfill Surety's obligations is subject to District's approval.

22.3.2.5 If Surety fails to notify District or begin performance as indicated herein, District may take over the Work and execute the Work to completion by any method it may deem advisable at the expense of Developer and/or its Surety. Developer and its Surety shall be liable to District for any excess cost or other damages the District incurs thereby. Time is of the essence in this Facilities Lease. If the District takes over the Work as herein provided, District may, without liability for so doing, take possession of and utilize in completing the Work all materials, appliances, plan, and other property belonging to Developer as may be on the Site of the Work, in bonded storage, or previously paid for.

22.3.2.6 In the alternative, the District shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Developer under its subcontracts with any or all Subcontractors. In the event of an assumption or assignment by the District, no Subcontractor shall have any claim against the District or third party for Work performed by Subcontractor or other matters arising prior to termination of the Facilities Lease. The District or any third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after assumption or assignment. Should the District so elect, the Developer shall execute and deliver all documents and take all steps, including the legal assignment of its contractual rights, as the District may require, for the purpose of fully vesting in the District the rights and benefits of its Subcontractor under Subcontracts or other obligations or

commitments. All payments due the Developer hereunder shall be subject to a right of offset by the District for expenses and damages suffered by the District as a result of any default, acts, or omissions of the Developer. Developer must include this assignment provision in all of its contracts with its Subcontractors.

22.3.3 In the event of a termination for cause, if the expense to the District to finish the Work exceeds the unpaid Guaranteed Maximum Price, Developer and Surety shall pay difference to District within twenty-one (21) days of District's request. District may apply any amounts otherwise due to Developer to this difference.

22.3.4 In the event that a termination for cause is determined to have not been for cause, the termination shall be deemed to have been a termination for convenience effective as of the same date as the purported termination for cause

22.4 Termination of Developer for Convenience

22.4.1 District in its sole discretion may terminate the Facilities Lease in whole or in part upon three (3) days written notice to Developer.

22.4.2 Upon notice, Developer shall:

22.4.2.1 Cease operations as directed by the District in the notice;

22.4.2.2 Take necessary actions for the protection and preservation of the Work as soon as possible; and

22.4.2.3 Terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

22.4.3 Within 30 days of the notice, Developer shall submit to the District a payment application for the actual cost for labor, materials, and services performed, including all Developer's and Subcontractor(s)' mobilization and/or demobilization costs, that is unpaid. Developer shall have no claims against the District except for the actual cost for labor, materials, and services performed that adequately documented through timesheets, invoices, receipts, or otherwise. District shall pay all undisputed invoice(s) for work performed until the notice of termination.

22.4.4 If Developer objects to the termination for convenience, including disagreement on the actual cost, the District retains the right to all the options available to the District under a termination for cause.

22.5 Effect of Termination

22.5.1 If District terminates the Site Lease and the Facilities Lease pursuant to this section, the Site and any improvements built upon the Site shall vest in District upon termination of the Site Lease and Facilities Lease, and District shall thereafter be required to pay only the principal amounts then due and owing pursuant to the GMP provisions indicated in **Exhibit C**, less any damages incurred by District due to Developer's default, acts, or omissions.

22.5.2 The District shall retain all rights it possesses pursuant to this Facilities Lease including, without limitation.

22.5.2.1 The right to assess liquidated damages due because of any project delay; and

22.5.2.2 All rights the District holds to demand performance pursuant to Developer's required performance bond.

22.5.3 Developer shall, only if ordered to do so by the District, immediately remove from the Site all or any materials and personal property belonging to Developer that have not been incorporated in the construction of the Work, or which are not in place in the Work. The District retains the right, but not the obligation, to keep and use any materials and personal property belonging to Developer that have not been incorporated in the construction of the Work, or which are not in place in the Work. Developer and its Surety shall be liable upon the performance bond for all damages caused the District by reason of Developer's failure to complete the Work under this Facilities Lease.

22.5.4 In the event that the District shall perform any portion of, or the whole of the Work, pursuant to the provisions of the General Conditions, the District shall not be liable nor account to Developer in any way for the time within which, or the manner in which, the Work is performed by the District or for any changes the District may make in the Work or for the money expended by the District in satisfying claims and/or suits and/or other obligations in connection with the Work.

22.5.5 In the event that the Site Lease and Facilities Lease are terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by Developer or any impact or impairment of Developer's bonding capacity.

22.5.6 All payments due Developer hereunder shall be subject to a right of offset by the District for expenses, damages, losses, costs, claims, or reimbursements suffered by, or due to, the District as a result of any default, acts, or omissions of Developer.

22.5.7 The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to District.

22.6 Developer Remedies Upon District Default

22.6.1 Events of Default by District Defined

The following shall be "Events of Default" of the District under this Facilities Lease. The terms "Event of Default" and "Default," whenever they are used as to the District in the Site Lease or this Facilities Lease, shall only mean one or more of the following events:

22.6.1.1 Failure by the District to pay payments required pursuant to the GMP provisions in **Exhibit C**, and the continuation of this failure for a period of forty-five (45) days.

22.6.1.2 Failure by the District to perform any material covenant, condition or agreement in this Facilities Lease and that failure continues for a period of forty-five (45) days after Developer provides District with written notice specifying that failure and requesting that the failure be remedied; provided, however, if the failure stated in the notice cannot be corrected within the applicable period, Developer shall not withhold its consent to an extension of time if corrective action is instituted by the District within the applicable period and diligently pursued until the default is corrected.

22.6.2 Remedies on District's Default

If there has been an Event of Default on the District's part, Developer may exercise any and all remedies granted pursuant to this Facilities Lease; provided, however, there shall be no right under any circumstances to accelerate any of the payments required pursuant to the GMP provisions in **Exhibit C** or otherwise declare those payments not then past due to be immediately due and payable.

22.6.2.1 Developer may rescind its leaseback of the Project to the District under this Facilities Lease and re-rent the Project and Site to another lessee for the remaining Term for no less than the fair market value for leasing the Project and Site, which shall be:

22.6.2.1.1 An amount determined by a mutually-agreed upon appraiser; or

22.6.2.1.2 If an appraiser cannot be agreed to, an amount equal to the mean between a District appraisal and a Developer appraisal for the Project and Site, both prepared by MAI-certified appraisers.

22.6.2.2 District's obligation to make the payments required pursuant to the GMP provisions indicated in **Exhibit C** shall be:

22.6.2.2.1 Increased by the amount of costs, expenses, and damages incurred by Developer in re-renting the Project and Site; and

22.6.2.2.2 Decreased by the amount of rent Developer receives in re-letting the Project and Site.

22.6.2.3 District agrees that the terms of this Facilities Lease constitute full and sufficient notice of the right of Developer to re-rent the Project and Site in the Event of Default without effecting a surrender of this Facilities Lease, and further agrees that no acts of Developer in re-renting as permitted herein shall constitute a surrender or termination of this Facilities Lease, but that, on the contrary, in the event of an Event of Default by the District the right to re-rent the Project and Site shall vest in Developer as indicated herein.

22.6.3 District's Continuing Obligation

Unless there has been damage, destruction, a Taking, or Developer has acted, failed to act, or is in default as indicated above providing District with the right to terminate for cause, the District shall continue to remain liable for the payments required pursuant to the GMP provisions in **Exhibit C** and those amounts shall be payable to Developer at the time and in the manner therein provided.

22.6.4 No Remedy Exclusive

No remedy herein conferred upon or reserved to Developer is intended to be exclusive and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Facilities Lease or now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any Default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient. In order to entitle Developer to exercise any remedy reserved to it in this article, it shall not be necessary to give any notice, other than such notice as may be required in this Article or by law.

22.7 Emergency Termination Pursuant to Public Contracts Act of 1949

22.7.1 This Facilities Lease is subject to termination as provided by sections 4410 and 4411 of the Government Code of the State of California, being a portion of the Emergency Termination of Public Contracts Act of 1949.

22.7.1.1 Section 4410 of the Government Code states:

In the event a national emergency occurs, and public work, being performed by contract, is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the public agency and the contractor may, by written agreement, terminate said contract.

22.7.1.2 Section 4411 of the Government Code states:

Such an agreement shall include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party shall pay to the other or any other person, under the facts and circumstances in the case.

22.7.2 Compensation to Developer shall be determined at the sole discretion of District on the basis of the reasonable value of the Work done, including preparatory work. As an exception to the foregoing and at the District's discretion, in the case of any fully completed separate item or portion of the Work for which there is a separate previously submitted unit price or item on the accepted schedule of values, that price may control. The District, at its sole discretion, may adopt the Schedule of Values Price as the value of the work done or any portion thereof.

22.8 Suspension of Work

22.8.1 District in its sole discretion may suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine upon three (3) days written notice to Developer.

22.8.1.1 An adjustment may be made for changes in the cost of performance of the Work caused by any suspension, delay or interruption. No adjustment shall be made to the extent:

22.8.1.1.1 That performance is, was or would have been so suspended, delayed or interrupted by another cause for which Developer is responsible; or

22.8.1.1.2 That an equitable adjustment is made or denied under another provision of the Site Lease or the Facilities Lease; or

22.8.1.1.3 That the suspension of Work was the direct or indirect result of Developer's failure to perform any of its obligations hereunder.

22.8.1.1.4 The delay could not have been avoided or mitigated by Developer's reasonable diligence.

22.8.1.2 Any adjustments in cost of performance may have a fixed or percentage fee as provided in the section on Format for Proposed Change Order in **Exhibit D**. This amount shall be full compensation for all Developer's and its Subcontractor(s)' changes in the cost of performance of the Facilities Lease caused by any such suspension, delay or interruption.

23. Limitation of District Liability

District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, lost bonding capacity, arising out of or in connection with this Contract for the services performed in connection with this Contract.

24. Notices

All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed to have been received five (5) days after deposit in the United States mail in registered or certified form with postage fully prepaid or one (1) business day after deposit with an overnight delivery service with proof of actual delivery:

If to District:

Stockton Unified School District
56 South Lincoln Street
Stockton, CA 95203
ATTN: [Name, Title]

If to Developer:

[Developer]
[Address]
Attn: [Name, Title]

With a copy to:

Dannis Woliver Kelley
750 B Street, Suite 2600
San Diego, CA 92101
ATTN: Karina K. Samaniego

Developer and District, by notice given hereunder, may designate different addresses to which subsequent notices, certificates or other communications will be sent.

25. Binding Effect

This Facilities Lease shall inure to the benefit of and shall be binding upon Developer and District and their respective successors, transferees and assigns.

26. No Additional Waiver Implied by One Waiver

In the event any agreement contained in this Facilities Lease should be breached by either party and thereafter waived by the other party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

27. Severability

In the event any provision of this Facilities Lease shall be held invalid or unenforceable by any court of competent jurisdiction, that holding shall not invalidate or render unenforceable any other provision hereof, unless elimination of the invalid provision materially alters the rights and obligations embodied in this Facilities Lease or the Site Lease.

28. Amendments, Changes and Modifications

Except as to the termination rights of both Parties as indicated herein, this Facilities Lease may not be amended, changed, modified, altered or terminated without the written agreement of both Parties hereto.

29. Net-Net-Net Lease

This Facilities Lease shall be deemed and construed to be a "net-net-net lease" and the District hereby agrees that all payments it makes pursuant to the GMP provisions in **Exhibit C** shall be an absolute net return to Developer, free and clear of any expenses, charges or set-offs.

30. Execution in Counterparts

This Facilities Lease may be executed in several counterparts, each of which shall be an original and all of which shall constitute one and the same instrument.

31. Developer and District Representatives

Whenever under the provisions of this Facilities Lease the approval of Developer or the District is required, or Developer or the District is required to take some action at the request of the other, the approval or request shall be given for Developer by Developer's Representative and for the District by the District's Representative, and any party hereto shall be authorized to rely upon any such approval or request.

32. Applicable Law; Venue

This Facilities Lease shall be governed by and construed in accordance with the laws of the State of California, and venued in the County within which the Site is located.

33. Attorney's Fees

If either party brings an action or proceeding involving the Property or to enforce the terms of this Facilities Lease or to declare rights hereunder, each party shall bear the cost of its own attorneys' fees.

34. Captions

The captions or headings in this Facilities Lease are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Facilities Lease.

35. Prior Agreements

This Facilities Lease and the corresponding Site Lease collectively contain all of the agreements of the Parties hereto with respect to any matter covered or mentioned in this Facilities Lease and no prior agreements or understanding pertaining to any matter shall be effective for any purpose.

36. Further Assurances

Parties shall promptly execute and deliver all documents and instruments reasonably requested to give effect to the provisions of this Facilities Lease.

37. Recitals and Exhibits Incorporated

The Recitals set forth at the beginning of this Facilities Lease and the attached Exhibits are hereby incorporated into its terms and provisions by this reference.

38. Time of the Essence

Time is of the essence with respect to each of the terms, covenants, and conditions of this Facilities Lease.

39. Interpretation

None of the Parties hereto, nor their respective counsel, shall be deemed the drafters of this Facilities Lease for purposes of construing the provisions thereof. The language in all parts of this Facilities Lease shall in all cases be construed according to its fair meaning, not strictly for or against any of the Parties hereto.

IN WITNESS WHEREOF, the Parties have caused this Facilities Lease to be executed by their respective officers who are duly authorized, as of the Effective Date.

ACCEPTED AND AGREED on the date indicated below:

Dated: _____, 20__

Dated: _____, 20__

Stockton Unified School District

[Developer]

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT A

LEGAL DESCRIPTION OF SITE

Attached is the Legal Description for:

[Name of] Project

[Address]

APN: _____

<INSERT>

EXHIBIT B

DESCRIPTION OF PROJECT

Attached is a map or diagram of the Site that is subject to this Facilities Lease and upon which Developer will construct the Project.

<INSERT>

EXHIBIT C

**GUARANTEED MAXIMUM PRICE AND
OTHER PROJECT COST, FUNDING, AND PAYMENT PROVISIONS**

Attached are the terms and provisions related to Site Lease payments, the Facilities Lease, the Guaranteed Maximum Price and other related cost, funding, and payment provisions.

EXHIBIT C

**GUARANTEED MAXIMUM PRICE AND
OTHER PROJECT COST, FUNDING, AND PAYMENT PROVISIONS**

1. Site Lease Payments

As indicated in the Site Lease, Developer shall pay One Dollar (\$1.00) to the District as consideration for the Site Lease.

2. Guaranteed Maximum Price

Pursuant to the Facilities Lease, Developer will cause the Project to be constructed for an amount to be determined after preconstruction services are completed ("Guaranteed Maximum Price"). The Guaranteed Maximum Price shall include the preconstruction fees and costs and Allowances and Contingency, if any.

2.1 Cost of the Work

The term Cost of the Work shall mean the costs necessarily incurred in the proper performance of the Work contemplated by the Contract Documents. Such costs shall be at rates no higher than the standard paid at the place of the Project except with the prior consent of the District. The Cost of the Work shall include only the items set forth in this Section 2 and approved by the District.

2.1.1 General Conditions

The General Conditions as set forth in **Attachment 1** hereto shall be included in a progress billing as incurred. Said rates shall include all costs for labor, equipment and materials for the items identified therein which are necessary for the proper management of the Project, and shall include all costs paid or incurred by Developer for insurance, permits, taxes, and all contributions, assessments and benefits, holidays, vacations, retirement benefits, incentives to the extent contemplated in **Attachment 1**, whether required by law or collective bargaining agreements or otherwise paid or provided by Developer to its employees. The District reserves the right to request changes to the personnel, equipment, or facilities provided as General Conditions as may be necessary or appropriate for the proper management of the Project, in which case, the District shall be entitled to a reduction in the cost of General Conditions based on the rates set forth in **Attachment 1**.

2.1.2 Subcontract Costs

Payments made by the Developer to Subcontractors (inclusive of the Subcontractor's bonding, if required, and insurance costs, which shall be included in the subcontract amount), which payments shall be made in accordance with the requirements of the Contract Documents.

2.1.3 Developer-Performed Work

Costs incurred by Developer for self-performed work at the direction of District or with the District's prior approval, as follows:

2.1.3.1 Actual costs to Developer of wages of construction workers, excluding all salaried and/or administrative personnel, directly employed by Developer to perform the construction of the Work at the site.

2.1.3.2 Wages or salaries and customary benefits, such as sick leave, medical and health benefits, holidays, vacations, incentive programs, and pension plans of Developer's field supervisory, safety and administrative personnel when stationed at the site or stationed at Developer's principal office, only for that portion of their time required for the Work.

2.1.3.3 Wages and salaries and customary benefits, such as sick leave, medical and health benefits, holidays, vacations, incentive programs and pension plans of Developer's supervisory or administrative personnel engaged at factories, workshops or on the road, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work.

2.1.3.4 Costs paid or incurred by Developer for taxes, insurance, contributions, assessments required by law or collective bargaining agreements and for personnel not covered by such agreements, and for customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided such costs are based on wages and salaries included in the Cost of the Work under Subparagraphs 2.1.3.1 through 2.1.3.3.

2.1.3.5 Costs, including transportation and storage, of materials and equipment incorporated in the completed construction, including costs of materials in excess of those actually installed to allow for reasonable waste and spoilage. Unused excess materials, if any, shall become the District's property at the completion of the Work or, at the District's option, shall be sold by Developer. Any amounts realized from such sales shall be credited to the District as a deduction from the Cost of the Work.

2.1.3.6 Costs, including transportation and storage, installation, maintenance, dismantling and removal of materials, supplies, machinery and equipment not customarily owned by construction workers, that are provided by Developer at the site and fully consumed in the performance of the Work; and cost (less salvage value) of such items if not fully consumed, whether sold to others or retained by Developer. Cost for items previously used by Developer shall mean fair market value.

2.1.3.7 Rental charges for temporary facilities, machinery, equipment, vehicles and vehicle expenses, and hand tools not customarily owned by construction workers that are provided by

Developer at the site, whether rented from Developer or others, and the costs of transportation, installation, minor repairs and replacements, dismantling and removal thereof and costs of Developer's Project field office, overhead and general expenses including office supplies, parking, office equipment, and software. Rates and quantities of equipment rented shall be subject to the District's prior approval.

2.1.3.8 Costs of removal of debris from the site, daily clean-up costs and dumpster charges not otherwise included in the cost of the subcontracts which exceeds the clean-up provided under the General Conditions.

2.1.3.9 Costs of that portion of the reasonable travel, parking and subsistence expenses of Developer's personnel incurred while traveling and discharging duties connected with the Work.

2.1.3.10 Costs of materials and equipment suitably stored off the site at a mutually acceptable location, if approved in advance by the District.

2.1.4 Allowances

Because it is impossible at the time of execution of the Facilities Lease to determine the exact cost of performing certain tasks, the Cost of the Work shall include the following Allowances for the Tasks/Work as noted here:

Task/Work	Allowance Amount
Total Allowance Amount	

The Allowance Value for an Allowance Item includes the direct cost of labor, materials, equipment, transportation, taxes and insurance associated with the applicable Allowance Item. All other costs, including design fees, Developer's overall project management and general conditions costs, overhead and fee, are deemed to be included in the original Guaranteed Maximum Price, and are not subject to adjustment regardless of the actual amount of the Allowance Item.

The District shall have sole discretion to authorize all expenditures from the Allowances. The District shall process expenditures from the Allowances in the form of an Allowance Expenditure Directive ("AED"). The Allowances are included in the Guaranteed Maximum Price. Any unused Allowance or unused portion thereof shall be deducted from the Cost of the Work pursuant to **Exhibit D** to this Facilities Lease to the benefit of the District.

Except when noted as "not-to-exceed," whenever costs are more than the Allowance, the amount covered by the Allowance will be approved at cost. The

Guaranteed Maximum Price shall be adjusted by Change Order for amounts in excess of the Allowance.

2.1.5 Miscellaneous Costs

2.1.5.1 Where not included in the General Conditions, and with the prior approval of District, costs of document reproductions (photocopying and blueprinting expenses), long distance telephone call charges, postage, overnight and parcel delivery charges, telephone costs including cellular telephone charges, facsimile or other communication service at the Project site, job photos and progress schedules, and reasonable petty cash expenses of the site office. Developer shall consult with District to determine whether District has any vendor relationships that could reduce the cost of these items and use such vendors whenever possible.

2.1.5.2 Sales, use, gross receipts, local business and similar taxes imposed by a governmental authority that are related to the Work.

2.1.5.3 Fees and assessments for permits, plan checks, licenses and inspections for which Developer is required by the Contract Documents to pay including, but not limited to, permanent utility connection charges, street use permit, street use rental, OSHA permit and sidewalk use permit and fees.

2.1.5.4 Fees of laboratories for tests required by the Contract Documents.

2.1.5.5 Deposits lost for causes other than Developer's or its subcontractors' negligence or failure to fulfill a specific responsibility to the District as set forth in the Contract Documents.

2.1.5.6 Expenses incurred in accordance with Developer's standard personnel policy for relocation and temporary living allowances of personnel required for the Work if approved in advance by District.

2.1.5.7 Where requested by District, costs or expenses incurred by Developer in performing design services for the design-build systems.

2.1.5.8 Other costs incurred in the performance of the Work if, and to the extent, approved in advance by District.

2.1.5.9 Costs due to emergencies incurred in taking action to prevent threatened damage, injury or loss in case of an emergency affecting the safety of persons and/or property.

2.1.5.10 Provided all other eligible costs have been deducted from the contingency and as part of the calculation of amounts due Developer for Final Payment, costs of repairing and correcting damaged or non-conforming Work executed by Developer, Subcontractors or suppliers, providing that such damage or non-conforming Work was not caused by negligence or failure to fulfill a specific responsibility of Developer and

only to the extent that the cost of repair or correction is not recovered by Developer from insurance, sureties, Subcontractors or suppliers.

2.1.6 Excluded Costs

The following items are considered general overhead items and shall not be billed to the District:

2.1.6.1 Salaries and other compensation of Developer's personnel stationed at Developer's principal office or offices other than the Project Field Office, except as specifically provided in Subparagraphs 2.1.3.2. and 2.1.3.4.

2.1.6.2 Expenses of Developer's principal office and offices other than the Project Field Office.

2.1.6.3 Overhead and general expenses, except as may be expressly included in this Section 2.

2.1.6.4 Developer's capital expenses, including interest on Developer's capital employed for the Work.

2.1.6.5 Costs that would cause the Guaranteed Maximum Price (as adjusted by Change Order) to be exceeded.

2.1.7 Developer's Fee

_____ percent (____%) of the Cost of the Work as described in Sections 2.1.1, 2.1.2, 2.1.3, 2.1.4 and 2.1.5.

2.1.8 Bonds and Insurance

For insurance and bonds required under this Facilities Lease (exclusive of those required by Subcontractors, which costs are included in the subcontract amounts), that portion of insurance and bond premiums which are directly attributable to this Contract, which shall be calculated at a rate of _____ percent (____%) of the Cost of the Work for insurance and _____ percent (____%) of the Cost of the Work for payment and performance bonds.

2.1.9 Contingency

2.1.9.1 The Guaranteed Maximum Price includes a Contingency of _____ percent (____%) of the Cost of the Work as described in Section 2.1.1, 2.1.2, and 2.1.3 for potential additional construction costs for unforeseen conditions that occur over the course of construction and/or scope gaps between the subcontract categories of the Work.

2.1.9.2 The Contingency is not intended for such things as scope changes.

2.1.9.3 The Contingency shall not be used without the agreement of the District.

2.1.9.4 The unused portion of the Contingency shall be considered as cost savings and retained by the District at the end of the Project.

2.2 The Guaranteed Maximum Price will consist of the amounts to be identified in **Attachment 2** to this **Exhibit C**. Except as indicated herein for modifications to the Project approved by the District, Developer will not seek additional compensation from District in excess of Guaranteed Maximum Price. District shall pay the Guaranteed Maximum Price to Developer in the form of Tenant Improvement Payments and Lease Payments as indicated herein.

2.3 Total Payment

In no event shall the cumulative total of the Tenant Improvement Payments and the Loan Amount for the Lease Payments ever exceed the Guaranteed Maximum Price to be defined, as may be modified pursuant to **Exhibit D** to the Facilities Lease.

2.4 Changes to Guaranteed Maximum Price

2.4.1 The Parties acknowledge that the Guaranteed Maximum Price is based on the Construction Documents, including the plans and specifications, as identified in **Exhibit D** to the Facilities Lease.

2.4.2 As indicated in the Facilities Lease, the Parties may add to or remove from the project specific scopes of work. Based on these change(s), the Parties may agree to a reduction or increase in the Guaranteed Maximum Price. If a cost impact of a change is agreed to by the Parties, it shall be paid upon the payment request from Developer for the work that is the subject of the change in accordance with the provisions of **Exhibit D**. The amount of any change to the Guaranteed Maximum Price shall be calculated in accordance with the provisions of **Exhibit D** to this Facilities Lease.

2.4.3 The Parties agree to reduce the Guaranteed Maximum Price for the unused portion of Allowances and/or Contingency, if any.

2.4.4 Cost Savings

Developer shall work cooperatively with Architect, Construction Manager, subcontractors and District, in good faith, to identify appropriate opportunities to reduce the Project costs and promote cost savings. Any identified cost savings from the Guaranteed Maximum Price shall be identified by Developer, and approved in writing by the District. In the event Developer realizes a savings on any aspect of the Project, such savings shall be added to the Contingency and expended consistent with the Contingency. In addition, any portion of Allowance remaining after completion of the Project shall be added to the Contingency. If any cost savings require revisions to the Construction Documents, Developer shall work with the District and Architect with respect to revising the Construction Documents and, if necessary, obtaining the approval of DSA with respect to those revisions. Developer shall be entitled to an adjustment of Contract Time for delay in completion caused by any cost savings adopted by District pursuant to **Exhibit D**, if requested in writing before the approval of the cost savings.

2.4.5 If the District exercises its Purchase Option pursuant to this **Exhibit C**, any reduction in the Guaranteed Maximum Price resulting from that exercise of the Purchase Option, if any, shall be retained in full by the District and shall not be shared with Developer.

3. Tenant Improvement Payments

Prior to the District's taking delivery or occupancy of the Project, the District shall pay to Developer an amount equal to the Guaranteed Maximum Price as modified pursuant to the terms of the Facilities Lease, including **Exhibit C** and **Exhibit D**, less the Loan Amount for the Lease Payments ("Tenant Improvement Payments"). The District shall withhold an amount equal to one-third (1/3) of the Loan Amount as indicated in **Attachment 3** to **Exhibit C** from the last three (3) payments to Developer for its Work on the Project. Otherwise, the Tenant Improvement Payments will be processed based on the amount of Work performed according to Developer's Schedule of Values (**Exhibit G** to the Facilities Lease) and pursuant to the provisions in **Exhibit D** to the Facilities Lease, including withholding for or escrow of retention of five percent (5%) of the Guaranteed Maximum Price. The withholding for the Loan Amount shall be separate from and in addition to withholding for or escrow of retention.

4. Lease Payments

Upon execution of the Memorandum of Commencement Date, the form of which is attached to the Facilities Lease as **Exhibit E**, the District shall commence making lease payments to Developer in accordance with the Schedule attached hereto as **Attachment 3**.

4.1 The Lease Payments shall be consideration for the District's rental, use, and occupancy of the Project and the Project Site and shall be made in monthly installments as indicated in the Schedule of Lease Payments attached hereto as **Attachment 3** for the duration of the lease term of one (1) year, with the first Lease Payment due ninety (90) days after execution of the Memorandum of Commencement Date.

4.2 The District represents that the annual Lease Payment obligation does not surpass the District's annual budget and will not require the District to increase or impose additional taxes or obligations on the public that did not exist prior to the execution of the Facilities Lease.

4.3 Fair Rental Value

District and Developer have agreed and determined that the total Lease Payments constitute adequate consideration for the Facilities Lease and are reasonably equivalent to the fair rental value of the Project. In making such determination, consideration has been given to the obligations of the Parties under the Facilities Lease and Site Lease, the uses and purposes which may be served by the Project and the benefits therefrom which will accrue to the District and the general public.

4.4 Each Lease Payment Constitutes a Current Expense of the District

4.4.1 The District and Developer understand and intend that the obligation of the District to pay Lease Payments and other payments hereunder constitutes a current expense of the District and shall not in any way be construed to be a debt of the District in contravention of any applicable constitutional or statutory

limitation or requirement concerning the creation of indebtedness by the District, nor shall anything contained herein constitute a pledge of the general tax revenues, funds or moneys of the District.

4.4.2 Lease Payments due hereunder shall be payable only from current funds which are budgeted and appropriated or otherwise made legally available for this purpose. This Facilities Lease shall not create an immediate indebtedness for any aggregate payments that may become due hereunder.

4.4.3 The District covenants to take all necessary actions to include the Lease Payments in each of its final approved annual budgets.

4.4.4 The District further covenants to make all necessary appropriations (including any supplemental appropriations) from any source of legally available funds of the District for the actual amount of Lease Payments that come due and payable during the period covered by each such budget. Developer acknowledges that the District has not pledged the full faith and credit of the District, State of California or any state agency or state department to the payment of Lease Payments or any other payments due hereunder. The covenants on the part of District contained in this Facilities Lease constitute duties imposed by law and it shall be the duty of each and every public official of the District to take such action and do such things as are required by law in the performance of the official duty of such officials to enable the District to carry out and perform the covenants and agreements in this Facilities Lease agreed to be carried out and performed by the District.

4.4.5 Developer cannot, under any circumstances, accelerate the District's payments under the Facilities Lease.

5. District's Purchase Option

5.1 If the District is not then in uncured Default hereunder, the District shall have the option to purchase not less than all of the Project in its "as-is, where-is" condition and terminate this Facilities Lease and Site Lease by paying the balance of the "Loan Amount" identified in **Attachment 3**, which is exclusive of interest that would have otherwise been owed, as of the date the option is exercised ("Option Price"). Said payment shall be made on or before the date on which the District's lease payment would otherwise be due for that month ("Option Date").

5.2 District shall provide to Developer a written notice no less than ten (10) days prior to the Option Date. The notice will include that District is exercising its option to purchase the Project as set forth above on the Option Date. If the District exercises this option, the District shall pay directly to Developer the Option Price on or prior to the Option Date and Developer shall at that time deliver to District an executed Termination Agreement and Quitclaim Deed in recordable form to terminate this Facilities Lease and the Site Lease. District may record all such documents at District's cost and expense.

5.3 Under no circumstances can the first Option Date be on or before ninety (90) days after Developer completes the Project and the District accepts the Project.

[REMAINDER OF PAGE INTENTIONALLY BLANK; ATTACHMENTS FOLLOW]

ATTACHMENT 1

GENERAL CONDITIONS COSTS

ATTACHMENT 2

GUARANTEED MAXIMUM PRICE

To be attached.

ATTACHMENT 3

SCHEDULE OF LEASE PAYMENTS

Amortization Schedule*

Loan Amount: \$
Interest: ___% Annual
Term in Months 12.00
Payment Frequency Monthly

	<u>Payment</u>	<u>Monthly Payment</u>	<u>Principal Payment</u>	<u>Interest Payment</u>	<u>Balance</u>
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Totals

*If the amortization schedule is left blank at the time the District awards the Facilities Lease to Developer, then the following amounts shall apply:

Loan Amount: \$1,000,000 or 10% of the Project Estimate listed in the RFQ/P, whichever is lower
Interest: 5% Annual
Term in Months 12.00
Payment Frequency Monthly

EXHIBIT D

GENERAL CONSTRUCTION PROVISIONS

Attached are the general construction terms and conditions for the Project.

EXHIBIT D

**GENERAL CONSTRUCTION PROVISIONS
FOR THE FOLLOWING PROJECT:**

**ELOP GROUP B PROJECT
at
8 SUSD ELEMENTARY SCHOOLS**

**ADAMS ELEMENTARY SCHOOL
GRUNSKY ELEMENTARY SCHOOL
KENNEDY ELEMENTARY SCHOOL
KOHL ELEMENTARY SCHOOL
MONTEZUMA ELEMENTARY SCHOOL
VAN BUREN ELEMENTARY SCHOOL
VICTORY ELEMENTARY SCHOOL
WASHINGTON ELEMENTARY SCHOOL**

**BY AND BETWEEN
STOCKTON UNIFIED SCHOOL DISTRICT**

**AND
DEVELOPER**

Dated as of February 12, 2025

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1. **Contract Terms and Definitions**

1.1 **Definitions**

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

1.1.1 Adverse Weather. Shall be only weather that satisfies all of the following conditions: (1) unusually severe precipitation, sleet, snow, hail, or extreme temperature or air conditions in excess of the norm for the location and time of year it occurred based on the closest weather station data averaged over the past five years, (2) that is unanticipated and would cause unsafe work conditions and/or is unsuitable for scheduled work that should not be performed during inclement weather (i.e., exterior finishes), and (3) at the Project.

1.1.2 Allowance(s): The Allowance Item(s) identified in **Exhibit C** and included in the Guaranteed Maximum Price. Any unused portion of the Allowance will revert to the District documented by a deductive Change Order. Developer hereby authorizes the District to execute a unilateral deductive Change Order at or near the end of the Project for all or any portion of the Allowance not allocated.

1.1.3 Allowance Expenditure Directive. Written authorization for expenditure of an Allowance, if any. Developer shall not bill for or be due any portion of an Allowance unless the District has identified specific work, Developer has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has executed an Allowance Expenditure Directive incorporating that work.

1.1.4 Approval, Approved, and/or Accepted. Written authorization, unless stated otherwise.

1.1.5 Architect (or "Design Professional in General Responsible Charge"). The individual, partnership, corporation, joint venture, or any combination thereof, named as Architect, who will have the rights and authority assigned to the Architect in the Contract Documents. The term Architect means the Design Professional in General Responsible Charge as defined in DSA PR 13-02 on this Project or the Architect's authorized representative.

1.1.6 As-Builts. Digitally prepared and reproducible drawings using the web-based ProCore application, or comparable, to be prepared on a monthly basis pursuant to the Contract Documents, that reflect changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed since the preceding monthly submittal. See **Record Drawings**.

1.1.7 Burdened. The labor rate for Developer or any Subcontractor inclusive of any and all burden costs including, but not limited to, health and welfare pay, vacation and holiday pay, pension contributions, training rates, benefits of any kind, insurance of any kind, workers' compensation, liability insurance, truck expenses, supply expenses of any kind, payroll taxes, and any other taxes of any kind.

1.1.8 Change Order. A written order to Developer authorizing an addition to, deletion from, or revision in the Work, and/or authorizing an adjustment in the Guaranteed Maximum Price or Contract Time.

1.1.9 Claim. Developer Claim within the meaning of Public Contract Code sections 9204 and/or 20104 et seq.

1.1.10 Construction Change Directive. A written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work.

1.1.11 Construction Manager. The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Construction Manager is used on the Project that is the subject of this Contract, then all references to Construction Manager herein shall be read to refer to District.

1.1.12 Construction Schedule. The progress schedule of construction of the Project as provided by Developer and approved by District.

1.1.13 Contingency. The GMP proposal will contain, as part of the estimated cost of the Work, Project's Contingency, a sum mutually agreed upon, controlled by District, and monitored by District and Developer to cover costs that are properly reimbursable as a cost of the Work, but are not the basis for a Change Order. Project's Contingency will not be used for changes in scope or for any item that would be the basis for an increase in the GMP. Developer will provide District with a monthly accounting of charges against Project's Contingency, if applicable, with each application for payment. Any unused Project Contingency belongs to District.

1.1.14 Contract. The agreement between the District and Developer contained in the Contract Documents.

1.1.15 Contract Documents. The Contract Documents consist exclusively of the documents evidencing the agreement of the District and Developer. The Contract Documents consist of the following documents:

1.1.15.1 Non-Collusion Declaration

1.1.15.2 Iran Contracting Act Certification

1.1.15.3 Site Lease

1.1.15.4 Facilities Lease, including Exhibits A-H

1.1.15.4.1 Iran Contracting Act Certification (if applicable)

1.1.15.4.2 Federal Debarment Certification (if applicable)

1.1.15.4.3 Federal Byrd Anti-Lobbying Certification (if applicable)

1.1.15.4.4 Performance Bond

1.1.15.4.5 Payment Bond (Developer's Labor & Material Bond)

1.1.15.4.6 Workers' Compensation Certification

1.1.15.4.7 Prevailing Wage Certification

1.1.15.4.8 Criminal Background Investigation/Fingerprinting Certification

1.1.15.4.9 Drug-Free Workplace Certification (if applicable)

1.1.15.4.10 Tobacco-Free Environment Certification (if applicable)

1.1.15.4.11 Drug and Alcohol-Free Schools Certification (if applicable)

1.1.15.4.12 Disabled Veterans Business Enterprise Participation Certification (if applicable)

1.1.15.4.13 Roofing Project Certification (if applicable)

1.1.15.4.14 Hazardous Materials Procedures and Requirements

1.1.15.4.15 Hazardous Materials Certification (if applicable)

1.1.15.4.16 Lead-Based Materials Certification (if applicable)

1.1.15.4.17 Imported Materials Certification (if applicable)

1.1.15.4.18 Skilled and Trained Workforce Certification

1.1.15.4.19 Project Labor Agreement

1.1.15.4.20 Registered Subcontractors List

1.1.15.4.21 Escrow Agreement for Security Deposits in Lieu of Retention (if used)

1.1.15.4.22 Guarantee Form

1.1.15.4.23 Agreement and Release of Any and All Claims

1.1.15.5 All Plans, Technical Specifications, and Drawings, including the Division of the State Architect approved versions of the foregoing

1.1.15.6 Any and all addenda to any of the above documents

1.1.15.7 Any and all change orders or written modifications to the above documents if approved in writing by the District

1.1.16 Contract Time. The time period stated in the Facilities Lease for the completion of the Work.

1.1.17 Daily Job Report(s). Daily Project reports prepared by Developer's employee(s) who are present on Site, which shall include the information required herein.

1.1.18 Day(s). Unless otherwise designated, day(s) means calendar day(s).

1.1.19 Department of Industrial Relations (or "DIR"). DIR is responsible, among other things, for labor compliance monitoring and enforcement of California prevailing wage laws and regulations for public works contracts.

1.1.20 Design Professional in General Responsible Charge. See definition of Architect above.

1.1.21 Developer. The person or persons identified in the Facilities Lease as contracting to perform the Work to be done under this Contract, or the legal representative of such a person or persons.

1.1.22 Dispute. A separate demand by Developer for a time extension, or payment of money or damages arising from Work done by or on behalf of Developer pursuant to the Contract and payment of which is not otherwise expressly provided for or Developer is not otherwise entitled to; or an amount of payment disputed by the District.

1.1.23 District. The public agency or the school district for which the Work is performed. The governing board of the District or its designees will act for the District in all matters pertaining to the Contract. The District may, at any time:

1.1.23.1 Direct Developer to communicate with or provide notice to the Construction Manager or the Architect on matters for which the Contract Documents indicate Developer will communicate with or provide notice to the District; and/or

1.1.23.2 Direct the Construction Manager or the Architect to communicate with or direct Developer on matters for which the Contract Documents indicate the District will communicate with or direct Developer.

1.1.24 Drawings (or "Plans"). The graphic and pictorial portions of the Contract Documents showing the design, location, scope and dimensions of the Work, generally including plans, elevations, sections, details, schedules, sequence of operation, and diagrams.

1.1.25 DSA. Division of the State Architect.

1.1.26 Force Account Directive. A process that may be used when the District and Developer cannot agree on a price for a specific portion of work or before Developer prepares a price for a specific portion of work and whereby Developer performs the work as indicated herein on a time and materials basis.

1.1.27 Guaranteed Maximum Price. The total monies payable to Developer under the terms and conditions of the Contract Documents.

1.1.28 Job Cost Reports. Any and all reports or records detailing the costs associated with work performed on or related to the Project that Developer shall maintain for the Project. Specifically, Job Cost Reports shall contain, but are not limited by or to, the following information: a description of the work performed or to be performed on the Project; quantity, if applicable, of work performed (hours, square feet, cubic yards, pounds, etc.) for the Project; Project budget; costs for the Project to date; estimated costs to complete the Project; and

expected costs at completion. The Job Cost Reports shall also reflect all Contract cost codes, change orders, elements of non-conforming work, back charges, and additional services.

1.1.29 Labor Commissioner's Office (or "Labor Commissioner"). Also known as the Division of Labor Standards Enforcement ("DLSE"): Division of the DIR responsible for adjudicating wage claims, investigating discrimination and public works complaints, and enforcing Labor Code statutes and Industrial Welfare Commission orders.

1.1.30 Material Safety Data Sheets (or "MSDS"). A form with data regarding the properties for potentially harmful substances handled in the workplace.

1.1.31 Municipal Separate Storm Sewer System (or "MS4"). A system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

1.1.32 Plans. See "Drawings".

1.1.33 Premises. The real property on which the Site is located.

1.1.34 Product(s). New material, machinery, components, equipment, fixtures and systems forming the Work, including existing materials or components required and approved by the District for reuse.

1.1.35 Product Data. Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by Developer to illustrate a material, product, or system for some portion of the Work.

1.1.36 Program Manager. The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Program Manager is designated for the Project that is the subject of the Contract Documents, then all references to Program Manager herein shall be read to refer to District.

1.1.37 Project. The planned undertaking as provided for in the Contract Documents.

1.1.38 Project Inspector (or "Inspector"). The individual(s) retained by the District in accordance with title 24 of the California Code of Regulations to monitor and inspect the Project.

1.1.39 Project Labor Agreement (or "PLA" or Project Stabilization Agreement or "PSA"). A prehire collective bargaining agreement in accordance with Public Contract Code section 2500 *et seq.* that establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement described in Section 158(f) of Title 29 of the United States Code. The PLA entered into by the District is attached as **Exhibit H** to the Facilities Lease.

1.1.40 Proposed Change Order (or "PCO"). A written request prepared by Developer requesting that the District, the Construction Manager and the Architect issue a Change Order based upon a proposed change to the Work, to the Guaranteed Maximum Price, and/or to the Contract Time.

1.1.41 Provide. Shall include “provide complete in place,” that is, “furnish and install,” and “provide complete and functioning as intended in place” unless specifically stated otherwise.

1.1.42 Qualified SWPPP Practitioner (or “QSP”). Certified personnel that attended a State Water Resources Control Board sponsored or approved training class and passed the qualifying exam.

1.1.43 Record Drawings. Unless otherwise defined in the Special Conditions, Reproducible drawings (or Plans) prepared pursuant to the requirements of the Contract Documents, that reflect all changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed upon completion of the Project. See also **“As-Builts.”**

1.1.44 Request for Information (or “RFI”). A written request prepared by Developer requesting that the Architect provide additional information necessary to clarify or amplify an item in the Contract Documents that Developer believes is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address problems that have arisen under field conditions.

1.1.45 Request for Substitution for Specified Item. A request by Developer to substitute an equal or superior material, product, thing, or service for a specific material, product, thing, or service that has been designated in the Contract Documents by a specific brand or trade name.

1.1.46 Safety Orders. Written and/or verbal orders for construction issued by the California Division of Occupational Safety and Health (“Cal/OSHA”) or by the United States Occupational Safety and Health Administration (“OSHA”).

1.1.47 Safety Plan. Developer’s safety plan specifically adapted for the Project. Developer’s Safety Plan shall comply with all provisions regarding Project safety, including all applicable provisions in these Construction Provisions.

1.1.48 Samples. Physical examples that illustrate materials, products, equipment, finishes, colors, or workmanship and that, when approved in accordance with the Contract Documents, establish standards by which portions of the Work will be judged.

1.1.49 Shop Drawings. All drawings, prints, diagrams, illustrations, brochures, schedules, and other data that are prepared by Developer, a subcontractor, manufacturer, supplier, or distributor, that illustrate how specific portions of the Work shall be fabricated or installed.

1.1.50 Site. The Project site as shown on the Drawings.

1.1.51 Specifications. That portion of the Contract Documents, Division 1 through Division 49, and all technical sections, and addenda to all of these, if any, consisting of written descriptions and requirements of a technical nature of materials, equipment, construction methods and systems, standards, and workmanship.

1.1.52 State. The State of California.

1.1.53 Storm Water Pollution Prevention Plan (or "SWPPP"). A document which identifies sources and activities at a particular facility that may contribute pollutants to storm water and contains specific control measures and time frames to prevent or treat such pollutants.

1.1.54 Subcontractor. A contractor and/or supplier who is under contract with Developer or with any other subcontractor, regardless of tier, to perform a portion of the Work of the Project.

1.1.55 Submittal Schedule. The schedule of submittals as provided by Developer and approved by District.

1.1.56 Surety. The person, firm, or corporation that executes as surety Developer's Performance Bond and Payment Bond, and must be a California admitted surety insurer as defined in the Code of Civil Procedure section 995.120.

1.1.57 Work. All labor, materials, equipment, components, appliances, supervision, coordination, and services required by, or reasonably inferred from, the Contract Documents, that are necessary for the construction and completion of the Project.

1.2 Laws Concerning the Contract Documents; Venue

The Contract is subject to all provisions of the Constitution and laws of California and the United States governing, controlling, or affecting District, or the property, funds, operations, or powers of District, and such provisions are by this reference made a part hereof. Any provision required by law to be included in this Contract shall be deemed to be inserted.

To the fullest extent permitted by California law, the county in which the District administration office is located shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Contract.

1.3 No Oral Agreements

No oral agreement or conversation with any officer, agent, or employee of District, either before or after execution of Contract Documents, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract Documents.

1.4 No Assignment

Except as specifically permitted in the Facilities Lease, Developer shall not assign the Contract Documents or any part thereof including, without limitation, any services or money to become due hereunder without the prior written consent of the District. Assignment without District's prior written consent shall be null and void. Any assignment of money due or to become due under the Contract Documents shall be subject to a prior lien for services rendered or material supplied for performance of Work called for under the Contract Documents in favor of all persons, firms, or corporations rendering services or supplying material to the extent that claims are filed pursuant to the Civil Code, Code of Civil Procedure, Government Code, Labor Code, and/or Public Contract Code, and shall also be subject to deductions for liquidated damages or withholding of payments as determined by District in accordance with the Contract Documents. Developer shall not assign or transfer in

any manner to a Subcontractor or supplier the right to prosecute or maintain an action against the District.

1.5 Notice and Service Thereof

1.5.1 Any notice from one party to the other or otherwise under the Contract Documents shall be in writing and shall be dated and signed by the party giving notice or by a duly authorized representative of that party. Notice shall not be effective for any purpose whatsoever unless served in one of the following manners:

1.5.1.1 If notice is given by personal delivery thereof, it shall be considered delivered on the day of delivery.

1.5.1.2 If notice is given by overnight delivery service, it shall be considered delivered one (1) day after date deposited, as indicated by the delivery service.

1.5.1.3 If notice is given by depositing same in United States mail, enclosed in a sealed envelope, it shall be considered delivered five (5) days after date deposited, as indicated by the postmarked date.

1.5.1.4 If notice is given by registered or certified mail with postage prepaid, return receipt requested, it shall be considered delivered on the day the notice is signed for.

1.6 No Waiver

The failure of District in any one or more instances to insist upon strict performance of any of the terms of the Contract Documents or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion. No action or failure to act by the District, Architect, or Construction Manager shall constitute a waiver of any right or duty afforded the District under the Contract Documents, nor shall any action or failure to act constitute an approval of or acquiescence on any breach thereunder, except as may be specifically agreed in writing.

1.7 Substitutions For Specified Items

Developer shall not substitute different items for any items identified in the Contract Documents without prior written approval of the District, unless otherwise provided in the Contract Documents.

1.8 Materials and Work

1.8.1 Except as otherwise specifically stated in the Contract Documents, Developer shall provide and pay for all materials, labor, tools, equipment, transportation, supervision, temporary constructions of every nature, and all other services, management, and facilities of every nature whatsoever necessary to execute and complete the Work, in a good and workmanlike manner, within the Contract Time.

1.8.2 Unless otherwise specified, all materials shall be new and of the best quality of their respective kinds and grades as noted or specified, and workmanship shall be of high quality, and Developer shall use all diligence to

inform itself fully as to the required manufacturer's instructions and to comply therewith.

1.8.3 Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of Work and shall be stored properly and protected from the elements, theft, vandalism, or other loss or damage as required.

1.8.4 For all materials and equipment specified or indicated in the Drawings and Specifications, Developer shall provide all labor, materials, equipment, and services necessary for complete assemblies and complete working systems, functioning as intended. Incidental items not indicated on Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized here in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and specifications.

1.8.5 Developer shall, after award of the Project by District and after relevant submittals have been reviewed, place orders for materials and/or equipment as specified so that delivery of same may be made without delays to the Work. Developer shall, upon five (5) days' demand from District, present documentary evidence showing that orders have been placed.

1.8.6 In the event of Developer's neglect in complying or failure to comply with the above instructions, District reserves the right, but has no obligation, to place orders for such materials and/or equipment as the District may deem advisable so that the Work may be completed by the date specified in the Facilities Lease, and all expenses incidental to the procuring of said materials and/or equipment shall be paid for by Developer or deducted from payment(s) to Developer.

1.8.7 Developer warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver the Site to District, together with all improvements and appurtenances constructed or placed thereon by it, and free from any claims, liens, or charges. Developer further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by the Contract Documents shall have any right to lien any portion of the Premises or any improvement or appurtenance thereon, except that Developer may install metering devices or other equipment of utility companies or of political subdivision, title to which is commonly retained by utility company or political subdivision. In the event of installation of any such metering device or equipment, Developer shall advise District as to owner thereof.

1.8.8 Nothing contained in this Article, however, shall defeat or impair the rights of persons furnishing materials or labor under any bond given by Developer for their protection or any rights under any law permitting such protection or any rights under any law permitting such persons to look to funds due Developer in hands of District (e.g., Stop Payment Notices), and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for Work when no formal contract is entered into for such material.

1.8.9 Title to new materials and/or equipment for the Work of the Contract Documents and attendant liability for its protection and safety shall remain with Developer until incorporated in the Work of the Contract Documents and accepted by District. No part of any materials and/or equipment shall be removed from its place of storage except for immediate installation in the Work of the Contract Documents. Should the District, in its discretion, allow Developer to store materials and/or equipment for the Work off-site, Developer will store said materials and/or equipment at a bonded warehouse and with appropriate insurance coverage at no cost to District. Developer shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to District or its authorized representative and shall, at the District's request, forward it to the District.

1.8.10 [Reserved]

2. [Reserved]

3. Architect

3.1 The Architect shall represent the District during the Project and will observe the progress and quality of the Work on behalf of the District. Architect shall have the authority to act on behalf of District to the extent expressly provided in the Contract Documents and to the extent determined by District. Architect shall have authority to reject materials, workmanship, and/or the Work whenever rejection may be necessary, in Architect's reasonable opinion, to ensure the proper execution of the Contract Documents.

3.2 Architect shall, with the District and on behalf of the District, determine the amount, quality, acceptability, and fitness of all parts of the Work, and interpret the Specifications, Drawings, and shall, with the District, interpret all other Contract Documents.

3.3 Architect shall have all authority and responsibility established by law, including title 24 of the California Code of Regulations.

3.4 Developer shall provide District and the Construction Manager with a copy of all written communication between Developer and Architect at the same time as that communication is made to Architect, including, without limitation, all RFIs, correspondence, submittals, claims, change order requests and/or proposed change orders.

4. Construction Manager

4.1 If a Construction Manager is used on this Project ("Construction Manager" or "CM"), the Construction Manager will provide administration of the Contract Documents on the District's behalf. After execution of the Contract Documents, all correspondence and/or instructions from Developer and/or District shall be forwarded through the Construction Manager. The Construction Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences, or procedures or for safety precautions in connection with the Work, which shall all remain Developer's responsibility.

4.2 The Construction Manager, however, will have authority to reject materials and/or workmanship not conforming to the Contract Documents, as determined by the District, the Architect, and/or the Project Inspector. The Construction Manager shall

also have the authority to require special inspection or testing of any portion of the Work, whether it has been fabricated, installed, or fully completed. Any decision made by the Construction Manager in good faith, shall not give rise to any duty or responsibility of the Construction Manager to: Developer, any Subcontractor, or their agents, employees, or other persons performing any of the Work. The Construction Manager shall have free access to any or all parts of Work at any time.

4.3 If the District does not use a Construction Manager on this Project, all references within the Contract Documents to Construction Manager or CM shall be read as District.

5. Inspector, Inspections, and Tests

5.1 Project Inspector

5.1.1 One or more Project Inspector(s), including special Project Inspector(s), as required, will be assigned to the Work by District, in accordance with requirements of title 24, part 1, of the California Code of Regulations, to enforce the building code and monitor compliance with Plans and Specifications for the Project previously approved by the DSA. Duties of Project Inspector(s) are specifically defined in section 4-342 of said part 1 of title 24.

5.1.2 No Work shall be carried on except with the knowledge and under the inspection of the Project Inspector(s). The Project Inspector(s) shall have free access to any or all parts of Work at any time. Developer shall furnish Project Inspector(s) reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector(s) fully informed respecting progress and manner of work and character of materials, including, but not limited to, submission of form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector at least 48 hours in advance of the commencement and completion of construction of each and every aspect of the Work. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>. Inspection of Work shall not relieve Developer from an obligation to fulfill the Contract Documents. Project Inspector(s) and the DSA are authorized to suspend work whenever Developer and/or its Subcontractor(s) are not complying with the Contract Documents. Any work stoppage by the Project Inspector(s) and/or DSA shall be without liability to the District. Developer shall instruct its Subcontractors and employees accordingly.

5.1.3 If Developer and/or any Subcontractor requests that the Project Inspector(s) perform any inspection off-Site, this shall only be done if it is allowable pursuant to applicable regulations and DSA approval, if the Project Inspector(s) agree to do so, and at the expense of Developer.

5.2 Tests and Inspections

5.2.1 Tests and Inspections shall comply with title 24, part 1, California Code of Regulations, group 1, article 5, section 4-335, and with the provisions of the Specifications.

5.2.2 The District will select an independent testing laboratory to conduct the tests. Selection of the materials required to be tested shall be by the laboratory or the District's representative and not by Developer. Developer shall notify the

District's representative a sufficient time in advance of its readiness for required observation or inspection. This notice shall be provided, at a minimum, forty-eight (48) hours prior to the inspection of the material that needs to be tested and, at a minimum, seventy-two (72) hours prior to any special or off-site inspection.

5.2.3 Developer shall notify the District's representative a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents that must by terms of the Contract Documents be tested so that the District may arrange for the testing of same at the source of supply. This notice shall be provided, at a minimum, seventy-two (72) hours prior to the manufacture of the material that needs to be tested.

5.2.4 Any material shipped by Developer from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection will not be required, shall not be incorporated into and/or onto the Project.

5.2.5 The District will select the testing laboratory and pay for the costs for all tests and inspections, except those inspections performed at Developer's request and expense. Developer shall reimburse the District for any and all laboratory costs or other testing costs for any materials found to be not in compliance with the Contract Documents. At the District's discretion, District may elect to deduct laboratory or other testing costs for noncompliant materials from the Guaranteed Maximum Price, and such deduction shall not constitute a withholding.

5.3 Costs for After Hours and/or Off Site Inspections

If Developer performs Work outside the Inspector's regular working hours, costs of any inspections required outside regular working hours shall be borne by Developer and may be invoiced to Developer by the District or the District may deduct those expenses from the next Tenant Improvement Payment.

6. Developer

Developer shall construct and complete, in a good and workmanlike manner, the Work for the Guaranteed Maximum Price including any adjustment(s) to the Guaranteed Maximum Price pursuant to provisions herein regarding changes to the Guaranteed Maximum Price. Except as otherwise noted, Developer shall provide and pay for all labor, materials, equipment, permits (excluding DSA), fees, licenses, facilities, transportation, taxes, bonds and insurance, and services necessary for the proper execution and completion of the Work, except as indicated herein.

6.1 Status of Developer

6.1.1 Developer represents and warrants that Developer is an independent do or business entity that is: (i) free from the control and direction of the District in connection with the performance of the Services, (ii) performing Services that are outside the usual course of the District's business, and (iii) customarily engaged in an independently established trade, occupation, or business of the same nature as that involved in the Services performed, District being interested only in the results obtained. Developer understands and agrees that it and all of its employees and its Subcontractors shall not be considered officers,

employees, agents, partner, or joint venture of the District, and are not entitled to benefits of any kind or nature normally provided employees of the District and/or to which District's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Worker's Compensation. Developer shall assume full responsibility for payment of all federal, state, and local taxes or contributions, including unemployment insurance, social security, and income taxes with respect to Consultant's employees. Developer is and shall at all times be deemed be wholly responsible for the manner in which it, its agents, and its Subcontractors perform the services required of it by the Contract Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the District, or any of the District's employees or agents, and Developer or any of Developer's Subcontractors, agents or employees. District shall be permitted to monitor Developer's activities to determine compliance with the terms of the Contract Documents.

6.1.2 As required by law, Developer and all Subcontractors shall be properly licensed and regulated by the Contractors State License Board, 9821 Business Park Drive, Sacramento, California 95827 (Post Office Box 26000, Sacramento, California 95826), <http://www.cslb.ca.gov>.

6.1.3 As required by law, Developer and all Subcontractors shall be properly registered as public works contractors by the Department of Industrial Relations at <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm> or current URL.

6.1.4 Developer represents that Developer and all Subcontractors shall not be presently debarred, suspended, proposed for disbarment, declared ineligible or excluded pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7.

6.1.5 [Reserved]

6.1.6 Developer represents that it has no existing interest and will not acquire any interest, direct or indirect, which could conflict in any manner or degree with the performance of Work required under this Contract and that no person having any such interest shall be employed by Developer.

6.1.7 [Reserved]

6.1.8 If Developer intends to make any change in the name or legal nature of the Developer's entity, Developer must first notify the District in writing prior to making any contemplated change. The District shall determine in writing if Developer's intended change is permissible while performing this Contract.

6.2 Project Inspection Card(s)

Developer shall verify that forms DSA 152 (or most current version applicable at the time the Work is performed) are issued for the Project prior to the commencement of construction.

6.3 Developer's Supervision

6.3.1 During progress of the Work, Developer shall keep on the Premises, and at all other locations where any Work related to the Contract is being performed,

an experienced and competent project manager and construction superintendent who are employees of Developer, to whom the District does not object and whom shall be fluent in English, written and verbal.

6.3.2 The project manager and construction superintendent shall both speak fluent English and the predominant language of Developer's employees.

6.3.3 Developer acknowledges the quality and qualifications of the Key Personnel were important factors in District's selection of Developer for the Project. Developer and District agree that the personal services of the Key Personnel are a material term of the Contract Documents. Developer and District agree further that the substitution or removal or change in role or level of effort of such Key Personnel would result in damages to the District, the measure of which would be impractical or extremely difficult to fix. In lieu such damages, District and Developer have agreed to liquidated damages as described below:

6.3.3.1 Before commencing the Work herein, Developer shall give written notice to District of Developer's Key Personnel.

6.3.3.2 Key Personnel shall be the same as those individuals identified in Developer's response to the District's RFQ/P.

6.3.3.3 For any substitution of any Key Personnel individual before the end of the individual's Project commitment period provided in Developer's Key Personnel staffing schedule, District may assess once, and Developer shall accept, liquidated damages in the amount of six (6) times the gross monthly salary for each substituted Key Personnel.

6.3.4 Developer's Key Personnel shall not be changed except with prior written notice to, and approval by, District.

6.3.5 If any of Developer's Key Personnel prove to be unsatisfactory to Developer, or to District, any of the District's employees, agents, the Construction Manager, or the Architect, the unsatisfactory Key Personnel shall be replaced. However, Developer shall immediately notify District in writing before any change occurs, but no less than two (2) business days prior. Any replacement of Key Personnel shall be made promptly and must be satisfactory to the District. Developer's Key Personnel shall each represent Developer, and all directions given to Key Personnel shall be as binding as if given to Developer.

6.3.6 Developer shall give efficient supervision to Work, using its best skill and attention. Developer shall carefully study and compare all Contract Documents, Drawings, Specifications, and other instructions and shall at once report to District, Construction Manager, and Architect any error, inconsistency, or omission that Developer or its employees and Subcontractors may discover, in writing, with a copy to District's Project Inspector(s). Developer shall have responsibility for discovery of errors, inconsistencies, or omissions.

6.3.7 All contractors doing work on the Project will provide their workers with identification badges. These badges will be worn by all members of the contractor's staff who are working in a District facility.

6.3.7.1 Badges must be filled out in full and contain the following information:

6.3.7.1.1 Name of contractor

6.3.7.1.2 Name of employee

6.3.7.1.3 Contractor's address and phone number

6.3.7.2 Badges are to be worn when Developer or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.

6.3.7.3 Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the contractor.

6.4 Duty to Provide Fit Workers

6.4.1 Developer and Subcontractor(s) shall at all times enforce strict discipline and good order among their employees and shall not employ any unfit person or anyone not skilled in work assigned to that person. It shall be the responsibility of Developer to ensure compliance with this requirement. District may require Developer to permanently remove unfit persons from Project Site.

6.4.2 Any person in the employ of Developer or Subcontractor(s) whom District may deem incompetent or unfit shall be excluded from working on the Project and shall not again be employed on the Project except with the prior written consent of District.

6.4.3 Developer shall furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work.

6.4.4 Fingerprinting. Developer shall comply with the provisions of Education Code section 45125.2 regarding the submission of employee fingerprints to the California Department of Justice and the completion of criminal background investigations of its employees, Subcontractor(s), and Subcontractors' employees. Developer shall not permit any employee to have any contact with District pupils until such time as Developer has verified in writing to the governing board of the District, (A) that such employee has not been convicted of a violent or serious felony, as defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). Developer shall fully complete and perform all tasks required pursuant to the Criminal Background Investigation/ Fingerprinting Certification.

6.5 Field Office

6.5.1 Developer shall provide on the Site a temporary office.

6.6 Purchase of Materials and Equipment

Developer is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays.

6.7 Documents on Work

6.7.1 Developer shall at all times keep on the Site, or at another location as the District may authorize in writing, one legible copy of all Contract Documents, including Addenda and Change Orders, and Titles 19 and 24 of the California Code of Regulations, the specified edition(s) of the Uniform Building Code, all approved Drawings, Plans, Schedules, and Specifications, and all codes and documents referred to in the Specifications, and made part thereof. These documents shall be kept in good order and available to District, Construction Manager, Architect, Architect's representatives, the Project Inspector(s), and all authorities having jurisdiction. Developer shall be acquainted with and comply with the provisions of these titles as they relate to this Project. (See particularly the duties of Contractor, Title 24, Part 1, California Code of Regulations, Section 4-343.) Developer shall also be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project, particularly Titles 8 and 17. Developer shall coordinate with Architect and Construction Manager and shall submit its verified report(s) according to the requirements of Title 24.

6.7.2 Daily Job Reports

6.7.2.1 Developer shall maintain, at a minimum, at least one (1) set of Daily Job Reports on the Project. These must be prepared by Developer's employee(s) who are present on Site, and must include, at a minimum, the following information:

6.7.2.1.1 A brief description of all Work performed on that day.

6.7.2.1.2 A summary of all other pertinent events and/or occurrences on that day.

6.7.2.1.3 The weather conditions on that day.

6.7.2.1.4 A list of all Subcontractor(s) working on that day, including DIR registration numbers, Subcontractor employees working, and hours of work.

6.7.2.1.5 A list of each Developer employee working on that day and the total hours worked for each employee.

6.7.2.1.6 A complete list of all equipment on Site that day, whether in use or not.

6.7.2.1.7 A complete list of all materials, supplies, and equipment delivered on that day, and verification that all materials, supplies, and equipment comply with the Contract Documents and are properly stored.

6.7.2.1.8 A complete list of all inspections and tests performed on that day.

6.7.2.1.9 Daily verification the Project is properly secured from the public and unauthorized entry.

6.7.2.2 Each day Developer shall provide a copy of the previous day's Daily Job Report to the District or the District's Construction Manager.

6.8 Preservation of Records

Developer shall maintain, and District shall have the right to inspect, Developer's financial records for the Project, including, without limitation, Job Cost Reports for the Project in compliance with the criteria set forth herein. The District shall have the right to examine and audit all Daily Job Reports or other Project records of Developer's project manager(s), project superintendent(s), and/or project foreperson(s), all certified payroll records and/or related documents including, without limitation, Job Cost Reports, payroll, payment, timekeeping and tracking documents; and as it pertains to change orders, all books, estimates, records, contracts, documents, cost data, subcontract job cost reports, and other data of Developer, any Subcontractor, and/or supplier, including computations and projections related to estimating, negotiating, pricing, or performing the Work or modification, in order to evaluate the accuracy, completeness, and currency of the cost, manpower, coordination, supervision, or pricing data at no additional cost to the District. These documents may be duplicative and/or be in addition to any documents held in escrow by the District. Developer shall make available at its office at all reasonable times the materials described in this paragraph for the examination, audit, or reproduction until three (3) years after final payment under this Facilities Lease. Notwithstanding the provisions above, Developer shall provide any records requested by any governmental agency, if available, after the time set forth above.

6.9 Integration of Work

6.9.1 Developer shall do all cutting, fitting, patching, and preparation of Work as required to make its several parts come together properly, to fit it to receive or be received by work of other contractors, and to coordinate tolerances to various pieces of work, showing upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and shall conform them as District and/or Architect may direct.

6.9.2 Developer shall make its own layout of lines and elevations and shall be responsible for the accuracy of both Developer's and Subcontractors' work resulting therefrom.

6.9.3 Developer and all Subcontractors shall take all field dimensions required in performance of the Work and shall verify all dimensions and conditions on the Site. All dimensions affecting proper fabrication and installation of all Work must be verified prior to fabrication by taking field measurements of the true conditions. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the Work, Developer shall bring such discrepancies to the attention of the District and Architect for adjustment before proceeding with the Work. In doing so, it is recognized that Developer is not acting in the capacity of a licensed design professional, and that Developer's examination is made in good faith to facilitate construction and does not create an affirmative responsibility of a design professional to detect errors, omissions or inconsistencies in the Contract Documents or to ascertain compliance with applicable laws, building codes or regulations. However, nothing in this provision shall abrogate Developer's responsibilities for discovering and reporting any error, inconsistency, or omission pursuant to the Contract within Developer's standard of care including, without limitation, any applicable laws, ordinance,

rules, or regulations. Following receipt of written notice from Developer, the District and/or Architect shall inform Developer what action, if any, Developer shall take with regard to such discrepancies.

6.9.4 All costs caused by noncompliant, defective, or delayed Work shall be borne by Developer, inclusive of repair work. Schedule delays resulting from unauthorized work shall be Developer's responsibility.

6.9.5 Developer shall not endanger any work performed by it or anyone else by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor except with consent of District.

6.10 Notifications

6.10.1 Developer shall notify the Architect and Project Inspector, in writing, of the commencement of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>.

6.10.2 Developer shall notify the Architect and Project Inspector, in writing, of the completion of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector.

6.11 Obtaining of Permits, Licenses and Registrations

6.11.1 Developer shall secure and pay for any permits (except DSA), licenses, registrations, approvals, and certificates necessary for prosecution of Work, including but not limited to those listed in the Special Conditions, **Exhibit D-1**, if any, before the date of the commencement of the Work or before the permits, licenses, registrations, approvals and certificates are legally required to continue the Work without interruption. Developer shall obtain and pay, only when legally required, for all licenses, approvals, registrations, permits, inspections, and inspection certificates required to be obtained from or issued by any authority having jurisdiction over any part of the Work included in the Contract Documents. All final permits, licenses, registrations, approvals and certificates shall be delivered to District before demand is made for final payment. The costs associated with said permits, licenses, registrations, approvals and certificates shall be direct reimbursement items and are not subject to any markup.

6.11.2 General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities.

6.11.2.1 Developer acknowledges that all California school districts are obligated to develop and implement the following requirements for the discharge of storm water to surface waters from its construction and land disturbance activities pursuant to the Clean Water Act and Porter Cologne Water Quality Act. District has determined that the construction of this Project requires enrollment in the Construction Storm Water Permit. District has filed certain submittals referred to as Permit Registration Documents ("PRDS") with the Regional Water Control Board ("Storm Water Pollution Prevention Plan" or "SWPPP").

6.11.2.2 Developer shall comply with any District SWPPP that is approved by the District and applicable to the Project, at no additional cost to the District. Developer shall pay any fees and any penalties that may imposed by a regulatory agency for its non-compliance with the SWPPP during the course of Work.

6.11.2.3 Developer shall provide a Qualified Storm Water Practitioner ("QSP") at no additional cost to the District, who shall perform on-site inspections and implement and monitor any and all SWPPP requirements applicable to the Project, including required visual observations, sampling, analysis, reporting and record keeping, including of Total Maximum Daily Loads ("TMDL") of pollutants and construction dewatering and discharge, and Best Management Practices ("BMPs").

6.12 Royalties and Patents

6.12.1 Developer shall obtain and pay, when legally required, all royalties and license fees necessary for prosecution of Work before the earlier of the date of the commencement of the Work or the date the license is legally required to continue the Work without interruption. Developer shall defend suits or claims of infringement of patent, copyright, or other rights and shall hold the District, Construction Manager and the Architect harmless and indemnify them from loss on account thereof except when a particular design, process, or make or model of product is required by the Contract Documents. However, if Developer has reason to believe that the required design, process, or product is an infringement of a patent or copyright, Developer shall indemnify and defend the District, Construction Manager and Architect against any loss or damage.

6.12.2 The review by the District, Construction Manager or Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be only as to its adequacy for the Work and shall not constitute approve use by Developer in violation of any patent or other rights of any person or entity.

6.13 Work to Comply With Applicable Laws and Regulations

6.13.1 Developer shall give all notices and comply with the following specific laws, ordinances, rules, and regulations and all other applicable laws, ordinances, rules, and regulations bearing on conduct of Work as indicated and specified, including but not limited to the appropriate statutes and administrative code sections. If Developer observes that Drawings and Specifications are at variance with any applicable laws, ordinances, rules and regulations, or should Developer become aware of the development of conditions not covered by Contract Documents that may result in finished Work being at variance therewith, Developer shall promptly notify District in writing and any changes deemed necessary by District shall be made as provided in this **Exhibit D** for changes in Work.

6.13.1.1 National Electrical Safety Code, U. S. Department of Commerce

6.13.1.2 National Board of Fire Underwriters' Regulations

6.13.1.3 International Building Code, latest addition, and the California Code of Regulations, title 24, and other amendments

6.13.1.4 Manual of Accident Prevention in Construction, latest edition, published by A.G.C. of America

6.13.1.5 Industrial Accident Commission's Safety Orders, State of California

6.13.1.6 Regulations of the State Fire Marshall (title 19, California Code of Regulations) and Pertinent Local Fire Safety Codes

6.13.1.7 Americans with Disabilities Act

6.13.1.8 Education Code of the State of California

6.13.1.9 Government Code of the State of California

6.13.1.10 Labor Code of the State of California, division 2, part 7, Public Works and Public Agencies

6.13.1.11 Public Contract Code of the State of California

6.13.1.12 California Art Preservation Act

6.13.1.13 U. S. Copyright Act

6.13.1.14 U. S. Visual Artists Rights Act

6.13.2 Developer shall comply with all applicable mitigation measures, if any, adopted by any public agency or local utility with respect to this Project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

6.13.3 If Developer performs any Work that it knew, or through exercise of reasonable care should have known, to be contrary to any applicable laws, ordinance, rules, or regulations, Developer shall bear all costs arising therefrom and arising from the correction of said Work.

6.13.4 Where Specifications or Drawings state that materials, processes, or procedures must be approved by the DSA, State Fire Marshall, or other body or agency, Developer shall use its best efforts to satisfy the requirements of such bodies or agencies applicable at the time the Work is performed, and as determined by those bodies or agencies.

6.13.5 [Reserved]

6.14 Safety/Protection of Persons and Property

6.14.1 Developer will be solely and completely responsible for conditions of the Site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours.

6.14.2 Developer to provide safe access for staff and students at any time, and to provide barricades, sound walls, signage, fencing, and other reasonably necessary protective measures, as necessary, to protect staff and students during construction.

6.14.3 The wearing of hard hats will be mandatory at all times for all personnel on Site. Developer shall supply sufficient hard hats to properly equip all employees and visitors.

6.14.4 Any construction review of Developer's performance is not intended to include review of the adequacy of Developer's safety measures in, on, or near the Site.

6.14.5 Implementation and maintenance of safety programs shall be the sole responsibility of Developer.

6.14.6 Developer shall furnish to the District a copy of Developer's safety plan within the time frame indicated in the Contract Documents and specifically adapted for the Project.

6.14.7 Developer shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of the Contract Documents and shall take all necessary measures and be responsible for the proper care and completion and final acceptance by District. All Work shall be solely at Developer's risk.

6.14.8 Developer shall take, and require Subcontractors to take, all necessary precautions for safety of workers on the Project and shall comply with all applicable federal, state, local, and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. Developer shall furnish, erect, and properly maintain at all times, all necessary safety devices, safeguards, construction canopies, signs, nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction.

6.14.9 Hazards Control –Developer shall store volatile wastes in approved covered metal containers and remove them from the Site daily. Developer shall prevent accumulation of wastes that create hazardous conditions. Developer shall provide adequate ventilation during use of volatile or noxious substances.

6.14.10 Developer shall designate a responsible member of its organization on the Project, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety, and health of workers. Name and position of person so designated shall be reported to District by Developer.

6.14.11 Developer shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, Developer shall correct such violation promptly.

6.14.12 Developer shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

6.14.13 In an emergency affecting safety of life or of work or of adjoining property, Developer, without special instruction or authorization, shall act, at its

discretion, to prevent such threatened loss or injury. Any compensation claimed by Developer on account of emergency work shall be determined by agreement.

6.14.14 All salvage materials will become the property of Developer and shall be removed from the Site unless otherwise called for in the Contract Documents. However, the District reserves the right to designate certain items of value that shall be turned over to the District unless otherwise directed by District.

6.14.15 All connections to public utilities and/or existing on-site services, including, without limitation, internet, phone, and data connections, shall be made and maintained in such a manner as to not interfere with the continuing use of same by the District during the entire progress of the Work.

6.14.16 Developer shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions, such as extreme heat, cold, rain, snow, dry winds, flooding, or dampness.

6.14.17 Developer shall protect and preserve the Work from all damage or accident, providing any temporary roofs, window and door coverings, boxings, or other construction as required by the Architect. Developer shall be responsible for existing structures, walks, roads, trees, landscaping, and/or improvements in working areas; and shall provide adequate protection therefor. If temporary removal is necessary of any of the above items, or damage occurs due to the Work, Developer shall replace same at his expense with same kind, quality, and size of Work or item damaged. This shall include any adjoining property of the District and others.

6.14.18 Developer shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property, and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations.

6.14.19 Developer shall confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits, or directions of Architect, and shall not interfere with the Work or unreasonably encumber Premises or overload any structure with materials. Developer shall enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking, and require that all workers comply with all regulations while on Project Site.

6.14.20 Developer, Developer's employees, Subcontractors, Subcontractors' employees, or any person associated with the Work shall conduct themselves in a manner appropriate for a school site. No verbal or physical contact with neighbors, students, and faculty, profanity, or inappropriate attire or behavior will be permitted. Developer is also responsible for ensuring workers refrain from wearing inappropriate clothing and/or logos on the Project. District may require Developer to temporarily or permanently remove non-complying persons from Project Site.

6.14.21 Developer shall take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed, Developer shall have a civil engineer,

registered as a professional engineer in California, replace them at no cost to District.

6.14.22 In the event that Developer enters into any agreement with owners of any adjacent property to enter upon the adjacent property for the purpose of performing the Work, Developer shall fully indemnify, defend, and hold harmless each person, entity, firm, or agency that owns or has any interest in adjacent property. The form and content of the agreement of indemnification shall be approved by the District prior to the commencement of any Work on or about the adjacent property. Developer shall also indemnify the District as provided in the indemnification provision herein. These provisions shall be in addition to any other requirements of the owners of the adjacent property.

6.15 Working Evenings and Weekends

Developer may be required to work increased hours, evenings, and/or weekends at no additional cost to the District. Developer shall give the District forty-eight (48) hours' notice prior to performing any evening and/or weekend work. Developer shall perform all evening and/or weekend work in compliance with all applicable rules, regulations, laws, and local ordinances including, without limitation, all noise and light limitations. Developer shall reimburse the District for any increased or additional Inspector charges as a result of Developer's increased hours, or evening and/or weekend work.

6.16 Cleaning Up

6.16.1 Developer shall provide all services, labor, materials, and equipment necessary for protecting and securing the Work, all school occupants, furnishings, equipment, and building structure from damage until its completion and final acceptance by District. Dust barriers shall be provided to isolate dust and dirt from construction operations. At completion of the Work and portions thereof, Developer shall clean to the original state any areas beyond the Work area that become dust laden as a result of the Work. Developer must erect the necessary warning signs and barricades to ensure the safety of all school occupants. Developer at all times must maintain good housekeeping practices to reduce the risk of fire damage and must make a fire extinguisher, fire blanket, and/or fire watch, as applicable, available at each location where cutting, braising, soldering, and/or welding is being performed or where there is an increased risk of fire.

6.16.2 Developer at all times shall keep Premises, including property immediately adjacent thereto, free from debris such as waste, rubbish (including personal rubbish of workers, e.g., food wrappers, etc.), and excess materials and equipment caused by the Work. Developer shall not leave debris under, in, or about the Premises (or surrounding property or neighborhood), but shall promptly remove same from the Premises on a daily basis. If Developer fails to clean up, District may do so and the cost thereof shall be charged to Developer. If the Contract calls for Work on an existing facility, Developer shall also perform specific clean-up on or about the Premises upon request by the District as it deems necessary for continued operations. Developer shall comply with all related provisions of the Specifications.

6.16.3 If the Construction Manager, Architect, or District observes the accumulation of trash and debris, the District will give Developer a 24-hour written notice to mitigate the condition.

6.16.4 Should Developer fail to perform the required clean-up, or should the clean-up be deemed unsatisfactory by the District, the District may, at its sole discretion, then perform the clean-up. All cost associated with the clean-up work (including all travel, payroll burden, and costs for supervision) will be deducted from the Guaranteed Maximum Price.

6.17 No Relief from Obligations Based on Review by Other Persons

6.17.1 Developer shall not be relieved of obligations to perform the Work in accordance with the Contract Documents by act or omission of the District, Architect, Construction Manager, Project Inspector, or DSA or other entities having jurisdiction including, but not limited to, administration of the Contract, review of submittals, or by tests, observation, inspection, or permit /interconnection approvals.

7. Subcontractors

7.1 Developer shall provide the District with information for all of Developer's Subcontracts and Subcontractors as indicated in Developer's Submittals and Schedules Section herein.

7.2 No contractual relationship exists between the District and any Subcontractor, supplier, or sub-subcontractor by reason of the Contract Documents.

7.3 Developer agrees to bind every Subcontractor by terms of the Contract Documents as far as those terms that are applicable to Subcontractor's work including, without limitation, all labor, wage & hour, apprentice and related provisions and requirements. If Developer subcontracts any part of the Work called for by the Contract Documents, Developer shall be as fully responsible to District for acts and omissions of any Subcontractor and of persons either directly or indirectly employed by any Subcontractor, including Subcontractor caused Project delays, as it is for acts and omissions of persons directly employed by Developer. The divisions or sections of the Specifications and/or the arrangements of the drawings are not intended to control Developer in dividing the Work among Subcontractors or limit the work performed by any trade.

7.4 District's consent to, or approval of, or failure to object to, any Subcontractor under the Contract Documents shall not in any way relieve Developer of any obligations under the Contract Documents and no such consent shall be deemed to waive any provisions of the Contract Documents.

7.5 Developer is directed to familiarize itself with sections 1720 through 1861 of the Labor Code of the State of California, as regards the payment of prevailing wages and related issues, and to comply with all applicable requirements therein including, without limitation, section 1775 and Developer's and Subcontractors' obligations and liability for violations of prevailing wage law and other applicable laws.

7.6 Developer shall be responsible for the coordination of the trades, Subcontractors, sub-subcontractors, and material or equipment suppliers working on the Project.

7.6.1 Developer is responsible for ensuring that first-tier Subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43, and/or C-46 licenses, are prequalified by the District to work on the Project pursuant to Public Contract Code section 20111.6.

7.6.2 Developer is responsible for ensuring that all Subcontractors are properly registered as public works contractors by the Department of Industrial Relations.

7.7 Developer is solely responsible for settling any differences between Developer and its Subcontractor(s) or between Subcontractors.

7.8 Developer must include in all of its subcontracts the assignment provisions indicated in the Termination section of these Construction Provisions.

8. Other Contracts/Contractors

8.1 District reserves the right to let other contracts, and/or to perform work with its own forces, in connection with the Project. Developer shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly coordinate and connect Developer's Work with the work of other contractors.

8.2 Developer shall protect the work of any other contractor that Developer encounters while working on the Project.

8.3 If any part of Developer's Work depends for proper execution or results upon work of District or any other contractor, Developer shall visually inspect, and with reasonable effort, physically inspect all accessible portions of District's or any other contractor's work and, before proceeding with its Work, promptly report to the District in writing any defects in District's or any other contractor's work that render Developer's Work unsuitable for proper execution and results. Developer shall be held accountable for damages to District for District's or any other contractor's work that Developer failed to inspect or should have inspected. Developer's failure to inspect and report shall constitute Developer's acceptance of all District's or any other contractor's work as fit and proper for reception of Developer's Work, except as to defects that may develop in District's or any other contractor's work after execution of Developer's Work and not caused by execution of Developer's Work.

8.4 To ensure proper execution of its subsequent Work, Developer shall measure and inspect Work already in place and shall at once report to the District in writing any discrepancy between that executed Work and the Contract Documents.

8.5 Developer shall ascertain to its own satisfaction the scope of the Project and nature of District's or any other contracts that have been or may be awarded by District in prosecution of the Project to the end that Developer may perform under the Contract in light of the other contracts, if any.

8.6 Nothing herein contained shall be interpreted as granting to Developer exclusive occupancy of the Site, the Premises, or of the Project. Developer shall not cause any unnecessary hindrance or delay to the use and/or operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or Premises operation is likely to cause interference with performance of Developer's obligations under the Contract Documents, Developer shall coordinate with those contractor(s), person(s), and/or entity(s) and shall notify the District of the resolution.

9. Drawings and Specifications

9.1 A complete list of all Drawings that form a part of the Contract Documents are to be found as an index on the Drawings themselves, and/or may be provided to Developer and/or in the Table of Contents.

9.2 Materials or Work described in words that so applied have a well-known technical or trade meaning shall be deemed to refer to recognized standards, unless noted otherwise.

9.3 Trade Name or Trade Term

It is not the intention of the Contract Documents to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of "trade name" or "trade term" shall be considered a sufficient notice to Developer that it will be required to complete the work so named, complete, finished, and operable, with all its appurtenances, according to the best practices of the trade.

9.4 The naming of any material and/or equipment shall mean furnishing and installing of same, including all incidental and accessory items thereto and/or labor therefor, as per best practices of the trade(s) involved, unless specifically noted otherwise.

9.5 Contract Documents are complementary, and what is called for by one shall be binding as if called for by all. As such, Drawings and Specifications are intended to be fully cooperative and to agree. However, if Developer observes that Drawings and Specifications are in conflict with the Contract Documents, Developer shall promptly notify District and Architect in writing, and any necessary changes shall be made as provided in the Contract Documents.

9.6 Figured dimensions shall be followed in preference to scaled dimensions, and Developer shall make all additional measurements necessary for the work and shall be responsible for their accuracy. Before ordering any material or doing any work, each Developer shall verify all measurements at the building and shall be responsible for the correctness of same.

9.7 Should any question arise concerning the intent or meaning of the Contract Documents, including the Plans and Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, these Construction Provisions shall control over the Facilities Lease, which shall control over the Site Lease, which shall control over Division 1 Documents, which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In no case shall a document calling for lower quality and/or quantity of material or workmanship control. However, in the case of discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications.

9.8 Drawings and Specifications are intended to comply with all laws, ordinances, rules, and regulations of constituted authorities having jurisdiction, and where referred

to in the Contract Documents, the laws, ordinances, rules, and regulations shall be considered as a part of the Contract Documents within the limits specified.

9.9 As required by Section 4-317(c), Part 1, Title 24, CCR: "Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the DSA-approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."

9.10 Ownership of Drawings

All copies of Plans, Drawings, Designs, Specifications, and copies of other incidental architectural and engineering work, or copies of other Contract Documents furnished by District, are the property of District. They are not to be used by Developer in other work and, with the exception of signed sets of Contract Documents, are to be returned to District on request at completion of Work, or may be used by District as it may require without any additional costs to District. Neither Developer nor any Subcontractor, or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications, and other documents prepared by the Architect. District hereby grants Developer, Subcontractors, sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings prepared for the Project in the execution of their Work under the Contract Documents.

10. Developer's Submittals and Schedules

Developer's submittals shall comply with the provisions and requirements of the Specifications including, without limitation Submittals.

10.1 Schedule of Work, Schedule of Submittals, and Schedule of Values.

10.1.1 Developer shall comply with the construction schedule attached to the Facilities Lease as **Exhibit F** ("Construction Schedule"). [To be attached when available.]

10.1.2 Developer shall be responsible for the development of schedule, cost and resource loading of the schedule, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method ("CPM") scheduling ("CPM Schedule"). CPM Schedule shall be cost loaded based on Schedule of Values as approved by District.

10.1.3 Developer must provide all schedules both in hard copy and electronically, in a native format (e.g. Microsoft Project or Primavera) approved in advance by the District.

10.1.4 The District will review the schedules submitted and Developer shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

10.1.5 The District shall have the right at any time to discuss with Developer revisions to the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.1.6 All schedules must be approved by the District before Developer can rely on them as a basis for payment.

10.1.7 Within TEN (10) calendar days after the date of the Notice to Proceed with Construction (unless otherwise specified in the Specifications), Developer shall prepare and submit to the District for review, in a form supported by sufficient data to substantiate its accuracy as the District may require:

10.1.7.1 Preliminary Schedule

A preliminary schedule of construction indicating the starting and completion dates of the various stages of the Work, including any information and following any form as may be specified in the Specifications. Once approved by District, this shall become the Construction Schedule. This schedule shall include and identify all tasks that are on the Project's critical path with a specific determination of the start and completion of each critical path task as well as all Contract milestones and each milestone's completion date(s) as may be required by the District. The Preliminary Schedule shall be time scaled, cost and resource (labor and major equipment) loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments until acceptance of the approved Construction Schedule.

10.1.7.1.1 The District is not required to approve a preliminary schedule of construction with early completion, i.e., one that shows early completion dates for the Work and/or milestones. Developer shall not be entitled to extra compensation if the District approves a Construction Schedule with an early completion date and Developer completes the Project beyond the date shown in the schedule but within the Contract Time. A Construction Schedule showing the Work completed in less than the Contract Time, the time between the early completion date and the end of the Contract Time shall be Float.

10.1.7.1.2 The Developer shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Developer shall resubmit Preliminary Schedule if requested by District.

10.1.7.2 Preliminary Schedule of Values

A preliminary schedule of values for all of the Work, which must include quantities and prices of items aggregating the Guaranteed Maximum Price and must subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Unless the Special Conditions contain different limits, this preliminary schedule of values shall include, at a minimum, the following information and the following structure:

10.1.7.2.1 Divided into at least the following categories:

10.1.7.2.1.1 Overhead and profit

10.1.7.2.1.2 Supervision

10.1.7.2.1.3 General conditions

10.1.7.2.1.4 Layout

10.1.7.2.1.5 Mobilization

10.1.7.2.1.6 Submittals

10.1.7.2.1.7 Bonds and insurance

10.1.7.2.1.8 Close-out/Certification documentation

10.1.7.2.1.9 Demolition

10.1.7.2.1.10 Installation

10.1.7.2.1.11 Rough-in

10.1.7.2.1.12 Finishes

10.1.7.2.1.13 Testing

10.1.7.2.1.14 Punch list and District acceptance

10.1.7.2.2 And also divided by each of the following areas:

10.1.7.2.2.1 Site work

10.1.7.2.2.2 By each phase and/or building, as applicable

10.1.7.2.2.3 By each floor

10.1.7.2.3 The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

10.1.7.2.3.1 Mobilization and layout combined to equal not more than 1%.

10.1.7.2.3.2 Submittals, samples and shop drawings combined to equal not more than 3%.

10.1.7.2.3.3 Bonds and insurance combined to equal not more than 2.5%.

10.1.7.2.3.4 Closeout documentation shall have a value in the preliminary schedule of not less than 3%.

10.1.7.2.4 Notwithstanding any provision of the Contract Documents to the contrary, payment of Developer's overhead, supervision, general conditions costs, and profit, as reflected in the Cost Breakdown, shall be paid based on percentage complete, with the disbursement of Progress Payments and the Final Payment.

10.1.7.2.5 Developer shall certify that the preliminary schedule of values as submitted to the District is accurate and reflects the costs as developed in preparing Developer's bid. For example, without limiting the foregoing, Developer shall not "front-load" the preliminary schedule of values with dollar amounts greater than the value of activities performed early in the Project.

10.1.7.2.6 The preliminary schedule of values shall be subject to the District's review and approval of the form and content thereof. In the event that the District objects to any portion of the preliminary schedule of values, the District shall notify Developer, in writing, of the District's objection(s) to the preliminary schedule of values. Within five (5) calendar days of the date of the District's written objection(s), Developer shall submit a revised preliminary schedule of values to the District for review and approval. The foregoing procedure for the preparation, review and approval of the preliminary schedule of values shall continue until the District has approved the entirety of the preliminary schedule of values.

10.1.7.2.7 Once the preliminary schedule of values is approved by the District, this shall become the Schedule of Values. The Schedule of Values shall not be thereafter modified or amended by Developer without the prior consent and approval of the District, which may be granted or withheld in the sole discretion of the District.

10.1.7.3 Schedule of Values

The Developer shall provide for District review and approval prior to commencement of the Work a schedule of values for all of the Work, which includes quantities and prices of items aggregating the Guaranteed Maximum Price and subdivided into component parts as per specifications. The Schedule of Values shall not be modified or amended by the Developer without the prior consent and approval of the District, which may be granted or withheld in the sole discretion of the District. The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.1.7.4 Preliminary Schedule of Submittals

A preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals. Once approved by District, this shall become the Submittal Schedule. All submittals may be reviewed by District in ProCore and shall be forwarded to the Architect by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those submittals shall be forwarded to the District so as not to delay the Construction Schedule. Upon request by the District, Developer shall provide an electronic copy of all submittals to the District. All submittals shall be submitted no later than ninety (90) days after the Notice to Proceed with Construction.

10.1.7.5 Safety Plan

Developer's Safety Plan specifically adapted for the Project shall comply with the following requirements:

10.1.7.5.1 All applicable requirements of California Division of Occupational Safety and Health ("Cal/OSHA") and/or of the United States Occupational Safety and Health Administration ("OSHA").

10.1.7.5.2 All provisions regarding Project safety, including all applicable provisions in these Construction Provisions.

10.1.7.5.3 Developer's Safety Plan shall be in English and in the language(s) of Developer's and its Subcontractors' employees.

10.1.7.6 Update Registered Subcontractor List

The name, address, telephone number, facsimile number, California State Contractors License number, classification, DIR registration number, and monetary value of all Subcontracts of any tier for parties furnishing labor, material, or equipment for completion of the Project.

10.2 Monthly Progress Schedule(s)

10.2.1 Developer shall provide Monthly Progress Schedule(s) to the District. A Monthly Progress Schedule shall update the approved Construction Schedule or the last Monthly Progress Schedule, showing all work completed and to be completed as well as updating the Registered Subcontractors List. The monthly Progress Schedule shall be sent as noted below and, if also requested by District, within the timeframe requested by the District and shall be in a format acceptable to the District and contain a written narrative of the progress of work that month and any changes, delays, or events that may affect the work. The process for District approval of the Monthly Progress Schedule shall be the same as the process for approval of the Construction Schedule.

10.2.2 Developer shall submit Monthly Progress Schedule(s) with all payment applications.

10.2.3 Developer must provide all schedules both in hard copy and electronically in a native format (e.g., Microsoft Project or Primavera), approved in advance by District.

10.2.4 A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application. These meetings are considered a critical component of overall monthly schedule update submittal and Developer shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Developer's General Superintendent and Scheduler.

10.2.5 District will review the schedules submitted and Developer shall make changes and corrections in the schedules as requested by the District and resubmit the schedules within five (5) working days until approved by the District.

10.2.6 District shall have the right at any time to discuss with Developer revisions to the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.2.7 All schedules must be approved by the District before Developer can rely on them as a basis for payment. District shall use best efforts to approve all submittals and schedules on or before fourteen (14) days after presentation of the same from Developer, providing there are no extenuating circumstances, and no such approval shall be unreasonably withheld by District.

10.2.8 Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Developer under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Developer's obligations under this Contract.

10.3 Weekly Schedule Report

At the Weekly Progress Meeting, the Developer shall provide and present a time-scaled three (3) week look-ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

10.4 Daily Construction Reports

On a daily basis, Developer shall submit a daily activity report to District for each workday, including weekends and holidays when worked. Developer shall develop the daily construction reports on a computer-generated database capable of sorting daily Work, manpower, and man-hours by Developer, Subcontractor, area, sub-area, and Change Order Work. Upon request of District, Developer shall furnish a USB flash drive of this database. Developer shall obtain District's written approval of the daily construction report database format prior to implementation. At minimum, Developer shall include in the reports:

10.4.1 Project name and Project number.

10.4.2 Developer's name and address.

10.4.3 Weather, temperature, and any unusual site conditions.

10.4.4 Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors.

10.4.5 Descriptions shall be referenced to CPM scheduled activities.

10.4.6 Worker quantities for its own Work force and for Subcontractors of any tier.

10.4.7 Equipment, other than hand tools, utilized by Developer and Subcontractors.

10.5 Material Safety Data Sheets (MSDS)

Developer is required to ensure Material Safety Data Sheets are available in a readily accessible place at the Site for any material requiring a Material Safety Data Sheet per

the federal "Hazard Communication" standard, or employees' "right to know" law. Developer is also required to ensure proper labeling on substances brought onto the job site and that any person working with the material or within the general area of the material is informed of the hazards of the substance and follows proper handling and protection procedures. Two additional copies of the Material Safety Data Sheets shall also be submitted directly to the District.

10.4 Submittals

10.4.1 Architect's favorable review shall neither be construed as a complete check nor relieve Developer, Subcontractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents unless Developer has, in writing, called Architect's attention to the deviations at the time of submission and the Architect has given specific written response. "Favorable review" shall mean merely that Architect has no objection to Developer using, upon Developer's own full responsibility, plan or method of Work proposed, or furnishing materials or equipment proposed.

11. Site Access, Conditions, And Requirements

11.1 Site Investigation

Developer has made a careful investigation of the Site and is familiar with the requirements of the Contract Documents and has accepted the readily observable, existing conditions of the Site.

11.2 Soils Investigation Report

When a soils investigation report obtained from test holes at Site or for the Project is available, that report may be made available to Developer but shall not be a part of this Contract but shall not alleviate or excuse Developer's obligation to perform its own investigation. Any information obtained from that report or any information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed, does not form a part of this Contract, and Developer may not rely thereon. Developer acknowledges that it has made a visual examination of the Site and has made whatever tests Developer deems appropriate to determine underground condition of soil. Although any such report is not a part of this Contract, recommendations from the report may be included in the Drawings, Specifications, or other Contract Documents. It is Developer's sole responsibility to thoroughly review all Contract Documents, Drawings, and Specifications.

11.3 Access to Work

District and its representatives shall at all times have access to Work wherever it is in preparation or progress, including storage and fabrication. Developer shall provide safe and proper facilities for such access so that District's representatives may perform their functions. District shall provide Developer adequate advance notice for access to active construction zones such that Developer may provide for safety measures to District and representatives.

11.4 Layout and Field Engineering

11.4.1 All field engineering required for layout of this Work and establishing grades for earthwork operations shall be furnished by Developer at its expense. This Work shall be done by a qualified, California-registered civil engineer or licensed land surveyor approved in writing by District and Architect. Any required Record and/or As-Built Drawings of Site development shall be prepared by the approved civil engineer or licensed land surveyor.

11.4.2 Developer shall be responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the Site and for having satisfied itself as to the conditions under which the Work is to be performed. District shall not be liable for any claim for allowances because of Developer's error or negligence in acquainting itself with the conditions at the Site.

11.4.3 Developer shall protect and preserve established benchmarks and monuments and shall make no changes in locations without the prior written approval of District. Developer shall replace any benchmarks or monuments that are lost or destroyed subsequent to proper notification of District and with District's approval.

11.5 Utilities

Utilities shall be provided as indicated in the Specifications.

11.6 Sanitary Facilities

Sanitary facilities shall be provided as indicated in the Specifications.

11.7 Surveys

Developer shall provide surveys done by a California-licensed civil engineer or licensed land surveyor to determine locations of construction, grading, and site work as required to perform the Work.

11.8 Regional Notification Center

Developer, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by Developer unless an inquiry identification number has been assigned to Developer or any Subcontractor and Developer has given the District the identification number. Any damages arising from Developer's failure to make appropriate notification shall be at the sole risk and expense of Developer. Any delays caused by failure to make appropriate notification shall be at the sole risk of Developer and shall not be considered for an extension of the Contract Time.

11.9 Existing Utility Lines

11.9.1 Pursuant to Government Code section 4215, District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines

and facilities located on the construction Site at the time of commencement of construction under the Contract Documents with respect to any such utility facilities that are not identified in the Plans and Specifications. Developer shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of District or the owner of a utility to provide for removal or relocation of such utility facilities.

11.9.2 Locations of existing utilities provided by District shall not be considered exact, but approximate within a reasonable margin and shall not relieve Developer of its responsibilities to exercise reasonable care and to pay all costs of repair due to Developer's failure to do so. District shall compensate Developer for the costs of locating, repairing damage not due to the failure of Developer to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment necessarily idle during such work.

11.9.3 No provision herein shall be construed to preclude assessment against Developer for any other delays in completion of the Work. Nothing in this Article shall be deemed to require District to indicate the presence of existing service laterals, appurtenances, or other utility lines, within the exception of main or trunk utility lines. Whenever the presence of these utilities on the Site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the Site of the construction.

11.9.4 If Developer, while performing Work under this Contract, discovers utility facilities not identified by District in Contract Plans and Specifications, Developer shall immediately notify the District and the utility in writing. In the event Developer fails to immediately provide notice and subsequently causes damage to the utility facilities, the cost of repair for damage to above-mentioned discovered facilities shall be borne by Developer.

11.10 Notification

Developer understands, acknowledges and agrees that the purpose for prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the condition(s). Accordingly, failure of Developer to promptly notify the District in writing, pursuant to these provisions, shall constitute Developer's waiver of any claim for damages or delay incurred as a result of the condition(s).

11.11 Hazardous Materials

Developer shall comply with all provisions and requirements of the Contract Documents related to hazardous materials including, without limitation, Hazardous Materials Procedures and Requirements.

11.12 No Signs

Neither Developer nor any other person or entity shall display any signs not required by law or the Contract Documents at the Site, fences, trailers, offices, or elsewhere on the Site without specific prior written approval of the District.

12. Trenches

12.1 Trenches Greater Than Five Feet

Pursuant to Labor Code section 6705, if the Guaranteed Maximum Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, Developer shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

12.2 Excavation Safety

If such plan varies from the Shoring System Standards established by the Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but in no case shall such plan be less effective than that required by the Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

12.3 No Tort Liability of District

Pursuant to Labor Code section 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

12.4 No Excavation without Permits

Developer shall not commence any excavation Work until it has secured all necessary permits including the required CalOSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

12.5 Discovery of Hazardous Waste and/or Unusual Conditions

12.5.1 Pursuant to Public Contract Code section 7104, if the Work involves digging trenches or other excavations that extend deeper than four feet below the Surface, Developer shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

12.5.1.1 Material that Developer believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

12.5.1.2 Subsurface or latent physical conditions at the Site differing from those indicated.

12.5.1.3 Unknown physical conditions at the Project Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

12.5.2 The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in Developer's cost of, or the time required for,

performance of any part of the Work, shall issue a Change Order under the procedures described herein.

12.5.3 In the event that a dispute arises between District and Developer whether the conditions materially differ or cause a decrease or increase in Developer's cost of, or time required for, performance of any part of the Work, Developer shall not be excused from any scheduled completion date provided for by the Contract Documents but shall proceed with all work to be performed under the Contract Documents. Developer shall retain any and all rights provided either by the Contract Documents or by law that pertain to the resolution of disputes and protests.

13. Insurance and Bonds

13.1 Developer's Insurance

Developer shall comply with the insurance requirements as indicated in the Facilities Lease.

13.2 Contract Security – Bonds

13.2.1 Developer shall furnish two surety bonds issued by a California admitted surety insurer as follows:

13.2.1.1 Performance Bond

A bond in an amount at least equal to one hundred percent (100%) of Guaranteed Maximum Price as security for faithful performance of the Contract Documents.

13.2.1.2 Payment Bond

A bond in an amount at least equal to one hundred percent (100%) of the Guaranteed Maximum Price as security for payment of persons performing labor and/or furnishing materials in connection with this Contract.

13.2.2 Cost of bonds shall be included in the Guaranteed Maximum Price.

13.2.3 All bonds related to this Project shall be in the forms set forth in these Contract Documents and shall comply with all requirements of the Contract Documents, including, without limitation, the bond forms.

14. Warranty/Guarantee/Indemnity

14.1 Warranty/Guarantee

14.1.1 Developer shall obtain and preserve for the benefit of the District, manufacturer's warranties on materials, fixtures, and equipment incorporated into the Work.

14.1.2 In addition to guarantees and warranties required elsewhere, Developer shall, and hereby does guarantee and warrant all Work furnished on the job against all defects for a period of ONE (1) year after the later of the following dates, unless a longer period is provided for in the Contract Documents:

14.1.2.1 The acceptance by the District's governing board of the Work, subject to these General Conditions, or

14.1.2.2 The date that commissioning for the Project, if any, was completed.

14.1.3 If any work is not in compliance with the Drawings and Specifications, Developer shall repair or replace any and all of that Work, together with any other Work that may be displaced in so doing, that may prove defective in workmanship and/or materials within a ONE (1) year period from date of completion as defined above, unless a longer period is provided for in the Contract Documents, without expense whatsoever to District.

14.1.4 In the event of failure of Developer and/or Surety to commence and pursue with diligence said replacements or repairs within ten (10) days after being notified in writing, Developer and Surety hereby acknowledge and agree that District is authorized to proceed to have defects repaired and made good at expense of Developer and/or Surety who hereby agree to pay costs and charges therefore immediately on demand.

14.1.5 If any work is not in compliance with the Drawings and Specifications and if in the opinion of District said defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to District or to prevent interruption of District operations, District will attempt to give the notice required above. If Developer or Surety cannot be contacted or neither complies with District's request for correction within a reasonable time as determined by District, District may, notwithstanding the above provision, proceed to make any and all corrections and/or provide attentions the District believes are necessary. The costs of correction or attention shall be charged against Developer and Surety of the guarantees or warranties provided in this Article or elsewhere in this Contract.

14.1.6 The above provisions do not in any way limit the guarantees or warranties on any items for which a longer guarantee or warranty is specified or on any items for which a manufacturer gives a guarantee or warranty for a longer period. Developer shall furnish to District all appropriate guarantee or warranty certificates as indicated in the Specifications or upon request by District.

14.1.7 Nothing herein shall limit any other rights or remedies available to District.

14.2 Indemnity

Developer shall indemnify the District as indicated in the Facilities Lease.

15. Time

15.1 Notice to Proceed with Construction

15.1.1 District may issue a Notice to Proceed with Construction ("NTP 2") within ninety (90) days from the date of the Notice of Award after Guaranteed Maximum Price. Once Developer has received the Notice to Proceed with Construction, Developer shall complete the Work within the period of time indicated in the Contract Documents.

15.1.2 In the event that the District desires to postpone issuing the Notice to Proceed with Construction beyond ninety (90) days from the date of the Notice of Award after Guaranteed Maximum Price, it is expressly understood that with reasonable notice to Developer, the District may postpone issuing the Notice to Proceed with Construction. It is further expressly understood by Developer that Developer shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed with Construction.

15.1.3 If Developer believes that a postponement of issuance of the Notice to Proceed with Construction will cause a hardship to Developer, Developer may terminate the Contract. Developer's termination due to a postponement shall be by written notice to District within ten (10) days after receipt by Developer of District's notice of postponement. It is further understood by Developer that in the event that Developer terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Developer for the Work that Developer had performed at the time of notification of postponement.

15.2 Computation of Time / Adverse Weather

15.2.1 Developer will only be allowed a time extension for Adverse Weather conditions if requested by Developer in compliance with the time extension request procedures herein and only if all of the following conditions are met:

15.2.1.1 The weather conditions constitute Adverse Weather, as defined herein;

15.2.1.2 Developer can verify that the Adverse Weather caused delays in excess of five (5) hours of the indicated labor required to complete the scheduled tasks of Work on the day affected by the Adverse Weather;

15.2.1.3 Developer's crew is dismissed as a result of the Adverse Weather;

15.2.1.4 Said delay adversely affect the critical path in the Construction Schedule; and

15.2.1.5 Exceeds twelve (12) days of delay per year.

15.2.2 If the aforementioned conditions are met, a non-compensable day-for-day extension will only be allowed for those days in excess of those indicated herein.

15.2.3 Developer shall work seven (7) days per week, if necessary, irrespective of inclement weather, to maintain access and the Construction Schedule, and to protect the Work under construction from the effects of Adverse Weather, all at no further cost to the District.

15.2.4 The Contract Time has been determined with consideration given to the average climate weather conditions prevailing in the County in which the Project is located.

15.3 Hours of Work

15.3.1 Sufficient Forces

Developer and Subcontractors shall continuously furnish sufficient and competent work forces with the required levels of familiarity with the Project and skill, training and experience to ensure the prosecution of the Work in accordance with the Construction Schedule.

15.3.2 Performance During Working Hours

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

15.3.3 No Work during State Testing

Developer shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests. The District or District's Representative will provide Developer with a schedule of test dates concurrent with the District's issuance of the Notice to Proceed with Construction, or as soon as test dates are made available to the District.

15.4 Progress and Completion

15.4.1 Time of the Essence

Time limits stated in the Contract Documents are of the essence to the Contract Documents. By executing the Facilities Lease, Developer confirms that the Contract Time is a reasonable period for performing the Work.

15.4.2 No Commencement Without Insurance or Bonds

Developer shall not commence operations on the Project or elsewhere prior to the effective date of insurance and bonds. The date of commencement of the Work shall not be changed by the effective date of such insurance or bonds. If Developer commences Work without insurance and bonds, all Work is performed at Developer's peril and shall not be compensable until and unless Developer secures bonds and insurance pursuant to the terms of the Contract Documents and subject to District claim for damages.

15.5 Schedule

Developer shall provide to District, Construction Manager, and Architect a schedule in conformance with the Contract Documents and as required in these Construction Provisions.

15.6 Expeditious Completion

Developer shall proceed expeditiously with adequate forces and shall achieve Completion within the Contract Time.

16. Extensions of Time – Liquidated Damages, Excusable Delays

16.1 Liquidated Damages

Developer and District hereby agree that the exact amount of damages for failure to complete the Work within the time specified is extremely difficult or impossible to determine. If the Work is not completed within the time specified in the Contract Documents, it is understood that the District will suffer damage. It being impractical and unfeasible to determine the amount of actual damage, it is agreed Developer shall pay to District as fixed and liquidated damages, and not as a penalty, the amount set forth in the Facilities Lease for each calendar day of delay in Completion. Developer and its Surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

16.2 Excusable Delay

16.2.1 Developer shall not be charged for liquidated damages because of any delays in completion of the Work which are not the fault of Developer or its Subcontractors, including without limitation, adverse weather delays, strikes, acts of God as defined in Public Contract Code section 7105, acts of enemy, epidemics, and quarantine restrictions. Developer shall, within five (5) calendar days of beginning of any delay, including a Force Majeure event, notify District in writing of causes of delay including documentation and facts explaining the delay and the direct correlation between the cause and effect ("Notice of Delay"). If Developer fails to provide its written Notice of Delay within this timeframe, Developer waives, releases, and discharges any right to assert or claim any entitlement to an adjustment to the Guaranteed Maximum Price and/or the Contract Time based on circumstances giving rise to the asserted delay. District shall review the facts and extent of any delay and shall grant extension(s) of time for completing Work when, in its judgment, the findings of fact justify an extension. Extension(s) of time shall apply only to that portion of Work affected by delay and shall not apply to other portions of Work not so affected. An extension of time may only be granted if Developer has timely submitted the Construction Schedule as required herein.

16.2.2 Developer's Notice of Delay and request for a time extension pursuant to subparagraph 16.2 is a condition precedent to Developer's submittal of and/or entitlement to a claim pursuant to Article 25 of these Construction Provisions. Developer shall notify the District pursuant to the Claims Process in these Construction Provisions of any anticipated delay and its cause. Following submission of a claim, the District may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

16.2.3 In the event Developer requests an extension of Contract Time for unavoidable delay as set forth in subparagraph 16.2.1, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work, including without limitation, the time requirements set forth in subsection 17.5, below. When requesting time, requests must be submitted with full justification and documentation, including both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Developer proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. If Developer fails to submit

justification, it waives its right to a time extension at a later date. Such justification must be based on the official Construction Schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the Scope of Work. Any request for a time extension must include the following information as support, without limitation:

16.2.3.1 The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform the activities within the stated duration.

16.2.3.2 Specific logical ties to the Contract Schedule for the proposed changes and/or delay showing the activity/activities in the Construction Schedule that are affected by the change and/or delay. In particular, Developer must show an actual impact to the schedule, after making a good faith effort to mitigate the delay by rescheduling the work, by providing an analysis of the schedule ("Time Impact Analysis"). Such Time Impact Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule and main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path. (This information must be provided for any portion of any delay of seven (7) days or more.) The Developer shall be responsible for all costs associated with the preparation of Time Impact Analyses.

16.2.4 A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay to recover the lost time within seven (7) calendar days. As part of this submittal, the Developer shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Developer shall provide a schedule diagram comparing the original sequence to the revised sequence of work. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. At District's discretion, the Developer can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

16.2.5 Developer must comply with requirements in subsection 16.2 for a Notice of Delay and supporting justification notwithstanding if Developer contends the specific delay period is unknown and continuing. When submitting a Notice of Delay and supporting justification, Developer must provide an estimated delay duration to critical path activities at the time the Notice of Delay and supporting justification is required to be submitted. Failure of the Developer to perform in accordance with the current schedule update shall not be excused by submittal of a Notice of Delay. If Developer contends the delaying event(s) are continuing, Developer must update monthly the estimated delay period with supporting justification.

16.2.6 Developer's failure to timely submit a written Notice of Delay and/or provide the justification required in subparagraph 16.2 shall constitute Developer's waiver of any right to later submit a Proposed Change Order or pursue a Claim on the circumstances giving rise to the request, or to later pursue any additional money or time extensions in any manner related to that issue, regardless of the merits because the Developer will not have satisfied a condition precedent or exhausted administrative remedies required to show entitlement to a Contract Time adjustment. Developer acknowledges that these written

notices and justification requirements are critically important to District's Work, Project management, and evaluating potential options and alternatives to implement mitigation efforts to reduce or eliminate additional Project costs and delays.

16.3 No Additional Compensation for Delays within Developer's Control

16.3.1 Developer is aware that governmental agencies and utilities, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies may have to approve Developer-prepared drawings or approve a proposed installation. Accordingly, Developer has included in the Guaranteed Maximum Price, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies, including without limitation delays due to California Environmental Quality Act ("CEQA") compliance. Thus, Developer is not entitled to make a claim for damages for delays arising from the review of Developer's drawings.

16.3.2 Developer shall only be entitled to compensation for delay when all of the following conditions are met:

16.3.2.1 The District is responsible for the delay;

16.3.2.2 The delay is unreasonable under the circumstances involved;

16.3.2.3 The delay was not within the contemplation of the District and Developer;

16.3.2.4 The delay could not have been avoided or mitigated by reasonable diligence; and

16.3.2.5 Developer timely complies with the claims procedure of the Contract Documents.

16.3.3 Where an event for which District is responsible impacts the projected Completion Date, the Developer shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Developer shall also include a detailed cost breakdown of the labor, equipment, and material the Developer would expend to mitigate District-caused time impact. The Developer shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Developer is responsible for the cost to prepare the mitigation plan.

16.3.4 Where a change in the Work extends the Contract Time, Developer may request and recover additional, actual direct costs, provided that Developer can demonstrate such additional costs are:

16.3.4.1 Actually incurred performing the Work;

16.3.4.2 Not compensated by the Markup allowed; and

16.3.4.3 Directly result from the extended Contract Time.

16.3.5 Developer shall comply with all required procedures, documentation and time requirements in the Contract Documents. Developer may not seek or recover such costs using formulas (e.g. Eichleay, labor factors). No time will be granted under this Contract for cumulative effect of changes.

16.4 Force Majeure

"Force Majeure" means any event or circumstance unknown at the time of contracting that is beyond the parties' control and makes performance of the contract impractical or impossible. The Party seeking to have its performance obligation(s) excused must demonstrate that there was such an insuperable interference occurring without the party's intervention as could not have been prevented by the exercise of prudence, diligence, and care, by providing prompt notice to the other Party, including full particulars of such event, of its inability to perform its obligations due to such event, following commencement of the claiming Party's inability to so perform its obligations. To the extent satisfying these conditions, Force Majeure events include the following: acts of God, war, civil unrest, epidemic, fire, smoke, volcanic eruption, earthquake, strike, unusually severe weather, flood, or shortage of transportation facilities, lock out, or commandeering of materials, product, plant, or facilities by the government. Force Majeure shall not be based on a Party's financial inability to perform under this Agreement unless there exists extreme and unreasonable difficulty, expense, injury, or loss involved. A Force Majeure event does not include an act of negligence or intentional wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder. No obligation that arose before the Force Majeure event that could and should have been fully performed before such Force Majeure event is excused as a result of such Force Majeure event.

16.5 Float or Slack in the Schedule

Float or slack is the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the schedule. Float or slack is not for the exclusive use of or benefit of either the District or Developer, but its use shall be determined solely by the District.

17. Changes in the Work

17.1 No Changes without Prior Authorization

17.1.1 There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order or a written Construction Change Directive authorized by the District as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's governing board has authorized the same and the cost thereof has been approved in writing by Change Order or Construction Change Directive in advance of the changed Work being performed. No extension of time for performance of the Work shall be allowed hereunder unless a request for such extension is made at the time changes in the Work are ordered, and such time duly adjusted and approved in writing in the Change Order or Construction Change Directive. The provisions of the Contract Documents shall apply to all

such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.

17.1.2 Developer shall perform immediately all work that has been authorized by a fully executed Change Order or Construction Change Directive. Developer shall be fully responsible for any and all delays and/or expenses caused by Developer's failure to expeditiously perform this Work.

17.1.3 Should any Change Order result in an increase in the Guaranteed Maximum Price or extend the Contract Time, the cost of or length of extension in that Change Order shall be agreed to, in writing, by the District in advance of the work by Developer. In the event that Developer proceeds with any change in Work without a Change Order executed by the District or Construction Change Directive, Developer waives any claim of additional compensation or time for that additional work. Under no circumstances shall Developer be entitled to any claim of additional compensation or time not expressly requested by Developer in a Proposed Change Order or approved by District in an executed Change Order.

17.1.4 A Change Order or Construction Change Directive will become effective when approved by the Board, notwithstanding that Developer has not signed it. A Change Order or Construction Change Directive will become effective without Developer's signature provided District indicates it as a "Unilateral Change Order". Any dispute as to the adjustment in the Guaranteed Maximum Price or Contract Time, if any, of the Unilateral Change Order shall be resolved pursuant to the Payments and Claims Process provisions herein.

17.1.5 Developer understands, acknowledges, and agrees that the reason for District authorization is so that District may have an opportunity to analyze the Work and decide whether the District shall proceed with the Change Order or alter the Project so that a change in Work becomes unnecessary.

17.2 Architect Authority

The Architect will have authority to order minor changes in the Work not involving any adjustment in the Guaranteed Maximum Price, or an extension of the Contract Time, or a change that is inconsistent with the intent of the Contract Documents. These changes shall be effected by written Change Order, Construction Change Directive, or by Architect's response(s) to RFI(s), or by Architect's Supplemental Instructions ("ASI").

17.3 Price Request

17.3.1 Definition of Price Request

A Price Request is a written request prepared by the Architect requesting the Developer to submit to the District and the Architect an estimate of the effect of a proposed change in the Work on the Contract Price and the Contract Time.

17.3.2 Scope of Price Request

A Price Request shall contain adequate information, including any necessary Drawings and Specifications, to enable Developer to provide the cost breakdowns required

herein. The Developer shall not be entitled to any additional compensation for preparing a response to a Price Request, whether ultimately accepted or not.

17.4 Change Orders

17.4.1 A Change Order is a written instrument prepared and issued by the District and/or the Architect and signed by the District (as authorized by the District's Board of Education), Developer, the Architect, and approved by the Project Inspector (if necessary) and DSA (if necessary), stating their agreement regarding all of the following:

17.4.1.1 A description of a change in the Work.

17.4.1.2 The amount of the adjustment in the Guaranteed Maximum Price, if any; and

17.4.1.3 The extent of the adjustment in the Contract Time, if any.

17.5 Proposed Change Order

17.5.1 Definition of Proposed Change Order

A Proposed Change Order ("PCO") is a written request prepared by the Developer requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work, to the Guaranteed Maximum Price, and/or to the Contract Time.

17.5.2 Changes in Guaranteed Maximum Price

A PCO shall include breakdowns and backup documentation pursuant to the provisions herein and sufficient, in the District's judgment, to validate any change in Guaranteed Maximum Price. In no case shall Developer or any of its Subcontractors be permitted to reserve rights for additional compensation for Change Order Work.

17.5.3 Changes in Time

A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the critical path in the Construction Schedule as defined in the Contract Documents. Developer shall justify the proposed change in time by submittal of a schedule analysis that accurately shows the actual impact, if known, or the estimated impact if unknown, of the change on the critical path of the Construction Schedule ("Time Impact Analysis"). If Developer fails to request a time extension in a PCO, including the Time Impact Analysis, and/or fails to comply with these Construction Provisions including, without limitation, Articles 15, 16, or 17, then Developer is thereafter precluded from requesting, and waives any right to request, an adjustment to the Contract Time or Guaranteed Maximum Price relating to the subject matter of the PCO. In no case shall Developer or any of its Subcontractors be permitted to reserve rights for additional time for Change Order Work. A PCO that leaves the amount of time requested blank, or states that such time requested is "to be determined," or otherwise not specifically identified, is not permitted and shall also constitute a waiver of any right to request additional time and/or claim a delay.

17.5.4 Allowances

If there is an Allowance, then Developer shall not bill for or be due any portion of an Allowance unless the District has identified specific work, Developer has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has executed an Allowance Expenditure Directive incorporating that work. Allowance Expenditure Directives shall be based on Developer's costs, without overhead and profit, for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from the Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive.

Any unused portion of the Allowance will revert to the District documented by a deductive Change Order. Developer authorizes the District to execute a unilateral deductive Change Order at or near the end of the Project for all or any portion of the Allowance not allocated.

17.5.5 Unknown and / or Unforeseen Conditions

Separate from what is provided in the Allowance, if requests an increase in Guaranteed Maximum Price and/or Contract Time that is based at least partially on Developer's assertion that Developer has encountered unknown and/or unforeseen condition(s) on the Project, then Developer shall base the PCO on provable information that, beyond a reasonable doubt and to the District's satisfaction, demonstrates that the unknown and/or unforeseen condition(s) were actually unknown and/or unforeseen and that the condition(s) were reasonably unknown and/or unforeseen. If not, the District shall deny the PCO as unsubstantiated, and the Developer shall complete the Project without any increase in Guaranteed Maximum Price and/or Contract Time based on that PCO.

17.5.6 Time to Submit Proposed Change Order

Developer shall submit its PCO, using the Proposed Change Order Form, within five (5) working days of the date Developer discovers, or reasonably should have discovered, the circumstances giving rise to the PCO, unless additional time to submit a PCO is granted in writing by the District. Time is of the essence in Developer's submission of PCOs so that the District can promptly investigate the basis for the PCO. Accordingly, if Developer fails to submit its PCO within this timeframe, Developer waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Guaranteed Maximum Price and/or Contract Time based on circumstances giving rise to the PCO.

17.5.7 Proposed Change Order Certification

In submitting a PCO, Developer certifies and affirms that the cost and/or time request is submitted in good faith, that the cost and/or time request is accurate and in accordance with the provisions of the Contract Documents, and Developer submits the cost and/or request for extension of time recognizing the significant civil penalties and treble damages which follow from making a false claim or presenting a false claim under Government Code section 12650 et seq.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of Developer's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project including, without limitation, cumulative impacts. Developer is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

17.6 Format for Proposed Change Order

17.6.1 The following format shall be used as applicable by the District and Developer (e.g. Change Orders, PCOs) to communicate proposed additions and/or deductions to the Contract, supported by attached documentation. Any spaces left blank will be deemed no change to cost or time.

	<u>WORK PERFORMED OTHER THAN BY DEVELOPER</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<u>Add Equipment</u> (attach suppliers' invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add Overhead and Profit for any and all Tiers of Subcontractors</u> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add General Conditions Cost</u> (if Time is Compensable) (attach supporting documentation)		
(h)	<u>Subtotal</u>		
(i)	<u>Add Overhead and Profit for Developer</u> , not to exceed Four percent (4.00%) of Item (h)		
(j)	<u>Subtotal</u>		
(k)	<u>Add Bond and Insurance</u> , not to exceed One and Three Hundred Eighty-four Hundredths percent (1.384%) of Item (j)		
(l)	<u>TOTAL</u>		
(m)	<u>Time</u> (zero unless indicated; "TBD" not permitted)	<u>Calendar Days</u>	

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	WORK PERFORMED BY DEVELOPER	ADD	DEDUCT
(a)	Material (attach itemized quantity and unit cost plus sales tax)		
(b)	Add Labor (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	Add Equipment (attach suppliers' invoice)		
(d)	Add General Conditions Cost (if Time is Compensable) (attach supporting documentation)		
(e)	Subtotal		
(f)	Add Overhead and Profit for Developer , not to exceed Four percent (4.00%) of Item (e)		
(g)	Subtotal		
(h)	Add Bond and Insurance , not to exceed two and five tenths percent (2.5%) of Item (g)		
(i)	TOTAL		
(j)	Time (zero unless indicated; "TBD" not permitted)		Calendar Days

17.6.2 Mandatory Use of Forms

Developer shall only submit PCOs by completing the Proposed Change Order Form. Developer acknowledges and agrees that use of this specific and consistent format is essential to District's evaluation of PCOs. Accordingly, Developer waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Guaranteed Maximum Price and/or Time for any purported PCO that does not comply with the Proposed Change Order Form.

17.6.3 Labor

Developer shall be compensated for the costs of labor actually and directly utilized in the performance of the Work. Such labor costs shall be the actual cost, use of any formulas (e.g. labor factors) is not allowed, not to exceed prevailing wage rates established by the bid advertisement date or when the Contract was awarded, whichever is applicable, in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Work, fully Burdened. Labor costs shall exclude costs incurred by the Developer in preparing estimate(s) of the costs of the change in the Work, in the maintenance of records relating to the costs of the change in the Work, coordination and assembly of materials and information relating to the change in the Work or performance thereof, or the supervision and other overhead and general conditions costs associated with the change in the Work or performance thereof, including but not limited to the cost for the job superintendent. If applicable, District will pay Developer the reasonable costs for room and board, supported with appropriate backup documentation, without markup for profit or overhead as provided by U.S. General Services Administration per diem rates for California lodging, meals and incidentals, <https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-lookup>.

17.6.4 Materials

Developer shall be compensated for the costs of materials necessarily and actually used or consumed in connection with the performance of the change in the Work. Costs of materials may include reasonable costs of transportation from a source closest to the Site of the Work and delivery to the Site. If discounts by material suppliers are available for materials necessarily used in the performance of the change in the Work, they shall be credited to the District. If materials necessarily used in the performance of the change in the Work are obtained from a supplier or source owned in whole or in part by Developer, compensation therefor shall not exceed the current wholesale price for such materials. If, in the reasonable opinion of the District, the costs asserted by Developer for materials in connection with any change in the Work are excessive, or if Developer fails to provide satisfactory evidence of the actual costs of such materials from its supplier or vendor of the same, the costs of such materials and the District's obligation to pay for the same shall be limited to the then lowest wholesale price at which similar materials are available in the quantities required to perform the change in the Work. The District may elect to furnish materials for the change in the Work, in which event Developer shall not be compensated for the costs of furnishing such materials or any mark-up thereon.

17.6.5 Equipment

As a precondition to the District's duty to pay for Equipment rental or loading and transportation, Developer shall provide satisfactory evidence of the actual costs of Equipment from the supplier, vendor or rental agency of same. Developer shall be compensated for the actual cost of the necessary and direct use of Equipment in the performance of the change in the Work. Use of Equipment in the performance of the change in the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Equipment moved by its own power shall include time required to move the Equipment to the site of the Work from the nearest available rental source of the same. If Equipment is not moved to the Site by its own power, Developer will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Equipment is used for performance of any portion of the Work other than the change in the Work. Unless prior approval in writing is obtained by Developer from the Architect, the Project Inspector, the Construction Manager and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. Developer shall not be entitled to an allowance or any other compensation for Equipment or tools used in the performance of a change in the Work where the Equipment or tools have a replacement value of \$500.00 or less. Equipment costs claimed by Developer in connection with the performance of any Work shall not exceed rental rates established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector, Construction Manager and the District, the allowable rate for the use of Equipment in connection with the Work shall constitute full compensation to Developer for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage,

insurance, labor (exclusive of labor costs of the Equipment operator), and any and all other costs incurred by Developer incidental to the use of the Equipment.

17.6.6 General Conditions Cost.

The phrase "General Conditions Cost" shall mean, other than expressly limited or excluded herein, the costs of Developer during the construction phase, including but not limited to: payroll costs for project manager for Work conducted at the Site, payroll costs for the superintendent and full-time general foremen, workers not included as direct labor costs engaged in support functions (e.g., loading/unloading, clean-up), costs of offices and temporary facilities including office materials, office supplies, office equipment, minor expenses, utilities, fuel, sanitary facilities and telephone services at the Site, costs of consultants not in the direct employ of Developer or Subcontractors, and fees for permits and licenses.

17.6.7 Overhead and Profit.

The phrase "Overhead and Profit" shall include field and office supervisors and assistants, watchperson, use of small tools, consumable, insurance other than construction bonds and insurance required herein, and general conditions, field and home office expenses.

17.7 Change Order Certification

17.7.1 All Change Orders and PCOs must include the following certification by Developer, either in the form specifically or incorporated by this reference:

The undersigned Developer approves the foregoing as to the changes, if any, and to the Guaranteed Maximum Price specified for each item and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Developer knows are false are at the sole risk of Developer and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. and U.S. Criminal Code, 18 U.S.C. § 1001. It is understood that the changes herein to the Contract Documents shall only be effective when approved by the governing board of the District.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of Developer's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project, including, without limitation, cumulative impacts. Developer is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

17.7.2 Accord and Satisfaction: Developer's execution of any Change Order shall constitute a full accord and satisfaction, and release, of all Developer (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without

limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim.

17.7.3 Mandatory Use of Forms: Developer shall only submit Change Orders by completing the Change Order Form. Developer acknowledges and agrees that use of this specific and consistent format is essential to District's processing of Change Orders. Accordingly, Developer waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Guaranteed Maximum Price and/or Time for any change that does not comply with the Change Order Form.

17.8 Determination of Change Order Cost

17.8.1 The amount of the increase or decrease in the Guaranteed Maximum Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:

17.8.1.1 District acceptance of a COR or PCO.

17.8.1.2 By amounts contained in Developer's schedule of values, if applicable.

17.8.1.3 By agreement between District and Developer.

17.9 Deductive Change Orders

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deleted work less the value of any new work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Developer offers a proposed amount for a deductive Change Order(s) for work performed, Developer shall include a credit for total profit and overhead less proof of expended costs related to the deleted work with the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a credit for total profit and overhead less proof of expended costs related to the deleted work with the Change Order(s). Any deviation from this provision shall not be allowed.

17.10 Addition or Deletion of Alternate Bid Item(s)

If Developer's Proposal includes proposal(s) for Alternate Bid Item(s), during Developer's performance of the Work, the District may elect to add or delete any such Alternate Bid Item(s) if not included in the Contract at the time the Guaranteed Maximum Price is agreed upon. If the District elects to add or delete Alternate Bid Item(s) after Contract award, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Proposal unless the parties agree to a different price and the Contract Time shall be adjusted by the number of days allocated in the Contract Documents. If days are not allocated in the Contract Documents, the Contract Time shall be equitably adjusted.

17.11 Discounts, Rebates, and Refunds

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to Developer, Developer shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of Developer's cost in determining the actual cost of construction for purposes of any change, addition, or omission in the Work as provided herein.

17.12 Construction Change Directives

17.12.1 A Construction Change Directive is a written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work. The District may, as provided by law, by Construction Change Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions. The adjustment to the Guaranteed Maximum Price or Contract Time, if any, is subject to the provision of this section regarding Changes in the Work. If all or a portion of the Project is being funded by funds requiring approval by the State Allocation Board ("SAB"), these revisions may be subject to compensation once approval of same is received and funded by the SAB, and funds are released by the Office of Public School Construction ("OPSC"). Any dispute as to the adjustment of the Guaranteed Maximum Price, if any, of the Construction Change Directive or timing of payment shall be resolved pursuant to the Payments and Claims Process provisions herein.

17.12.2 The District may issue a Construction Change Directive in the absence of agreement on the terms of a Change Order.

17.13 Force Account Directives

17.13.1 When work, for which a definite price has not been agreed upon in advance, is to be paid for on a force account basis, all direct costs necessarily incurred and paid by Developer for labor, material, and equipment used in the performance of that Work, shall be subject to the approval of the District and compensation will be determined as set forth herein.

17.13.2 District will issue a Force Account Directive to proceed with the Work on a force account basis, and a not-to-exceed budget will be established by the District.

17.13.3 All requirements regarding direct cost for labor, labor burden, material, equipment, and markups on direct costs for overhead and profit described in this section shall apply to Force Account Directives. However, the District will only pay for actual costs verified in the field by the District or its authorized representative(s) on a daily basis.

17.13.4 Developer shall be responsible for all costs related to the administration of Force Account Directives. The markup for overhead and profit for Developer modifications shall be full compensation to Developer to administer Force Account Directives, and Developer shall not be entitled to separately recover additional amounts for overhead and/or profit.

17.13.5 Developer shall notify the District or its authorized representative(s) at least twenty-four (24) hours prior to proceeding with any of the force account work. Furthermore, Developer shall notify the District when it has consumed eighty percent (80%) of the budget and shall not exceed the budget unless specifically authorized in writing by the District. Developer will not be compensated for force account work in the event that Developer fails to timely notify the District regarding the commencement of force account work or exceeding the force account budget.

17.13.6 Developer shall diligently proceed with the work, and on a daily basis, submit a daily force account report using the Daily Force Account Report form no later than 5:00 p.m. each day. The report shall contain a detailed itemization of the daily labor, material, and equipment used on the force account work only. The names of the individuals performing the force account work shall be included on the daily force account reports. The type and model of equipment shall be identified and listed. The IOR or District representative will review the information contained in the reports, and sign the reports no later than the next work day, and return a copy of the report to Developer for its records. The District will not sign, nor will Developer receive compensation for, work the District cannot verify. Developer will provide a weekly force account summary indicating the status of each Force Account Directive in terms of percent complete of the not-to-exceed budget and the estimated percent complete of the work

17.13.7 In the event Developer and the District reach a written agreement on a set cost for the work while the work is proceeding based on a Force Account Directive, Developer's signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

17.14 Accounting Records

With respect to portions of the Work performed by Change Orders and Construction Change Directives, Developer shall keep and maintain cost-accounting records satisfactory to the District, including, without limitation, Job Cost Reports as provided in these General Conditions, which shall be available to the District on the same terms as any other books and records Developer is required to maintain under the Contract Documents. Such records shall include without limitation hourly records for Labor and Equipment and itemized records of materials and Equipment used that day in connection with the performance of any Work. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Construction Manager and the Architect or the Project Inspector upon request. In the event that Developer fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records, the District's determination of the extent of adjustment to the Guaranteed Maximum Price shall be final, conclusive, dispositive and binding upon Developer.

17.15 Notice Required

If Developer desires to make a claim for an increase in the Guaranteed Maximum Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein, including the Article on Claims Process. No claim shall be considered unless made in accordance with this subparagraph. Developer shall proceed to execute the Work even though the adjustment may not have been agreed

upon. Any change in the Guaranteed Maximum Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

17.16 Applicability to Subcontractors

Any requirements under this Article shall be equally applicable to Change Orders or Construction Change Directives issued to Subcontractors by Developer to the extent required by the Contract Documents.

17.17 Alteration to Change Order Language

Developer shall not alter Change Orders or reserve time in Change Orders. Change Orders altered in violation of this provision, if in conflict with the terms set forth herein, shall be construed in accordance with the terms set forth herein. Developer shall execute finalized Change Orders and proceed under the provisions herein with proper notice.

17.18 Failure of Developer to Execute Change Order

Developer shall be in default of the Contract Documents if Developer fails to execute a Change Order when Developer agrees with the addition and/or deletion of the Work in that Change Order.

18. Requests For Information

18.1 Any Request for Information shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. Developer shall make suggestions and interpretations of the issue raised by each Request for Information. A Request for Information cannot modify the Guaranteed Maximum Price, Contract Time, or the Contract Documents.

18.2 Developer may be responsible for any costs incurred for professional services that District may deduct from any amounts owing to Developer, if a Request for Information requests an interpretation or decision of a matter where the information sought is equally available to the party making the request. District may deduct from and/or invoice Developer for professional services arising therefrom.

19. Payments

19.1 Guaranteed Maximum Price

As compensation for Developer's construction of the Project, the District shall pay Developer pursuant to the terms of **Exhibit C** to the Facilities Lease. This is the total amount payable by the District to Developer for performance of the Work under the Contract.

19.2 Applications for Tenant Improvement Payments

19.2.1 Procedure for Applications for Tenant Improvement Payments

19.2.1.1 Not before the fifth (5th) day of each calendar month during the progress of the Work, Developer shall submit to the District and the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be on

a form approved by the District and shall be notarized, if required, and supported by the following or each portion thereof unless waived by the District in writing:

19.2.1.1.1 The amount paid to the date of the Application for Payment to Developer, to all its Subcontractors, and all others furnishing labor, material, or equipment under the Contract Documents.

19.2.1.1.2 The amount being requested under the Application for Payment by Developer on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract Documents.

19.2.1.1.3 The balance that will be due to each of such entities after said payment is made.

19.2.1.1.4 A certification that the As-Built Drawings and annotated Specifications are current.

19.2.1.1.5 Itemized breakdown of work done for the purpose of requesting partial payment.

19.2.1.1.6 An updated and acceptable construction schedule in conformance with the provisions herein.

19.2.1.1.7 The additions to and subtractions from the Guaranteed Maximum Price and Contract Time.

19.2.1.1.8 A total of the retentions held.

19.2.1.1.9 Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time.

19.2.1.1.10 The percentage of completion of Developer's Work by line item.

19.2.1.1.11 Schedule of Values updated from the preceding Application for Payment.

19.2.1.1.12 A duly completed and executed conditional waiver and release upon Tenant Improvement Payment compliant with Civil Code section 8132 from Developer and each subcontractor of any tier and supplier to be paid from the current Tenant Improvement Payment.

19.2.1.1.13 A duly completed and executed unconditional waiver and release upon Tenant Improvement Payment compliant with Civil Code section 8134 from Developer and each subcontractor of any tier and supplier that was paid from the previous Tenant Improvement Payment submitted 60 days prior; and

19.2.1.1.14 A certification by Developer of the following:

Developer warrants title to all Work performed as of the date of this payment application and that all such Work has been completed in accordance with the Contract Documents for the Project. Developer further warrants that all Work performed as of the date of this payment application is free and clear of liens, claims, security interests, or encumbrances in favor of Developer, Subcontractors, material and equipment suppliers, workers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work, except those of which the District has been informed. Submission of sums which have no basis in fact or which Developer knows are false are at the sole risk of Developer and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

19.2.1.1.15 Developer shall be subject to the False Claims Act set forth in Government Code section 12650 et seq. for information provided with any Application for Tenant Improvement Payments.

19.2.1.1.16 All remaining certified payroll records ("CPR(s)") for each journeyman, apprentice, worker, or other employee employed by Developer and/or each Subcontractor in connection with the Work for the period of the Application for Payment. As indicated herein, the District shall not make any payment to Developer until:

19.2.1.1.16.1 Developer and/or its Subcontractor(s) provide electronic CPRs directly to the DIR on no less than every 30 days while Work is being performed and within 30 days after the final day of Work performed on the Project for any journeyman, apprentice, worker or other employee was employed in connection with the Work, or within ten (10) days of any request by the District or the DIR to the requesting entity; and

19.2.1.1.16.2 Any delay in Developer and/or its Subcontractor(s) providing CPRs in a timely manner may directly delay Developer's payment.

19.2.1.1.17 Applications received after June 20th will not be paid until the second week of July and applications received after December 12th will not be paid until the first week of January.

19.2.2 Prerequisites for Tenant Improvement Payments

19.2.2.1 First Payment Request

The following items, if applicable, must be completed before the District will accept and/or process Developer's first payment request:

19.2.2.1.1 Installation of the Project sign.

19.2.2.1.2 Installation of field office.

19.2.2.1.3 Installation of temporary facilities and fencing.

19.2.2.1.4 Schedule of Values.

19.2.2.1.5 Developer's Preliminary Construction Schedule for the first ninety (90) days.

19.2.2.1.6 Schedule of unit prices, if applicable.

19.2.2.1.7 Submittal Schedule.

19.2.2.1.8 Receipt by Architect of all submittals due as of the date of the payment application.

19.2.2.1.9 List of Subcontractors, with names, license numbers, telephone numbers, and Scope of Work.

19.2.2.1.10 All bonds and insurance endorsements; and

19.2.2.1.11 Resumes of Developer's project manager, and if applicable, job site secretary, record documents recorder, and job site superintendent.

19.2.3 Subsequent Payment Requests

The District will not process subsequent payment requests until and unless submittals and Shop Drawings necessary to maintain the Project schedule have been submitted to the Architect.

19.2.4 No Waiver of Criteria

Any payments made to Developer where criteria set forth herein have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Developer may pay its Subcontractors and suppliers. Developer agrees that failure to submit such items may constitute a breach of contract by Developer and may subject Developer to termination.

19.3 District's Approval of Application for Payment

19.3.1 Upon receipt of an Application for Payment, The District shall act in accordance with both of the following:

19.3.1.1 Each Application for Payment shall be reviewed by the District as soon as practicable after receipt for the purpose of determining that the Application for Payment is a proper Application for Payment.

19.3.1.2 Any Application for Payment determined not to be a proper Application for Payment suitable for payment shall be returned to Developer as soon as practicable, but not later than seven (7) days, after receipt. An Application for Payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the Application for Payment is not proper. The number of days available to the District to make a payment without incurring

interest pursuant to this section shall be reduced by the number of days by which the District exceeds this seven-day return requirement.

19.3.2 An Application for Payment shall be considered properly executed if funds are available for payment of the Application for Payment, and payment is not delayed due to an audit inquiry by the financial officer of the District.

19.3.3 District's review of the Developer's Application for Payment will be based on the District's and the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the District's and the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to:

19.3.3.1 Observation of the Work for general conformance with the Contract Documents.

19.3.3.2 Results of subsequent tests and inspections.

19.3.3.3 Minor deviations from the Contract Documents correctable prior to completion; and

19.3.3.4 Specific qualifications expressed by the Architect.

19.3.4 District's approval of the certified Application for Payment shall be based on Developer complying with all requirements for a fully complete and valid certified Application for Payment.

19.3.5 Payments to Developer

19.3.5.1 Within thirty (30) days after approval of the Application for Payment, Developer shall be paid a sum equal to ninety-five percent (95%), of the value of the Tenant Improvement Payment (as verified by Architect and Inspector and certified by Developer) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The value of the Work completed shall be Developer's best estimate. No inaccuracy or error in said estimate shall operate to release Developer, or any Surety upon any bond, from damages arising from such Work, or from the District's right to enforce each and every provision of the Contract Documents, and the District shall have the right subsequently to correct any error made in any estimate for payment.

19.3.5.2 Developer may not be entitled to have payment requests processed, or may be entitled to have only partial payment made for Work performed, so long as any direction given by the District concerning the Work, or any portion thereof, remains incomplete.

19.3.6 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Notwithstanding any payment, the District may enforce each and every

provision of this Contract. The District may correct or require correction of any error subsequent to any payment

19.3.7 Warranty of Title

19.3.7.1 If a lien or a claim based on a stop payment notice of any nature should at any time be filed against the Work or any District property, by any entity that has supplied material or services at the request of Developer, Developer and Developer's Surety shall promptly, on demand by District and at Developer's and Surety's own expense, take any and all action necessary to cause any such lien or a claim based on a stop payment notice to be released or discharged immediately therefrom.

19.3.7.2 If Developer fails to furnish to the District within ten (10) calendar days after demand by the District satisfactory evidence that a lien or a claim based on a stop payment notice has been released, discharged, or secured, the District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney's fees and expenses incurred or suffered by District from any sum payable to Developer under the Contract.

19.4 Decisions to Withhold Payment

19.4.1 Reasons to Withhold Payment

The District shall withhold payment in whole, or in part, as required by statute. In addition, the District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required herein cannot be made. Payment, in whole, or in part, will be withheld based on the need to protect the District from loss because of, but not limited to, any of the following:

19.4.1.1 Defective Work not remedied within FORTY-EIGHT (48) hours of written notice to Developer.

19.4.1.2 Stop Payment Notices or other liens served upon the District as a result of the Contract.

19.4.1.3 Failure to comply with the requirements of Public Contract Code section 2600 et seq. ("Skilled and Trained Workforce Requirements").

19.4.1.4 Liquidated damages assessed against Developer.

19.4.1.5 Reasonable doubt that the Work can be completed for the unpaid balance of the Guaranteed Maximum Price or by the Contract Time.

19.4.1.6 Damage to the District or other contractor(s).

19.4.1.7 Unsatisfactory prosecution of the Work by Developer.

19.4.1.8 Failure to store and properly secure materials.

19.4.1.9 Failure of Developer to submit, on a timely basis, proper, sufficient, and acceptable documentation required by the Contract Documents, including, without limitation, a Construction Schedule, Schedule of Submittals, Schedule of Values, Monthly Progress Schedules, Shop Drawings, Product Data and samples, Proposed product lists, executed Change Orders, and/or verified reports.

19.4.1.10 Failure of Developer to maintain As-Built Drawings.

19.4.1.11 Erroneous estimates by Developer of the value of the Work performed, or other false statements in an Application for Payment.

19.4.1.12 Unauthorized deviations from the Contract Documents.

19.4.1.13 Failure of Developer to prosecute the Work in a timely manner in compliance with the Construction Schedule, established progress schedules, and/or completion dates.

19.4.1.14 Failure to provide acceptable electronic certified payroll records, as required by the Labor Code, by these Contract Documents or by written request for each journeyman, apprentice, worker, or other employee employed by Developer and/or by each Subcontractor in connection with the Work for the period of the Application for Payment or if payroll records are delinquent or inadequate.

19.4.1.15 Failure to properly pay prevailing wages as required in Labor Code section 1720 et seq., failure to comply with any other Labor Code requirements, and/or failure to comply with labor compliance monitoring and enforcement by the DIR.

19.4.1.16 Allowing an unregistered subcontractor, as described in Labor Code section 1725.5, to engage in the performance of any work under this Contract.

19.4.1.17 Failure to comply with any, if applicable federal requirements regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon Act and related requirements, Contract Work Hours and Safety Standards Act requirements.

19.4.1.18 Failure to properly maintain or clean up the Site.

19.4.1.19 Failure to timely indemnify, defend, or hold harmless the District.

19.4.1.20 Failure to perform any implementation and/or monitoring required by the General Permit, including without limitation any SWPPP for the Project and/or the imposition of any penalties or fines therefore whether imposed on the District or Developer.

19.4.1.21 Any payments due to the District, including but not limited to payments for failed tests, utilities changes, or permits.

19.4.1.22 Failure to pay any royalty, license or similar fees.

19.4.1.23 Failure to pay Subcontractor(s) or supplier(s) as required by law and Developer's subcontract agreement and by the Contract Documents; and

19.4.1.24 Developer is otherwise in breach, default, or in substantial violation of any provision of the Contract Documents.

19.4.2 Reallocation of Withheld Amounts

19.4.2.1 After prior written notice to Developer with details regarding the District's proposed application of withheld amounts, District may, in its discretion, apply any withheld amount to pay outstanding claims or obligations as defined herein. In so doing, District shall make such payments on behalf of Developer. If any payment is so made by District, then that amount shall be considered a payment made under the Contract Documents by District to Developer and District shall not be liable to Developer for any payment made in good faith. These payments may be made without prior judicial determination of claim or obligation. District will render Developer an accounting of funds disbursed on behalf of Developer.

19.4.2.2 If Developer defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after FORTY-EIGHT (48) hours' written notice to Developer and opportunity to commence and pursue cure of default, and, without prejudice to any other remedy, make good such deficiencies. The District shall adjust the total Guaranteed Maximum Price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work that is damaged, defective, or not done in accordance with the provisions of the Contract Documents, an equitable reduction in the Guaranteed Maximum Price (up to one hundred fifty percent (150%) of the estimated reasonable value of the nonconforming Work) shall be made therefor.

19.4.3 Payment After Cure

When Developer removes the grounds for declining approval, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of Developer to perform in accordance with the terms and conditions of the Contract Documents.

19.5 Subcontractor Payments

19.5.1 Payments to Subcontractors

No later than seven (7) days after receipt of any Tenant Improvement Payment, or pursuant to Business and Professions Code section 7108.5 and Public Contract Code section 7107, Developer shall pay to each Subcontractor, out of the amount paid to Developer on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. Developer shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its Sub-subcontractors in a similar manner.

19.5.2 No Obligation of District for Subcontractor Payment

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

19.5.3 Joint Checks

District shall have the right in its sole discretion, if necessary for the protection of the District, to issue joint checks made payable to Developer and Subcontractors and/or material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, or a material or equipment supplier, or any obligation from the District to such Subcontractor or a material or equipment supplier or rights in such Subcontractor against the District.

20. Completion of the Work

20.1 Completion

20.1.1 District will accept completion of Project and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District.

20.1.2 The Work may only be accepted as complete by action of the governing board of the District.

20.1.3 District, at its sole option, may accept completion of Project and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District, except for minor corrective items, as distinguished from incomplete items. If Developer fails to complete all minor corrective items within fifteen (15) days after the date of the District's acceptance of completion, District shall withhold from the final payment one hundred fifty percent (150%) of an estimate of the amount sufficient to complete the corrective items, as reasonably determined by District, until the item(s) are completed.

20.1.4 At the end of the fifteen (15) day period, if there are any items remaining to be corrected, District may elect to proceed as provided herein related to adjustments to Guaranteed Maximum Price, and/or District's right to perform the Work of Developer.

20.2 Close-Out/Certification Procedures

20.2.1 Punch List

Developer shall notify the Architect when Developer considers the Work complete. Upon notification, Architect will prepare a list of minor items to be completed or corrected ("Punch List"). Developer and/or its Subcontractors shall proceed promptly to complete and correct items on the Punch List. Failure to include an item on Punch List does not alter the responsibility of Developer to complete all Work in accordance with the Contract Documents.

20.2.2 Close-Out/Certification Requirements

20.2.2.1 Utility Connections

Buildings shall be connected to water, gas, sewer, electric, phone, and internet services, complete and ready for use. Service connections shall be made and existing services reconnected.

20.2.2.2 As-Built/Record Drawings and Record Specifications

20.2.2.2.1 Developer shall provide exact "as-built" drawings of the Work upon completion of the Project as indicated in the Contract Documents, including but not limited to the Specifications ("As-Built Drawings") as a condition precedent to approval of final payment. Developer shall legibly mark each item to record actual construction, including:

20.2.2.2.1.1 Measured depths of foundation in relation to finish floor datum

20.2.2.2.1.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements

20.2.2.2.1.3 Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work

20.2.2.2.1.4 Field changes of dimension and detail

20.2.2.2.1.5 Details not on original Contract Drawings

20.2.2.2.1.6 Changes made by modification(s)

20.2.2.2.1.7 References to related Shop Drawings and modifications.

20.2.2.2.2 Developer is liable and responsible for any and all inaccuracies in the As-Built Drawings, even if inaccuracies become evident at a future date.

20.2.2.2.3 Upon completion of the Work and as a condition precedent to approval of final payment, Developer shall obtain the Inspector's approval of the corrected prints and deliver the same to Architect in a form acceptable to the Architect as part of closeout.

20.2.2.3 Construction Storm Water Permit, if applicable

Developer shall submit to District all electric and hard copy records required by the Construction Storm Water Permit, if applicable, within seven (7) days of Completion of the Project.

20.2.3 Spare Parts and Maintenance Manuals

20.2.3.1 Developer shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.

20.2.3.2 Developer shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.

20.2.4 Instruction of District Personnel

20.2.4.1 Before final inspection, at agreed upon times, Developer shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.

20.2.4.2 For equipment requiring seasonal operation, Developer shall perform instructions for other seasons within six months or by the change of season.

20.2.4.3 Developer shall use operation and maintenance manuals as basis for instruction. Developer shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

20.2.4.4 Developer shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.

20.2.5 Source Programming

Developer shall provide all source programming for all items in the Project.

20.2.6 Verified Reports

Developer shall completely and accurately fill out and file forms DSA 6-C or DSA 152 (or most current version applicable at the time the Work is performed), as appropriate. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

20.3 Final Inspection

20.3.1 Developer shall comply with Punch List procedures as provided herein and maintain the presence of its District-approved project superintendent and project manager until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Developer demobilize its forces prior to completion of the Punch List without District's prior written approval. Upon receipt of Developer's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and District acceptance, Architect and Project Inspector will inspect the Work and shall submit to Developer and District a final inspection report noting the Work, if any, required in order to complete in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.

20.3.2 Upon Developer's completion of all items on the Punch List and any other uncompleted portions of the Work, Developer shall notify the District and Architect, who shall again inspect such Work. If the Architect finds the Work complete and acceptable under the Contract Documents, the Architect will notify

Developer, who shall then jointly submit to the Architect and the District its final Application for Payment.

20.3.3 Final Inspection Requirements

20.3.3.1 Before calling for final inspection, Developer shall determine that the following have been performed:

20.3.3.1.1 The Work has been completed.

20.3.3.1.2 All life safety items are completed and in working order.

20.3.3.1.3 Mechanical and electrical Work, including, without limitation, security system, data, fire alarm, are complete and tested, fixtures are in place, connected, and ready for tryout.

20.3.3.1.4 Electrical circuits scheduled in panels and disconnect switches labeled.

20.3.3.1.5 Replace filters of operating equipment.

20.3.3.1.6 Painting and special finishes complete.

20.3.3.1.7 Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.

20.3.3.1.8 Tops and bottoms of doors sealed.

20.3.3.1.9 Floors waxed and polished as specified.

20.3.3.1.10 Carpeted and soft surfaces vacuumed.

20.3.3.1.11 Broken glass replaced and interior and exterior glass and all surfaces exposed to view cleaned.

20.3.3.1.12 Equipment and fixtures cleaned to a sanitary condition.

20.3.3.1.13 Grounds cleared of Developer's equipment, raked clean of debris, and remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

20.3.3.1.14 Site cleaned, paved areas swept, and clean landscaped surfaces raked.

20.3.3.1.15 Roofs, gutters, down spouts, and drainage systems cleaned of debris.

20.3.3.1.16 Work cleaned, free of stains, scratches, and other foreign matter, damaged and broken material replaced.

20.3.3.1.17 Temporary labels, tape, stains, and foreign substances removed, transparent and glossy surfaces polished,

20.3.3.1.18 Finished and decorative work shall have marks, dirt, and superfluous labels removed.

20.3.3.1.19 Final cleanup, as provided herein.

20.4 Costs of Multiple Inspections

More than two (2) requests of the District to make a final inspection shall be considered an additional service of District, Architect, Construction Manager, and/or Project Inspector, and all subsequent costs will be invoiced to Developer and if funds are available, withheld from remaining payments.

20.5 Partial Occupancy or Use Prior to Completion

20.5.1 District's Rights to Occupancy

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve Developer or Developer's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein. The District and Developer shall agree in writing to the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents. Any dispute as to responsibilities shall be resolved pursuant to the Claims Process herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

20.5.2 Inspection Prior to Occupancy or Use

Immediately prior to partial occupancy or use, the District, Developer, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

20.5.3 No Waiver

Unless otherwise agreed upon, partial or entire occupancy or use of a portion or portions of the Work shall not constitute beneficial occupancy or District's acceptance of the Work not complying with the requirements of the Contract Documents.

21. Final Payment and Retention

21.1 Final Payment

Upon receipt of a final Application for Payment from Developer, the Architect will notify the District whether the Work is complete so that joint inspection of the Work can be scheduled. Thereafter, the District shall jointly inspect the Work and either accept the Work as complete or notify the Architect and Developer in writing of reasons why the

Work is not complete. Upon District's acceptance of the Work of Developer as fully complete (that, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and Developer shall, upon receipt of final payment from the District, pay the amount due Subcontractors.

21.2 Prerequisites for Final Payment

The following conditions must be fulfilled prior to Final Payment:

21.2.1 A full release of all Stop Payment Notices served in connection with the Work shall be submitted by Developer.

21.2.2 A duly completed and executed conditional waiver and release upon final payment compliant with Civil Code section 8136 from each subcontractor of any tier and supplier to be paid from the final Tenant Improvement Payment.

21.2.3 A duly completed and executed unconditional waiver and release upon Tenant Improvement Payment compliant with Civil Code section 8134 from each subcontractor of any tier and supplier that was paid from the previous Tenant Improvement Payment(s).

21.2.4 A duly completed and executed "AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS" from Developer.

21.2.5 Developer shall have made all corrections to the Work that are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

21.2.6 Each Subcontractor shall have delivered to Developer all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

21.2.7 Developer must have completed all requirements set forth under "Close-Out/Certification Procedures," including, without limitation, submission of an approved set of complete Record Drawings.

21.2.8 Architect shall have issued its written approval that final payment can be made.

21.2.9 Developer shall have delivered to the District all manuals and materials required by the Contract Documents, which must be approved by the District.

21.2.10 Developer shall have completed final clean up as provided herein.

21.3 Retention

21.3.1 The retention, less any amounts disputed by the District or that the District has the right to withhold pursuant to provisions herein, shall be paid:

21.3.1.1 After approval by the District of the Architect of the Application and Certificate of Payment.

21.3.1.2 After the satisfaction of the conditions set forth herein.

21.3.1.3 No less than forty-five (45) days after the recording of the Notice of Completion by District; and

21.3.1.4 After receipt of a duly completed and executed unconditional waiver and release upon Final Payment compliant with Civil Code section 8138 from each subcontractor of any tier and supplier that was paid from the Final Payment.

21.3.2 No interest shall be paid on any retention, or on any amounts withheld due to a failure of Developer to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any Escrow Agreement between the District and Developer pursuant to Public Contract Code section 22300.

21.4 Substitution of Securities

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

22. Uncovering of Work

If a portion of the Work is covered without Inspector or Architect approval or not in compliance with the Contract Documents, it must, if required in writing by the District, the Project Inspector, or the Architect, be uncovered for the Project Inspector's or the Architect's observation and be corrected, replaced and/or recovered at Developer's expense without change in the Guaranteed Maximum Price or Contract Time.

23. Nonconforming Work and Correction of Work

23.1 Nonconforming Work

23.1.1 Developer shall promptly remove from Premises all Work identified by District as failing to conform to the Contract Documents whether incorporated or not. Developer shall promptly replace and re-execute its own Work to comply with the Contract Documents without additional expense to the District and shall bear the expense of making good all work of other contractors destroyed or damaged by any removal or replacement pursuant hereto and/or any delays to the District or other contractors caused thereby.

23.1.2 If Developer does not commence to remove Work that District has identified as failing to conform to the Contract Documents within a reasonable time, not to exceed FORTY-EIGHT (48) hours after written notice and complete removal of work within a reasonable time, District may remove it and may store any material at Developer's expense. If Developer does not pay expense(s) of that removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell any material at auction or at private sale and shall deduct all costs and expenses incurred by the District and/or District may withhold those amounts from payment(s) to Developer.

23.2 Correction of Work

23.2.1 Correction of Rejected Work

Pursuant to the notice provisions herein, Developer shall promptly correct the Work rejected by the District, the Architect, or the Project Inspector as failing

to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed, or completed. Developer shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby.

23.2.2 One-Year Warranty Corrections

If, within one (1) year after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established hereunder, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, Developer shall correct it promptly after receipt of written notice from the District to do so. This period of one (1) year shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation hereunder shall survive District's acceptance of the Work under the Contract Documents and termination of the Contract Documents. The District shall give such notice promptly after discovery of the condition.

23.3 District's Right to Perform Work

23.3.1 If Developer should neglect to prosecute the Work properly or fail to perform any provisions of the Contract Documents, the District, after providing FORTY-EIGHT (48) hours' written notice and an opportunity to cure the failure, to Developer, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due Developer.

23.3.2 If it is found at any time, before or after completion of the Work, that Developer has varied from the Drawings and/or Specifications, including, but not limited to, variation in material, quality, form, or finish, or in the amount or value of the materials and labor used, District may require at its option:

23.3.2.1 That all such improper Work be removed, remade or replaced, and all work disturbed by these changes be made good by Developer at no additional cost to the District.

23.3.2.2 That the District deduct from any amount due Developer the sum of money equivalent to the difference in value between the work performed and that called for by the Drawings and Specifications; or

23.3.2.3 That the District exercise any other remedy it may have at law or under the Contract Documents, including but not limited to the District hiring its own forces or another contractor to replace Developer's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice Developer for the cost of that work. Developer shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) to Developer.

24. Termination And Suspension

The Parties' rights to terminate the Project are as indicated in the Facilities Lease. In the event of a termination of the Facilities Lease and notwithstanding any other provision in the Contract Documents, the Surety shall remain liable to all obligees under the Payment Bond and to the District under the Performance Bond for any claim related to the Project.

25. Claims Process

25.1 Obligation to File Claims for Disputes

25.1.1 Should Developer otherwise seek extra time or compensation for any reason whatsoever, then Developer shall first follow procedures set forth in the Contract Documents including, without limitation, Articles 15, 16 and 17, all of which are conditions precedent to submitting a Claim pursuant to Article 25. A Notice of Delay or Proposed Change Order are less formal procedures that proceed the formal claim and do not constitute a Claim. A Claim also does not include correspondence, RFIs, vouchers, invoices, progress payment applications, or other routine or authorized form of requests for progress payments in compliance with the Contract. If a dispute remains, then Developer shall give written notice to District that expressly invokes this Article 25 within the time limits set forth herein.

25.1.2 Developer's sole and exclusive remedy for a Dispute is to file a written claim setting forth Developer's position as required herein within the time limits set forth herein.

25.2 Duty to Perform during Claim Process

Developer and its subcontractors shall continue to perform its Work under the Contract, including the Disputed Work, and shall not cause a delay of the Work during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement by the District.

25.3 Definition of Claim

25.3.1 Pursuant to Public Contract Code section 9204, the term "Claim" means a separate demand by Developer sent by registered mail or certified mail with return receipt requested, for one or more of the following:

25.3.1.1 A time extension, including without limitation, for relief of damages or penalties for delay assessed by the District under the Contract;

25.3.1.2 Payment by the District of money or damages arising from work done by, or on behalf of, Developer pursuant to the Contract and payment of which is not otherwise expressly provided for or to which Developer is not otherwise entitled to; or

25.3.1.3 An amount of payment disputed by the District.

25.4 Claims Presentation

25.4.1 Form and Contents of Claim

25.4.1.1 If Developer intends to submit a Claim for an increase in the Guaranteed Maximum Price and/or Contract Time for any reason including, without limitation, the acts of District or its agents, Developer shall, within thirty (30) days after the event giving rise to the Claim, give notice of the Claim ("Notice of Potential Claim") in writing, specifically identifying Developer is invoking this Article 25 Claims Presentation. The Notice of Potential Claim shall provide Developer's preliminary request for an adjustment to the Guaranteed Maximum Price and/or Contract Time, with a description of the grounds therefore.

25.4.1.2 Within thirty (30) days after serving the written Notice of Potential Claim, Developer shall provide a Claim including an itemized statement of the details and amounts of its Claim for any increase in the Guaranteed Maximum Price or Contract Time, as provided below, including a Time Impact Analysis and any and all other documentation substantiating Developer's claimed damages:

25.4.1.2.1 The issues, events, conditions, circumstances and/or causes giving rise to the dispute;

25.4.1.2.2 Citation to provisions in the Contract Documents, statute sections, and/or case law entitling Developer to an increase in the Guaranteed Maximum Price or Contract Time;

25.4.1.2.3 The pertinent dates and/or durations and actual and/or anticipated effects on the Guaranteed Maximum Price, Contract Schedule milestones and/or Contract Time adjustments;

25.4.1.2.4 The Time Impact Analysis of all time delays that shows actual time impact on the critical path; and

25.4.1.2.5 The line-item costs for labor, material, and/or equipment, if applicable, for all cost impacts priced like a change order according to Article 17 and must be updated monthly as to cost and entitlement if a continuing claim.

25.4.1.3 The Claim shall include the following certification by Developer:

25.4.1.3.1 The undersigned Developer certifies under penalty of perjury that the attached dispute is made in good faith; that the supporting data is accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the adjustment for which Developer believes the District is liable; and that I am duly authorized to certify the claim on behalf of Developer.

25.4.1.3.2 Furthermore, Developer understands that the value of the attached dispute expressly includes any and all of Developer's costs and expenses, direct and indirect, resulting

from the Work performed on the Project, additional time required on the Project and/or resulting from delay to the Project including, without limitation, cumulative impacts. Any costs, expenses, damages, or time extensions not included are deemed waived.

25.4.2 Developer shall bear all costs incurred in the preparation and submission of a Claim.

25.4.3 Failure to timely submit a Claim and the requisite supporting documentation shall constitute a waiver of Developer's claim(s) against the District and Developer's Claim(s) for compensation or an extension of time shall be deemed waived, released, and discharged as to any entitlement for adjustment to Guaranteed Maximum Price and/or Contract Time.

25.5 Claim Resolution pursuant to Public Contract Code section 9204

Developer may request to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration. If Developer chooses to proceed, Developer shall comply with the following steps:

25.5.1 STEP 1:

25.5.1.1 Upon receipt of a Claim by registered or certified mail, return receipt requested, including the documents necessary to substantiate it, the District shall conduct a reasonable review of the Claim and, within a period not to exceed forty-five (45) days, shall provide Developer a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Developer may, by mutual agreement, extend the time period to provide a written statement. If the District needs approval from its governing body to provide Developer a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of Claim sent by registered mail or certified mail, return receipt requested, the District shall have up to three (3) days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide Developer a written statement identifying the disputed portion and the undisputed portion.

25.5.1.1.1 Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, shall bear interest at seven percent (7%) per annum.

25.5.1.2 Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. In this instance, District and Developer must comply with the sections below regarding Public Contract Code section 20104 et seq. and Government Code Claim Act Claims.

25.5.1.3 If the District fails to issue a written statement, or to otherwise meet the time requirements of this section, this shall result in the Claim being deemed rejected in its entirety. A claim that is denied by reason of the District's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of Developer.

25.5.2 STEP 2:

25.5.2.1 If Developer disputes the District's written response, or if the District fails to respond to a Claim within the time prescribed, Developer may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute. Within ten (10) business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide Developer a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed.

25.5.2.2 Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, shall bear interest at seven percent (7%) per annum.

25.5.3 STEP 3:

25.5.3.1 Any disputed portion of the claim, as identified by Developer in writing, shall be submitted to nonbinding mediation, with the District and Developer sharing the associated costs equally. The District and Developer shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

25.5.3.1.1 For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

25.5.3.2 Unless otherwise agreed to by the District and Developer in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

25.5.4 STEP 4:

25.5.4.1 If mediation under this section does not resolve the parties' dispute, the District may, but does not require arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program.

25.6 Subcontractor Pass-Through Claims

25.6.1 If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a District because privity of contract does not exist, the contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that Developer present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation to support the Claim.

25.6.2 Within forty-five (45) days of receipt of this written request from a subcontractor, Developer shall notify the subcontractor in writing as to whether Developer presented the Claim to the District and, if Developer did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

25.6.3 Developer shall bind all its Subcontractors to the provisions of this section and will hold the District harmless against Claims by Subcontractors.

25.7 Government Code Claim Act Claim

25.7.1 If a Claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements, including those pursuant to Public Contract Code section 9204, Developer shall comply with all claims presentation requirements as provided in Chapter 1 (commencing with section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 of Title 1 of Government Code as a condition precedent to Developer's right to bring a civil action against the District.

25.7.2 Developer shall bear all costs incurred in the preparation, submission and administration of a Claim. Any claims presented in accordance with the Government Code must affirmatively indicate Developer's prior compliance with the claims procedure herein of the claims asserted.

25.7.3 For purposes of those provisions, the running of the time within which a claim pursuant to Public Contract Code section 20104.2 only must be presented to the District shall be tolled from the time the Developer submits its written claim until the time that the claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

25.8 Claim Resolution pursuant to Public Contract Code section 20104 et seq.

25.8.1 In the event of a disagreement between the parties as to performance of the Work, the interpretation of this Contract, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve all claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise

between Developer and District by those procedures set forth in Public Contract Code section 20104 et seq., to the extent applicable.

25.8.1.1 Developer shall file with the District any written Claim, including the documents necessary to substantiate it, upon the application for final payment.

25.8.1.2 For claims of less than fifty thousand dollars (\$50,000), the District shall respond in writing within forty-five (45) days of receipt of the Claim or may request in writing within thirty (30) days of receipt of the Claim any additional documentation supporting the claim or relating to defenses or claims the District may have against Developer.

25.8.1.2.1 If additional information is required, it shall be requested and provided by mutual agreement of the parties.

25.8.1.2.2 District's written response to the documented Claim shall be submitted to Developer within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by Developer to produce the additional information, whichever is greater.

25.8.1.3 For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District shall respond in writing to all written Claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against Developer.

25.8.1.3.1 If additional information is required, it shall be requested and provided upon mutual agreement of the District and Developer.

25.8.1.3.2 The District's written response to the claim, as further documented, shall be submitted to Developer within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by Developer to produce the additional information or requested documentation, whichever is greater.

25.8.1.4 If Developer disputes the District's written response, or the District fails to respond within the time prescribed, Developer may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

25.8.1.5 Following the meet and confer conference, if the claim or any portion of it remains in dispute, Developer shall file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the

Government Code. For purposes of those provisions the running of the time within which a claim must be filed shall be tolled from the time Developer submits its written Claim until the time the Claim is denied, including any period of time utilized by the meet and confer process.

25.8.1.6 For any civil action filed to resolve claims filed pursuant to this section, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

25.8.1.7 If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of the Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act, (commencing with Section 2016) of Chapter 1 of Title 4 of part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

25.8.1.8 The District shall not fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract Documents. In any suit filed pursuant to this section, the District shall pay interest at the legal rate on any arbitration award or judgment. Interest shall begin to accrue on the date the suit is filed in a court of law.

25.8.2 Developer shall bind its Subcontractors to the provisions of this Article and will hold the District harmless against disputes by Subcontractors.

25.9 Claims Procedure Compliance

25.9.1 Failure to submit and administer claims as required in Article 25 shall waive Developer's right to claim on any specific issues not included in a timely submitted claim. Claim(s) not raised in a timely protest and timely claim submitted under this Article 25 may not be asserted in any subsequent litigation, Government Code Claim, or legal action.

25.9.2 District shall not be deemed to waive any provision under this Article 25, if at District's sole discretion, a claim is administered in a manner not in accord with this Article 25. Waivers or modifications of this Article 25 may only be made by a signed change order approved as to form by legal counsel for both District and Developer; oral or implied modifications shall be ineffective.

25.10 Claim Resolution Non-Applicability

25.10.1 The procedures for dispute and claim resolution set forth in this Article shall not apply to the following:

25.10.1.1 Personal injury, wrongful death or property damage claims.

25.10.1.2 Latent defect or breach of warranty or guarantee to repair.

25.10.1.3 Stop payment notices.

25.10.1.4 District's rights set forth in the Article on Suspension and Termination.

25.10.1.5 Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or

25.10.1.6 District rights and obligations as a public entity set forth in applicable statutes; provided, however, that penalties imposed against a public entity by statutes, including, but not limited to, Public Contract Code sections 20104.50 and 7107, shall be subject to the Claim Resolution requirements provided in this Article.

25.11 Attorney's Fees

25.11.1 Should litigation be necessary to enforce any terms or provisions of this Contract, then each party shall bear its own litigation and collection expenses, witness fees, court costs and attorney's fees.

26. State Labor, Wage & Hour, Apprentice, And Related Provisions

26.1 Labor Compliance and Enforcement

Since this Project is subject to labor compliance and enforcement by the Department of Industrial Relations ("DIR"), Developer specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code and Title 8 of the California Code of Regulations, including, without limitation, the requirement that Developer and all Subcontractors shall timely furnish complete and accurate electronic certified payroll records directly to the DIR. The District may not issue payment if this requirement is not met.

26.2 Wage Rates, Travel, and Subsistence

26.2.1 Pursuant to the provisions of Article 2 (commencing at section 1770), Chapter 1, Part 7, Division 2, of the Labor Code of California, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute the Contract Documents are on file at the District's principal office and copies will be made available to any interested party on request or available online at <http://www.dir.ca.gov/>. Developer shall obtain and post a copy of these wage rates at the job site.

26.2.2 Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half times the above specified rate of per diem wages, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

26.2.3 Developer shall pay and shall cause to be paid each worker engaged in Work on the Project not less than the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations ("DIR") ("Director"), regardless of any contractual relationship which may be alleged to exist between Developer or any Subcontractor and such workers.

26.2.4 If, prior to execution of the Facilities Lease, the Director determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract Documents is to be performed, such change shall not alter the wage rates in the Contract Documents subsequently awarded.

26.2.5 Pursuant to Labor Code section 1775, Developer shall, as a penalty, forfeit the statutory amount (believed by the District to be currently two hundred dollars (\$200) to District for each calendar day, or portion thereof, for each worker paid less than the prevailing rates, determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Developer or by any Subcontractor under it. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by Developer.

26.2.6 Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and that minimum wage rate shall be retroactive to time of initial employment of the person in that classification.

26.2.7 Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by Labor Code section 3093, and similar purposes.

26.2.8 Developer shall post at appropriate conspicuous points on the Project Site a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Developer shall post a sign-in log for all workers and visitors to the Site, a list of all Subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

26.3 Hours of Work

26.3.1 As provided in Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day of work. The time of service of any worker employed at any time by

Developer or by any Subcontractor on any subcontract under the Contract Documents upon the Work or upon any part of the Work contemplated by the Contract Documents shall be limited and restricted by Developer to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Developer in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

26.3.2 Developer shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Developer in connection with the Work or any part of the Work contemplated by the Contract Documents. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.

26.3.3 Pursuant to Labor Code section 1813, Developer shall, as a penalty, forfeit the statutory amount (believed by the District to be currently twenty-five dollars (\$25)) to the District for each worker employed in the execution of the Contract Documents by Developer or by any Subcontractor for each calendar day during which a worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2, of the Labor Code.

26.3.4 Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

26.4 Payroll Records

26.4.1 Developer shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online no less than every thirty (30) days while Work is being performed and within thirty (30) days after the final day of Work performed on the Project and within ten (10) days of any request by the District or Labor Commissioner at <http://www.dir.ca.gov/Public-Works/Certified/Payroll-Reporting.html> or current application and URL, showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by Developer and/or each Subcontractor in connection with the Work.

26.4.1.1 The CPRs enumerated hereunder shall be filed directly with the DIR on a weekly basis or to the requesting party, whether the District or DIR, within ten (10) days after receipt of each written request. The CPRs from Developer and each Subcontractor for each week shall be provided on or before ten (10) days after the end of the Sunday to Saturday conventional week covered by the CPRs. District may not make any payment to Developer until:

26.4.1.1.1 Developer and/or its Subcontractor(s) provide CPRs acceptable to the District and DIR.

26.4.1.1.2 Any delay in Developer and/or its Subcontractor(s) providing CPRs to the District or DIR in a timely manner may directly delay the District's review and/or audit of the CPRs and Developer's payment.

26.4.2 All CPRs shall be available for inspection at all reasonable hours at the principal office of Developer on the following basis:

26.4.2.1 A certified copy of an employee's CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

26.4.2.2 CPRs shall be made available for inspection or furnished upon request or as required by regulation to a representative of the District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the DIR.

26.4.2.3 CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Developer, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Developer.

26.4.3 Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, Division of Labor Standards Enforcement, or DIR shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Developer awarded the Project under the Contract Documents or performing under the Contract Documents shall not be marked or obliterated.

26.4.4 Developer shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days of a change in location of the records, provide a notice of change of location and address.

26.4.5 In the event of noncompliance with the requirements of this section, Developer shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Developer must comply with this section. Should noncompliance still be evident after the ten (10) day period, Developer shall, as a penalty, forfeit up to one hundred dollars (\$100) to District for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Labor Commissioner, these penalties shall be withheld from Tenant Improvement Payments then due.

26.4.6 [Reserved]

26.5 [Reserved]

26.6 Apprentices

26.6.1 Developer acknowledges and agrees that, if the Contract Documents involve a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5 and 29 CFR part 5. It shall be the responsibility of Developer to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.

26.6.2 Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

26.6.3 Every apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed and shall be employed only at the work of the craft or trade to which she/he is registered.

26.6.4 Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at section 3070), Division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

26.6.5 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Developer and any Subcontractors employing workers in any apprenticeable craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving Developer or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

26.6.6 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Developer and any Subcontractor may be required to make contributions to the apprenticeship program.

26.6.7 If Developer or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:

26.6.7.1 Be denied the right to bid on any subsequent project for one (1) year from the date of such determination.

26.6.7.2 Forfeit, as a penalty, to District the full amount stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.

26.6.7.3 Developer and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

26.6.7.4 Developer shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and Title 8, California Code of Regulations, Section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 9th Floor, San Francisco, California 94102.

26.7 Skilled and Trained Workforce

26.7.1 Developer and its subcontractors at every tier hereby provide an enforceable commitment to comply with Public Contract Code section 2600 et seq., which requires use of a skilled and trained workforce to perform all work on the Contract or Project that falls within an apprenticeable occupation in the building and construction trades.

26.7.1.1 "Apprenticeable Occupation" means an occupation for which the Chief of the Division of Apprenticeship Standards of the Department of Industrial Relations ("Chief") had approved an apprenticeship program pursuant to Section 3075 of the Labor Code before January 1, 2014.

26.7.1.2 "Skilled and Trained Workforce" means a workforce that meets all of the following conditions:

26.7.1.2.1 All of the workers are either skilled journeypersons or apprentices registered in an apprenticeship program approved by the Chief.

26.7.1.2.2 That either (A) the number of the skilled journeypersons employed to perform work on the Contract or Project by Developer or its subcontractors at every tier are graduates of an apprenticeship program for the applicable occupation that was either approved by the Chief pursuant to Labor Code section 3075 or located outside California and approved for federal purposes pursuant to the apprenticeship regulations adopted by the federal Secretary of Labor, or (B) the hours of work performed by skilled journeypersons who have graduated from an approved apprenticeship program meet at least the percentages set forth in the following chart:

REQUIREMENT	EXCLUDED OCCUPATIONS
0%	Teamster
At least 30%	Acoustical installer, bricklayer, carpenter, cement mason, drywall installer or lather, marble mason, finisher, or setter, modular furniture or systems installer, operating engineer, pile driver, plasterer, roofer or waterproofer, stone mason, surveyor, terrazzo worker or finisher, and tile layer, setter, or finisher
At least 60%	All remaining apprenticeable occupations

26.7.1.2.3 For an apprenticeable occupation in which no apprenticeship program has been approved by the Chief before January 1, 1995, up to one-half of the above graduation percentage requirements set forth in the above chart may be satisfied by skilled journeypersons who commenced working in the apprenticeable occupation before the Chief's approval of an apprenticeship program for that occupation in the county in which the Project is located.

26.7.1.2.4 The contractor or subcontractor need not meet the apprenticeship graduation requirements if:

26.7.1.2.4.1 During a calendar month, Developer or subcontractor employs skilled journeypersons to perform fewer than 10 hours of work on the Contract or Project; or

26.7.1.2.4.2 The subcontractor was not a listed subcontractor under Public Contract Code section 4104 or a substitute for a listed subcontractor, and the subcontract does not exceed one-half of one percent (0.5%) of the price of the prime contract.

26.7.1.3 "Skilled Journeyperson" means a worker who either:

26.7.1.3.1 Graduated from an apprenticeship program for the applicable occupation that was approved by the Chief or located outside of California and approved for federal purposes pursuant to the apprenticeship regulations adopted by the federal Secretary of Labor; or

26.7.1.3.2 Has at least as many hours of on-the-job experience in the applicable occupation as would be required to graduate from an apprenticeship program for the applicable occupation that is approved by the Chief.

26.7.2 Developer and its subcontractors will demonstrate its compliance with the Skilled and Trained Workforce requirements by either of the following:

26.7.2.1 Provide monthly reports to the District demonstrating that Developer and its subcontractors are complying with the requirements of Public Contract Code section 2600 et seq., which shall be a public

record under California Public Records Act, Government Code section 6250 et seq.; or

26.7.2.2 Provide evidence that Developer and its subcontractors have agreed to be bound by: (1) a project labor agreement entered into by the District that binds all contractors and all its subcontractors at every tier performing work on the Project to use a skilled and trained workforce; (2) the extension or renewal of a project labor agreement entered into by the District prior to January 1, 2017; or (3) a project labor agreement that binds all contractors and all its subcontractors at every tier performing work on the Project to use a skilled and trained workforce.

26.8 [Reserved]

26.9 Non-Discrimination

26.9.1 Developer herein agrees to comply with the provisions of the California Fair Employment and Housing Act as set forth in Part 2.8 of Division 3 of Title 2 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Developer and Subcontractor.

26.9.2 Special requirements for Federally Assisted Construction Contracts: During the performance of the requirement of the Contract Documents, Developer agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

26.10 Labor First Aid

Developer shall maintain emergency first aid treatment for Developer's laborers and mechanics on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.) and the California Occupational Safety and Health Act of 1973 (Lab. Code, § 6300 et seq.; 8 Cal. Code of Regs., § 330 et seq.).

27. [Reserved]

28. Miscellaneous

28.1 Assignment of Antitrust Actions

Although this project may not have been formally bid, the following provisions may apply:

28.1.1 Section 7103.5(b) of the Public Contract Code states:

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and

Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.

28.1.2 Section 4552 of the Government Code states in pertinent part:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

28.1.3 Section 4553 of the Government Code states in pertinent part:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

28.1.4 Section 4554 of the Government Code states in pertinent part:

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

28.1.5 Under this Article, "public purchasing body" is District and "bidder" is Developer.

28.2 Excise Taxes

If, under Federal Excise Tax Law, any transaction hereunder constitutes a sale on which a Federal Excise Tax is imposed and the sale is exempt from such Federal Excise Tax because it is a sale to a State or Local Government for its exclusive use, District, upon request, will execute documents necessary to show (1) that District is a political subdivision of the State for the purposes of such exemption, and (2) that the sale is for the exclusive use of District. No Federal Excise Tax for such materials shall be included in any Guaranteed Maximum Price.

28.3 Taxes

Guaranteed Maximum Price is to include any and all applicable sales taxes or other taxes that may be due in accordance with section 7051 et seq. of the Revenue and Taxation Code, Regulation 1521 of the State Board of Equalization or any other tax code that may be applicable.

28.4 Shipments

Developer is responsible for any or all damage or loss to shipments until delivered and accepted on Site, as indicated in the Contract Documents. There must be no charge for containers, packing, unpacking, drayage, or insurance. The total Guaranteed Maximum Price shall be all inclusive (including sales tax) and no additional costs of any type will be considered.

28.5 Compliance with Government Reporting Requirements

If this Contract is subject to federal or other governmental reporting requirements because of federal or other governmental financing in whole or in part for the Project of which it is part, or for any other reason, Developer shall comply with those reporting requirements at the request of the District at no additional cost.

[END OF DOCUMENT]

EXHIBIT D-1

SPECIAL CONDITIONS

Attached are the special terms and conditions for the Project.

EXHIBIT D-1

SPECIAL CONDITIONS

1. Preparation of Solicitation of Subsequent Contracts

Insert Section 6.1.9 in Exhibit D of the Facilities Lease

6.1.9 Developer's duties and services under this Facilities Lease shall not include preparing or assisting the District with any portion of the District's preparation of a request for proposals, request for qualifications, or any other solicitation regarding a subsequent or additional contract with the District. The District shall at all times retain responsibility for public contracting, including with respect to any subsequent phase of this Project. Developer's participation in the planning, discussions, or drawing of project plans or specifications shall be limited to conceptual, preliminary, or initial plans or specifications. Developer shall cooperate with the District to ensure that all bidders for a subsequent contract on any subsequent phase of this Project have access to the same information, including all conceptual, preliminary, or initial plans or specifications prepared by Developer pursuant to this Facilities Lease.

2. Permits, Certificates, Licenses, Fees, Approvals

2.1. Payment for Permits, Certificates, Licenses, Fees, Approvals.

As required in the General Construction Provisions, Developer shall secure and pay for all permits, licenses and certificates necessary for the prosecution of the Work with the exception of the following:

[Water Connection Fees, Sewer Connection Fees, Impact Fees, Capacity Charges].

With respect to the above listed items, Developer shall be responsible for securing such items; however, District will be responsible for payment of these charges or fees, but only for the actual and direct costs (without markup or additional fees). Developer shall notify the District of the amount due with respect to these items and to whom the amount is payable. Developer shall provide the District with an invoice and receipt with respect to such charges or fees. In the alternative, District may pay such costs directly to DSA.

2.2. General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities does not apply to this Project.

3. Modernization Projects

3.1. Access.

Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30

p.m. to accommodate Developer's Work, the overtime wages for the custodian will be paid by Developer, unless at the discretion of the District, other arrangements are made in advance.

3.2. Master Key.

Upon request, the District may, at its own discretion, provide a master key to the school site for the convenience of Developer. Developer agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the master key is lost or stolen, or if any unauthorized party obtains a copy of the key or access to the school.

3.3. Maintaining Services.

Developer is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Developer shall provide temporary services to all facilities interrupted by Developer's Work.

3.4. Maintaining Utilities.

Developer shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

3.5. Confidentiality.

Developer shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Developer encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

3.6. Work during Instructional Time.

Developer affirms that Work may be performed during ongoing instruction in existing facilities. If so, Developer agrees to cooperate to the best of its ability to minimize any disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

3.7. No Work during Student Testing.

Developer shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

4. Badge Policy for Contractors

All Contractors doing work for the District will provide their workers with identification badges. These badges will be worn by all members of the Contractor's staff who are working in a District facility.

4.1. Badges must be filled out in full and contain the following information:

- 4.1.1.1. Name of Contractor
- 4.1.1.2. Name of Employee
- 4.1.1.3. Contractor's address and phone number
- 4.2. Badges are to be worn when the Contractor or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.
- 4.3. Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the Contractor.

5. Substitution for Specified Items

*The following provisions are added to Section 1.7 to **Exhibit D** to the Facilities Lease:*

1.7.1 Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Developer may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

1.7.1.1 If the material, process, or article offered by Developer is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Developer shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

1.7.1.2 This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Developer shall not be entitled to request a substitution with respect to those materials, products or services.

1.7.2 A request for a substitution shall be submitted as follows:

1.7.2.1 Developer shall notify the District in writing of any request for a substitution at least ten (10) days prior to proposal opening as indicated in the Request for Qualifications and Proposals.

1.7.2.2 Requests for Substitutions after award of the Contract shall be submitted within thirty-five (35) days of the date of the Notice to Proceed with Construction.

1.7.3 Within 35 days after the date of the Notice to Proceed with Construction, Developer shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

1.7.3.1 All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

1.7.3.2 Available maintenance, repair or replacement services;

1.7.3.3 Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

1.7.3.4 Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

1.7.3.5 The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

1.7.4 No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Developer. Developer warrants that if substitutes are approved:

1.7.4.1 The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

1.7.4.2 Developer provides the same warranties and guarantees for the substitute that would be provided for that specified;

1.7.4.3 Developer shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by Developer without a change in the Contract Price or Contract Time;

1.7.4.4 Developer shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

1.7.4.5 Developer shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, Developer agrees to execute a deductive Change Order to reflect that credit.

1.7.5 In the event Developer furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Developer.

1.7.6 In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

1.7.7 Developer shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Developer and/or to accommodate Developer's means and methods. District may deduct those costs from any amounts owing to Developer for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Developer for all the professional services and/or DSA fees or delay to the

Project Schedule, if applicable, while DSA reviews changes for the convenience of Developer and/or to accommodate Developer's means and methods.

6. Weather Days

Replace Section 15.2.1.5 to **Exhibit D** to the Facilities Lease with the following:

15.2.1.5 The number of days of Adverse Weather exceeds the following parameters:

January	<u>11</u>	July	<u>0</u>
February	<u>10</u>	August	<u>0</u>
March	<u>10</u>	September	<u>1</u>
April	<u>6</u>	October	<u>4</u>
May	<u>3</u>	November	<u>7</u>
June	<u>1</u>	December	<u>10</u>

7. Project Labor Agreement/Payroll Records

The District has entered into a Project Labor Agreement ("PLA"), which covers this Project.

Accordingly, the following provision is added as Section 26.4.6 to **Exhibit D** to the Facilities Lease:

26.4.6 As Developer and its subcontractors have agreed to be bound by the terms of the PLA entered into by the District [on or about / dated] February 11, 2020, Developer and its subcontractors may be excused from uploading CPRs electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online at <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html> , or by using a more current application and URL. However, within ten (10) days of any request by the District or Labor Commissioner, Developer and its subcontractors shall provide CPRs showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Developer and/or each subcontractor in connection with the Work.

8. As-Builts and Record Drawings

8.1. When called for by Division 1, Developer shall submit As-Built Drawings pursuant to the Contract Documents consisting of one set of PDF files.

8.2. Developer shall submit Record Drawings pursuant to the Contract Documents consisting of one set of PDF files.

EXHIBIT E

MEMORANDUM OF COMMENCEMENT DATE

This MEMORANDUM OF COMMENCEMENT DATE is dated _____, 20__, and is made by and between _____ ("Developer"), as Lessor, and the Stockton Unified School District ("District"), as Lessee.

1. Developer and District have previously entered into a Facilities Lease dated as of _____, 20__, (the "Lease") for the leasing by Developer to District of the completed Project in [City], California, referenced in the Lease.

2. District hereby confirms the following:

A. That all construction of the Project required to be performed pursuant to the Facilities Lease has been completed by Developer in all respects;

B. That District has accepted and entered into possession of the Project and now occupies same; and

C. That the term for the Lease Payments under the Facilities Lease commenced on _____, 20__ and will expire at 11:59 P.M. on _____, 20__.

THIS MEMORANDUM OF COMMENCEMENT DATE IS ACCEPTED AND AGREED on the date indicated below:

Dated: _____, 20__

Dated: _____, 20__

Stockton Unified School District

[Developer]

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT F

CONSTRUCTION SCHEDULE

Attached is a detailed Project Construction Schedule with a duration no longer than the Contract Time, and with specific milestones that Developer shall meet.

[To Be Attached.]

EXHIBIT G

SCHEDULE OF VALUES

Attached is a detailed Schedule of Values that complies with the requirements of the Construction Provisions (Exhibit "D") and that has been approved by the District.

[To Be Attached.]

EXHIBIT H

PROJECT LABOR AGREEMENT

Attached is the Project Labor Agreement applicable to this Project.

00 31 19 - EXISTING CONDITIONS

1. Summary

This document describes existing conditions at or near the Project, and use of information available regarding existing conditions. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

2. Reports and Information on Existing Conditions

- A. Documents providing a general description of the Site and conditions of the Work may have been collected by the Stockton Unified School District ("District"), its consultants, contractors, and tenants. These documents may, but are not required to, include previous contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding underground facilities.
- B. Information regarding existing conditions may be inspected at the District offices or the Construction Manager's offices, if any, and copies may be obtained at cost of reproduction and handling upon Bidder's agreement to pay for such copies. These reports, documents, and other information are **not** part of the Contract Documents. These reports, documents, and other information do **not** excuse Contractor from fulfilling Contractor's obligation to independently investigate any or all existing conditions or from using reasonable prudent measures to avoid damaging existing improvements.
- C. Information regarding existing conditions may also be included in the Project Manual, but shall **not** be considered part of the Contract Documents.
- D. Prior to commencing this Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey.
- E. Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.
- F. The reports and other data or information regarding existing conditions and underground facilities at or contiguous to the Project are the following:
 - i. Original Construction Drawings.

3. Use of Information

- A. Information regarding existing conditions was obtained only for use of District and its consultants, contractors, and tenants for planning and design and is **not** part of the Contract Documents.
- B. District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any information regarding existing conditions. Bidder represents and agrees that in submitting a bid it is not relying on any information regarding existing conditions supplied by District.
- C. Under no circumstances shall District be deemed to warrant or represent existing above-ground conditions, as-built conditions, or other actual conditions, verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform as a condition to bidding and Bidder should not and shall not rely on this information or any other information supplied by District regarding existing conditions.
- D. Any information shown or indicated in the reports and other data supplied herein with respect to existing underground facilities at or contiguous to the Project may be based upon information and data furnished to District by the District's employees and/or consultants or builders of such underground facilities or others. District does not assume responsibility for the completeness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.
- E. District shall be responsible only for the general accuracy of information regarding underground facilities, and only for those underground facilities that are owned by District, and only where Bidder has conducted the independent investigation required of it pursuant to the Instructions to Bidders, and discrepancies are not apparent.

4. Investigations/Site Examinations

- A. Before submitting a bid, each Bidder is responsible for conducting or obtaining any additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the Site or otherwise, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of Contract Documents.
- B. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a bid. Bidders must fill all holes and clean up and restore the Site to its

former condition upon completion of its explorations, investigations, tests, and studies. Such investigations and Site examinations may be performed during any and all Site visits indicated in the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT

00 43 36 - DESIGNATED SUBCONTRACTORS LIST
(Public Contact Code Sections 4100-4114)

PROJECT: _____

Bidder acknowledges and agrees that it must clearly set forth below the name, location and California contractor license number of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or who will specially fabricate and install a portion of the Work according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (0.5%) of Bidder's total Base Bid and the kind of Work that each will perform. Vendors or suppliers of materials only do not need to be listed.

Bidder acknowledges and agrees that, if Bidder fails to list as to any portion of Work, or if Bidder lists more than one subcontractor to perform the same portion of Work, Bidder must perform that portion itself or be subjected to penalty under applicable law. In case more than one subcontractor is named for the same kind of Work, state the portion of the kind of Work that each subcontractor will perform.

If alternate bid(s) is/are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the Base Bid, Bidder must list subcontractors that will perform Work in an amount in excess of one half of one percent (0.5%) of Bidder's total Base Bid plus alternate(s).

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 45 01 - SITE VISIT CERTIFICATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
IF SITE VISIT WAS MANDATORY

PROJECT: **ELOP PORTABLE BUILDING PROJECT**

Check option that applies:

_____ I certify that I visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

_____ I certify that _____ (Bidder's representative) visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Stockton Unified School District, its Architect, its Engineers, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

ATTACHMENTS:

- 1.**
- 2.**
- 3.**

END OF DOCUMENT

00 45 26 - WORKERS' COMPENSATION CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Labor Code section 3700, in relevant part, provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- A. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or
- B. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

END OF DOCUMENT

**00 45 46.01 - PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: _____ between the Stockton Unified
School District ("District") and _____
("Contractor" or "Bidder") ("Contract" or "Project").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

[IF THIS PROJECT USES FEDERAL FUNDS, DISTRICT SHOULD INCLUDE THE FOLLOWING] I hereby certify that I will also conform to the Federal Labor Standards Provisions regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon and Related Act requirements, Contract Work Hours and Safety Standards Act requirements, and any and all other applicable requirements for federal funding for all Work on the above Project.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 45 46.03 - DRUG-FREE WORKPLACE CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including school grounds, and specifically on school grounds while children are present.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

- A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- B. Establishing a drug-free awareness program to inform employees about all of the following:
 - 1. The dangers of drug abuse in the workplace.
 - 2. The person's or organization's policy of maintaining a drug-free workplace.
 - 3. The availability of drug counseling, rehabilitation, and employee-assistance programs.
 - 4. The penalties that may be imposed upon employees for drug abuse violations.
- C. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above,

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

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and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 45 46.04 - TOBACCO-FREE ENVIRONMENT CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., Business and Professions Code section 22950 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. The prohibition on smoking includes the use of any electronic smoking device that creates an aerosol or vapor, in any manner or in any form, and the use of any oral smoking device for the purpose of circumventing the prohibition of tobacco smoking. Further, Health & Safety Code section 11362.3 prohibits the smoking or use of cannabis or cannabis products in any place where smoking tobacco is prohibited.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 45 46.05 - HAZARDOUS MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

ELOP PORTABLE BUILDING AND SITEWORK PROJECT

- 1.** Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
- 2.** Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
- 3.** Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
- 4.** Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
- 5.** All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing New Hazardous Material will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
- 6.** Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

00 45 46.06 - LEAD-BASED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- 1) Contractor's work may disturb lead-containing building materials.
- 2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- 3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburses when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

2. Overview of California Law

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers.

(Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated work includes, but is not limited to, the following:

- A. Demolition or salvage of structures where lead or materials containing lead are present;
- B. Removal or encapsulation of materials containing lead;
- C. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- D. Installation of products containing lead;
- E. Lead contamination/emergency cleanup;
- F. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- G. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.

3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

4. Contractor's Liability

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;
2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

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Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site and shall be provided to the District at least ten (10) days before delivery. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 et seq. of the Public Resources Code ("CEQA"), and all requirements of section 17210 et seq. of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control.

Certification of: ☐ Delivery Firm/Transporter ☐ Supplier ☐ Manufacturer
☐ Wholesaler ☐ Broker ☐ Retailer
☐ Distributor ☐ Other _____

Type of Entity ☐ Corporation ☐ General Partnership
☐ Limited Partnership ☐ Limited Liability Company
☐ Sole Proprietorship ☐ Other _____

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any and all hazardous material as defined in section 25260 of the Health and Safety Code. I further certify that I am authorized to make this certification on behalf of the Firm.

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

**00 45 46.08 CRIMINAL BACKGROUND INVESTIGATION / FINGERPRINTING
CERTIFICATION**

PROJECT/CONTRACT NO.: _____ between the Stockton Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

The undersigned does hereby certify to the governing board of the District as follows:

That I am a representative of the Contractor currently under contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to execute this certificate on behalf of Contractor.

Contractor certifies that it has taken at least one of the following actions with respect to the construction Project that is the subject of the Contract (check all that apply):

- ☐ The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(k) with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and submission of fingerprints such that the California Department of Justice may determine that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. No work shall commence until such determination by DOJ has been made.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

- ☐ The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the California Department of Justice has determined that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto; and/or
- ☐ Pursuant to Education Code section 45125.2, Contractor has installed or will install, prior to commencement of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees and District pupils at all times; and/or
- ☐ Pursuant to Education Code section 45125.2, Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice has ascertained, or as described below, will

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ascertain, has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors' employees is:

Name: _____

Title: _____

NOTE: If the Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named employee's fingerprints prepared and submitted by the District, in accordance with Education Code section 45125.1(k). No work shall commence until such determination by DOJ has been made.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

- ☐ *The Work on the Contract is either (i) at an unoccupied school site and no employee and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) Contractor's employees or any subcontractor or supplier of any tier of the Contract will have only limited contact, if any, with District pupils and the District will take appropriate steps to protect the safety of any pupils that may come in contact with Consultant's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.*

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors, and employees of Subcontractors coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

00 45 49 - REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

PROJECT: _____

Date Submitted (for Updates): _____

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

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Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Date: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

**00 61 13.13 - PERFORMANCE BOND
(100% OF CONTRACT PRICE)**

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Stockton Unified School District, ("District") and _____ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

_____ ELOP Portable Building and Sitework Project _____

("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of _____

Dollars (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Promptly perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

Or, at the District's sole discretion and election, the Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the District of the lowest responsible bidder, arrange for a contract between such bidder and the District and make available as Work progresses sufficient funds to pay the cost of completion less the "balance of the Contract Price," and to pay and perform all obligations of Principals under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the District under the Contract and any modifications thereto, less the amount previously paid by the District to the Principal, less any withholdings by the District allowed under the Contract. District shall not be required or obligated to accept a tender of a completion contractor from the Surety for any or no reason.

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship,

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and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond. The Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond by any overpayment or underpayment by the District that is based upon estimates approved by the Architect. The Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

**00 61 13.16 - PAYMENT BOND
Contractor's Labor & Material Bond
(100% Of Contract Price)**

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Stockton Unified School District, ("District") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

_____ ELOP Portable Building and Sitework Project _____

("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of _____ Dollars (\$_____), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of its subcontractors, or their heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of his or its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

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Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

00 63 40 - ALLOWANCE EXPENDITURE DIRECTIVE FORM

Stockton Unified School District
56 S. Lincoln Street
Stockton, CA 95203

**ALLOWANCE
EXPENDITURE
DIRECTIVE NO.:**

ALLOWANCE EXPENDITURE DIRECTIVE

Project: _____

Date: _____

Bid No.: _____

DSA File No.: _____

DSA Appl. No.: _____

The following parties agree to the terms of this Allowance Expenditure Directive ("AED"):

Owner Name, Address, Telephone:

Contractor Name, Address, Telephone:

Reference	Description	Allowance Authorized for Expenditure	Days Ext.
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$	
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$	
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$	

Contract time will be adjusted as follows:	Total Contract Allowance Amount:	\$
Previous Completion Date: __[DATE]__	Amount of Previously Approved Allowance Expenditure Directive(s):	\$
_____[#]_____ Calendar Days Extension (zero days unless otherwise indicated)	Amount of this Allowance Expenditure Directive:	\$
Current Completion Date: __[DATE]__		

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The undersigned Contractor approves the foregoing release of allowance for completion of each specified item, and as to the extension of time allowed, if any, for completion of the entire work as stated therein, and agrees to furnish all labor, materials and services and perform all work necessary to complete any additional work specified for the consideration stated therein ("Work"). Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650, et seq.

This Allowance Expenditure Directive must be signed by an authorized District representative.

It is expressly understood that the authorized allowance expenditure and time, if any, granted herein represent a full accord and satisfaction for any and all time and cost impacts of the items herein, and Contractor waives any and all further compensation or time extension based on the items herein. The value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, and its subcontractors, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project. Any costs, expenses, damages or time extensions not included are deemed waived.

Signatures:

DISTRICT: STOCKTON UNIFIED SCHOOL DISTRICT Date: _____ By: _____ [Print Name and Title here]	CONTRACTOR: _____ Date: _____ By: _____ [Print Name and Title here]
ARCHITECT: _____ Date: _____ By: _____ [Print Name and Title here]	PROJECT INSPECTOR: _____ Date: _____ By: _____ [Print Name and Title here]

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

00 63 57 - PROPOSED CHANGE ORDER FORM

Stockton Unified School District
56 S. Lincoln Street
Stockton, CA 95203

PCO NO.:

Project: _____
Bid No.: _____
RFI #: _____

Date: _____
DSA File No.: _____
DSA Appl. No.: _____

Contractor hereby submits for District's review and evaluation this Proposed Change Order ("PCO"), submitted in accordance with and subject to the terms of the Contract Documents, including Sections 17.7 and 17.8 of the General Conditions. Any spaces left blank below are deemed no change to cost or time.

Contractor understands and acknowledges that documentation supporting Contractor's PCO must be attached and included for District review and evaluation. Contractor further understands and acknowledges that failure to include documentation sufficient to, in District's discretion, support some or all of the PCO, shall result in a rejected PCO.

	<u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully encumbered)		
(c)	<u>Add Equipment</u> (attach suppliers' invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add overhead and profit for any and all tiers of Subcontractor</u> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add Overhead and Profit for Contractor</u> , not to exceed five percent (5%) of Item (f)		
(h)	<u>Subtotal</u>		
(i)	<u>Add Bond and Insurance</u> , not to exceed one and a half percent (1.5%) of Item (h)		
(j)	<u>TOTAL</u>		
(k)	<u>Time</u> (zero unless indicated; "TBD" not permitted)	____ Calendar Days	

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**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
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	WORK PERFORMED BY CONTRACTOR	ADD	DEDUCT
(a)	Material (attach itemized quantity and unit cost plus sales tax)		
(b)	Add Labor (attach itemized hours and rates, fully encumbered)		
(c)	Add Equipment (attach suppliers' invoice)		
(d)	Subtotal		
(e)	Add Overhead and Profit for Contractor , not to exceed fifteen percent (15%) of Item (d)		
(f)	Subtotal		
(g)	Add Bond and Insurance , not to exceed one and a half percent (1.5%) of Item (f)		
(h)	TOTAL		
(i)	Time (zero unless indicated; "TBD" not permitted)	Calendar Days	

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 *et seq.* It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

SUBMITTED BY:

Contractor:

[Name]

Date

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

00 63 63 - CHANGE ORDER FORM

Stockton Unified School District
56 S. Lincoln Street
Stockton, CA 95203

CHANGE ORDER NO.:

CHANGE ORDER

Project: _____
Bid No.: _____

Date: _____
DSA File No.: _____
DSA Appl. No.: _____

The following parties agree to the terms of this Change Order:

Owner: _____
[Name / Address]

Contractor: _____
[Name / Address]

Architect: _____
[Name / Address]

Project Inspector: _____
[Name / Address]

Reference	Description	Cost	Days Ext.
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
PCO # Requested by: Performed by: Reason:	[Description of change] [Requester] [Performer] [Reason]	\$	
Contract time will be adjusted as follows: Previous Completion Date: <u> [Date] </u> <u> [#] </u> Calendar Days Extension (zero unless otherwise indicated) Current Completion Date: <u> [Date] </u>	Original Contract Amount: Amount of Previously Approved Change Order(s): Amount of this Change Order: Contract Amount:	\$ \$ \$ \$	

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire work as stated therein, and agrees to furnish all labor, materials and services and perform all work necessary to complete any additional work specified for

STOCKTON UNIFIED SCHOOL DISTRICT

**CHANGE ORDER FORM
DOCUMENT 00 63 63-1**

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

the consideration stated therein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650, et seq.

This change order is subject to approval by the governing board of this District and must be signed by the District. Until such time as this change order is approved by the District's governing board and executed by a duly authorized District representative, this change order is not effective and not binding.

It is expressly understood that the compensation and time, if any, granted herein represent a full accord and satisfaction for any and all time and cost impacts of the items herein, and Contractor waives any and all further compensation or time extension based on the items herein. The value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, and its subcontractors, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project. Any costs, expenses, damages or time extensions not included are deemed waived.

Signatures:

District:

Contractor:

[Name]

Date

[Name]

Date

Architect:

Project Inspector:

[Name]

Date

[Name]

Date

END OF DOCUMENT

00 65 19.26 - AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS _____ DAY OF _____, 20____ by and between the Stockton Unified School District ("District") and _____ ("Contractor"), whose place of business is _____.

RECITALS

WHEREAS, District and Contractor entered into PROJECT/CONTRACT NO.: _____ ("Contract" or "Project") in the County of San Joaquin, California; and

WHEREAS, the Work under the Contract was completed on _____, and a Notice of Completion was recorded with the County Recorder on _____.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

AGREEMENT AND RELEASE

1. Contractor will only be assessed liquidated damages as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

2. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of _____ Dollars (\$) under the Contract, less any amounts represented by any notice to withhold funds on file with District as of the date of such payment.
3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the performance of work under the Contract, except for the claims described in Paragraph 5 and continuing obligations described in Paragraph 6. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District and all of its respective agents, employees, trustees, inspectors, assignees, consultants and transferees, except for any Disputed Claim that may be set forth in Paragraph 6 and the continuing obligations described in Paragraph 8 hereof.

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
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4. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____

[If further space is required, attach additional sheets showing the required information.]

5. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 1 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, including without limitation the duty to defend, indemnify and hold harmless the District, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

8. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. If any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal, or other law, ruling, or regulations, then such provision, or part thereof, shall remain in force and effect to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

9. All rights of District shall survive completion of the Work or termination of Contract, and execution of this Release.

* * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * *

STOCKTON UNIFIED SCHOOL DISTRICT

Signature: _____

Print Name: _____

Title: _____

CONTRACTOR: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

00 65 36 - GUARANTEE FORM

_____ ("Contractor") hereby agrees that the _____
_____ ("Work" of Contractor) which Contractor has installed for the Stockton
Unified School District ("District") for the following project:

PROJECT: ELOP Portable Building and Sitework Project

("Project" or "Contract") has been performed in accordance with the requirements of the
Contract Documents and that the Work as installed will fulfill the requirements of the
Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be
defective in workmanship or material together with any other adjacent Work that may be
displaced in connection with such replacement within a period of _____
year(s) from the date of completion as defined in Public Contract Code section 7107,
subdivision (c), ordinary wear and tear and unusual abuse or neglect excepted. The date of
completion is _____, 20____.

In the event of the undersigned's failure to comply with the above-mentioned conditions
within a reasonable period of time, as determined by the District, but not later than seven
(7) days after being notified in writing by the District, the undersigned authorizes the
District to proceed to have said defects repaired and made good at the expense of the
undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

Representatives to be contacted for service subject to terms of Contract:

Name: _____

Address: _____

Phone No.: _____

Email: _____

END OF DOCUMENT

**00 73 56 - HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS**

1. Summary

This document includes information applicable to hazardous materials and hazardous waste abatement.

2. Notice of Hazardous Waste or Materials

- A. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
 - 1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
 - 2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- B. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- C. In response to Contractor's written notice, the District shall investigate the identified conditions.
- D. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.
- E. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

- F. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

3. Additional Warranties and Representations

- A. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- B. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- C. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

4. Monitoring and Testing

- A. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- B. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these

activities or tests by District in the Contract Price and the Scheduled Completion Date.

- C. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, pre-abatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

5. Compliance with Laws

- A. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- B. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
 - 1) The protection of the public health, welfare and environment;
 - 2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
 - 3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
 - 4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

6. Disposal

- A. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.
- B. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.

- C. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

7. Permits

- A. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
 - 1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
 - 2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- B. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

8. Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

9. Termination

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access Conditions and Requirements;
- B. Special Conditions.

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract consists of the following:

New ELOP classroom building (Serial # C-24-3123 A/B/C) with site work and utility infrastructure.

1.03 CONTRACTS

- A. Perform the Work under a single, fixed-price Contract.

1.04 WORK BY OTHERS

- A. Work on the Project that will be performed and completed prior to the start of the Work of this Contract:

[FILL IN OR MODIFY AS APPROPRIATE]

- (1) Asbestos removal/abatement.
- (2) Lead paint removal/abatement.

- B. Work on the Project that will be performed by others concurrent with the Work of this Contract:

- (1) _____
- (2) _____

1.05 CODES, REGULATIONS, AND STANDARDS

- A. The codes, regulations, and standards adopted by the state and federal agencies having jurisdiction shall govern minimum requirements for this Project. Where codes, regulations, and standards conflict with the Contract Documents, these conflicts shall be brought to the immediate attention of the District and the Architect.

- B. Codes, regulations, and standards shall be as published effective as of date of bid opening, unless otherwise specified or indicated.

1.06 PROJECT RECORD DOCUMENTS

- A. Contractor shall maintain on Site one set of the following record documents; Contractor shall record actual revisions to the Work:
 - (1) Contract Drawings.
 - (2) Specifications.
 - (3) Addenda.
 - (4) Change Orders and other modifications to the Contract.
 - (5) Reviewed shop drawings, product data, and samples.
 - (6) Field test records.
 - (7) Inspection certificates.
 - (8) Manufacturer's certificates.
- B. Contractor shall store Record Documents separate from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
- C. Contractor shall record information concurrent with construction progress.
- D. Specifications: Contractor shall legibly mark and record at each product section of the Specifications the description of the actual product(s) installed, including the following:
 - (1) Manufacturer's name and product model and number.
 - (2) Product substitutions or alternates utilized.
 - (3) Changes made by Addenda and Change Orders and written directives.

1.07 EXAMINATION OF EXISTING CONDITIONS

- A. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site and of the streets or roads approaching the Site.
- B. Prior to commencement of Work, Contractor shall survey the Site and existing buildings and improvements to observe existing damage and defects such as cracks, sags, broken, missing or damaged glazing, other building elements and Site improvements, and other damage.
- C. Should Contractor observe cracks, sags, and other damage to and defects of the Site and adjacent buildings, paving, and other items not indicated in the

Contract Documents, Contractor shall immediately report same to the District and the Architect.

1.08 CONTRACTOR'S USE OF PREMISES

- A. If unoccupied and only with District's prior written approval, Contractor may use the building(s) at the Project Site without limitation for its operations, storage, and office facilities for the performance of the Work. If the District chooses to beneficially occupy any building(s), Contractor must obtain the District's written approval for Contractor's use of spaces and types of operations to be performed within the building(s) while so occupied. Contractor's access to the building(s) shall be limited to the areas indicated.
- B. If the space at the Project Site is not sufficient for Contractor's operations, storage, office facilities and/or parking, Contractor shall arrange and pay for any additional facilities needed by Contractor.
- C. Contractor shall not interfere with use of or access to occupied portions of the building(s) or adjacent property.
- D. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- E. No one other than those directly involved in the demolition and construction, or specifically designated by the District or the Architect shall be permitted in the areas of work during demolition and construction activities.
- F. The Contractor shall install the construction fence and maintain that it will be locked when not in use. Keys to this fencing will be provided to the District.

1.09 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Drawings show above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Contractor shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage occur to these existing installations, the costs of repair shall be at the Contractor's expense and made to the District's satisfaction.
- B. Contractor shall be alert to the possibility of the existence of additional structures and utilities. If Contractor encounters additional structures and utilities, Contractor will immediately report to the District for disposition of same as indicated in the General Conditions.

1.10 UTILITY SHUTDOWNS AND INTERRUPTIONS

- A. Contractor shall give the District a minimum of three (3) days written notice in advance of any need to shut off existing utility services or to effect equipment interruptions. The District will set exact time and duration for shutdown, and will assist Contractor with shutdown. Work required to re-establish utility services shall be performed by the Contractor.

- B. Contractor shall obtain District's written approval as indicated in the General Conditions in advance of deliveries of material or equipment or other activities that may conflict with District's use of the building(s) or adjacent facilities.

1.11 STRUCTURAL INTEGRITY

- A. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.
- B. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 21 00 - ALLOWANCE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-specified work.

1.2 RELATED SECTIONS

A. Document 01 10 00 (Summary of Work)

B. Document 01 29 00 (Payments and Completion)

C. Document 01 32 19 (Submittal Procedures)

1.3 ALLOWANCES

- A. Included in the Contract, a stipulated sum/price of **10% of the Base Bid and any district accepted Alternates** as an allowance for Unforeseen Conditions related to the work. This Allowance shall not be utilized without written approval by the District.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from this Allowance.
- C. Funds will be drawn from Allowance only with District approval evidenced by an Allowance Expenditure Directive.
- D. At Contract closeout, funds remaining in Allowance will be credited to District by Change Order.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF DOCUMENT

01 25 13 - PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. Instructions to Bidders;
- B. General Conditions, including, without limitation, Substitutions For Specified Items; and
- C. Special Conditions.

1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

- A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.
- B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.
- C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions. The District's Board has found and determined that certain item(s) shall be used on this Project based on the purpose(s) indicated pursuant to Public Contract Code section 3400(c). These findings, as well as the products and brand or trade names, have been identified in the Notice to Bidders.
- D. The Contractor will not be allowed to substitute specified items unless the request for substitution is submitted as follows:
 - 1) District must receive any notice of request for substitution of a specified item a minimum of ten (10) calendar days prior to bid opening.
 - 2) Within 35 days after the date of the Notice of Award, the Contractor shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified

in the Special Conditions and the technical Specifications. Insufficient information shall be grounds for rejection of substitution.

- E. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.
- F. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.
- G. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price. The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute.
- H. The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit. In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.
- I. In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 26 00 - CHANGES IN THE WORK

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE AGREEMENT, GENERAL CONDITIONS, AND SPECIAL CONDITIONS, IF USED, RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES.

END OF DOCUMENT

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

01 29 00 – APPLICATION FOR PAYMENT AND CONDITIONAL AND UNCONDITIONAL WAIVER
AND RELEASE FORMS

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL WAIVER AND RELEASE FORMS**

**CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS IN THE GENERAL
CONDITIONS RELATED TO APPLICATIONS FOR PAYMENT AND/OR PAYMENTS.**

**CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8132)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____

Amount of Check: \$_____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

- 1) Retentions.
- 2) Extras for which the claimant has not received payment.
- 3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: _____

Amount(s) of unpaid progress payment(s): \$_____

STOCKTON UNIFIED SCHOOL DISTRICT

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL
WAIVER AND RELEASE FORMS
DOCUMENT 01 29 00-2**

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

- 4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8134)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment: \$_____

Exceptions

This document does not affect any of the following:

- 1) Retentions.
- 2) Extras for which the claimant has not received payment.
- 3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**CONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(CIVIL CODE SECTION 8136)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check:

Amount of Check: \$_____

Check Payable to: _____

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: \$_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(CIVIL CODE SECTION 8138)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: \$_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

01 31 19 - PROJECT MEETINGS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions; and
- B. Special Conditions.

1.02 PROGRESS MEETINGS:

- A. Contractor shall schedule and hold regular weekly progress meetings after a minimum of one week's prior written notice of the meeting date and time to all Invitees as indicated below.
- B. Location: Contractor's field office.
- C. The Contractor shall notify and invite the following entities ("Invitees"):
 - 1) District Representative.
 - 2) Contractor.
 - 3) Contractor's Project Manager.
 - 4) Contractor's Superintendent.
 - 5) Subcontractors, as appropriate to the agenda of the meeting.
 - 6) Suppliers, as appropriate to the agenda of the meeting.
 - 7) Construction Manager, if any.
 - 8) Architect
 - 9) Engineer(s), if any and as appropriate to the agenda of the meeting.
 - 10) Others, as appropriate to the agenda of the meeting.
- D. The District's and/or the Architect's Consultants will attend at their discretion, in response to the agenda.
- E. The District representative, the Construction Manager, and/or another District Agent shall take and distribute meeting notes to attendees and other concerned parties. If exceptions are taken to anything in the meeting notes, those exceptions shall be stated in writing to the District

within five (5) working days following District's distribution of the meeting notes.

1.03 PRE-INSTALLATION/PERFORMANCE MEETING:

- A. Contractor shall schedule a meeting prior to the start of each of the following portions of the Work: cutting and patching of plaster and roofing, and other weather-exposed and moisture-resistant products. Contractor shall invite all Invitees to this meeting, and others whose work may affect or be affected by the quality of the cutting and patching work.
- B. Contractor shall review in detail prior to this meeting, the manufacturer's requirements and specifications, applicable portions of the Contract Documents, Shop Drawings, and other submittals, and other related work. At this meeting, invitees shall review and resolve conflicts, incompatibilities, or inadequacies discovered or anticipated.
- C. Contractor shall review in detail Project conditions, schedule, requirements for performance, application, installation, and quality of completed Work, and protection of adjacent Work and property.
- D. Contractor shall review in detail means of protecting the completed Work during the remainder of the construction period.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 32 13 - SCHEDULING OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Summary of Work; and
- D. Submittals.

1.02 SECTION INCLUDES

- A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
 - (1) Development of schedule, cost and resource loading of the schedule, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method ("CPM") scheduling ("CPM Schedule").
 - (2) CPM Schedule shall be cost loaded based on Schedule of Values as approved by District.
 - (3) Submit schedules and reports as specified in the General Conditions.
- B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM Schedule submittal requirements.

1.03 CONSTRUCTION SCHEDULE

- A. Within ten (10) days of being awarded the Contract and before request for first progress payment, the Contractor shall prepare and submit to the Project Manager a construction progress schedule conforming to the Milestone Schedule below.
- B. The Construction Schedule shall be continuously updated, and an updated schedule shall be submitted with each application for progress payment. Each revised schedule shall indicate the work actually accomplished during the previous period and the schedule for completion of the remaining work.
- C. Milestone Schedule:

ACTIVITY DESCRIPTION

REQUIRED COMPLETION

CONSTRUCTION STARTS _____ **[DATE]**
FINAL PROJECT COMPLETION _____ **[DATE]**

1.04 QUALIFICATIONS

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of [i.e., Primavera Project Planner]. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.
- (1) The written statement shall identify the individual who will perform CPM scheduling.
 - (2) Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
 - (3) Required level of experience shall include at least two (2) projects of similar nature and scope with value not less than three fourths ($\frac{3}{4}$) of the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. District reserves the right to approve or reject Contractor's scheduler or consultant at any time. District reserves the right to refuse replacing of Contractor's scheduler or consultant, if District believes replacement will negatively affect the scheduling of Work under this Contract.

1.05 GENERAL

- A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.
- (1) District is not required to accept an early completion schedule, i.e., one that shows an earlier completion date than the Contract Time.
 - (2) Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier completion schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in its early completion schedule but within the Contract Time.
 - (3) A schedule showing the work completed in less than the Contract Time, and that has been accepted by District, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and the Completion Date. Project Float is a resource available to both District and the Contractor.

- C. Ownership Project Float: Neither the District nor Contractor owns Project Float. The Project owns the Project Float. As such, liability for delay of the Completion Date rests with the party whose actions, last in time, actually cause delay to the Completion Date.
 - (1) For example, if Party A uses some, but not all of the Project Float and Party B later uses remainder of the Project Float as well as additional time beyond the Project Float, Party B shall be liable for the time that represents a delay to the Completion Date.
 - (2) Party A would not be responsible for the time since it did not consume the entire Project Float and additional Project Float remained; therefore, the Completion Date was unaffected by Party A.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract CPM Schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. Failure of Progress Schedule to include any element of the Work, or any inaccuracy in Progress Schedule, will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. District's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.
- F. Software: Use **[i.e., District Project Planner for Windows, latest version]**. Such software shall be compatible with Windows operating system. Contractor shall transmit contract file to District on compact disk at times requested by District.
- G. Transmit each item under the form approved by District.
 - (1) Identify Project with District Contract number and name of Contractor.
 - (2) Provide space for Contractor's approval stamp and District's review stamps.
 - (3) Submittals received from sources other than Contractor will be returned to the Contractor without District's review.

1.06 INITIAL CPM SCHEDULE

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.
- B. Indicate detailed plan for the Work to be completed in first ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form.

- C. Initial CPM Schedule shall be time scaled.
- D. Initial CPM Schedule shall be cost and resource loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed ninety (90) calendar days.
- E. District and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to District.
 - (1) District's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
 - (2) Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Contractor shall resubmit Initial CPM Schedule if requested by District.
- F. If, during the first ninety (90) days after Notice to Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation ("TIE") in accordance with Article 1.12 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.07 ORIGINAL CPM SCHEDULE

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work in conformance with requirements as specified herein.
- B. Progress Schedule shall include or comply with following requirements:
 - (1) Time scaled, cost and resource (labor and major equipment) loaded CPM schedule.
 - (2) No activity on schedule shall have duration longer than fifteen (15) work days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by District.
 - (a) Activity durations shall be total number of actual work days required to perform that activity.
 - (3) The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.
 - (4) District furnished materials and equipment, if any, identified as separate activities.
 - (5) Activities for maintaining Project Record Documents.
 - (6) Dependencies (or relationships) between activities.

- (7) Processing/approval of submittals and shop drawings for all material and equipment required per the Contract. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.
 - (a) Include time for submittals, re-submittals and reviews by District. Coordinate with accepted schedule for submission of Shop Drawings, samples, and other submittals.
 - (b) Contractor shall be responsible for all impacts resulting from re-submittal of Shop Drawings and submittals.
- (8) Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.
 - (a) Include time for fabrication and delivery of manufactured products for the Work.
 - (b) Show dependencies between procurement and construction.
- (9) Activity description; what Work is to be accomplished and where.
- (10) The total cost of performing each activity shall be total of labor, material, and equipment, excluding overhead and profit of Contractor. Overhead and profit of the General Contractor shall be shown as a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
- (11) Resources required (labor and major equipment) to perform each activity.
- (12) Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
- (13) Identify the activities which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to (10) days.
- (14) Twenty (20) workdays for developing punch list(s), completion of punch-list items, and final clean up for the Work or any designated portion thereof. No other activities shall be scheduled during this period.
- (15) Interface with the work of other contractors, District, and agencies such as, but not limited to, utility companies.
- (16) Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
 - (a) Also furnish for each Subcontractor, as determined by District, submitted on Subcontractor letterhead, a statement certifying that Subcontractor concurs with Contractor's Original CPM

Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.

- (b) Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
 - (c) In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical, and plumbing Subcontractors, and other Subcontractors as required by District, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
 - (d) Furnish schedule for Contractor/Subcontractor CPM schedule meetings which shall be held prior to submission of Original CPM schedule to District. District shall be permitted to attend scheduled meetings as an observer.
- (17) Activity durations shall be in Work days.
- (18) Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- C. Original CPM Schedule Review Meeting: Contractor shall, within sixty (60) days from the Notice to Proceed date, meet with District to review the Original CPM Schedule submittal.
 - (1) Contractor shall have its Project Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one (1) day period.
 - (2) District's review will be limited to submittal's conformance to Contract requirements including, but not limited to, coordination requirements. However, review may also include:
 - (a) Clarifications of Contract Requirements.
 - (b) Directions to include activities and information missing from submittal.
 - (c) Requests to Contractor to clarify its schedule.
 - (3) Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

1.08 ADJUSTMENTS TO CPM SCHEDULE

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for District's review.
 - (1) District, within ten (10) days from date that Contractor submitted the revised schedule, will either:
 - (a) Accept schedule and cost and resource loaded activities as submitted, or
 - (b) Advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for District to monitor Project's progress, resources, and status or evaluate monthly payment request by Contractor.
 - (2) District may accept schedule with conditions that the first monthly CPM Schedule update be revised to correct deficiencies identified.
 - (3) When schedule is accepted, it shall be considered the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
 - (4) District reserves right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by District will be based solely upon schedule's compliance with Contract requirements.
 - (1) By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
 - (2) Upon submittal of schedule update, updated schedule shall be considered "current" CPM Schedule.
 - (3) Submission of Contractor's schedule to District shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed Work.
- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.

- D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterheads to Contractor and transmitted to District for the record.

1.09 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities.
 - (1) Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
 - (2) Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
 - (1) At this meeting, at a minimum, the following items will be reviewed: Percent (%) complete of each activity; Time Impact Evaluations for Change Orders and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated Contractor delays.
 - (2) These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 - (3) Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within five (5) work days of receipt of above noted revised submittals, District will either accept or reject monthly schedule update submittal.
 - (1) If accepted, percent (%) complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.
 - (2) If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- E. Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall

have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Contractor's obligations under this Contract.

1.10 SCHEDULE REVISIONS

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.
- B. To reflect revisions to the Schedule, the Contractor shall provide District with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. District may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide District with a complete written narrative response to District's request.
- D. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has seven (7) calendar days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.
- E. At District's discretion, the Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

1.11 RECOVERY SCHEDULE

- A. If the Schedule Update shows a completion date twenty-one (21) calendar days beyond the Contract Completion Date, or individual milestone completion dates, the Contractor shall submit to District the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.
- B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District.

- C. If the Contractor's revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.09.C, 1.09.D and 1.09.E above.
- D. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

1.12 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, AND OTHER DELAYS

- A. When Contractor is directed to proceed with changed Work, the Contractor shall prepare and submit within fourteen (14) calendar days from the Notice to Proceed a TIE which includes both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- C. Contractor shall be responsible for all costs associated with the preparation of TIEs, and the process of incorporating them into the current schedule update. The Contractor shall provide District with four (4) copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount District allows, and the Contractor may submit a claim for additional time claimed by contractor.

1.13 TIME EXTENSIONS

- A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with the General Conditions.
- B. Where an event for which District is responsible impacts the projected Completion Date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.

- C. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. No time will be granted under this Contract for cumulative effect of changes.
- E. District will not be obligated to consider any time extension request unless the Contractor complies with the requirements of Contract Documents.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.14 SCHEDULE REPORTS

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
 - (1) Two activity listing reports: one sorted by activity number and one by total Project Float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, Project Float, responsibility code, and the logic relationship of activities.
 - (2) Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value- to date, previous payments, and amount earned for current update period.
 - (3) Schedule plots presenting time-scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
 - (4) Cash flow report calculated by early start, late start, and indicating actual progress. Provide an exhibit depicting this information in graphic form.
 - (5) Planned versus actual resource (i.e., labor) histogram calculated by early start and late start.

- C. Other Reports:

In addition to above reports, District may request, from month to month, any two of the following reports. Submit four (4) copies of all reports.

- (1) Activities by early start.
- (2) Activities by late start.

- (3) Activities grouped by Subcontractors or selected trades.
- (4) Activities with scheduled early start dates in a given time frame, such as fifteen (15) or thirty (30) day outlook.
- D. Furnish District with report files on compact disks containing all schedule files for each report generated.

1.15 PROJECT STATUS REPORTING

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to District. Written status reports shall include:
 - (1) Status of major Project components (percent (%) complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
 - (2) Progress made on critical activities indicated on CPM Schedule.
 - (3) Explanations for any lack of work on critical path activities planned to be performed during last month.
 - (4) Explanations for any schedule changes, including changes to logic or to activity durations.
 - (5) List of critical activities scheduled to be performed next month.
 - (6) Status of major material and equipment procurement.
 - (7) Any delays encountered during reporting period.
 - (8) Contractor shall provide printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
 - (a) Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports will be basis for information provided in computer-generated monthly and weekly printed reports.
 - (b) Contractor shall explain all variances and mitigation measures.
 - (9) Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.

- (10) Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

1.16 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time-scaled three (3) week look-ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.17 DAILY CONSTRUCTION REPORTS

On a daily basis, Contractor shall submit a daily activity report to District for each workday, including weekends and holidays when worked. Contractor shall develop the daily construction reports on a computer-generated database capable of sorting daily Work, manpower, and man-hours by Contractor, Subcontractor, area, sub-area, and Change Order Work. Upon request of District, furnish computer disk of this data base. Obtain District's written approval of daily construction report data base format prior to implementation. Include in report:

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature, and any unusual site conditions.
- D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.18 PERIODIC VERIFIED REPORTS

Contractor shall complete and verify construction reports on a form prescribed by the Division of the State Architect and file reports on the first day of February, May, August, and November during the preceding quarter year; at the completion of the Contract; at the completion of the Work; at the suspension of Work for a period of more than one (1) month; whenever the services of Contractor or any of Contractor's Subcontractors are terminated for any reason; and at any time a special verified report is required by the Division of the State Architect. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;
- B. Special Conditions.

1.02 SECTION INCLUDES:

- A. Definitions:
 - (1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.
 - (2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
 - (3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.
- B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:
 - (1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, the Architect, the Project Inspector, and the Construction Manager.

- (2) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.
- (3) Contractor shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.
- (4) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.
- (5) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.
- (6) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.
- (7) Contractor shall certify on submittals for review that submittals conform to Contract requirements. Also certify that Contractor-furnished equipment can be installed in allocated space. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Submittals shall not be used as a means of requesting a substitution.
- (8) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.
- (9) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

C. Submittal Schedule:

- (1) Contractor shall prepare its proposed submittal schedule that is coordinated with the proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.

- (2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revise and resubmit", etc.
- (3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.
- (4) Contractor may be assessed \$100 a day for each day it is late in submitting a shop drawing or sample. No extensions of time will be granted to Trade Contractor or any Subcontractor because of its failure to have shop drawings and samples submitted in accordance with the Schedule.

1.03 SHOP DRAWINGS:

- A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.
- B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- E. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- F. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District's and/or Architect's review of Shop Drawings is not to be construed as approving departures from Contract Documents.
- G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.
- H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work

contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.

- I. Submitted drawings and details must bear stamp of approval of Contractor:
 - (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.
 - (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- L. Shop Drawings must clearly delineate the following information:
 - (1) Project name and address.
 - (2) Specification number and description.
 - (3) Architect's name and project number.
 - (4) Shop Drawing title, number, date, and scale.
 - (5) Names of Contractor, Subcontractor(s) and fabricator.
 - (6) Working and erection dimensions.
 - (7) Arrangements and sectional views.
 - (8) Necessary details, including complete information for making connections with other Work.
 - (9) Kinds of materials and finishes.
 - (10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.

- M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.
 - (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.
 - (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:

- A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contractor must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
- B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.
- E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

1.05 SAMPLES:

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.

- (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.
 - (2) Samples must show full range of texture, color, and pattern.
- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
- D. Samples to be shipped prepaid or hand-delivered to the District.
- E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
- F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
- G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
- H. After a material has been approved, no change in brand or make will be permitted.
- I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
- J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
- K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:
 - (1) Size: As Specified.
 - (2) Furnish catalog numbers and similar data, as requested.

1.06 REVIEW AND RESUBMISSION REQUIREMENTS:

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.
- B. One (1) copy of product or materials data will be returned to Contractor with the review status.

- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.
- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 35 13.23 - SITE STANDARDS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

1. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
2. Special Conditions;
3. Drug-Free Workplace Certification;
4. Tobacco-Free Environment Certification;
5. Criminal Background Investigation/Fingerprinting Certification;
6. Temporary Facilities and Controls.

1.02 REQUIREMENTS OF THE DISTRICT:

- A. Drug-Free Schools and Safety Requirements:
 - 1) All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
 - 2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location in each work area, staging area, and parking area. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area is to be kept clean at all times.
 - 3) Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.
- B. Language: Profanity or other unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students, staff, volunteers, parents or public will not be allowed.
- C. Disturbing the Peace (Noise and Lighting):

- 1) Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.
- 2) The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for mobile phones or other handheld communication radios.
- 3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

D. Traffic:

- 1) Driving on the Premises shall be limited to periods when students and public are not present. If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. In no case shall driving take place across playgrounds or other pedestrian paths during recess, lunch, and/or class period changes. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.
- 2) All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
- 3) District shall designate a construction entry to the Site. If Contractor requests, District determines it is required, and to the extent possible, District shall designate a staging area so as not to interfere with the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.
- 4) Parking areas shall be reviewed and approved by District in advance. No parking is to occur under the drip line of trees or in softscape areas that could otherwise be damaged.

- E.** All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 41 00 - REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Obtaining of Permits, Licenses and Registrations and Work to Comply with All Applicable Laws and Regulations;
- B. Special Conditions; and
- C. Quality Control.

1.02 DESCRIPTION:

This section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

1.03 REQUIREMENTS OF REGULATORY AGENCIES:

- A. All statutes, ordinances, laws, rules, codes, regulations, standards, and the lawful orders of all public authorities having jurisdiction over the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the California Code of Regulations ("CCR").
 - 1) California Building Standards Administrative Code, Part 1, Title 24, CCR.
 - 2) California Building Code (CBC), Part 2, Title 24, CCR; (International Building Code volumes 1-2 and California Amendments).
 - 3) California Electrical Code (CEC), Part 3, Title 24, CCR; (National Electrical Code and California Amendments).
 - 4) California Mechanical Code (CMC), Part 4, Title 24, CCR; (Uniform Mechanical Code and California Amendments).
 - 5) California Plumbing Code (CPC), Part 5, Title 24, CCR; (Uniform Plumbing Code and California Amendments).
 - 6) California Fire Code (CFC), Part 9, Title 24, CCR; (International Fire Code and California Amendments).

- 7) California Referenced Standards Code, Part 12, Title 24, CCR.
- 8) State Fire Marshal Regulations, Public Safety, Title 19, CCR.
- 9) Partial List of Applicable National Fire Protection Association (NFPA) Standards:
 - a) NFPA 13 - Automatic Sprinkler System.
 - b) NFPA 14 - Standpipes Systems.
 - c) NFPA 17A - Wet Chemical System
 - d) NFPA 24 - Private Fire Mains.
 - e) (California Amended) NFPA 72 - National Fire Alarm Codes.
 - f) NFPA 253 - Critical Radiant Flux of Floor Covering System.
 - g) NFPA 2001 - Clean Agent Fire Extinguishing Systems.
- 10) California Division of the State Architect interpretation of Regulations ("DSA IR"), including, without limitation:
 - a) DSA IR A-6 — Construction Change Document Submittal and Approval Processes.
 - b) DSA IR A-7 — Project Inspector Certification and Approval.
 - c) DSA IR A-8 — Project Inspector and Assistant Inspector Duties and Performance.
 - d) DSA IR A-12 — Assistant Inspector Approval.
- 11) DSA Procedures ("DSA PR")
 - a) DSA PR 13-01 – Construction Oversight Process
 - b) DSA PR 13-02 – Project Certification Process
- B. This Project shall be governed by applicable regulations, including, without limitation, the State of California's Administrative Regulations for the Division of the State Architect-Structural Safety (DSA/SS), Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:
 - 1) Test and testing laboratory per Section 4-335. District shall pay for the testing laboratory.
 - 2) Special inspections per Section 4-333(c).
 - 3) Deferred Approvals per section 4-317(g).

- 4) Verified reports per Sections 4-336 & 4-343(c).
- 5) Duties of the Architect & Engineers shall be per Sections 4-333(a) and 4-341.
- 6) Duties of the Contractor shall be per Section 4-343.
- 7) Duties of Project Inspector shall be per Section 4-334.
- 8) Addenda and Construction Change Documents per Section 4-338.

Contractor shall keep and make available all applicable parts of the most current version of Title 24 referred to in the plans and specifications at the Site during construction.

C. Items of deferred approval shall be clearly marked on the first sheet of the Architect's and/or Engineer's approved Drawings. All items later submitted for approval shall be per Title 24 requirements to the DSA.

- 1) Contractor shall submit the following to Architect for review and endorsement:
 - a) Product information on proposed material/system supplier.
 - b) Drawings, specifications, and calculations prepared, signed, and stamped by an architect or engineer licensed in the State of California for that portion of the Work.
 - c) All other requirements as may be required by DSA.
- 2) Cost of preparing and submitting documentation per DSA Deferred Approval requirements including required modifications to Drawings and Specifications, whether or not indicated in the Contract Documents, shall be borne by Contractor.
- 3) Contractor shall not begin fabrication and installation of deferred approval items without first obtaining DSA approval of Drawings and Specifications.
- 4) Schedule of Work Subject to DSA Deferred Approval: Window wall systems exceeding 10 feet in span.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 42 13 - ABBREVIATIONS AND ACRONYMS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 DOCUMENT INCLUDES:

- A. Abbreviations used throughout the Contract Documents.
- B. Reference to a technical society, organization, or body is by abbreviation, as follows:

- | | | |
|-----|--------|---|
| 1. | AA | The Aluminum Association |
| 2. | AAMA | American Architectural Manufacturers Association |
| 3. | AASHTO | American Association of State Highway and Transportation Officials |
| 4. | ABPA | Acoustical and Board Products Association |
| 5. | ACI | American Concrete Institute |
| 6. | AGA | American Gas Association |
| 7. | AGC | Associated General Contractors of America |
| 8. | AHC | Architectural Hardware Consultant |
| 9. | AI | Asphalt Institute |
| 10. | AIA | American Institute of Architects |
| 11. | AIEE | American Institute of Electrical Engineers |
| 12. | AISC | American Institute of Steel Construction |
| 13. | AISI | American Iron and Steel Institute |
| 14. | AMCA | Air Moving and Conditioning Association |
| 15. | ANSI | American National Standards Institute |
| 16. | APA | American Plywood Association |
| 17. | ARI | Air Conditioning and Refrigeration Institute |
| 18. | ASHRAE | American Society of Heating, Refrigeration and Air Conditioning Engineers |
| 19. | ASME | American Society of Mechanical Engineers |
| 20. | ASSE | American Society of Structural Engineers |
| 21. | ASTM | American Society of Testing and Materials |
| 22. | AWPB | American Wood Preservers Bureau |
| 23. | AWPI | American Wood preservers Institute |
| 24. | AWS | American Welding Society |
| 25. | AWSC | American Welding Society Code |
| 26. | AWI | Architectural Woodwork Institute |
| 27. | AWWA | American Water Works Association |
| 28. | BIA | Brick Institute of America |
| 29. | CCR | California Code of Regulations |
| 30. | CLFMI | Chain Link Fence Manufacturers Institute |

**ELOP GROUP B PROJECTS
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31.	CMG	California Masonry Guild
32.	CRA	California Redwood Association
33.	CRSI	Concrete Reinforcing Steel Institute
34.	CS	Commercial Standards
35.	CSI	Construction Specifications Institute
36.	CTI	Cooling Tower Institute
37.	FGMA	Flat Glass Manufacturer's Association
38.	FIA	Factory Insurance Association
39.	FM	Factory Mutual
40.	FS	Federal Specification
41.	FTI	Facing Title Institute
42.	GA	Gypsum Association
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronic Engineers
45.	IES	Illumination Engineering Society
46.	LIA	Lead Industries Association
47.	MIA	Marble Institute of America
48.	MLMA	Metal Lath Manufacturers Association
49.	MS	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NBFU	National Board of Fire Underwriters
53.	NBS	National Bureau of Standards
54.	NCMA	National Concrete Masonry Association
55.	NEC	National Electrical Code
56.	NEMA	National Electrical Manufacturers Association
57.	NFPA	National Fire Protection Association/National Forest Products Association
58.	NMWIA	National Mineral Wool Insulation Association
59.	NTMA	National Terrazzo and Mosaic Association
60.	NWMA	National Woodwork Manufacturer's Association
61.	ORS	Office of Regulatory Services (California)
62.	OSHA	Occupational Safety and Health Act
63.	PCI	Precast Concrete Institute
64.	PCA	Portland Cement Association
65.	PDCA	Painting and Decorating Contractors of America
66.	PDI	Plumbing Drainage Institute
67.	PEI	Porcelain Enamel Institute
68.	PG&E	Pacific Gas & Electric Company
69.	PS	Product Standards
70.	SDI	Steel Door Institute; Steel Deck Institute
71.	SJI	Steel Joist Institute
72.	SSPC	Steel Structures Painting Council
73.	TCA	Tile Council of America
74.	TPI	Truss Plate Institute
75.	UBC	Uniform Building Code
76.	UL	Underwriters Laboratories Code
77.	UMC	Uniform Mechanical Code
78.	USDA	United States Department of Agriculture
79.	VI	Vermiculite Institute
80.	WCLA	West Coast Lumberman's Association
81.	WCLB	West Coast Lumber Bureau

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- | | | |
|-----|--------|---|
| 82. | WEUSER | Western Electric Utilities Service Engineering Requirements |
| 83. | WIC | Woodwork Institute of California |
| 84. | WPOA | Western Plumbing Officials Association |

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 42 16 - DEFINITIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.
- B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.
- C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.
- D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the District and/or the Architect before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

END OF DOCUMENT

01 42 19 - REFERENCES

PART 1 GENERAL

1.01 SCHEDULE OF REFERENCES:

The following information is intended only for the general assistance of the Contractor, and the District does not represent that all of the information is current. It is the Contractor's responsibility to verify the correct information for each of the entities listed.

AA	The Aluminum Association 1400 Crystal Drive, Suite 430 Arlington, VA 22202 www.aluminum.org	703/358-2960
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503 Washington, DC 20005 www.aabc.com	202/737-0202
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 550 Schaumburg, IL 60173-4268 www.aamanet.org	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 N Capitol St. NW - Suite 249 Washington, DC 20001 www.transportation.org	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Drive Research Triangle Park, NC 27709 2215 www.aatcc.org	919/549-8141
ACA	American Coatings Association 1500 Rhode Island Ave., NW Washington DC, 20005 www.paint.org	202/462-6272

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ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 www.concrete.org	248/848-3700
ACPA	American Concrete Pipe Association 8445 Freeport Parkway, Suite 350 Irving, TX 75063-2595 www.concrete-pipe.org	972/506-7216
ADC	Air Duct Council 1901 N. Roselle Road, Suite 800 Schaumburg, Illinois 60195 www.flexibleduct.org	847/706-6750
AF&PA	American Forest and Paper Association 1101 K Street, NW, Suite 700 Washington, DC 20005 www.afandpa.org	202/463-2700
AGA	American Gas Association 400 North Capitol Street, NW Washington, DC 20001 www.aga.org	202/824-7000
AGC	Associate General Contractors of America 2300 Wilson Blvd., Suite 300 Arlington, VA 22201 www.agc.org	703/548-3118
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067 domensino.com/AHA/default.htm	847/934-8800
AI	Asphalt Institute 2696 Research Park Drive Lexington, KY 40511-8480 www.asphaltinstitute.org	859/288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	202/626-7300
AISC	American Institute of Steel Construction 130 East Randolph Street Suite 2000 Chicago, IL 60601 www.aisc.org	312.670.2400

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AIA	American Insurance Association (formerly the National Board of Fire Underwriters) 555 12th St, NW, Suite 550 Washington DC 20004 www.aiadc.org	202/828-7100
AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW, Suite 800 Washington, DC 20001 www.steel.org	202/452.7100
AITC	American Institute of Timber Construction 7012 S. Revere Parkway Suite 140 Centennial, CO 80112 www.aitc-glulam.org	503/639.0651
ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 www.assoc-labs.com	214/565-0593
ALSC	American Lumber Standards Committee, Inc. 7470 New Technology Way, Suite F Frederick, MD 21703 www.alsc.org	301/972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004 www.amca.org	847/394-0150
ANLA	American Nursery & Landscape Association (now AmericanHort) 525 9 th St NW, Suite 80 Washington, DC 20004 www.americanhort.org	202/789-2900
ANSI	American National Standards Institute 1899 L Street, NW, 11th Floor Washington, DC, 20036 www.ansi.org	202/293.8020
APA	APA-The Engineered Wood Association 7011 S. 19th Street Tacoma, WA 98466-5333 www.apawood.org	253/565-6600

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APA	Architectural Precast Association 325 John Know Rd, Ste L103 Tallahassee, FL 32303 www.archprecast.org	850/205.5637
ARI	Air Conditioning and Refrigeration Institute (now Air-Conditioning, Heating, & Refrigeration Institute) 2111 Wilson Blvd, Suite 500 Arlington, VA 22201 www.ahrinet.org	703/524-8800
ARMA	Asphalt Roofing Manufacturers Association Public Information Department 750 National Press Building 529 14th Street, NW Washington, DC 20045 www.asphaltroofing.org	202/591-2450
ASA	The Acoustical Society of America ASA Office Manager Suite 1N01 2 Huntington Quadrangle Melville, NY 11747-4502 http://asa.aip.org	516/576-2360
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 www.asce.org	800/548-2723 703/295-6300
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 www.ashrae.org	800/527-4723 404/636-8400
ASLA	American Society of Landscape Architects 636 Eye Street, NW Washington, DC 20001-3736 www.asla.org	202/898-2444
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 www.asme.org	800/434-2763
ASPE	American Society of Plumbing Engineers 2980 S River Rd. Des Plaines, IL 60018 http://aspe.org	847/296-0002

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ASQ	American Society for Quality P.O. Box 3005 Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue Milwaukee, WI 53203 http://asq.org	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, Ohio 44145 www.asse-plumbing.org	440/835-3040
ASTM	ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA, 19428-2959 www.astm.org	610/832-9500
AWCI	Association of the Wall and Ceiling Industry 513 West Broad Street, Suite 210 Falls Church, VA 22046 www.awci.org	703/538-1600
AWPA	American Wood Protection Association P.O. Box 361784 Birmingham, AL 35236-1784 www.awpa.com	205/733-4077
AWPI	American Wood Preservers Institute 2750 Prosperity Ave. Suite 550 Fairfax, VA 22031-4312 www.arcat.com	800/356-AWPI 703/204-0500
AWS	American Welding Society 8669 Doral Boulevard, Suite 130 Doral, Florida 33166 www.aws.org	800/443-9353 305/443-9353
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120 Potomac Falls, VA 20165-5874 www.awinet.org	571/323-3636
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 www.awwa.org	800/926-7337 303/794 7711

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BHMA	Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th floor New York, NY 10017 www.buildershardware.com	212/297-2122
BIA	The Brick Industry Association 1850 Centennial Park Drive, Suite 301 Reston, VA 20191 www.gobrick.com	703/620-0010
CGA	Compressed Gas Association 14501 George Carter Way, Suite 103 Chantilly VA 20151-2923 www.cganet.com	703/788-2700
CISCA	Ceilings & Interior Systems Construction Association 1010 Jorie Blvd, Suite 30 Oak Brook, IL 60523 www.cisca.org	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 1064 Delaware Avenue SE Atlanta, GA 30316 www.cispi.org	404/622-0073
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 www.associationsites.com/main-pub.cfm?usr=clfma	410/290-6267
CPA	Composite Panel Association 19465 Deerfield Avenue, Suite 306 Leesburg, VA 20176 www.compositepanel.org	703/724-1128
CPSC	Consumer Product Safety Commission 4330 East West Highway Bethesda, MD 20814 www.cpsc.gov	301/504-7923 800/638-2772
CRA	California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949 www.calredwood.org	415/382-0662

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CRI	Carpet and Rug Institute P.O. Box 2048 Dalton, Georgia 30722-2048 www.carpet-rug.org	706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173 4758 www.crsi.org	847/517-1200
CSI	The Construction Specifications Institute 110 South Union Street, Suite 100 Alexandria VA 22314 www.csinet.org	800/689-2900
CTIOA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culver City, CA 90230-6219 www.ctioa.org	310/574-7800
DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 14150 Newbrook Dr. Chantilly, VA 20151 www.dhi.org	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 2000 2nd Avenue, South Suite 429 Birmingham, AL 35233 www.dipra.org	205/402-8700
DOC	U.S. Department of Commerce 1401 Constitution Ave., NW Washington, D.C. 20230 www.commerce.gov	202/482-2000
DOT	U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590 www.dot.gov	855/368-4200
EJMA	Expansion Joint Manufacturers Association, Inc. 25 North Broadway Tarrytown, NY 10591 www.ejma.org	914/332-0040

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EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 www.epa.gov	202/272-0167
FCICA	Floor Covering Installation Contractors Association 7439 Millwood Drive West Bloomfield, MI 48322 www.fcica.com	248/661-5015 877/TO-FCICA
FM Global	Factory Mutual Insurance Company Amy Daley Global Practice Leader – Education, Public Entities, Health Care FM Global 270 Central Avenue Johnston, RI 02919-4949 www.fmglobal.com	401/275-3000 401/275-3029
FS	General Services Administration (GSA) Index of Federal Specifications, Standards and Commercial Item Descriptions 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 www.gsa.gov	202/619-8925
GA	The Gypsum Association 6525 Belcrest Road, Suite 480 Hyattsville, MD 20782 www.gypsum.org	301/277-8686
GANA	Glass Association of North America 800 SW Jackson St., Suite 1500 Topeka, KS 66612-1200 www.glasswebsite.com	785/271-0208
HMA	Hardwood Manufacturers Association 665 Rodi Road, Suite 305 Pittsburgh, PA 15235 http://hmamembers.org	412/244-0440
HPVA	Hardwood Plywood & Veneer Association 1825 Michael Faraday Drive Reston, Virginia 20190 www.hpva.org	703/435-2900

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IAPMO	International Association of Plumbing and Mechanical Officials (formerly the Western Plumbing Officials Association) 4755 E. Philadelphia St. Ontario, CA 91761 www.iapmo.org	909/472-4100
ICC	International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, DC 20001 www.iccsafe.org	888/422-7233
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, NY 10016-5997 www.ieee.org	212/419-7900
IES	Illuminating Engineering Society 120 Wall Street, Floor 17 New York, NY 10005-4001 www.ies.org	212/248-5000
ITRK	Intertek Testing Services 3933 US Route 11 Cortland, NY 13045 www.intertek.com	607/753-6711
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850 www.mcaa.org	301/869-5800
MIA	Marble Institute of America 28901 Clemens Rd, Ste 100 Cleveland, OH 44145 www.marble-institute.com	440/250-9222
MMPA (formerly WMMPA)	Moulding & Millwork Producers Association (formerly Wood Moulding & Millwork Producers Association) 507 First Street Woodland, CA 95695 www.wmmpa.com	530/661-9591 800/550-7889

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MSS	Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry 127 Park Street, NE Vienna, VA 22180-4602 http://mss-hq.org	703/281-6613
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Rd. Bldg. C, Suite 312 Glen Ellyn, IL 60137 www.naamm.org	630/942-6591
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 www.naima.org	703/684-0084
NAPA	National Asphalt Pavement Association 5100 Forbes Blvd. Lanham, MD USA 20706-4407 www.asphaltpavement.org	888/468-6499 301/731-4748
NCSPA	National Corrugated Steel Pipe Association 14070 Proton Road, Suite 100 LB9 Dallas, TX 75244 www.ncspa.org	972/850-1907
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171-4662 www.ncma.org	703/713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 www.nebb.org	301/977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 www.necanet.org	301/657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street, Suite 1752 Rosslyn, Virginia 22209 www.nema.org	703/841-3200

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NEII	National Elevator Industry, Inc. 1677 County Route 64 P.O. Box 838 Salem, New York 12865-0838 www.neii.org	518/854-3100
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, Massachusetts USA 02169-7471 www.nfpa.org	617/770-3000
NHLA	National Hardwood Lumber Association PO Box 34518 Memphis, TN 38184 www.nhla.com	901/377-1818
NIA	National Insulation Association 12100 Sunset Hills Road, Suite 330 Reston, VA 20190 www.insulation.org	703/464-6422
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.nrca.net	847/299-9070
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, MI 48113-0140, USA www.nsf.org	800/673-6275 734/769-8010
NTMA	National Terrazzo and Mosaic Association PO Box 2605 Fredericksburg, TX 78624 www.ntma.com	800/323-9736
OSHA	Occupational Safety and Health Act U.S. Department of Labor Occupational Safety & Health Administration 200 Constitution Ave., NW Washington, D.C. 20210 www.osha.gov	800/321-OSHA (6742)

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PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 500 New Jersey Ave., N.W. 7 th Floor Washington, D.C. 20001 www.cement.org	847/966-6200 202/408-9494
PCI	Precast/Prestressed Concrete Institute 200 W. Adams St. #2100 Chicago, IL 60606 www.pci.org	312/786-0300
PDCA	Painting and Decorating Contractors of America 2316 Millpark Drive, Ste 220 Maryland Heights, MO 63043 www.pdca.com	800/332-PDCA (7322) 314/514-7322
PDI	Plumbing & Drainage Institute 800 Turnpike Street, Suite 300 North Andover, MA 01845 http://pdionline.org	978/557-0720 800/589-8956
PEI	Porcelain Enamel Institute, Inc. P.O. Box 920220 Norcross, GA 30010 www.porcelainenamel.com	770/676-9366
PG&E	Pacific Gas & Electric Company www.pge.com	800/743-5000
PLANET	Professional Landcare Network 950 Herndon Parkway, Suite 450 Herndon, Virginia 20170 www.landcarenetwork.org	703/736-9666 800/395-2522 703/736-9668
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 La Grange GA 30240 www.rfci.com	706/882-3833
RIS	Redwood Inspection Service 818 Grayson Road, Suite 201 Pleasant Hill, CA 94523 www.redwoodinspection.com	925/935-1499
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	847/458-4647

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SDI	Steel Door Institute 30200 Detroit Road Westlake, Ohio 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 234 W. Cheves Street Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 500 East Yale Loop Irvine, CA 92614 www.stuccomfgassoc.com	949/387.7611
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 www.smacna.org	703/803-2980
SPI	SPI: The Plastics Industry Trade Association, Inc. 1667 K St., NW, Suite 1000 Washington, DC 20006 www.plasticsindustry.org	202/974-5200
SSPC	Society for Protective Coatings (formerly the Steel Structures Painting Council) 40 24th St 6th Fl Pittsburgh, PA 15222 www.sspc.org	412/281-2331 877/281-7772
TCA	The Tile Council of North America 100 Clemson Research Blvd. Anderson, SC 29625 www.tcnatile.com	864/646-8453
TPI	Truss Plate Institute 218 North Lee Street, Suite 312 Alexandria, VA 22314 www.tpinst.org	703/683-1010
TPI	Turfgrass Producers International 2 East Main Street East Dundee, IL 60118 www.turfgrasssod.org	800/405-8873 847/649-5555

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TCIA	Tree Care Industry Association (formerly the National Arborist Association) 136 Harvey Road, Suite 101 Londonderry, NH 03053 www.tcia.org	800/733-2622
TVI	The Vermiculite Institute c/o The Schundler Company 150 Whitman Avenue Edison, NJ. 08817 www.vermiculiteinstitute.org	732/287-2244
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847/272-8800 877/854-3577
UNI	Uni-Bell PVC Pipe Association 2711 LBJ Freeway, Suite 1000 Dallas, TX 75234 www.uni-bell.org	972/243-3902
USDA	U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 www.usda.gov	202/720-2791
WA	Wallcoverings Association 401 North Michigan Avenue Suite 2200 Chicago, IL 60611 www.wallcoverings.org	312/321-5166

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WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281 or 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, New York 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 or 2025 M Street, NW, Ste. 800 Washington, D.C. 20036-3309 www.wdma.com	312/321-6802 202/367-1157
WI	Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798 www.wicnet.org	916/372-9943
WRI	Wire Reinforcement Institute 942 Main Street Hartford, CT 06103 www.wirereinforcementinstitute.org	860/240-9545
WWCA	Western Wall & Ceiling Contractors Association 1910 N. Lime St. Orange, California 92865 www.wwcca.org	714/221-5520
WWPA	Western Wood Products Association 522 SW Fifth Ave., Suite 500 Portland, OR 97204-2122 www2.wwpa.org	503/224-3930

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 43 00 - MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Purchase of Materials and Equipment;
- B. Special Conditions;
- C. Imported Materials Certification.

1.02 MATERIAL AND EQUIPMENT

- A. Only items approved by the District and/or Design Professional shall be used.
- B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.03 MATERIAL AND EQUIPMENT COLORS

- A. The District and/or Architect will provide a schedule of colors.
- B. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.
- C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.
- B. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.
- C. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.
- D. Materials are not acceptable that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged,

inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled.

- E. Contractor shall store material so as to cause no obstructions of sidewalks, roadways, access to the Site or buildings, and underground services. Contractor shall protect material and equipment furnished under Contract.
- F. Contractor may store materials on Site with prior written approval by the District, all material shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at a bonded warehouse and with appropriate insurance coverage at no cost to District.
- G. When any room in Project is used as a shop or storeroom, the Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by District.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers listed in various sections of Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of items specified therein.
- B. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable as meeting the requirements of the Contract Documents.

2.02 FACILITIES AND EQUIPMENT

Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, the execution, disposal, and distribution of material and equipment as required for proper and timely performance of Work connected with Contract.

2.03 MATERIAL REFERENCE STANDARDS

Where material is specified solely by reference to "standard specifications" and if requested by District, Contractor shall submit for review data on actual material proposed to be incorporated into Work of Contract listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and accepted practices of trade or trades involved and shall include items of

fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).

- B. Work shall be executed by tradespersons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.02 COORDINATION

- A. Contractor shall coordinate installation of Work so as to not interfere with installation of others. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to District.
- B. Contractor shall examine in-place work for readiness, completeness, fitness to be concealed or to receive other work, and in compliance with Contract Documents. Concealing or covering Work constitutes acceptance of additional cost which will result should in-place Work be found unsuitable for receiving other Work or otherwise deviating from the requirements of the Contract Documents.

3.03 COMPLETENESS

Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; sinks fit within countertop, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," "to match similar," should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required.

3.04 APPROVED INSTALLER OR APPLICATOR

Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

3.05 MANUFACTURER'S RECOMMENDATIONS

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his representative, Contractor shall analyze differences, make recommendations to the District and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the District and/or the Architect.

END OF DOCUMENT

01 45 00 - QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections and Tests, Uncovering of Work and Non-conforming of Work and Correction of Work;
- B. Special Conditions.

1.02 RELATED CODES:

- A. The Work is governed by requirements of Title 24, California Code of Regulations ("CCR"), and the Contractor shall keep a copy of these available at the job Site for ready reference during construction.
- B. The Division of the State Architect ("DSA") shall be notified at or before the start of construction.

1.03 OBSERVATION AND SUPERVISION:

- A. The District and Architect or their appointed representatives will review the Work and the Contractor shall provide facilities and access to the Work at all times as required to facilitate this review. Administration by the Architect and any consulting Structural Engineer will be in accordance with applicable regulations, including, without limitation, CCR, Part 1, Title 24, Section 4-341.
- B. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District, referred to hereinafter as the "Project Inspector", will observe the work in accordance with CCR, Part 1, Title 24, Sections 4-333(b) and 4-342:
 - 1) The Project Inspector and Special Inspector(s) shall have access to the Work wherever it is in preparation or progress for ascertaining that the Work is in accordance with the Contract Documents and all applicable code sections. The Contractor shall provide facilities and operation of equipment as needed, and access as required and shall provide assistance for sampling or measuring materials.
 - 2) The Project Inspector will notify the District and Architect and call the attention of the Contractor to any observed failure of Work or material to conform to Contract Documents.
 - 3) The Project Inspector shall observe and monitor all testing and inspection activities required.

The Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to CCR, Part 1, Title 24, Section 4-343. The Contractor shall supervise and direct the Work and maintain a competent superintendent on the job who is authorized to act in all matters pertaining to the Work. The Contractor's superintendent shall also inspect all materials, as they arrive, for compliance with the Contract Documents. Contractor shall reject defective Work or materials immediately upon delivery or failure of the Work or material to comply with the Contract Documents. The Contractor shall submit verified reports as indicated in the Contract Documents, including, without limitation, the Specifications and as required by Part 1, Title 24, Section 4-336.

1.04 TESTING AGENCIES:

- A. Testing agencies and tests shall be in conformance with the General Documents and the requirements of Part 1, Title 24, Section 4- 335.
- B. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer, if any, referred to hereinafter as the "Soils Engineer."
- C. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory, referred to hereinafter as the "Testing Laboratory." The Testing Laboratory shall be under direction of an engineer registered in the State of California, shall conform to requirements of ASTM E329, and shall be employed by or in contract with the District.

1.05 TESTS AND INSPECTIONS:

- A. The Contractor shall be responsible for notifying the District and Project Inspector of all required tests and inspections. Contractor shall notify the District and Project Inspector at least seventy-two hours (72) hours in advance of performing any Work requiring testing or inspection.
- B. The Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.
- C. The District will pay for first inspections and tests required by the "CCR", and other inspections or tests that the District and/or the Architect may direct to have made, including the following principal items:
 - 1) Tests and observations for earthwork and paving.
 - 2) Tests for concrete mix designs, including tests of trial batches.
 - 3) Tests and inspections for structural steel work.
 - 4) Field tests for framing lumber moisture content.
 - 5) Additional tests directed by the District that establish that materials and installation comply with the Contract Documents.
 - 6) Tests and observations of welding and expansion anchors.

- D. The District may at its discretion, pay and then back charge the Contractor for:
 - 1) Retests or reinspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.
 - 2) Uncovering of work in accordance with Contract Documents.
 - 3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.
 - 4) Testing done off Site.
- E. Testing and inspection reports and certifications:
 - 1) If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification.
 - a) The District;
 - b) The Construction Manager, if any;
 - c) The Architect;
 - d) The Consulting Engineer, if any;
 - e) Other engineers on the Project, as appropriate;
 - f) The Project Inspector; and
 - g) The Contractor.
 - 2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

PART 2 - PRODUCTS

2.01 TYPE OF TESTS AND INSPECTIONS

- A. Testing and inspection shall be in accordance with DSA Form 103 (or current version)
- B. Slump Test ASTM C 143
- C. Concrete Tests

Testing agency shall test concrete used in the work per the following paragraphs:

- 1) Compressive Strength:

- a) Minimum number of tests required: One (1) set of three (3) cylinders for each 100 cubic yards (Sec. 2604(h) 01) of concrete or major fraction thereof, placed in one (1) day. See Title 24, Section 2605(g).
- b) Two cylinders of each set shall be tested at twenty-eight (28) days. One (1) cylinder shall be held in reserve and tested only when directed by the Architect or District.
- c) Concrete shall test the minimum ultimate compressive strength in twenty-eight 28 days, as specified on the structural drawings.
- d) In the event that the twenty-eight (28) day test falls below the minimum specified strength, the effective concrete in place shall be tested by taking cores in accordance with UBC Standard No. 26-13 and tested as required for cylinders.
- e) In the event that the test on core specimens falls below the minimum specified strength, the concrete will be deemed defective and shall be removed and replaced upon such direction of the Architect, and in a manner acceptable to the Division of the State Architect.

D. Reinforcing, Steel

E. Structural Steel Per Title 24 and as noted:

- 1) Material: Steel per Table in Title 24, Section 2712.
- 2) Qualification of Welders (UBC Std. 27-6).
- 3) Shop fabrication (Section 2712(d). Structural steel only).
- 4) Shop and field welding (Section 2712(e)).

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-04 11:54:15

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-04 11:54:15

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-04 11:54:15

	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-04 11:54:15

C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f' _c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Periodic	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

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School Name:

Adams Elementary School

School District:

Stockton Unified School District

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Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

Date:

12/04/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-122871 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 12/4/2024

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number: 02-122871	School Name: Adams Elementary School	School District: Stockton Unified School District
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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122872	School Name: Grunsky Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-05 16:35:44

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122872	School Name: Grunsky Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-05 16:35:44

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122872	School Name: Grunsky Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f'c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Periodic	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122872	School Name: Grunsky Elementary School	School District: Stockton Unified School District
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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122872	School Name: Grunsky Elementary School	School District: Stockton Unified School District
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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

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Application Number:

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School Name:

Grunsky Elementary School

School District:

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Date Created:

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Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

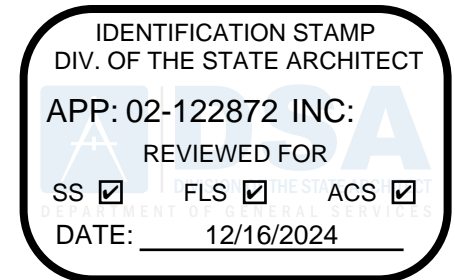
Signature of Architect or Structural Engineer:

Date:

12/5/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP



DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122874	School Name: Kennedy Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-10-07 10:14:02

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122874	School Name: Kennedy Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-10-07 10:14:02

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

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Table 1705A.6, Table 1705A.7, Table 1705A.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f'c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Continuous	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122874	School Name: Kennedy Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-10-07 10:14:02

	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number:

02-122874

School Name:

Kennedy Elementary School

School District:

Stockton Unified School District

DSA File Number:

39-69

Increment Number:

Date Created:

2024-10-07 10:14:02

Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

Date:

12/10/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-122874 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 12/13/2024

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number:

02-122874

DSA File Number:

39-69

School Name:

Kennedy Elementary School

Increment Number:

School District:

Stockton Unified School District

Date Created:

2024-10-07 10:14:02

1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f'c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Continuous	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2025-01-27 11:50:34

	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:

02-123092

School Name:

Kohl Elementary School

School District:

Stockton Unified School District

DSA File Number:

39-69

Increment Number:

Date Created:

2025-01-27 11:50:34

S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:

02-123092

School Name:

Kohl Elementary School

School District:

Stockton Unified School District

DSA File Number:

39-69

Increment Number:

Date Created:

2025-01-27 11:50:34

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:

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School Name:

Kohl Elementary School

School District:

Stockton Unified School District

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input checked="" type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-123092	School Name: Kohl Elementary School	School District: Stockton Unified School District
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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) $\leq 4'$ above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number:

02-123092

School Name:

Kohl Elementary School

School District:

Stockton Unified School District

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Date Created:

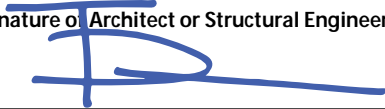
2025-01-27 11:50:34

Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:



Date:

01/27/2025

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number:
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School Name:
Kohl Elementary School
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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-05 17:03:45

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-05 17:03:45

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f' _c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Periodic	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122873	School Name: Montezuma Elementary School	School District: Stockton Unified School District
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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

SOILS:	
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

CONCRETE/MASONRY:	
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

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School Name:

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School District:

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Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

Date:

12/05/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-122873 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 12/20/2024

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122875	School Name: Van Buren Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-10-07 10:18:49

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122875	School Name: Van Buren Elementary School	School District: Stockton Unified School District
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Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122875		School Name: Van Buren Elementary School		School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f' _c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Continuous	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) $\leq 4'$ above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

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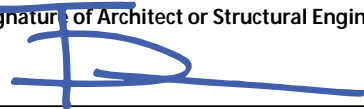
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Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

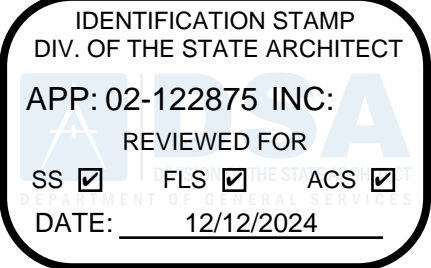


Date:

12/10/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP



DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

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General

Application Number: 02-122877	School Name: Washington Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:58:21

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

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Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f' _c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Continuous	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

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Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

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C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

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DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:58:21

Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input checked="" type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122877	School Name: Washington Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:58:21

	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122877	School Name: Washington Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:58:21

	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number:

02-122877

DSA File Number:

39-69

School Name:

Washington Elementary School

Increment Number:

School District:

Stockton Unified School District

Date Created:


2024-12-17 15:58:21

Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

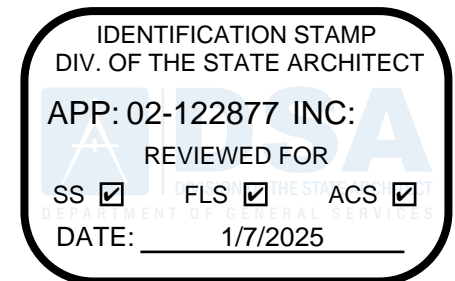


Date:

12/17/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP



DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number:

02-122877

DSA File Number:

39-69

School Name:

Washington Elementary School

Increment Number:

School District:

Stockton Unified School District

Date Created:

2024-12-17 15:58:21

1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

General

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	GE (Geotechnical Engineer) – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	LOR (Laboratory of Record) – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	PI (Project Inspector) – Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

S1. GENERAL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify that: <ul style="list-style-type: none">• Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.• Foundation excavations are extended to proper depth and have reached proper material.• Materials below footings must not contain loose material, mud, organic silt, organic clays, or peat.	See Notes	PI	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations and/or within the building envelope is not permitted without a geotechnical report.

S2. SOIL COMPACTION AND FILL:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Perform classification and testing of fill materials.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input checked="" type="checkbox"/>	b. Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	Continuous	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input checked="" type="checkbox"/>	c. Compaction testing.	Test	LOR*	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

S3. DRIVEN DEEP FOUNDATIONS (PILES):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify pile materials, sizes and lengths comply with the requirements.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	b. Determine capacities of test piles and conduct additional load tests as required.	Test	LOR*	* Under the supervision of the geotechnical engineer.
<input type="checkbox"/>	c. Inspect driving operations and maintain complete and accurate records for each pile.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	d. Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	e. Steel piles.	Provide tests and inspections per STEEL section below.		
<input type="checkbox"/>	f. Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	g. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	Type	Performed By	Code References and Note
<input type="checkbox"/>	a. Inspect drilling operations and maintain complete and accurate records for each pier.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	b. Verify pier locations, diameters, plumbness and lengths. Record concrete or grout volumes.	Continuous	PI	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
<input type="checkbox"/>	c. Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

	Test or Special Inspection	Type	Performed By	Code References and Notes
	S5. RETAINING WALLS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Placement, compaction and inspection of backfill.	Continuous	GE*	1705A.6.1. * By geotechnical engineer or his or her qualified representative. (See section S2 above).
<input type="checkbox"/>	b. Placement of soil reinforcement and/or drainage devices.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c. Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	Continuous	GE*	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
<input type="checkbox"/>	d. Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
<input type="checkbox"/>	e. Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Soil Improvements	Test	GE*	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	b. Inspection of Soil Improvements	Continuous	GE*	* By geotechnical engineer or his or her qualified representative.
<input type="checkbox"/>	c.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

C1. CAST-IN-PLACE CONCRETE				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify use of required design mix.	Continuous	SI	Table 1705A.3 Item 5, 1910A.1.
<input checked="" type="checkbox"/>	b. Identify, sample, and test reinforcing steel.	Test	LOR	1910A.2; ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
<input checked="" type="checkbox"/>	c. During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Test	LOR	Table 1705A.3 Item 6; ACI 318-19 Sections 26.5 & 26.12.
<input checked="" type="checkbox"/>	d. Test concrete (f'c).	Test	LOR	1905A.1.17; ACI 318-19 Section 26.12.
<input checked="" type="checkbox"/>	e. Batch plant inspection: Continuous	See Notes	SI	Default of 'Continuous' per 1705A.3.3. If approved by DSA, batch plant inspection may be reduced to 'Periodic' subject to requirements in Section 1705A.3.3.1, or not required per 1705A.3.3.2. See IR 17-13. (See Appendix (end of this form) for exemptions.)
<input type="checkbox"/>	f. Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Sample and test prestressing tendons and anchorages.	Test	LOR	1705A.3.4, 1910A.3
<input type="checkbox"/>	b. Inspect placement of prestressing tendons.	Periodic	SI	1705A.3.4, Table 1705A.3 Items 1 & 9.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	Periodic	SI	Table 1705A.3 Item 13. Special inspector to verify specified concrete strength test prior to stressing.
<input type="checkbox"/>	d. Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	Continuous	SI	1705A.3.4, Table 1705A.3 Item 9; ACI 318-19 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect fabrication of precast concrete members.	Continuous	SI	ACI 318-19 Section 26.13, and PCI MNL-128 and -130.
<input type="checkbox"/>	b. Inspect erection of precast concrete members.	Periodic	SI*	Table 1705A.3 Item 10. * May be performed by PI when specifically approved by DSA.
<input type="checkbox"/>	c. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	Continuous	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
<input type="checkbox"/>	d. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	Periodic	SI	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
DSA File Number: 39-69	Increment Number:	Date Created: 2024-12-17 15:35:41

C4. SHOTCRETE (IN ADDITION TO SECTION C1):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect shotcrete placement for proper application techniques.	Continuous	SI	1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3. See ACI 506.2-13 Section 3.4, ACI 506R-16.
<input type="checkbox"/>	b. Sample and test shotcrete (f'_c).	Test	LOR	1908A.2, 1705A.3.9

C5. POST-INSTALLED ANCHORS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect installation of post-installed anchors	See Notes	SI*	1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8 (See Appendix (end of this form) for exemptions). ACI 318-19 Section 26.13. * May be performed by the project inspector when specifically approved by DSA.
<input checked="" type="checkbox"/>	b. Test post-installed anchors.	Test	LOR	1910A.5. (See Appendix (end of this form) for exemptions.)

C6. OTHER CONCRETE:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number:

02-122876

School Name:

Victory Elementary School

School District:

Stockton Unified School District

DSA File Number:

39-69

Increment Number:

Date Created:

2024-12-17 15:35:41

S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	Periodic	*	Table 1705A.2.1 Item 3a 3c. 2202A.1; AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
<input checked="" type="checkbox"/>	b. Test unidentified materials	Test	LOR	2202A.1.
<input checked="" type="checkbox"/>	c. Examine seam welds of HSS shapes	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	d. Verify and document steel fabrication per DSA-approved construction documents.	Periodic	SI	Not applicable to cold-formed steel light-frame construction, except for trusses (1705A.2.4).
<input type="checkbox"/>	e. Buckling restrained braces.	Test	LOR	Testing and special inspections in accordance with IR 22-4.

S/A2. HIGH-STRENGTH BOLTS:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	Periodic	SI	Table 1705A.2.1 Items 1a & 1b, 2202A.1; AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
<input type="checkbox"/>	b. Test high-strength bolts, nuts and washers.	Test	LOR	Table 1705A.2.1 Item 1c, 2213A.1; RCSC 2014 Section 7.2; DSA IR 17-8.
<input type="checkbox"/>	c. Bearing-type ("snug tight") connections.	Periodic	SI	Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
<input type="checkbox"/>	d. Pretensioned and slip-critical connections.	*	SI	Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. **"Continuous" or "Periodic" depends on the tightening method used.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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S/A3. WELDING:				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	Periodic	SI	1705A.2.5, Table 1705A.2.1 Items 4 & 5; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Verify weld filler material manufacturer's certificate of compliance.	Periodic	SI	DSA IR 17-3.
<input checked="" type="checkbox"/>	c. Verify WPS, welder qualifications and equipment.	Periodic	SI	DSA IR 17-3.

S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):				
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6; AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect welding of stairs and railing systems.	Periodic	SI	1705A.2.1; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
<input type="checkbox"/>	d. Verification of reinforcing steel weldability other than ASTM A706.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input checked="" type="checkbox"/>	e. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	Continuous	SI	Table 1705A.2.1 Items 5a.1 4; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input checked="" type="checkbox"/>	b. Inspect single-pass fillet welds ≤ 5/16".	Periodic	SI	Table 1705A.2.1 Item 5a.5; AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
<input type="checkbox"/>	c. Inspect end-welded studs (ASTM A-108) installation (including bend test).	Periodic	SI	2213A.2; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
<input type="checkbox"/>	d. Inspect floor and roof deck welds.	Periodic	SI	1705A.2.2, Table 1705A.2.1 Item 5a.6; AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
<input type="checkbox"/>	e. Inspect welding of structural cold-formed steel.	Periodic	SI*	1705A.2.5; AWS D1.3; DSA IR 17-3. The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	f. Inspect welding of stairs and railing systems.	Periodic	SI*	1705A.2.1; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
<input type="checkbox"/>	g. Verification of reinforcing steel weldability.	Periodic	SI	1705A.3.1; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
<input type="checkbox"/>	h. Inspect welding of reinforcing steel.	Continuous	SI	Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8; AWS D1.4; DSA IR 17-3.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (STEEL AND ALUMNINUM), 2022 CBC

1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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02-122876

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Victory Elementary School

School District:

Stockton Unified School District

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Date Created:

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Ultrasonic	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input checked="" type="checkbox"/>	b. Magnetic Particle	Test	LOR	1705A.2.1, 1705A.2.5; AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
<input type="checkbox"/>	c.	Test	LOR	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	Continuous	SI	1705A.2.3, Table 1705A.2.3; AWS D1.1; DSA IR 22-3 for steel joists only. 1705A.2.4; AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	Periodic	SI	1705A.15, 1705A.15.1, 1705A.15.2, 1705A.15.3, 1705A.15.4, 1705A.15.5, 1705A.15.6.
<input type="checkbox"/>	b. Test density.	Test	LOR	1705A.15.1, 1705A.15.5, ASTM E605
<input type="checkbox"/>	c. Bond strength adhesion/cohesion.	Test	LOR	1705A.15.1, 1705A.15.6, ASTM E736

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input checked="" type="checkbox"/>	a. Anchor Bolts and Anchor Rods	Test	LOR	Identify, sample and test anchor bolts and anchor rods not meeting exemptions identified in Section 1 of IR 17-11.
<input type="checkbox"/>	b. Threaded rod not used for foundation anchorage.	Test	LOR	Identify, sample and test threaded rods not meeting exemptions identified in Section 1 of IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a. Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	Periodic	SI	Table 1705A.13.7
<input type="checkbox"/>	b. Fabricated storage rack elements.	Periodic	SI	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	c. Storage rack anchorage installation.	Periodic	SI	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
<input type="checkbox"/>	d. Completed storage rack system to indicate compliance with the approved construction documents.	Periodic	SI*	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	Type	Performed By	Code References and Notes
<input type="checkbox"/>	a.			

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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Exempt items given in DSA IR A-22 or the 2022 CBC (including DSA amendments) and those items identified below with a check mark by the design professional are NOT subject to DSA requirements for the structural tests / special inspections noted. **Items marked as exempt shall be identified on the approved construction documents.** The project inspector shall verify all construction complies with the approved construction documents.

	SOILS:
<input type="checkbox"/>	1. Deep foundations acting as a cantilever footing with a design based on minimum allowable pressures per CBC Table 1806A.2 and without a geotechnical report for the following cases: A) free standing sign or scoreboard, B) cell or antenna towers and poles less than 35'-0" tall (e.g., lighting poles, flag poles, poles supporting open mesh fences, etc.), C) single-story structure with dead load less than 5 psf (e.g., open fabric shade structure), or D) covered walkway structure with an apex height less than 10'-0" above adjacent grade.
<input type="checkbox"/>	2. Shallow foundations, etc. are exempt from special inspections and testing by a Geotechnical Engineer for the following cases: A) buildings without a geotechnical report and meeting the exception item #1 criteria in CBC Section 1803A.2 supported by native soil (any excavation depth) or fill soil (not exceeding 12" depth per CBC Section 1804A.6), B) soil scarification/recompaction not exceeding 12" depth, C) native or fill soil supporting exterior non-structural flatwork (e.g., sidewalks, site concrete ramps, site stairs, parking lots, driveways, etc.), D) unpaved landscaping and playground areas, or E) utility trench backfill with depth not exceeding 12".

	CONCRETE/MASONRY:
<input type="checkbox"/>	1. Post-installed anchors for the following: A) exempt non-structural components (e.g., mechanical, electrical, plumbing equipment - see item 7 for "Welding" in the Appendix below) given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) or B) interior nonstructural wall partitions meeting criteria listed in exempt item 3 for "Welding" in the Appendix below
<input type="checkbox"/>	2. Concrete batch plant inspection is not required for items given in CBC Section 1705A.3.3.2 subject to the requirements and limitations in that section.
<input type="checkbox"/>	3. Non-bearing non-shear masonry walls may be exempt from certain DSA masonry testing and special inspection items as allowed per DSA IR 21-1. Refer to construction documents for specific exemptions accordingly for each applicable wall condition shown in Appendix A of IR 21-1.
<input checked="" type="checkbox"/>	4. Epoxy shear dowels in site flatwork and/or other non-structural concrete.

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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	CONCRETE/MASONRY:
<input type="checkbox"/>	5. Testing of reinforcing bars is not required for items given in CBC Section 1910A.2 subject to the requirements and limitations in that section.

	WELDING:
<input type="checkbox"/>	1. Solid-clad and open-mesh fences, gates with maximum leaf span of 10', and gates with a maximum rolling section of 10' all having an apex height less than 8'-0" above lowest adjacent grade. When located above circulation or occupied space below, these gates/fences are not located within 1.5x gate/fence height (max 8'-0") to the edge of floor or roof.
<input type="checkbox"/>	2. Handrails, guardrails, and modular or relocatable ramps associated with walking surfaces less than 30" above adjacent grade (excluding post base connections per the 'Exception' language in Section 1705A.2.1); fillet welds shall not be ground flush.
<input type="checkbox"/>	3. Non-structural interior cold-formed steel framing spanning less than 15'-0", such as in interior partitions, interior soffits, etc. supporting only self weight and light-weight finishes or adhered tile, masonry, stone, or terra cotta veneer no more than 5/8" thickness and apex less than 20'-0" in height and not over an exit way. Maximum tributary load to a member shall not exceed the equivalent of that occurring from a 10'x10' opening in a 15' tall wall for a header or king stud.
<input type="checkbox"/>	4. Manufactured support frames and curbs using hot rolled or cold-formed steel (i.e., light gauge) for mechanical, electrical, or plumbing equipment weighing less than 2000# (equipment only) (connections of such frames to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	5. Manufactured components (e.g., Tolco, B-Line, Afcon, etc.) for mechanical, electrical, or plumbing hanger support and bracing (connections of such components to superstructure elements using welding will require special inspection as noted in selected item(s) for Sections S/A3, S/A4 and/or S/A5 of listing above).
<input type="checkbox"/>	6. TV Brackets, projector mounts with a valid listing (see DSA IR A-5) and recreational equipment (e.g., playground structures, basketball backstops, etc.) (connections of such elements to superstructure elements using welding will require special inspection as noted in selected item(s) for sections S/A3, S/A4 and/or S/A5 located in the Steel/Aluminum category of listing above).

Appendix: Work Exempt from DSA Requirements for Structural Tests / Special Inspections

Application Number: 02-122876	School Name: Victory Elementary School	School District: Stockton Unified School District
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	WELDING:
<input type="checkbox"/>	7. Any support for exempt non-structural components given in CBC Section 1617A.1.18 (which replaces ASCE 7-16, Section 13.1.4) meeting the following: A) when supported on a floor/roof, <400# and resulting composite center of mass (including component's center of mass) ≤4' above supporting floor/roof, B) when hung from a wall or roof/floor, <20# for discrete units or <5 plf for distributed systems.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS(SIGNATURE), 2022 CBC

Application Number:

02-122876

DSA File Number:

39-69

School Name:

Victory Elementary School

Increment Number:

School District:

Stockton Unified School District

Date Created:

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Name of Architect or Engineer in general responsible charge:

Timothy L. Dearborn, AIA

Name of Structural Engineer (When structural design has been delegated):

Signature of Architect or Structural Engineer:

Date:

12/17/2024

Note: To facilitate DSA electronic mark-ups and identification stamp application, DSA recommends against using secured electronic or digital signatures.

DSA STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-122876 INC:
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 1/7/2025

DSA 103-22: LIST OF REQUIRED VERIFIED REPORTS, CBC 2022

Application Number:

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DSA File Number:

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School District:

Stockton Unified School District

Date Created:

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1. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291

2. Concrete Batch Plant Inspection: Laboratory Verified Report Form DSA 291

3. Post-installed Anchors: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

4. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

5. Field Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting SI, Special Inspection Verified Report Form DSA 292

01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Site Standards; and
- D. Construction Waste Management and Disposal.

1.02 TEMPORARY UTILITIES:

- A. Electric Power and Lighting:
 - 1) Contractor will pay for power during the course of the Work. To the extent power is available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver that power service from its existing location in the building(s) or on the Site to point of intended use.
 - 2) Contractor shall verify characteristics of power available in building(s) or on the Site. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefor.
 - 3) Contractor shall furnish, wire for, install, and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper performance and/or observation of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
 - 4) Contractor shall be responsible for maintaining existing lighting levels in the project vicinity should temporary outages or service interruptions occur.
- B. Heat and Ventilation:
 - 1) Contractor shall provide temporary heat to maintain environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to improper temperature and humidity conditions. Portable heaters shall be standard units complete with controls.

- 2) Contractor shall provide forced ventilation and dehumidification, as required, of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases.
- 3) Contractor shall pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, required for the performance of the Work.

C. Water:

- 1) Contractor shall pay for water used during the course of the Work. Contractor shall coordinate and pay for installation or use of water meter in compliance with local water agency requirements. To the extent water is then available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s), on the Site, or other location approved by the local water agency, to point of intended use.
- 2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
- 3) Contractor shall make potable water available for human consumption.

D. Sanitary Facilities:

- 1) Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the Inspector or Contractor completes all other work at the Site.
- 2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Telephone Service:

- 1) Contractor shall arrange with local telephone service company for telephone service as required for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone and one line for fax machine.
- 2) Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal.

F. Fire Protection:

- 1) Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use

for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.

- 2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces.

G. Trash Removal:

- 1) Contractor shall provide trash removal on a timely basis. Under no circumstance shall Contractor use District trash service.

H. Field Office:

- 1) If Contractor chooses to provide a field office, it shall be an acceptable construction trailer that is well-lit and ventilated. The construction trailer shall be equipped with shelves, desks, filing cabinet, chairs, and such other items of equipment needed. Trailer and equipment are the property of the Contractor and must be removed from the Site upon completion of the Work. Contractor may use the corridor adjacent to the construction area for an office area, if approved in writing by District.
- 2) Contractor shall provide any additional electric lighting and power required for the trailer. Contractor shall make adequate provisions for heating and cooling as required.

I. Temporary Facilities:

- 1)

1.03 CONSTRUCTION AIDS:

A. Plant and Equipment:

- 1) Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workers. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.
- 2) Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.

- B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

1.04 BARRIERS AND ENCLOSURES:

- A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.

- B. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and improvements, persons, and trees and plants from damage and injury from demolition and construction operations.
- C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.
- D. Tree and Plant Protection:
 - 1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.
 - 2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations, or as denoted on the Plans.
 - 3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.
 - 4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.
 - 5) Excavation around Trees:
 - a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.
 - b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.
 - c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root

system. Roots shall be relocated in backfill areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.

- d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.
- e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.
- f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

1.05 SECURITY:

The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

1.06 TEMPORARY CONTROLS:

A. Noise Control:

- 1) Contractor acknowledges that adjacent facilities may remain in operation during all or a portion of the Work period, and it shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.
- 2) Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to the District a minimum of forty-eight (48) hours in advance of their performance.

B. Noise and Vibration:

- 1) Equipment and impact tools shall have intake and exhaust mufflers.
- 2) Contractor shall cooperate with District to minimize and/or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.

C. Dust and Dirt:

- 1) Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.

- 2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- 3) Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.
- 4) Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

D. Water:

- 1) Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

E. Pollution:

- 1) No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.
- 2) Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

F. Lighting:

- 1) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

1.07 JOB SIGN(S):

A. General:

- 1) Contractor shall provide and maintain a Project identification sign with the design, text, and colors designated by the District and/or the Design Professional; locate sign as approved by the District.
- 2) Signs other than the specified Project sign and or signs required by law, for safety, or for egress, shall not be permitted, unless otherwise approved in advance by the District.

B. Materials:

- 1) Structure and Framing: Structurally sound, new or used wood or metal; wood shall be nominal 3/4-inch exterior grade plywood.
- 2) Sign Surface: Minimum 3/4-inch exterior grade plywood.
- 3) Rough Hardware: Galvanized.

- 4) Paint: Exterior quality, of type and colors selected by the District and/or the Design Professional.
- C. Fabrication:
 - 1) Contractor shall fabricate to provide smooth, even surface for painting.
 - 2) Size: 4'-0" x 8'-0", unless otherwise indicated.
 - 3) Contractor shall paint exposed surfaces of supports, framing, and surface material with exterior grade paint: one coat of primer and one coat of finish paint.
 - 4) Text and Graphics: As indicated.

1.08 PUBLICITY RELEASES:

- A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s) without the written permission of the District.

PART 2 - PRODUCTS Not used.

PART 3 - EXECUTION Not used.

END OF DOCUMENT

01 50 13 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Temporary Facilities and Controls.

1.02 SECTION INCLUDES:

- A. Administrative and procedural requirements for the following:
 - 1) Salvaging non-hazardous construction waste.
 - 2) Recycling non-hazardous construction waste.
 - 3) Disposing of non-hazardous construction waste.

1.03 DEFINITIONS:

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.04 PERFORMANCE REQUIREMENTS:

- A. General: Develop waste management plan that results in end-of Project rates for salvage/recycling of sixty-five percent (65%) by weight (or by volume, but not a combination) of total waste generated by the Work.

1.05 SUBMITTALS:

- A. Waste Management Plan: Submit waste management plan within 30 days of date established for commencement of the Work.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit copies of report. Include the following information:
 - 1) Material category.
 - 2) Generation point of waste.
 - 3) Total quantity of waste in tons or cubic yards.
 - 4) Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
 - 5) Quantity of waste recycled, both estimated and actual in tons or cubic yards.
 - 6) Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
 - 7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before request for final payment, submit copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- H. CHPS Submittal: CHPS letter template for Credit ME2.0 and ME2.1, signed by Contractor, tabulating total waste material, quantities diverted and means by

which it is diverted, and statement that requirements for the credit have been met.

- I. Qualification Data: For Waste Management Coordinator.
- J. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- K. Submittal procedures and quantities are specified in Document 01 33 00.

1.06 QUALITY ASSURANCE:

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures related to waste management including, but not limited to, the following:
 - 1) Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
 - 2) Review requirements for documenting quantities of each type of waste and its disposition.
 - 3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - 4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - 5) Review waste management requirements for each trade.

1.07 WASTE MANAGEMENT PLAN:

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measurement throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of

waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

- 1) Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
- 2) Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
- 3) Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
- 4) Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
- 5) Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
- 6) Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 PLAN IMPLEMENTATION:

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1) Comply with Document 01 50 00 for operation, termination, and removal requirements.
- B. [Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.]
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

- 1) Distribute waste management plan to everyone concerned within 3 days of submittal return.
 - 2) Distribute waste management plan to entities when they first begin work on site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- 1) Designate and label specific areas of Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - 2) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

3.02 RECYCLING CONSTRUCTION WASTE:

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
- 1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
 - a) Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4) Store components off the ground and protect from the weather.
 - 5) Remove recyclable waste off District property and transport to recycling receiver or processor.
- D. Packaging:
- 1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.

- 2) Polystyrene Packaging: Separate and bag material.
- 3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.
- 4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- E. Site-Clearing Wastes: Chip brush, branches, and trees on site.
- F. Wood Materials:
 - 1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - 2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
 - 1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.03 DISPOSAL OF WASTE:

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.
 - 2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF DOCUMENT

01 52 13 - FIELD OFFICES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Temporary Facilities and Controls.

1.02 SECTION INCLUDES:

- A. Requirements for Field Offices and Field Office Trailers.

1.03 SUMMARY:

- A. General: Contractor shall provide District's Field Office Trailer and contents, for District's use exclusively, during the term of the Contract.
- B. Property: Trailer, furniture, furnishings, equipment, and the like, supplied by the Contractor with the Office Trailer shall remain the property of the Contractor; District property items installed, delivered, and the like by District within the Office Trailer will remain District's property.
- C. Modifications: District reserves the right to modify the trailer or contents, or both, as may be deemed proper by District.
- D. Condition: Trailer and contents shall be clean, neat, substantially finished, in good, proper, and safe condition for use, operation, and the like; the trailer and contents shall not be required to be new.
- E. Installation Timing: Provide safe, fully furnished, functional, proper, complete, and finished trailer properly ready for entire use, within fourteen (14) calendar days of District's notification of the issuance of Notice to Proceed.

1.04 SUBMITTALS:

- A. General: Submit submittals to District in quantity, format, type, and the like, as specified herein.
- B. Office Trailer Data: One (1) copy of manufacturer's descriptive data, technical descriptions, regulatory compliance, industry standards, installation, removal, and maintenance instructions.
- C. Equipment Data: Two (2) copies of manufacturer data for each type of equipment, if directed by District.

- D. Furniture and Furnishings Data: Two (2) copies of manufacturer data for each type of equipment, if directed by District.
- E. Plans: One (1) reproducible copy of appropriately scaled plans of trailer layout. Plans shall include, but not be limited to: lighting; furniture; equipment; telephone and electrical outlets; and the like.
- F. Product Samples: One (1) complete and entire unit of each type, if directed by District.

1.05 QUALITY ASSURANCE

- A. Standards: In the event that provisions of codes, regulations, safety orders, Contract Documents, referenced manufacturer's specifications, manufacturer's instructions, industry standards, and the like, are in conflict, the more restrictive and higher quality shall govern.
- B. Installer: Installer or Installers engaged by Contractor must have a minimum of five (5) years of documented and properly authenticated successful experience of specialization in the installation of the items or systems, or both, specified herein.
- C. Manufacturer: Contractor shall obtain products from nationally and industry recognized Manufacturer with five (5) years minimum, of immediately recent, continuous, documented and properly authenticated successful experience of specialization in the manufacture of the product specified herein.
- D. State Personnel Training: Provide proper training for maintenance and operations, including emergency procedures, and the like, as directed by District.
- E. Units: Shall be sound and free of defects, and shall not include any damage or defect that will impair the safety, installation, performance, or the durability of the entire Office Trailer and appurtenant systems.

1.06 REGULATORY REQUIREMENTS

- A. General: Work shall be executed in accordance with applicable Codes, Regulations, Statutes, Enactments, Rulings, Laws, each authority having jurisdiction, and including, but not limited to, Regulatory Requirements specified herein.
- B. California Building Standards Code ("CBSC").
- C. California Code of Regulations, Title 25, Chapter 3, Sub Chapter 2, Article 3 ("CCR").
- D. Coach Insignia: Trailer shall display California Commercial Coach Insignia; such insignia shall be deemed to show that the trailer is in accordance with the Construction and Fire Safety requirements of CCR.

PART 2 – PRODUCTS

2.01 FIELD OFFICE TRAILER

- A. General: Provide entire Field Office Trailer of type, function, operation, capacity, size, complete with controls, safety devices, accessories, and the like, for proper and durable installation. Partitions, walls, ceiling, and other interior and exterior surfaces shall be appropriately finished, including, but not limited to, trim, painting, wall base, floor covering, suspended or similar ceiling, and the like; provide systems, components, units, nuts, bolts, screws, anchoring devices, fastening devices, washers, accessories, adhesives, sealants, and other items of type, grade, and class required for the particular use, not identified but required for a complete, weather-tight, appropriately operating, and finished installation.
- B. Manufacturers: General Electric Capital Modular Space; The Space Place, Inc.; or equal.
- C. Program: Provide a wheel-mounted trailer with stairs, landings, platforms, ramps, and the like, in good, proper, safe, clean, and properly finished condition; with proper heavy duty locks, and other proper and effective security at all doors, windows, and the like. Trailer shall be maintained in good, proper, safe, clean, and properly finished condition during the Contract.
 - (1) Nominal Trailer Size: Four hundred eighty (480) square feet, minimum.
 - (2) Stairs, Platform: Properly finished stairs, platforms, and ramps.
 - (3) Doors: Two (2), three (3) foot wide exterior doors with locksets; finished ramp, steps, and entry platform at each exterior door.
 - (4) Keys: Submit five (5) keys for each door, window, furniture unit, and the like. There shall be no other key copies or originals available; each key shall be identified for District; and shall be labeled, or tagged or both, as directed by District.
 - (5) HVAC:
 - (6) Lighting: Sixty-five (65) foot-candles illumination minimum at any point, at thirty (30) inches above finished floor throughout from fluorescent light source, exclusively, or as directed by District.
 - (7) Electrical Outlets: One (1) duplex outlet evenly spaced every twelve (12) linear horizontal feet of wall face, and electrical service ready for use.
 - (8) Telephones and Telephone Outlets: Two (2) telephone lines wired, connected to telephone utility service, and ready for use, and two (2) telephone instruments, each with two (2)-line capability, speed dial and hands-free feature. Locate each outlet as directed by District.

- (9) Voicemail Messaging System or Answering Machine: One (1) unit, two (2)-line; digital.

2.02 FIELD OFFICE TRAILER ITEMS

- A. General: Provide the Field Office Trailer with the following arranged into two (2) workstations:
- (1) Desks: Two (2) desks: thirty-six (36) inches by sixty (60) inches; steel, laminated plastic top; locking, one (1) or two (2) file drawers single pedestal; steel; provide five (5) keys to District.
 - (2) Tables: Two (2) tables; thirty-six (36) inches by sixty (60) inches; twenty-nine (29) inches high; steel, laminated plastic top tables; one (1) at each desk.
 - (3) Chairs: Two (2) chairs: swivel; steel; with seat cushion and arms; one (1) at each desk.
 - (4) Waste Baskets: Two (2) waste baskets, one at each desk.
- B. Furniture and Equipment: Provide in the space located to effect efficient and logical use.
- (1) File cabinet: One (1); four (4) drawer; lateral; steel locking.
 - (2) Plan Table: One (1) plan table: thirty-six (36) inches deep by seventy-two (72) inches wide by forty-two (42) inches high; adjustable; wood or steel; with lockable plan and pencil drawers.
 - (3) Drafting Stool: One (1) drafting stool; swiveling; steel; padded; adjustable; with footrest and casters.
 - (4) Bookshelf: One (1) bookshelf: thirty-six (36) inches deep by seventy-two (72) inches wide by forty-two (42) inches high; adjustable; wood or steel; with lockable plan and pencil drawer.
 - (5) Plan Rack: One (1) wheel mounted plan rack.
 - (6) Waste Baskets: One (1) large waste basket.
 - (7) Coat/Hat Hanger: Wall mounted with minimum capacity for four (4) garments and ten (10) hats.
 - (8) Document Management System: Shall include an integrated high-volume printer, copier, and facsimile machine, including stand, base, and storage cabinet; and shall include the following features:
 - (a) Type: Laser, dry electrostatic transfer, plain paper, digital, multi-function imaging system.
 - (b) Network: Ethernet or Token Ring network ready, Plug-and-Play.

- (c) Print, send/receive facsimile from any connected workstation.
- (d) Resolution: Six hundred (600) dots per inch by six hundred (600) dots per inch, minimum.
- (e) Print Speed: Twenty (20) pages per minute, minimum.
- (f) Copies: Twenty (20) copies per minute, minimum.
- (g) Document Handler: Forty (40) sheet, minimum
- (h) Collator: Forty (40) bin, minimum, with stapling.
- (i) Duplexing: Capable.
- (j) Paper Size: Capable of handling paper sizes to eleven (11) inches by seventeen (17) inches.
- (k) Paper Cassettes: One (1) each for eight and one half (8.5) inches by eleven (11) inches, eight and one half (8.5) inches by fourteen (14) inches, and eleven (11) inches by seventeen (17) inches paper sizes; minimum two hundred fifty (250) sheets per cassette.
- (l) Reduction/Enlargement: Capable of reduction to twenty-five percent (25%) and enlargement to two hundred percent (200%).
- (m) Facsimile Electronic Storage: Capable of storing minimum of fifty (50) speed dial numbers, group faxing and broadcast faxing.
- (n) Facsimile Scanning: Capable of scanning into memory a minimum of one hundred (100) pages with maximum scan time of three (3) seconds per page.
- (o) Halftone: Sixty-four (64) levels.
- (p) Redial: Automatic and Manual.
- (9) Maintenance: Contractor shall purchase service agreements for each unit of equipment for the duration of the project plus two (2) months, and shall maintain all equipment in proper working condition. Service agreements shall include provision for replacement of toner cartridges and other items required to effect proper unit use. Service agreements shall also provide for:
 - (a) Unlimited Service Calls.
 - (b) Same Day Response.
 - (c) All parts, labor, preventative maintenance and mileage.

- (d) All chemicals, such as toner, fixing agent, and the like.
- (e) System training and setup.
- (10) Portable Toilets: Two (2); each shall include a urinal; each unit shall be a properly enclosed chemical unit conforming to ANSI Z4.3.
 - (a) Location: As directed by District.
 - (b) Maintenance: Maintain each unit and surrounding areas in a clean, hygienic and orderly manner, at all time. Empty, clean, and sanitize each unit each day at a location and time as directed by District.
 - (c) Removal: Relocate, or remove from the site, each Portable Toilet. Upon such directive by District, the Contractor shall forthwith relocate or remove each Portable Toilet and submit the affected areas to a condition which existed prior to the installation of each Portable Toilet, within three (3) calendar days, or as directed by District in writing, at no cost to District.

2.03 UTILITY AND SERVICES

- A. Telephone Service: Contractor shall provide and interface the entire telephone service, and shall properly and timely pay for telephone service for District's non-long-distance use.
- B. Electrical Service: Provide all proper connections and continuously pay for service for the duration of the Work.

2.04 FINISHES

- A. General: Manufacturer standard finish system over surfaces properly cleaned, pretreated, and prepared to obtain proper bond; all visible surfaces shall be coated.
- B. Finish: Color as selected by District from manufacturer standard palette.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. General: Properly prepare area and affected items to receive the Work. Set Work accurately in location, alignment, and elevation; rigidly, securely, and firmly anchor to appropriate structure; install plumb, straight, square, level, true, without racking, rigidly anchored to proper solid blocking, substrate, and the like; provide appropriate type and quantity of reinforcements, fasteners, adhesives, self-adhesive and other tapes; lubricants, coatings, accessories, and the like, as required for a complete, structurally rigid, stable, sound, and appropriately finished installation, in accordance with manufacturer's published instructions, and as indicated. The more restrictive and higher quality requirement shall govern. Moving parts shall be properly secured, without binding, looseness, noise, and the like.

- B. Installation: Install in accordance with 25 CCR 3.2.3 and as directed by District; jack up trailer and level both ways; mount on proper concrete piers with all load off wheels; provide required tie down and accessories per Section 4368 of referenced CCR, and as directed by District.
- C. Rejected Work: Work, materials, unit, items, systems, and the like, not accepted by District shall be deemed rejected, and shall forthwith be removed and replaced with proper and new Work, materials, unit, items, systems, and the like at no cost to District.
- D. Standard: Comply with manufacturer's published instructions, or with instructions as shown or indicated; the more restrictive and higher quality requirement shall govern.
- E. Location: As directed by District.
- F. Fire Resistance: Construct and install in accordance with UL requirements.
- G. Maintenance: Contractor shall maintain trailer and adjacent areas in a safe, clean and hygienic condition throughout the duration of the Work, and as directed by District. Properly repair or replace furniture or other items, as directed by District. Properly remove unsafe, damaged, or broken furniture, or similar items, and replace with safe and proper items. Contractor shall pay cost of all services, repair, and maintenance, or replacement of each item.
- H. Janitorial Service: Provide professional janitorial services, including, but not limited to, trash, waste paper baskets, fill paper dispensers; clean and dust all furniture, files, and the like; sweep and mop resilient and similar flooring; and vacuum carpeting and similar flooring.
 - (1) Frequency: Two (2) times per week, minimum.
- I. Removal: Properly remove the Office Trailer and contents from the Site upon completion of the Contract, or as directed by District in writing. Forthwith properly patch and repair affected areas; replace damaged items with new items. Carefully and properly inventory, clean, pack, store, and protect District property; submit District property to District at a date, time and location as directed by District.

END OF DOCUMENT

01 56 39 – TEMPORARY TREE AND PLANT PROTECTION

1. GENERAL

1.1 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.2 DEFINITIONS

- A. Caliper (DBH): Diameter breast height; diameter of a trunk as measured by a diameter tape or [the average of the smallest and largest diameters at a height 54 inches above the ground line.
- B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference:
 - 1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
 - a. Tree-service firm's personnel and equipment needed to make progress and avoid delays.
 - b. Arborist's responsibilities.
 - c. Quality-control program.
 - d. Coordination of Work and equipment movement with the locations of protection zones.
 - e. Trenching by hand or with air spade within protection zones.
 - f. Field quality control.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.

2. Detail fabrication and assembly of protection-zone fencing and signage.
 3. Indicate extent of trenching by hand or with air spade within protection zones.
- C. Samples: For each type of the following:
1. Organic Mulch: 1-quart volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 2. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
 3. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.
- D. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
1. Species and size of tree.
 2. Location on site plan. Include unique identifier for each.
 3. Reason for pruning.
 4. Description of pruning to be performed.
 5. Description of maintenance following pruning.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For arborist and tree service firm.
- B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- D. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
1. Use sufficiently detailed photographs or video recordings.
 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- E. Quality-control program.

1.6 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA

1.7 FIELD CONDITIONS

- A. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, or excavated material.
 2. Moving or parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

2. PRODUCTS

2.1 MATERIALS

- D. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
1. Type: Wood and bark chips
 2. Size Range: 3 inches maximum, 1/2 inch Minimum
 3. Color: Natural.
- E. Protection-Zone Fencing: Fencing fixed in position
1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and weighing a minimum of 0.4 lb/ft. (0.6 kg/m); remaining flexible from minus 60 to plus 200 deg F (minus 16 to plus 93 deg C); inert to most chemicals and acids; minimum tensile yield strength of 2000 psi (13.8 MPa) and ultimate tensile strength of 2680 psi (18.5 MPa); secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches (2400 mm) apart.

- a. Height: 48 inches.
 - b. Color: High-visibility orange, nonfading.
- F. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes pre-punched and reinforced; legibly printed with nonfading lettering and as follows:
 - 1. Size and Text: As shown on Drawings.
 - 2. Lettering: 3-inch high minimum.
- 3. EXECUTION
 - 3.1 EXAMINATION
 - A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
 - B. Prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.
 - 3.2 PREPARATION
 - A. protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
 - B. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
 - 1. Apply 2-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.
 - 3.3 PROTECTION ZONES
 - A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
 - 1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
 - B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by District. Install one sign spaced approximately every 20 feet on protection-zone fencing, but no fewer than four signs with each facing a different direction.

- C. Maintain protection zones free of weeds and trash.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.
 - 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
 - 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

- A. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.
- B. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 ROOT PRUNING

- A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:
 - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - 2. Cut Ends: Do not paint cut root ends
 - 3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 - 4. Cover exposed roots with burlap and water regularly.
 - 5. Backfill as soon as possible

- B. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.6 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.
 - 1. Prune to remove only broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
 - 2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
 - 3. Pruning Standards: Prune trees according to ANSI A300
- B. Unless otherwise directed by arborist and acceptable to Architect, do not cut tree leaders.
- C. Cut branches with sharp pruning instruments; do not break or chop.
- D. Do not paint or apply sealants to wounds.
- E. Provide subsequent maintenance pruning during Contract period as recommended by arborist.
- F. Chip removed branches and dispose of off-site.

3.7 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
 - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

3.8 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.9 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by District.
 - 1. Submit details of proposed pruning and repairs.
 - 2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
 - 3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 - 1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 6 inches or smaller in caliper size.
 - 2. Large Trees: Provide two new tree(s) of 6-inch caliper size for each tree being replaced that measures more than 6 inches in caliper size.
- C. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a 2-inch uniform thickness to remain.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off District's property.

END OF SECTION

01 64 00 - OWNER-FURNISHED PRODUCTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Materials and Equipment.

1.02 SECTION INCLUDES

- A. Requirements for the following:
 - (1) Installing Owner-furnished materials and equipment.
 - (2) Providing necessary utilities, connections and rough-ins.

1.03 DEFINITIONS

- A. Owner: District, who is providing/furnishing materials and equipment.
- B. Installing Contactor: Contractor, who is installing the materials and equipment furnished by the Owner.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Receive, store and handle products in accordance with the manufacturer's instructions.
- B. Protect equipment items as required to prevent damage during storage and construction.

PART 2 – PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Installing Contractor's Responsibilities:
 - (1) Verify mounting and utility requirements for Owner-furnished materials and equipment items.
 - (2) Provide mounting and utility rough in for all items where required.
 - (a) Rough in locations, sizes, capacities, and similar type items shall be as indicated and required by product manufacturer.

B. Owner and Installing Contractor(s) Responsibilities:

- (1) Owner-Furnished/Contractor Installed ("OFCI"): Furnished by the Owner; installed by the Installing Contractor.
 - (a) General: Owner and Installing Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.
 - (b) Owner will furnish specified materials and equipment delivered to the site. Owner/vendor's representative shall be present on Site at the time of delivery to comply with the contract requirements and Specifications Section 01 43 00, Materials and Equipment, Article 1.04.
 - (c) The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installing Contractor.
 - (d) The Installing Contractor shall:
 - 1) Review, verify and accept the approved manufacturer's submittal/Shop Drawings for all materials and equipment required to be installed by the Installer Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Project Manager and/or Program Manager, if applicable.
 - 2) Coordinate timely delivery. Installing Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installing Contractor shall assume responsibility for such defects and omissions.
 - 3) Store materials and equipment until ready for installation and protect from loss and damage. Installing Contractor is responsible for providing adequate storage space.
 - 4) Coordinate with other bid package contractors and field measurement to ensure complete installation.
 - 5) Uncrate, assemble, and set in place.
 - 6) Provide adequate supports.
 - 7) Install materials and equipment in accordance with manufacturer's recommendations, instructions, and Shop Drawings, supply labor and material required, and make mechanical, plumbing, and electrical connections required to operate equipment.

- 8) Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.
 - 9) Provide anchorage and/or bracing as required for seismic restraint per Title 24, UBC Standard 27-11 and all other applicable codes.
 - 10) Provide the contract-required warranty and guarantee for all work, materials and equipment, and installation upon its completion and acceptance by the District. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.
- C. Compatibility with Space and Service Requirements:
- (1) Equipment items shall be compatible with space limitations indicated and as shown on the Contract Documents and specified in other sections of the Specifications.
 - (2) Modifications to equipment items required to conform to space limitations specified for rough in shall not cause additional cost to the District.
- D. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

2.02 FURNISHED MATERIALS AND EQUIPMENT

- A. All furnished materials and equipment are indicated or scheduled on the Contract Documents.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install equipment items in accordance with the manufacturer's instructions.
- B. Set equipment items securely in place, rigidly or flexibly mounted in accordance with manufacturers' directions.
- C. Make electrical and mechanical connections as indicated and required.
- D. Touch-up and restore damaged or defaced finishes to the Owner's satisfaction.

3.02 CLEANING AND PROTECTION

- A. Repair or replace items not acceptable to the Architect or Owner.
- B. Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

END OF DOCUMENT

01 66 00 - PRODUCT DELIVERY, STORAGE AND HANDLING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;
- B. Special Conditions.

1.02 PRODUCTS

- A. Products are as defined in the General Conditions.
- B. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.
- C. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

1.03 TRANSPORTATION AND HANDLING

- A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

- A. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.
- C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.
- D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.

- E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.
- F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

01 71 23 - FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Investigation, and Soils Investigation Report;
- B. Special Conditions;
- C. Site-Visit Certification.

1.02 REQUIREMENTS INCLUDED:

- A. Contractor shall provide and pay for field engineering services by a California-registered engineer, required for the project, including, without limitations:
 - (1) Survey work required in execution of the Project.
 - (2) Civil or other professional engineering services specified, or required to execute Contractor's construction methods.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEERS:

Contractor shall only use a qualified licensed engineer or registered land surveyor, to whom District makes no objection.

1.04 SURVEY REFERENCE POINTS:

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:
 - (1) Make no changes or relocation without prior written notice to District and Architect.
 - (2) Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - (3) Require surveyor to replace Project control points based on original survey control that may be lost or destroyed.

1.05 RECORDS:

Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

1.06 SUBMITTALS:

- A. Contractor shall submit name and address of Surveyor and Professional Engineer to District and Architect prior to its/their work on the Project.
- B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
- C. Contractor shall submit a certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or nonconformance with Contract Documents.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 COMPLIANCE WITH LAWS:

Contractor is responsible for meeting all applicable codes, OSHA, safety and shoring requirements.

3.02 NONCONFORMING WORK:

Contractor is responsible for any re-surveying required by correction of nonconforming work.

END OF DOCUMENT

01 73 29 - CUTTING AND PATCHING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

1.02 CUTTING AND PATCHING:

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - (1) Make several parts fit together properly.
 - (2) Uncover portions of Work to provide for installation of ill-timed Work.
 - (3) Remove and replace defective Work.
 - (4) Remove and replace Work not conforming to requirements of Contract Documents.
 - (5) Remove Samples of installed Work as specified for testing.
 - (6) Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - (7) Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.
- B. In addition to Contract requirements, upon written instructions from the District, Contractor shall uncover Work to provide for observations of covered Work in accordance with the Contract Documents; remove samples of installed materials for testing as directed by District; and remove Work to provide for alteration of existing Work.

- C. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or work of others.

1.03 SUBMITTALS:

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, Contractor shall submit written notice to District pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration, including the following:
 - (1) The work of the District or other trades.
 - (2) Structural value or integrity of any element of Project.
 - (3) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
 - (4) Efficiency, operational life, maintenance or safety of operational elements.
 - (5) Visual qualities of sight-exposed elements.
- B. Contractor's Request shall also include:
 - (1) Identification of Project.
 - (2) Description of affected Work.
 - (3) Necessity for cutting, alteration, or excavations.
 - (4) Effects of Work on District, other trades, or structural or weatherproof integrity of Project.
 - (5) Description of proposed Work:
 - (a) Scope of cutting, patching, alteration, or excavation.
 - (b) Trades that will execute Work.
 - (c) Products proposed to be used.
 - (d) Extent of refinishing to be done.
 - (6) Alternates to cutting and patching.
 - (7) Cost proposal, when applicable.
 - (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.

- (9) Written permission of District or other District contractor(s) whose work will be affected.

1.04 QUALITY ASSURANCE:

- A. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District's decision shall be final.

1.05 PAYMENT FOR COSTS:

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the District.
- B. District shall only pay for cost of Work if it is part of the original Contract Price or if a change has been made to the contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the District, other than defective or nonconforming Work, will be paid by District on approval of written Change Order. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the District.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

PART 3 – EXECUTION

3.01 INSPECTION:

- A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.

- B. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by District.

3.02 PREPARATION:

- A. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. Contractor shall, provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

3.03 ERECTION, INSTALLATION AND APPLICATION:

- A. With respect to performance, Contractor shall:
 - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - (2) Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
 - (3) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
 - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - (2) Sight-exposed finished surfaces.
- C. Contractor shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.
- D. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with

requirements of the Contract Documents and as required to match surrounding areas and surfaces.

- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

01 76 00 - ALTERATION PROJECT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Integration of Work, Purchase of Materials and Equipment, Uncovering of Work and Non-conforming Work and Correction of Work and Trenches;
- B. Special Conditions.

PART 2 - PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK:

- A. New Materials: As specified in the Contract Documents including, without limitation, in the Specifications, Contractor shall match existing products, conditions, and work for patching and extending work.
- B. Type and Quality of Existing Products: Contractor shall determine by inspection, by testing products where necessary, by referring to existing conditions and to the Work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Contractor shall verify that demolition is complete and that areas are ready for installation of new Work.
- B. By beginning restoration Work, Contractor acknowledges and accepts the existing conditions.

3.02 PREPARATION:

- A. Contractor shall cut, move, or remove items as necessary for access to alterations and renovation Work. Contractor shall replace and restore these at completion.
- B. Contractor shall remove unsuitable material not as salvage unless otherwise indicated in the Contract Documents. Unsuitable material may include, without limitation, rotted wood, corroded metals, and deteriorated masonry and concrete. Contractor shall replace materials as specified for finished Work.
- C. Contractor shall remove debris and abandoned items from all areas of the Site and from concealed spaces.

- D. Contractor shall prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
- E. Contractor shall close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Contractor shall insulate ductwork and piping to prevent condensation in exposed areas. Contractor shall insulate building cavities for thermal and/or acoustical protection, as detailed.

3.03 INSTALLATION:

- A. Contractor shall coordinate Work of all alternations and renovations to expedite completion and to accommodate District occupancy.
- B. Designated Areas and Finishes: Contractor shall complete all installations in all respects, including operational, mechanical work and electrical work.
- C. Contractor shall remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition.
- D. Contractor shall refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat and square or straight transition to adjacent finishes.
- E. Contractor shall install products as specified in the Contract Documents, including without limitation, the Specifications.

3.04 TRANSITIONS:

- A. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work must match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new Work is not possible, Contractor shall terminate existing surface along a straight line at a natural line of division and make a recommendation for resolution to the District and the Architect for review and approval.

3.05 ADJUSTMENTS:

- A. Where removal of partitions or walls results in adjacent spaces becoming one, Contractor shall rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, Contractor shall submit a recommendation for providing a smooth transition to the District and the Architect for review and approval.
- C. Contractor shall trim and seal existing wood doors and shall trim and paint metal doors as necessary to clear new floor finish and refinish trim as required.

- D. Contractor shall fit Work at penetrations of surfaces.

3.06 REPAIR OF DAMAGED SURFACES:

- A. Contractor shall patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections, in the area where the Work is performed.
- B. Contractor shall repair substrate prior to patching finish.

3.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS:

- A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored by Contractor to their original condition or better, where indicated.
- B. Contractor shall protect and replace, if damaged, all existing guard posts, barricades, and fences.
- C. Contractor shall give special attention to avoid damaging or killing trees, bushes and/or shrubs on the Premises and/or identified in the Contract Documents, including without limitation, the Drawings.

3.08 FINISHES:

- A. Contractor shall finish surfaces as specified in the Contract Documents, including without limitations, the provisions of all Divisions of the Specifications.
- B. Contractor shall finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, Contractor shall refinish entire surface to nearest intersections.

3.09 CLEANING:

- A. Contractor shall continually clean the Site and the Premises as indicated in the Contract Documents, including without limitation, the provisions in the General Conditions and the Specifications regarding cleaning.

END OF DOCUMENT

01 77 00 - CONTRACT CLOSEOUT AND FINAL CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Temporary Facilities and Controls.

1.02 CLOSEOUT PROCEDURES

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

1.03 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and all surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

1.04 ADJUSTING

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 RECORD DOCUMENTS AND SHOP DRAWINGS

- A. Contractor shall legibly mark each item to record actual construction, including:

- (1) Measured depths of foundation in relation to finish floor datum.
 - (2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
 - (3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - (4) Field changes of dimension and detail.
 - (5) Details not on original Contract Drawings
 - (6) Changes made by modification(s).
 - (7) References to related Shop Drawings and modifications.
- B. Contractor will provide one set of Record Drawings to District.
- C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.06 INSTRUCTION OF DISTRICT PERSONNEL

- A. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months or by the change of season.
- C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.
- E. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.
- B. Contractor shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.

**ELOP GROUP B PROJECTS
STOCKTON UNIFIED SCHOOL DISTRICT**

**2023-07
02/25**

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of the Work;
- B. Special Conditions.

1.02 QUALITY ASSURANCE:

Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT:

- A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- B. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings.
- C. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.
- D. Contractor shall arrange content by systems process flow under section numbers and sequence of Table of Contents of the Contract Documents.
- E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.04 CONTENTS, EACH VOLUME:

- A. Table of Contents: Contractor shall provide title of Project; names, addresses, and telephone numbers of the Architect, any engineers, subconsultants, Subcontractor(s), and Contractor with name of responsible parties; and schedule of products and systems, indexed to content of the volume.

- B. For Each Product or System: Contractor shall list names, addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Contractor shall supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.
- E. Text: Contractor shall include any and all information as required to supplement product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds: Contractor shall bind in one copy of each.

1.05 MANUAL FOR MATERIALS AND FINISHES:

- A. Building Products, Applied Materials, and Finishes: Contractor shall include product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Contractor shall include product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.
- E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.
- B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.

- C. Contractor shall include color coded wiring diagrams as installed.
- D. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- G. Contractor shall include manufacturer's printed operation and maintenance instructions.
- H. Contractor shall include sequence of operation by controls manufacturer.
- I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Contractor shall provide control diagrams by controls manufacturer as installed.
- K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).
- O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 SUBMITTAL:

- A. Contractor shall submit to the District for review two (2) copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor's start of Work.
- B. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.

- C. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer comments. Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.
- D. Contractor must submit two (2) copies of revised Manual in final form within ten (10) days after final inspection.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 78 36 - WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

1.02 FORMAT

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier; and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.
- D. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

1.03 PREPARATION:

- A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty blank until the date of completion is determined.
- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.
- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

- A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.
- B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.
- C. For items of work delayed beyond date of completion, Contractor shall provide an updated submittal within ten (10) days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

01 78 39 - RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

- A. As indicated in the Contract Documents, the District will provide Contractor with one set of reproducible, full size original Contract Drawings (mylars).
- B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of reproducible vellums of the Project Record Drawings ("As-Built") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Built shall be available at the Project Site. The Contractor shall submit reproducible vellums at the conclusion of the Project following review of the blue line prints.
- C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- E. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.02 RECORD DRAWING INFORMATION:

- A. Contractor shall record the following information:
 - (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.
 - (2) Actual numbering of each electrical circuit to match panel schedule.

- (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.
- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

- B. Contractor shall provide additional drawings as necessary for clarification.
- C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."
- D. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide electronic copies of the drawings (in PDF format) with one file with all of the sheets and one set of individual sheet files at the conclusion of the Project.

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

- A. Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.
- B. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide one electronic copy of the specifications (in PDF format) at the conclusion of the Project.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
 - (1) Provide files and racks for storage of Record Documents.

- (2) Maintain Record Documents in a clean, dry, legible condition and in good order.

- B. Contractor shall not use Record Documents for construction purposes.

PART 5 – PRODUCTS Not Used.

END OF DOCUMENT

02 41 16 - STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of buildings and site improvements.
 - 2. Removing below-grade construction.
 - 3. Disconnecting, capping or sealing, and removing site utilities.
 - 4. Salvage of existing items for the owner, reuse in the project or for recycling.
- B. Related Sections:
 - 1. Document 01 50 13 "Construction Waste Management and Disposal" for documenting salvage, recycling, and disposal of nonhazardous demolition and construction waste.
 - 2. Section 31 10 00 "Site Clearing" for site clearing and removal of above- and below-grade site improvements not part of building demolition.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged.
- B. Remove and Recycle for the Benefit of the Owner: Carefully detach from existing construction, in a manner to prevent damage, and deliver to a recycling center.
- C. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse. Include fasteners or brackets needed for reattachment elsewhere.
- D. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and install where indicated.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified refrigerant recovery technician.
- B. Proposed Protection Measures: Submit informational report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.

1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.
 - C. Schedule of Building Demolition Activities: Indicate the following:
 1. Detailed sequence of demolition work, with starting and ending dates for each activity.
 2. Temporary interruption of utility services.
 3. Shutoff and capping or re-routing of utility services.
 - D. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
 - E. Predemolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by demolition operations. Submit before the Work begins.
 - F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- 1.6 CLOSEOUT SUBMITTALS
- A. Inventory: Submit a list of items that have been removed and recycled for the benefit of the owner along with a check made out to the School District from the Waste Management Company(ies) for the recycling value received for items removed and recycled.
- 1.7 QUALITY ASSURANCE
- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
 - B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - C. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.
 - D. Predemolition Conference: Conduct conference at Project site.
 1. Inspect and discuss condition of construction to be demolished.
 2. Review structural load limitations of existing structures.
 3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review and finalize protection requirements.
 5. Review procedures for noise control and dust control.
 6. Review procedures for protection of adjacent buildings.
 7. Review items to be salvaged and returned to Owner.

1.8 PROJECT CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
 - 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 - 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
 - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Owner assumes no responsibility for buildings and structures to be demolished.
 - 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 2. Before building demolition, Owner will remove the following items:
 - a. Furniture.
 - b. Computers and office equipment.
 - c. Educational equipment, books, supplies, and tools.
 - d. Appliances.
- D. Hazardous Materials: Hazardous materials are present in buildings and structures to be demolished. An AHERA report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 1. The school district will contract with a hazardous material abatement contractor to perform hazardous material remediation.
 - 2. In most cases the hazardous material will be removed by the hazardous material abatement contractor prior to start of work.
 - 3. The contractor is to coordinate their demolition work with the hazardous material abatement contractor to identify additional areas to be removed by the hazardous material abatement contractor.
 - 4. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- E. On-site storage or sale of removed items or materials is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
 - 1. Maintain fire-protection facilities in service during demolition operations.

1.9 COORDINATION

- A. Arrange demolition schedule so as not to interfere with Owner's on-site operations.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

2.2 SOIL MATERIALS

- A. Satisfactory Soils: Comply with requirements in Section 31 20 00 "Earth Moving."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- B. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
- C. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.

3.2 PREPARATION

- A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction before starting demolition.
- B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.
 - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.
 - 2. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
 - 3. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
- C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of demolition.
- D. Salvaged Items: Comply with the following:
 - 1. Clean salvaged items of dirt and demolition debris.
 - 2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until delivery to Owner.
4. Transport items to storage area designated by Owner.
5. Protect items from damage during transport and storage.

3.3 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.
 1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
 2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Document 01 50 00 "Temporary Facilities and Controls."
 1. Protect adjacent buildings and facilities from damage due to demolition activities.
 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
- D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.4 DEMOLITION, GENERAL

- A. General: Demolish indicated buildings and site improvements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 2. Maintain fire watch during and for at least 4 hours after flame cutting operations.
 3. Maintain adequate ventilation when using cutting torches.

4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities.
- C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- D. Explosives: Use of explosives is not permitted.

3.5 DEMOLITION BY MECHANICAL MEANS

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Removed and Recycled Items for the Benefit of the Owner:
 1. Carefully remove items to get the best recycled value.
 2. Pack or crate items after removal. Identify contents of containers.
 3. Store items in a secure area until delivery to Waste Management Company for recycling.
 4. Transport items to Waste Management Company.
 5. Protect items from damage during transport and storage.
 6. Contractor shall remit all funds received from Waste Management Company of items recycled for the benefit of the owner to the owner.
- D. Salvage: Items to be removed and salvaged are indicated on the drawings.
- E. Below-Grade Construction: Demolish foundation walls and other below-grade construction.
 1. Remove below-grade construction, including foundation walls and footings, completely.
- F. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within 5 feet outside footprint indicated for new construction. Abandon utilities outside this area, unless otherwise indicated.

1. Fill abandoned utility structures with satisfactory soil materials according to backfill requirements in Section 31 20 00 "Earth Moving."
2. Piping: Disconnect piping at unions, flanges, valves, or fittings.
3. Wiring Ducts: Disassemble into unit lengths and remove plug-in and disconnecting devices.

3.6 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Section 31 20 00 "Earth Moving."
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.7 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved landfill and/or recycling center.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn demolished materials.

3.9 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.
 1. Clean roadways of debris caused by debris transport.

END OF SECTION 02 41 16

03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Reinforced Foundation Systems.
 - 2. Slabs-on-grade.
 - 3. Lean Mix Concrete
 - 4. Exposed concrete slabs-on-grade.
 - 5. Ground-mounted equipment and utility slabs-on-grade.
- B. Related Sections:
 - 1. Section 31 20 00 "Earth Moving" for free draining gravel course under slabs-on-grade.
 - 2. Section 32 13 13 "Concrete Paving" for concrete pavement and walks.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, staining materials, and others as requested by the Architect.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Drawings that detail fabrication, bending, and placement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement. Include special reinforcement required and openings through concrete structures.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - 1. Location of construction joints is subject to approval of the Architect.

- E. Samples: For vapor barrier, and Speed Dowel System.
- F. Qualification Data: For Installer and Design Mixture Engineer (California Registered Civil or Structural Engineer).
- G. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design tests as specified.
- H. Material Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by the Architect. Material certificates shall be signed by manufacturers and contractor, certifying that each material item complies with, or exceeds specified requirements:

1.5 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified.
 - 1. 2022 California Building Code – CCR Title 24, Part 2.
 - 2. ACI 301 "Specifications for Structural Concrete for Buildings." A registered civil engineer with experience in concrete mix design shall select the relative amounts of ingredients to be used as basic proportions of the concrete mixes proposed for use under CBC Section 1905A.2 and testing shall be performed in a laboratory acceptable to the enforcement agency.
 - 3. ACI 318 "Building Code Requirements for Reinforced Concrete."
 - 4. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
- B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code - Reinforcing Steel."
- D. Concrete Testing Service: The Owner shall employ a testing laboratory acceptable to the Architect to perform material evaluation tests. Design of concrete mixes shall be by a registered civil engineer retained by the Contractor.
- E. Materials and installed work may require testing and retesting, as directed by the Architect, at anytime during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including re-testing of rejected materials and installed work, shall be paid by Owner, but backcharged to the Contractor.
- F. Testing shall be performed per Section 3.16 of these Specifications and CCR Title 24, Chapter 19A.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.
- B. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
- C. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- D. Forms for Textured Finish (TX-Fn) Concrete: Form textured finished concrete surfaces with units of face design, size, arrangement and configuration as shown on drawings or as required to match Architect's concrete sample. Provide solid backing and form supports to ensure stability of textured form liners.
- E. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- F. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- G. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- H. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- I. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- J. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed, #4 and larger. For #3 use Grade 40.

- B. Weldable Steel Reinforcing Bars: ASTM A706, deformed.
- C. Low-Alloy-Steel Reinforcing Bars: ASTM A706, deformed.
- D. Plain-Steel Wire: ASTM A82, plain, cold-drawn, steel.

2.3 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A615, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Slip Dowel System: Greenstreak two component Speed Dowel System to accept #4 x 12" to 24" long slip dowels (see drawings for size at specific details.) The Greenstreak Speed Dowel System is comprised of a reusable base and a plastic sleeve. Both pieces shall be manufactured from polypropylene plastic.
- C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
 - 2. For slabs-on-grade, use supports with sand plates on horizontal runners where base material will not support chairs legs.

2.4 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type II (low alkali) unless otherwise acceptable to Architect, gray
- B. Normal-Weight Aggregates: ASTM C33, Class 1N coarse aggregate or better, graded. Provide aggregates from a single source. Other aggregates which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Architect and DSA.
 - 1. Maximum Coarse-Aggregate Size: 1 1/2 inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Concrete Sand: ASTM C33. Provide concrete sand from a single source.
- D. Water: ASTM C94 and potable.
- E. Calcium Chloride not permitted.
- F. Air-Entraining Admixture: ASTM C 260.
- G. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride admixtures containing calcium chloride.

2.5 VAPOR BARRIER

- A. Sheet Vapor Barrier: ASTM E1745, Class A, except with maximum perm rating of 0.01 (grains/(ft² · hr · inHg) after mandatory conditioning tests per ASTM E1745 Section 7.1 (7.1.1-7.1.5).
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Stego Industries, LLC; Stego Wrap Vapor Barrier (15 mil).
 - b. Architect and District approved equal.
- B. Vapor Barrier Accessories
 - 1. Seams:
 - a. Stego Industries, LLC; Stego Tape
 - 2. Sealing Penetrations of Vapor Barrier:
 - a. Stego Industries, LLC; Stego Mastic
 - b. Stego Industries, LLC; Stego Tape
 - 3. Perimeter/Edge Seal:
 - a. Stego Industries, LLC; Stego Crete Claw
 - 4. Penetration Prevention:
 - a. Stego Industries, LLC; Beast Foot
 - 5. Vapor Barrier-Safe Screed System:
 - a. Stego Industries, LLC; Beast Screed
- C. Free Draining Gravel Course: Specified in Section 31 20 00 "Earth Moving."

2.6 DECORATIVE GROUT MATERIALS

- A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

2.7 TEMPORARY FLOOR PROTECTION

- A. Temporary Floor Protection Membrane: Multi-ply, textured membrane laminated with a non-woven polypropylene geotextile, 18 mils thick. Equal to L.M. Scofield Company; Proguard Duracover.
- B. Heavy Duty Seaming Tape: Seaming Tape compatible with Floor Protection Membrane. Equal to L.M. Scofield Company; Proguard Duracover Seaming Tape.

2.8 LIQUID FLOOR TREATMENTS

- A. Liquid floor treatments shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.

2.9 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, non-dissipating.

2.10 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork.
- B. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.11 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C109.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C219.

2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C109.

2.12 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, as specified in ACI 301 and Chapter 5 of ACI 318.
 1. Use a qualified independent testing agency, acceptable to Architect, for preparing and reporting proposed mixture designs based on laboratory trial mixtures. The testing shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.
 2. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.
- B. Adjustment to Concrete Mixes: Mix design adjustment may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and approved by Architect before using in work.
- C. Admixtures: Use admixtures according to manufacturer's written instructions.

2.13 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Reinforced Foundation Systems: Refer to sheet S0.1 for concrete mix design and additional concrete requirements for the building's foundation system.
- B. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
 1. Minimum Compressive Strength: 3500 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 3. Minimum Cementitious Materials Content: 520 lb/cu. yd.
 4. Slump Limit: Ramps and sloping surfaces - not more than 3". All other slabs - not less than 3" and not more than 5".
 5. Air Content: Plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.
 6. Air Content: Do not allow air content of trowel-finished concrete floors to exceed 3 percent.
- C. Lean Mix (Sand Slurry): Proportion sand slurry concrete mixture as follows:
 1. Minimum Compressive Strength: 50-125 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 2.03.
 3. Minimum Cementitious Materials Content: 188 lb/cu. yd (2 sack)
 4. Slump Limit: Not less than 3" and not more than 5".
 5. Air Content: Plus or minus 1.5 percent at point of delivery for Concrete Sand.

2.14 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.15 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94, and furnish batch ticket information.
 - 1. Delete references for allowing additional water to be added to batch for material with sufficient slump. Addition of water to the batch will not be permitted.
 - 2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required.
 - 3. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch for smooth-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 1. Install keyways, reglets, recesses, and the like, for easy removal.
 - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 3. Install dovetail anchor slots in concrete structures as indicated.
- B. Place and secure edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure unites sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
 - 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place at least 14 days and until concrete has achieved its 28-day design compressive strength. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
 - 2. Form facing material may be removed 4 days after placement only if shores have been arranged to permit removal of forms without loosening or disturbing shores and supports.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces, except as acceptable to Architect.

3.4 SHORES AND RESHORES

- A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.
 - 1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.

- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.5 VAPOR BARRIERS

- A. Sheet Vapor Barriers: Place, protect, and repair sheet vapor barrier according to ASTM E1643 and manufacturer's written instructions as submitted to and approved by Architect.
 - 1. Unroll Vapor Barrier with the longest dimension parallel with the direction of the concrete placement and face laps away from the expected direction of placement whenever possible.
 - 2. Extend vapor barrier to the perimeter of the slab. At all points of termination (block-outs, interior grade beams, pad footings, perimeter edge, etc.), mechanically seal vapor barrier to the slab itself using Stego Crete Claw, per manufacturer's instructions.
 - 3. Lap joints 6 inches and seal with manufacturer's recommended tape.
 - 4. Apply seam tape/Crete Claw to clean and dry vapor barrier.
 - 5. Seal all penetrations (including pipes) per manufacturer's instructions.
 - 6. No penetration of the Vapor Barrier is allowed except for reinforcing steel and permanent utilities.
 - 7. For interior forming applications, avoid the use of non-permanent stakes, driven through the vapor barrier. Use blunt-end and/or threaded nail stakes (screed pad posts) and insert them into Beast Foot. Ensure Beast Foot's peel-and-stick adhesive base is fully adhered to the vapor barrier.
 - 8. If non-permanent stakes must be driven through vapor barrier, repair as recommended by vapor barrier manufacturer.
 - 9. Use reinforcing bar supports with base sections that eliminate or minimize the potential for puncture of the vapor barrier.
 - 10. For a vapor barrier-safe, fixed-elevation concrete screeding application, install Beast Screed (vapor barrier-safe screed system) per manufacturer's instructions prior to placing concrete.
 - 11. Repair damaged areas by cutting patches of Vapor Barrier, overlapping damaged area 6 inches and taping all four sides with tape.

3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 - 1. Weld reinforcing bars according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Locate and install construction joints, which are not shown on drawings, so strength and appearance of concrete are not impaired, as acceptable to Architect.
 - 1. Horizontal construction joints between successive concrete pours shall be properly cleaned by sandblasting 5 days (minimum) after initial concrete placement.
 - 2. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 - 3. Provide keyways at least 1 1/2" deep in construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
 - 4. Locate joints for slabs in the middle third of spans.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 - 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
 - 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 07 92 00 "Joint Sealants," are indicated.
 - 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Slip Doweled Joints (Speed Dowel System): Install dowel bars and support assemblies at joints where indicated.
 - 1. Attach Speed Dowel System bases to the face of the concrete forms using a double headed nail or self-tapping screw.
 - 2. Center of Speed Dowel System base shall be centered on form. Place edge forms plumb. Out of plumb forms will result in misaligned dowels.
 - 3. Prior to pouring concrete, Speed Dowel System sleeve shall be slipped over Speed Dowel System base.
 - 4. Pour concrete minimum of 18" from Speed Dowel System and work concrete around the Speed Dowel System. Concrete shall not be poured directly over the Speed Dowel System.
 - 5. Concrete forms shall be removed with Speed Dowel System bases still attached. Speed Dowel System based may be reused.
 - 6. Install slip dowels to the full depth of the embedded Speed Dowel System sleeve and proceed with next concrete pour. Greasing of dowels is not required as the embedded Speed Dowel System sleeve accommodates expansion and shrinkage movements that may occur. Bent or badly sheared slip dowels shall not be used. Saw cut dowels recommended.

3.8 CONCRETE PLACEMENT

- A. Preplacement Inspection, Notification: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Notify Architect, Project Inspector, and DSA by email 48 hours in advance of placement. Moisten wood forms immediately before placing concrete where form coatings are not used.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly (2% maximum slope in all directions) to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- F. Hot-Weather Placement: Comply with ACI 301 and as follows:
 - 1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is

calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas. Do not wet round concrete column forms.

3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish (RFm-Fn): As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

- B. Smooth-Formed Finish (SmFm-Fn): As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.

- C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Grout-Cleaned Finish (GRTCl-Fn): Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.

1. Apply scratch finish to surfaces to receive concrete floor toppings.

- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to receive trowel finish.

- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restrain until surface is free of trowel

marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, and ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 2. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade.
 3. Interior exposed concrete floor slabs shall be slip resistant. Unless otherwise indicated, the static coefficient of friction (COF) shall not be less than 0.6 for level surfaces and 0.8 for ramps, per ASTM C1028-07 and Chapter 11B of CCR Title 24, Part 2, California Building Code as interpreted and enforced by the Division of the State Architect.
- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.
1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- F. Non-Slip Broom Finish: Apply a non-slip broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
1. Medium-Textured Broom Finish: Draw a stiff-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, medium-line texture.
 - a. Sidewalks and Ramps: Slopes less than 6%.
 - b. Stair Treads.
 2. Heavy-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.
 - a. Ramps: Slopes of 6% or greater.

3.11 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following method:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. Removal: After curing period has elapsed and prior to installation of decorative floor treatments and resilient floor covering (rubber tile, sheet vinyl, and carpet), remove curing compound without damaging concrete surfaces by method recommended by decorative floor treatments and resilient floor covering manufacturers (these methods may be different).

3.13 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment according to manufacturer's written instructions as submitted to and accepted by Architect.

1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
2. Do not apply to concrete that is less than 28 days' old.
3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water; remove excess material until surface is dry. Apply a second coat in a similar manner if surface is rough or porous.
4. After final coat is applied and dried, remove surplus treatment by scrubbing and mopping with water.

3.14 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions as submitted to and accepted by Architect.
 1. Defer joint filling until concrete has aged at least **one** month. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.15 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.
- 3.16 FIELD QUALITY CONTROL
- A. Testing and Inspecting: Owner will engage a qualified testing laboratory to perform field tests and prepare test reports. Refer to the DSA-103 Structural Tests and Inspections Form at the end of Section 01 45 00 - Quality Control.
- B. Waiver of Batch Plant Inspection: Batch plant inspection may be waived under the following condition:
1. The concrete plan complies fully with the requirements of ASTM C94, Sections 8 and 9, and has a current certificate from the National Ready Mixed Concrete Association or another agency acceptable to DSA. The certification shall indicate that the plant has automatic batching and recording capabilities.
 2. When batch plant inspection is waived the following requirements shall apply:
 - a. An approved inspector of the testing laboratory shall check the first batching at the start of work and furnish mix proportions to the licensed weighmaster.
 - b. The licensed weighmaster shall positively identify materials as to quantity and certify each load by a ticket.
 - c. The ticket shall be transmitted to the project inspector by a truck driver with load identified thereon. The inspector will not accept the load without a load ticket identifying the mix. The inspector will keep a daily record of placements, identifying

each truck, its load and time of receipt, and approximate location of deposit in the structure. The inspector will transmit a copy of the daily record to DSA.

- d. At the end of the project, the weighmaster shall furnish an affidavit to DSA on form SSS 411-8 certifying that all concrete furnished conforms in every particular to the particular to the proportions established by mix designs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to CBC Section 1905A.1.2, ACI 318 Section 5.6, and ASTM C172 shall be performed according to the following requirements:
1. Testing Frequency: Samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. Additional samples for seven-day compressive strength tests shall be taken for each class of concrete at the beginning of the concrete work or whenever the mix or aggregate is changed.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C231, pressure method, for normal-weight concrete; **one** test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
 5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 6. Compression Test Specimens: ASTM C31.
 - a. Cast and laboratory cure one set of three standard cylinder specimens for each composite sample, unless otherwise directed.
 7. Compressive-Strength Tests: ASTM C39; test one of the three laboratory-cured specimens at 7 days and one of the three specimens at 28 days.
 8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
 9. Test results shall be reported in writing to Architect, DSA, concrete batch plant, and Contractor on same day that tests are made. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 10. Additional Tests: The testing service shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42 or by other methods as directed by Architect.
 11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

12. If the strength acceptance criteria are not met, the concrete will be deemed defective and shall be placed or adequately strengthened in a manner outlined by the Architect or Structural Engineer.

3.17 PROTECTION

- A. The General Contractor is responsible for using TEMPORARY FLOOR PROTECTION throughout the project to safeguard the surface quality of concrete slabs before and after application of decorative finishes or installation of other materials.
- B. All concrete floors that will not be covered by other materials shall be protected throughout the project. The concrete slab shall be treated as a finished floor at all times during construction.
- C. TEMPORARY FLOOR PROTECTION shall be installed per manufacturer's published installation procedures. Overlapped seams shall be taped with Heavy Duty Seaming Tape
- D. Do not apply the Heavy-Duty Seaming Tape to bare or finished floors or wall surfaces at any time. The tape will permanently damage the surface.

3.18 MAINTENANCE

- A. Maintain exposed concrete floors by sweeping. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a rotary floor machine equipped with a scrubbing brush and a suitable, high quality commercial detergent.

END OF SECTION 03 30 00

05 53 13 - BAR GRATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes metal bar gratings.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for gratings, grating frames, and supports. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Clips and anchorage devices for gratings.
 - 2. Paint products.
- B. Shop Drawings: Include plans, sections, details, and attachments to other work.

1.5 INFORMATIONAL SUBMITTALS

- A. Mill Certificates: Signed by manufacturers of stainless steel certifying that products furnished comply with requirements.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of construction contiguous with gratings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Grating Pacific, Inc.; Model #W11-4 - ADA and W19-4 - Standard or a comparable product by one of the following:
1. Fisher & Ludlow; a NUCOR Company.
 2. Ohio Gratings, Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Gratings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Walkways: Uniform load of 100 lbf/sq. ft..
 2. Limit deflection to 1/4 inch.

2.3 METAL BAR GRATINGS

- A. Metal Bar Grating Standards: Comply with NAAMM MBG 531, "Metal Bar Grating Manual."
- B. Welded Steel Grating:
1. Bearing Bar Spacing: 7/16 inch o.c.
 2. Bearing Bar Depth: 1 inch.
 3. Bearing Bar Thickness: 3/16 inch.
 4. Crossbar Spacing: 4 inches o.c.
 5. Traffic Surface: Plain.
 6. Steel Finish: Hot-dip galvanized with a coating weight of not less than 1.8 oz./sq. ft. of coated surface.

2.4 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- B. Steel Bars for Bar Gratings: ASTM A36/A36M or steel strip, ASTM A1011/A1011M or ASTM A1018/A1018M.
- C. Wire Rod for Bar Grating Crossbars: ASTM A510.

2.5 MISCELLANEOUS MATERIALS

- A. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.6 FABRICATION

- A. Shop Assembly: Fabricate grating sections in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

- B. Cut, drill, and punch material cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form from materials of size, thickness, and shapes indicated, but not less than that needed to support indicated loads.
- D. Fit exposed connections accurately together to form hairline joints.
- E. Welding: Comply with AWS recommendations and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
- F. Removable Grating Sections: Fabricate with banding bars at each end. Banding bars are attached by welding to each section. Include anchors and fasteners of type indicated or, if not indicated, as recommended by manufacturer for attaching to supports.
 - 1. Weld each banding bar to each bearing bar as recommended by manufacturer.
- G. Do not notch bearing bars at supports to maintain elevation.

2.7 STEEL FINISHES

- A. Finish gratings, frames, and supports after assembly.
- B. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
 - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing gratings. Set units accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
- B. Fit exposed connections accurately together to form hairline joints.
 - 1. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with AWS recommendations and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.

3.2 INSTALLING METAL BAR GRATINGS

- A. General: Install gratings to comply with recommendations of referenced metal bar grating standards that apply to grating types and bar sizes indicated, including installation clearances and standard anchoring details.
- B. Attach removable units to supporting members with type and size of clips and fasteners indicated or, if not indicated, as recommended by grating manufacturer for type of installation conditions shown.

3.3 ADJUSTING AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 05 53 13

07 27 26 - FLUID-APPLIED MEMBRANE AIR-BARRIERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes fluid-applied, vapor-permeable membrane air barriers.

1.3 DEFINITIONS

- A. Air-Barrier Material: A primary element that provides a continuous barrier to the movement of air.
- B. Air-Barrier Accessory: A transitional component of the air barrier that provides continuity.
- C. Air-Barrier Assembly: The collection of air-barrier materials and accessory materials applied to an opaque wall, including joints and junctions to abutting construction, to control air movement through the wall.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review air-barrier requirements and installation, special details, mockups, air-leakage and bond testing, air-barrier protection, and work scheduling that covers air barriers.
 - 2. Manufacturer's representative shall be in attendance at Preinstallation Conference.

1.5 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written instructions for evaluating, preparing, and treating substrate; technical data; and tested physical and performance properties of products.
- B. Shop Drawings: For air-barrier assemblies.
 - 1. Show locations and extent of air barrier. Include details for substrate joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.
 - 2. Include details of interfaces with other materials that form part of air barrier.
- C. Qualification Data: For Installer.
- D. Product Certificates: From air-barrier manufacturer, certifying compatibility of air barriers and accessory materials with Project materials that connect to or that come in contact with the barrier.
- E. Product Test Reports: For each air-barrier assembly, for tests performed by a qualified testing agency.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Mockups: Build mockups to set quality standards for materials and execution.
 - 1. Build integrated mockups of exterior wall assembly, 150 sq. ft. min., incorporating backup wall construction, external cladding, window, storefront, door frame and sill, insulation, ties and other penetrations, and flashing to demonstrate surface preparation, crack and joint treatment, application of air barriers, and sealing of gaps, terminations, and penetrations of air-barrier assembly.
 - a. Include junction with roofing membrane, building corner condition, and foundation wall intersection.
 - b. If Architect determines mockups do not comply with requirements, reconstruct mockups and apply air barrier until mockups are approved.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Remove and replace liquid materials that cannot be applied within their stated shelf life.
- B. Protect stored materials from direct sunlight.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Apply air-barrier within the range of ambient and substrate temperatures recommended by air-barrier manufacturer.
 - 1. Protect substrates from environmental conditions that affect air-barrier performance.
 - 2. Do not apply air barrier to a damp or wet substrate or during snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Source Limitations: Obtain primary air-barrier materials and air-barrier accessories from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Air-barrier shall be capable of performing as a continuous vapor-permeable air-barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air-barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, tie-ins to installed waterproofing, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

- B. Air-Barrier Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. when tested according to ASTM E 283, ASTM E 783, or ASTM E 2357 utilizing a steel stud framed wall.

2.3 VAPOR-PERMEABLE MEMBRANE AIR-BARRIER

- A. Fluid-Applied, Vapor-Permeable Membrane Air Barrier: Synthetic polymer membrane or Elastomeric, modified bituminous.

- 1. Products: Subject to compliance with requirements, provide one of the following available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Synthetic Polymer Membrane:

- 1) BASF Corporation; Enershield-HP
- 2) STS Coatings; Wall Guardian FW-100-A
- 3) Carlisle Coatings & Waterproofing Inc.; Barritech VP.
- 4) Tremco Incorporated, an RPM company; ExoAir 230.
- 5) Grace, W. R., & Co. - Conn.; Perm-A-Barrier VP.
- 6) Henry Company; Air-Bloc 31MR .
- 7) GE; Elemax 2600.

- b. Elastomeric, Modified Bituminous Membrane:

- 1) Henry Company; Air-Bloc 07.
- 2) Hohmann & Barnard, Inc.; Textroflash Liquid VP.
- 3) Meadows, W. R., Inc.; Air-Shield LMP.

- 2. Physical and Performance Properties:

- a. Air Permeance: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. pressure difference; ASTM E 2178.
- b. Vapor Permeance: Minimum 5.5 perms; ASTM E 96.
- c. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
- d. Nail Sealability: Passes ASTM D 1970

2.4 ACCESSORY MATERIALS

- A. General: Accessory materials recommended by air-barrier manufacturer to produce a complete air-barrier assembly and compatible with primary air-barrier material.
- B. Primer: Liquid waterborne primer recommended for substrate by air-barrier material manufacturer.
- C. Counterflashing Strip: Air-barrier manufacturer's standard.
- D. Joint Reinforcing Strip: Air-barrier manufacturer's standard.
- E. Substrate-Patching Membrane: Manufacturer's standard trowel-grade substrate filler.
- F. Adhesive and Tape: Air-barrier manufacturer's standard adhesive and pressure-sensitive adhesive tape.

- G. Sprayed Polyurethane Foam Sealant: One- or two-component, foamed-in-place, polyurethane foam sealant, 1.5- to 2.0-lb/cu. ft density; flame-spread index of 25 or less according to ASTM E 162; with primer and noncorrosive substrate cleaner recommended by foam sealant manufacturer.
- H. Transition Strip: Air-barrier manufacturer's standard.
- I. Joint Sealant: ASTM C 920, single-component, neutral-curing silicone; Class 100/50 (low modulus), Grade NS, Use NT and O or ASTM C 920, single-component polyether, Class 25, Grade NS, Use NT and O. Comply with Section 07 92 00 "Joint Sealants."
- J. Termination Mastic: Air-barrier manufacturer's standard cold fluid-applied elastomeric liquid; trowel grade.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 - 1. Verify that substrates are sound and free of oil, grease, dirt, excess mortar, or other contaminants.
 - 2. Verify that concrete has cured and aged for minimum time period recommended by air-barrier manufacturer.
 - 3. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean, prepare, treat, and seal substrate according to manufacturer's written instructions. Provide clean, dust-free, and dry substrate for air-barrier application.
- B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.
- C. Insure that grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings have been removed from concrete.
- D. Insure that fins, ridges, mortar, and other projections have been removed and that honeycombs, aggregate pockets, holes, and other voids in concrete have been filled with substrate-patching membrane.
- E. Changes in substrate plane should be addressed by manufacturer's installation instructions and approved shop drawings.

3.3 JOINT TREATMENT

- A. Concrete and Masonry: Prepare, treat, rout, and fill joints and cracks in substrate according to ASTM C 1193 and air-barrier manufacturer's written instructions. Remove dust and dirt from joints and cracks complying with ASTM D 4258 before coating surfaces.

1. Prime substrate and apply a single thickness of air-barrier manufacturer's recommended preparation coat extending a minimum of 3 inches along each side of joints and cracks. Apply a double thickness of fluid air-barrier material and embed a joint reinforcing strip in preparation coat.

- B. Sheathing: Fill joints with sealant and or tape according to air-barrier manufacturer's written instructions.

3.4 TRANSITION STRIP INSTALLATION

- A. General: Install strips, transition strips, and accessory materials according to air-barrier manufacturer's written instructions to form a seal with adjacent construction and maintain a continuous air barrier.

1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
2. Install transition strip on roofing membrane or base flashing so that a minimum of 3 inches of coverage is achieved over each substrate.

- B. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by fluid air-barrier material on same day. Reprime areas exposed for more than 24 hours.

1. Prime glass-fiber-surfaced gypsum sheathing with number of prime coats needed to achieve required bond, with adequate drying time between coats.

- C. Connect and seal exterior wall air-barrier material continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.

- D. At end of each working day, seal top edge of strips and transition strips to substrate with termination mastic.

- E. Apply joint sealants forming part of air-barrier assembly within manufacturer's recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

- F. Wall Openings: Prime concealed, perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply transition strip so that a minimum of 3 inches of coverage is achieved over each substrate. Maintain 3 inches of full contact over firm bearing to perimeter frames with not less than 1 inch of full contact.

1. Roll firmly to enhance adhesion.

- G. Fill gaps in perimeter frame surfaces of windows, curtain walls, storefronts, and doors, and miscellaneous penetrations of air-barrier material with foam sealant.

- H. Seal top of through-wall flashings to air barrier with an additional 6-inch- wide, transition strip.

- I. Seal exposed edges of strips at seams, cuts, penetrations, and terminations not concealed by metal counterflashings or ending in reglets with termination mastic.

- J. Repair punctures, voids, and deficient lapped seams in strips and transition strips. Slit and flatten fishmouths and blisters. Patch with transition strips extending 6 inches beyond repaired areas in strip direction.

3.5 FLUID AIR-BARRIER MEMBRANE INSTALLATION

- A. General: Apply fluid air-barrier material to form a seal with strips and transition strips and to achieve a continuous air barrier according to air-barrier manufacturer's written instructions. Apply fluid air-barrier material within manufacturer's recommended application temperature ranges.
 - 1. Apply primer to substrates at required rate and allow it to dry.
 - 2. Limit priming to areas that will be covered by fluid air-barrier material on same day. Reprime areas exposed for more than 24 hours.
 - 3. Prime glass-fiber-surfaced gypsum sheathing with number of prime coats needed to achieve required bond, with adequate drying time between coats.
- B. Membrane Air Barriers: Apply a continuous unbroken air-barrier membrane to substrates according to the following thickness. Apply air-barrier membrane in full contact around protrusions such as masonry ties.
 - 1. Vapor-Permeable Membrane Air Barrier: Total dry film thickness as recommended in writing by manufacturer to meet performance requirements, applied in one or more equal coats.
- C. Apply strip and transition strip a minimum of 1 inch onto cured air-barrier material according to air-barrier manufacturer's written instructions.
- D. Do not cover air barrier until it has been reviewed by Architect, Project Inspector, and Manufacturer's representative.
- E. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air-barrier components.

3.6 FIELD QUALITY CONTROL

- A. Review: Air-barrier materials, accessories, and installation are subject to review for compliance with requirements. Notify Architect when sections of work are complete so as to allow for review prior to installing insulation. The manufacturer's representative shall be on site to review the installation along with the Architect and Project Inspector. Review may include the following:
 - 1. Continuity of air-barrier system has been achieved throughout the building envelope with no gaps or holes.
 - 2. Continuous structural support of air-barrier system has been provided.
 - 3. Site conditions for application temperature and dryness of substrates have been maintained.
 - 4. Maximum exposure time of materials to UV deterioration has not been exceeded.
 - 5. Surfaces have been primed, if applicable.
 - 6. Laps in strips and transition strips have complied with minimum requirements and have been shingled in the correct direction (or mastic has been applied on exposed edges), with no fishmouths.
 - 7. Termination mastic has been applied on cut edges.
 - 8. Strips and transition strips have been firmly adhered to substrate.
 - 9. Compatible materials have been used.
 - 10. Transitions at changes in direction and structural support at gaps have been provided.

11. Connections between assemblies (air-barrier and sealants) have complied with requirements for cleanliness, surface preparation and priming, structural support, integrity, and continuity of seal.
12. All penetrations have been sealed.

B. Air barriers will be considered defective if they do not pass review.

1. Apply additional air-barrier material, according to manufacturer's written instructions, where inspection results indicate insufficient thickness.
2. Remove and replace deficient air-barrier components for retesting as specified above.

3.7 CLEANING AND PROTECTION

A. Protect air-barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.

1. Protect air barrier from exposure to UV light and harmful weather exposure as required by manufacturer. If exposed to these conditions for more than 60 days, remove and replace air barrier or install additional, full-thickness, air-barrier application after repairing and preparing the overexposed membrane according to air-barrier manufacturer's written instructions.
2. Protect air barrier from contact with incompatible materials and sealants not approved by air-barrier manufacturer.

B. Clean spills, stains, and soiling from construction that would be exposed in the completed work using cleaning agents and procedures recommended by manufacturer of affected construction.

C. Remove masking materials after installation.

END OF SECTION 07 27 26

07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Silicone joint sealants.
- 2. Nonstaining silicone joint sealants.
- 3. Mildew-resistant joint sealants.
- 4. Butyl joint sealants.
- 5. Latex joint sealants.

B. Related Requirements:

- 1. Section 07 92 19 "Acoustical Joint Sealants" for sealing joints in sound-rated construction.
- 2. Refer to sections of Divisions 21, 22, 23, 26, 27, and 28 for joint sealers in mechanical, electrical, and plumbing work not called for in this section.
- 3. Section 32 13 73 "Concrete Paving Joint Sealants" for sealing joints in paved roads, parking lots, walkways, and curbing.

- C. General Performance; Except as otherwise indicated, joint sealers are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product.

- B. Installation Instructions: Manufacturer's written installation instructions for products and applications indicated for each joint-sealant product.

- C. California Green Building Standards Code (GBC) Submittals:

- 1. Product Data: For sealants, sealant primers, and caulks, documentation indicating that products:
 - a. Comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.4.1 and 5.504.4.2 (2022 California Green Building Standards Code).
 - b. Comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene) except for aerosol products as specified in GBC 5.504.4.1.2.

2. Product Data: For smaller unit sizes of sealant, sealant primer, or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces):
 - a. Comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
 - D. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
 - E. Joint-Sealant Schedule: Include the following information:
 1. Joint-sealant application, joint location, and designation.
 2. Joint-sealant manufacturer and product name.
 3. Joint-sealant formulation.
 4. Joint-sealant color.
 - F. Sample Warranties: For special warranties.
- 1.4 QUALITY ASSURANCE
- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- 1.5 FIELD CONDITIONS
- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.
- 1.6 WARRANTY
- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
 - B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
 - C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Low-Emitting Interior Sealants: Sealants and sealant primers shall comply with the testing and product requirements of the California Department of Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Silicone, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
- B. Silicone, S, NS, 100/50, T, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Uses T and NT.
- C. Silicone, S, P, 100/50, T, NT: Single-component, pourable, plus 100 percent and minus 50 percent movement capability traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade P, Class 100/50, Uses T and NT.

2.3 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.
- B. Silicone, Nonstaining, S, NS, 100/50, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.4 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.
- B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

2.5 BUTYL JOINT SEALANTS

- A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

2.6 LATEX JOINT SEALANTS

- A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

2.7 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.8 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - d. Exterior insulation and finish systems.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces **JS-1**.

1. Joint Locations:
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Other joints as indicated on Drawings.
2. Joint Sealant: Silicon, S, P, 100/50, T.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces **JS-2**.

1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Joints in exterior porcelain tile cladding.
 - c. Joints in exterior insulation and finish systems.
 - d. Joints between metal panels.
 - e. Joints between different materials listed above.
 - f. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
 - g. Control and expansion joints in ceilings and other overhead surfaces.
 - h. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, nonstaining, S, NS, 100/50, NT.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces **JS-3**.
 1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Control and expansion joints in tile flooring.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicon, S, P, 100/50, T.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces **JS-4**.
 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Tile control and expansion joints.
 - c. Vertical joints on exposed surfaces of cast-in-place concrete stem walls and curbs.
 - d. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, nonstaining, S, NS, 100/50, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- E. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement **JS-5**.
 1. Joint Locations:
 - a. Control joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Acrylic latex.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- F. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces **JS-6**.
 1. Joint Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Inside corners of ceramic tile walls and wainscot surfaces.
 - d. Perimeter joints between interior ceramic tile wall surfaces and frames of interior doors.
 - e. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- G. Joint-Sealant Application: Concealed mastics **JS-7**.

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1. Joint Locations:
 - a. Aluminum thresholds.
 - b. Sill plates.
 - c. Other joints as indicated on Drawings.
2. Joint Sealant: Butyl-rubber based.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00

09 24 00 - PORTLAND CEMENT PLASTERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Exterior portland cement plasterwork (stucco) on metal lath.

B. Related Sections:

- 1. Section 05 40 00 "Cold-Formed Metal Framing."
- 2. Section 06 10 00 "Rough Carpentry" for wood framing and furring included in portland cement plaster assemblies.
- 3. Section 06 16 00 "Sheathing" for sheathing included in portland cement plaster assemblies.
- 4. Section 07 21 00 "Thermal Insulation" for thermal insulations included in portland cement plaster assemblies.
- 5. Section 07 27 26 "Fluid Applied Membrane Air Barriers."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of colored and textured finish coat indicated; 12 by 12 inches, and prepared on rigid backing.

1.4 QUALITY ASSURANCE

- A. Fire-Resistance Ratings: Where indicated, provide portland cement plaster assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- B. Mockups: Before plastering, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups for each type of finish indicated.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- C. Technical Evaluation Reports: For attachment of metal lath through foam plastic insulating sheathing (FBIS) to wood and metal stud framing, comply with requirements of TER No. 1303-04 and per the requirements indicated in these specifications and as shown on the drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.6 PROJECT CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Interior Plasterwork: Maintain room temperatures at greater than 40 deg F for at least 48 hours before plaster application, and continuously during and after application.
 - 1. Avoid conditions that result in plaster drying out during curing period. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
 - 2. Ventilate building spaces as required to remove water in excess of that required for hydrating plaster in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.
- C. Exterior Plasterwork:
 - 1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.
 - 2. Apply plaster when ambient temperature is greater than 40 deg F.
 - 3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.
- D. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

PART 2 - PRODUCTS

2.1 METAL LATH

- A. Expanded-Metal Lath: ASTM C 847 with ASTM A 653, G60, hot-dip galvanized zinc coating.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CEMCO.
 - b. Western Metal Lath.
 - c. Dietrich Metal Framing; a Worthington Industries company.
 - 2. Diamond-Mesh Lath: Self-furring, 3.4 lb/sq. yd..
 - 3. 3/8-Inch Rib Lath: 3.4 lb/sq. yd.
- B. Wire-Fabric Lath:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Structa Wire Corp.; Structalath Twin Trac (ICC #ESR 2017)
 - b. Architect and District Approved Equal.

2. Welded-Wire Lath: ASTM C 933; self-furring, 1.14 lb/sq. yd.

C. Paper Backing: FS UU-B-790, Type I, Grade D, Style 2 vapor-permeable paper.

1. Provide paper-backed lath at exterior locations.

2.2 ACCESSORIES

A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Metal Accessories:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. CEMCO.
- b. Clark Western Building Systems.
- c. Dietrich Metal Framing; a Worthington Industries company.
- d. Stockton Products
- e. Western Metal Lath

2. Foundation Weep Screed: Fabricated from hot-dip galvanized-steel sheet, ASTM A 653, G60 zinc coating.

3. Cornerite: Fabricated from metal lath with ASTM A 653, G60, hot-dip galvanized zinc coating.

4. Cornerbeads: Fabricated from zinc-coated (galvanized) steel.

- a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.
- b. Small nose cornerbead with expanded flanges reinforced by perforated stiffening rib; use on columns and for finishing masonry corners.

5. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

6. Control Joints: Fabricated from zinc-coated (galvanized) steel; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.

7. Expansion Joints: Fabricated from zinc-coated (galvanized) steel; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.

8. Two-Piece Expansion Joints: Fabricated from zinc-coated (galvanized) steel; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8-inch-wide; with perforated flanges.

9. Soffit Vent: Fabricated from zinc-coated (galvanized) steel; formed to provide a vent with 1/8" vent holes; with expanded or solid flanges. Size as shown on drawings.

C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Fry Reglet Corp.
- b. Gordon, Inc.
- c. Pittcon Industries.

d. Stockton Products.

2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.
3. Finish: Clear Anodic Finish; AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

2.3 MISCELLANEOUS MATERIALS

- A. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: ASTM C 1116, alkaline-resistant glass or polypropylene fibers, 1/2-inch-long, free of contaminants, manufactured for use in portland cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Steel Drill Screws: For metal-to-metal fastening, ASTM C 954, #10 self-drilling, self-tapping; with 3/4 inch (min.) diameter pan head that is suitable for application; in lengths required to achieve penetration through joined materials and metal stud flange by no fewer than three exposed threads or 3/8 inch (whichever is greater) and shall engage not less than three strands of lath.
- E. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.
 1. Nails for attaching metal lath to wood stud framing shall have a 0.162" diameter head and shall be in lengths required to achieve penetration through joined materials and into wood stud framing by no less than 1 1/4 inches.
- F. Wire: ASTM A 641, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter, unless otherwise indicated.

2.4 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
- B. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- C. Sand Aggregate: ASTM C 897.
- D. Ready-Mixed Finish-Coat Plaster: Mill-mixed portland cement, aggregates, coloring agents, and proprietary ingredients.
 1. Products: Subject to compliance with requirements, provide one of the following available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American, an Oldcastle Company; Marblesil Stucco Mix.
 - b. California Stucco Products Corp.; Conventional Portland Cement Stucco.
 - c. Florida Stucco; Florida Stucco.
 - d. LaHabra, a brand of ParexLaHabra, Inc.; Exterior Stucco Color Coat.
 - e. Omega Products International, Inc.; ColorTek Exterior Stucco.
 - f. QUIKCRETE; QUIKCRETE Finish Coat Stucco, No. 1201.
 - g. Shamrock Stucco LLC; Exterior Stucco.
 2. Color: Match exterior paint colors.

2.5 PLASTER MIXES

- A. General: Comply with ASTM C 926 for applications indicated.
 - 1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. of cementitious materials.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
 - 1. Portland Cement Mixes:
 - a. Scratch Coat: For cementitious material, mix 1-part portland cement and 3/4 to 1-1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
 - b. Brown Coat: For cementitious material, mix 1-part portland cement and 3/4 to 1-1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.
- C. Factory-Prepared Finish-Coat Mixes: For ready-mixed finish-coat plasters, comply with manufacturer's written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B. Prepare solid substrates for plaster that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.

3.3 INSTALLATION, GENERAL

- A. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

3.4 INSTALLING METAL LATH

- A. Expanded-Metal Lath: Install according to ASTM C 1063, TER No. 1303-04 (when attaching metal lath to wood or metal stud framing over Foam Plastic Insulating Sheathing) and 2022 CBC Section 2603.12.
 - 1. Flat-Ceiling and Horizontal Framing: Install 3/8-inch rib lath.
 - 2. On Solid Surfaces, Not Otherwise Furred: Install self-furring, expanded metal or welded-wire lath.
- B. Attach lath to metal and wood framing with screws at 6 inches on center along framing supports.

3.5 INSTALLING ACCESSORIES

- A. Install according to ASTM C 1063 and at locations indicated on Drawings.
- B. Reinforcement for External Corners:
 - 1. Install cornerbead at exterior locations.
- C. Control/Expansion Joints: Install control/expansion joints at locations indicated on Drawings and per the following minimum requirements:
 - 1. As required to delineate plasterwork into areas (panels) of the following maximum sizes:
 - a. Vertical Surfaces: 144 sq. ft.
 - b. Horizontal and other Nonvertical Surfaces: 100 sq. ft.
 - 2. At distances between control joints of not greater than 18 feet o.c.
 - 3. As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
 - 4. Where control joints occur in surface of construction directly behind plaster.
 - 5. Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.
- D. Aluminum Trim: Install at locations indicated on Drawings.

3.6 PLASTER APPLICATION

- A. General: Comply with ASTM C 926, TER No. 1303-04, and 2022 CBC 2603.12.
 - 1. Do not deviate more than plus or minus 1/4 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
 - 2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
 - 3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.
 - 4. When attaching metal lath to metal stud framing over Foam Plastic Insulating Sheathing, the weight of the plaster assembly shall not exceed the limits set forth in table 1a of TER No. 1303-04 and 2022 CBC Table 2603.12.1. For installation of exterior cement plaster over 1 1/2" thick foam insulation, the weight of the plaster assembly shall not exceed 25 psf.
- B. Bonding Compound: Apply on concrete plaster bases.
- C. Walls; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork; 3/4-inch thickness.
 - 1. Portland cement mixes.
- D. Ceilings; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork; 3/4-inch thickness.
 - 1. Portland cement mixes.
- E. Walls; Base-Coat Mix: Scratch coat for two-coat plasterwork, 3/8-inch-thick (minimum) on concrete masonry.

1. Portland cement mixes.
 - F. Plaster Finish Coats: Apply to provide float finish.
 - G. Concealed Exterior Plasterwork: Where plaster application will be used as a base for adhered finishes, omit finish coat.
 - H. Concealed Interior Plasterwork:
 1. Where plaster application will be concealed behind built-in cabinets, similar furnishings, and equipment, apply finish coat.
 2. Where plaster application will be concealed above suspended ceilings and in similar locations, finish coat may be omitted.
 3. Where plaster application will be used as a base for adhesive application of tile and similar finishes, omit finish coat.
- 3.7 PLASTER REPAIRS
- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.
- 3.8 PROTECTION
- A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 09 24 00

09 65 13 - RESILIENT BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Resilient base.
- B. Related Sections:
 - 1. Section 03 30 00 "Cast-in-Place Concrete" for concrete substrate and finished concrete floors.
 - 2. Section 09 29 00 "Gypsum Board" for wall materials to receive resilient base.
 - 3. Section 09 65 19 "Resilient Tile Flooring" for resilient floor tile.
 - 4. Section 10 11 23 "Tackable Surfaces" for wall materials to receive resilient base.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. California Green Building Standards Code (GBC) Submittals:
 - 1. Product Data: For adhesives, documentation indicating that products:
 - a. Comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.4.1 (2022 California Green Building Standards Code).
 - b. Comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene) except for aerosol products as specified in GBC 5.504.4.1.2.
 - 2. Product Data: For smaller unit sizes of adhesives (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces):
 - a. Comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
- C. Samples for Verification: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.
- D. Product Schedule: For resilient products. Use same designations indicated on Drawings.
- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to owner where directed. Obtain signed receipt from owner that indicate where materials were

delivered, the date of delivery, who accepted delivery and the amount and nature of materials delivered. Include copy of signed receipt in maintenance manuals.

1. Furnish not less than 20 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.6 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 90 deg F, in spaces to receive resilient products during the following time periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE

- A. Resilient Base:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
 - b. Endura Rubber Flooring; Division of Burke Industries, Inc.
 - c. Johnsonite.
 - d. Mondo Rubber International, Inc.
 - e. Roppe Corporation, USA.

- B. Resilient Base Standard: ASTM F 1861.

1. Material Requirement: Type TS (rubber, vulcanized thermoset) or Type TP (rubber, thermoplastic).
2. Manufacturing Method: Group I (solid, homogeneous) or Group II (layered).
3. Style: Cove (base with toe).

- C. Minimum Thickness: 0.125 inch.
- D. Height: As indicated on Drawings.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed or preformed. A mockup for a typical installation shall be done by the contractor and shall be reviewed and approved by the Architect and Owner before proceeding with either installation method.
- G. Inside Corners: Job formed.
- H. Finish: As selected by Architect from manufacturer's full range.
- I. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 RESILIENT MOLDING ACCESSORY

- A. Resilient Molding Accessory:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Burke Mercer Flooring Products; Division of Burke Industries, Inc.
 - b. Johnsonite.
 - c. Roppe Corporation, USA.
- B. Description: Nosing for resilient floor covering, reducer strip for resilient floor covering, and transition strips.
- C. Material: Rubber.
- D. Profile and Dimensions: As indicated.
- E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products as reviewed by Architect during the submittal process.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until they are same temperature as the space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, in toe spaces and open ends of casework and cabinets, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned. Maintain minimum measurement of 18 inches between joints.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Scribe and fit to door frames and other interruptions.
- F. Do not stretch resilient base during installation.
- G. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- H. At exposed ends used preformed units.
- I. Preformed Corners: Install preformed corners before installing straight pieces.
- J. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Interior corners shall be mitered and tightly fitted. Use straight pieces of maximum lengths possible.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of resilient floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- B. Perform the following operations immediately after completing resilient product installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products as recommended by the Manufacturer's installation instruction until Substantial Completion.

END OF SECTION 09 65 13

09 65 19 - RESILIENT TILE PLANK FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Resilient Luxury Vinyl Tile Flooring.
- B. Related Sections:
 - 1. Section 03 30 00 "Cast-in-Place Concrete" for concrete substrate.
 - 2. Section 09 65 13 "Resilient Base and Accessories" for resilient base, reducer strips, and other accessories installed with resilient floor coverings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. California Green Building Standards Code (GBC) Submittals:
 - 1. Product Data: For adhesives, documentation indicating that products:
 - a. Comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.4.1 (2022 California Green Building Standards Code).
 - b. Comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene) except for aerosol products as specified in GBC 5.504.4.1.2.
 - 2. Product Data: For smaller unit sizes of adhesives (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces):
 - a. Comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
- C. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
 - 1. Show details of special patterns.
- D. Samples for Initial Selection: For each type of floor tile indicated.
- E. Product Schedule: For floor tile. Use same designations indicated on Drawings.
- F. Installation Instructions: For each type of floor tile indicated.

- G. Qualification Data: For qualified Installer.
- H. Provide current subfloor preparation guidelines, as published by the Manufacturer.
- I. Provide current installation guidelines, as published by the Manufacturer.
- J. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.4 MATERIALS MAINTENANCE SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to owner where directed. Obtain signed receipt from owner that indicates where materials were delivered, the date of delivery, who accepted delivery and the amount and nature of materials delivered. Include copy of signed receipt in maintenance manuals.
 - 1. Floor Tile: Order 1 box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation indicated.
 - 1. Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required.
- B. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 55 deg F or more than 85 deg F. Store floor tiles on flat surfaces.

1.7 PROJECT CONDITIONS

- A. Install resilient products after other finishing operations, including painting, have been completed.
- B. Maintain ambient temperatures within range recommended by manufacturer, but not less than 65 deg F or more than 85 deg F, in spaces to receive resilient products during the following time periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- C. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 85 deg F.
- D. Close spaces to traffic during resilient products installation.

- E. Close spaces to traffic for 48 hours after resilient products installation.

PART 2 - PRODUCTS

2.1 LUXURY VINYL TILE

- A. Products: Subject to compliance with requirements, provide the following:
 - 1. Tarkett; Contour Collection, Antique Wood
- B. Tile Standard: ASTM F 1700, Class III, Type B, printed film vinyl tile, embossed surface.
- C. Wearing Surface: Embossed
- D. Edge Treatment: Square
- E. Thickness: 0.120 inch.
- F. Size: 6 by 36 inches.
- G. Colors and Patterns: Farmington 3811
- H. Test data:
 - 1. Surface Treatment: TechTonic
 - 2. Wear layer: 0.032 inches
 - 3. Size, Squareness, ASTM F2055: Passes
 - 4. Flexibility, ASTM F137: Passes
 - 5. Chemical Resistance, ASTM E925: Passes
 - 6. Static Load Limit, ASTM F970: 250 psi, ≤ 0.005 inches
 - 7. Resistance to Heat, ASTM F1514: $\Delta E \leq 8$
 - 8. Resistance to Light, ASTM F1515: $\Delta E \leq 8$
 - 9. Residual Indentation, ASTM F1914: Passes
 - 10. Static Coefficient of Friction (SCOF), ASTM D2047: ≥ 0.5 SCOF
 - 11. Dimensional Stability, ASTM F2199: Passes
 - 12. Flammability, ASTM E648 Critical Radiant Flux: Class 1 (≥ 0.45 W/cm²)
 - 13. Limited Commercial Warranty: 25 years.

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic-cement-based formulation approved by the manufacturer for applications indicated.
- B. Crack and Control Joint Patching Compounds: Latex-modified, Portland cement based or blended hydraulic-cement-based formulation approved by the manufacturer for applications indicated.
- C. Adhesives: As recommended by Tarkett to meet site conditions .
 - 1. Products (Classrooms and Corridors): Tarkett RollSmart™
 - 2. Products (Cafeterias and Multi-use Rooms): Tarkett 975 Two-Part Urethane Adhesive

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products as reviewed by Architect during the submittal process.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Concrete floors must be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, film-forming curing compounds, silicate penetrating curing compounds, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that may affect dissipation rate of moisture from the concrete, discoloration, or adhesive bonding.
 - 2. Mechanically remove contamination on the substrate that may cause damage to the resilient flooring material. Permanent and non-permanent markers, pens, crayons, paint, etc., must not be used to write on the back of the flooring material or used to mark the substrate as they could bleed through and stain the flooring material.
 - 3. Contractor shall be responsible for scheduling the tests and performing the necessary remediation work specified in Section 07 26 50 "Vapor Emission Control System" to allow for the installation of the resilient flooring.
 - 4. Proceed with installation only after substrates pass testing in Section 07 26 50 "Vapor Emission Control System" and are acceptable to the Flooring and Adhesive Manufacturer.
- C. Resilient flooring shall not be installed when the relative humidity exceeds 60 percent. Contractor shall provide dehumidifiers as required to maintain 60 percent maximum relative humidity for the duration of the flooring installation.
- D. Fill cracks, holes, depressions, and irregularities in the substrate with good quality Portland cement-based underlayment leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- E. Floor covering shall not be installed over expansion joints.
- F. Do not install floor tiles until they are same temperature as space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- G. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation. All surfaces must be dust free.

- H. Beginning of installation means acceptance of existing substrate and site conditions by the contractor, flooring installer, and the flooring and adhesive manufacturer.

3.3 FLOOR TILE INSTALLATION

- A. Comply with adhesive manufacturer's written instructions for installing resilient tile flooring as reviewed by Architect during the submittal process.
- B. Luxury Vinyl Tile Flooring:
 - 1. Install with adhesive specified and follow adhesive label for proper use.
 - 2. Follow manufacturer's recommendation for tile orientation.
 - 3. Open enough cartons of floor tiles to cover each area and mix tile to ensure shade variations do not occur within any one area.
- C. Discard broken, cracked, chipped, or deformed tiles.
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- H. After tile has been installed, use a 100 lb. (or greater) roller to roll material in both horizontally and vertically to ensure a solid contact has been made with the sub-floor.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
 - 1. No traffic for 24 hours after installation
 - 2. No heavy traffic, rolling loads, or furniture placement for 48 hours after installation.
- D. Wait 72 hours after installation before performing initial cleaning.
- E. A regular maintenance program must be started after the initial cleaning.

- F. Cover floor tile as recommended by the Manufacturer's installation instructions until Substantial Completion.

END OF SECTION 09 65 19

09 68 13 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes modular, tufted carpet tile and walk-off mats.
- B. Related Requirements:
 - 1. Section 03 30 00 "Cast-in-Place Concrete" for concrete substrate.
 - 2. Section 09 65 13 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet tile.
 - 3. Section 09 68 16 "Sheet Carpeting."

1.3 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
 - 2. Include installation recommendations for each type of substrate.
- B. California Green Building Standards Code (GBC) Submittals:
 - 1. Product Data: For adhesives, documentation indicating that products:
 - a. Comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.4.1 (2022 California Green Building Standards Code).
 - b. Comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene) except for aerosol products as specified in GBC 5.504.4.1.2.
 - 2. Product Data: For smaller unit sizes of adhesives (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces):
 - a. Comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
- C. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1. Carpet Tile: Full-size Sample.
 - 2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- long Samples.
- D. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

- E. Qualification Data: For Installer.
- F. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.
- G. Sample Warranties: For special warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to owner where directed. Obtain signed receipt from owner that indicate where materials were delivered, the date of delivery, who accepted delivery and the amount and nature of materials delivered. Include copy of signed receipt in maintenance manuals:
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.
- B. Fire-Test-Response Ratings: Where indicated, provide carpet tile identical to those of assemblies tested for fire response according to NFPA 253 by a qualified testing agency.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the site in manufacturer's original packaging listing manufacturer's name, product name, identification number, and related information.
- B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below 65 percent. Protect from damage and soiling. Stack carpet rolls horizontally on a flat surface, stacked no higher than two rolls.
- C. Make stored materials available for inspection by the Owner's representative.
- D. Store materials in area of installation for minimum period of 48 hours prior to installation.

1.8 FIELD CONDITIONS

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.

- C. Do not install carpet tile over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet before installing these items.

1.9 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, more than 10 percent edge raveling, snags, runs, dimensional stability, excess static discharge (more than 3.0 kilovolts at a relative humidity of 20% and a room temperature of 70 degrees Fahrenheit, loss of face fiber, more than 10 percent loss of backing resiliency, 15 percent loss of pile fiber weight, and delamination.
 - 3. Warranty Period: Limited Lifetime.
- B. Provide installer's two-year warranty commencing from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 WALK-OFF MATS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide **Tarkett; Abrasive Action II** or comparable product by one of the following:
 - 1. Architect and District approved equal.
- B. Color: **Charcoal 19100**
- C. Fiber Type: TDX Nylon.
- D. Pile Characteristic: Patterned loop pile.
- E. Pile Thickness: 0.115 inch.
- F. Pile Height Average: 0.187 inch.
- G. Stitches: 8.0 per inch.
- H. Gauge: 1/12.
- I. Surface Pile Weight: 24 oz./sq. yd.
- J. Total Weight: 101.9 oz./sq. yd. +/- 5 percent for finished carpet tile.
- K. Backing System: Tarkett; ethos® Modular with Omnicoat Technology.
 - 1. or Architect and District approved equal.
- L. Size: 24 by 24 inches.

M. Applied Soil-Resistance Treatment: Eco-Ensure.

N. Performance Characteristics: As follows:

1. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.
2. Surface Flammability: Passes CPSC FF 1-70 per ASTM D-2859.
3. Smoke Generation: Less than 450 per ASTM E-662.
4. Delamination: No Delamination per ASTM D 3936.
5. Colorfastness to Light: Not less than 4 after 100 AFU (AATCC fading units) according to AATCC 16, Option E.
6. Electrostatic Propensity: Less than 1.5 kV according to AATCC 134.

2.2 TUFTED CARPET

A. Basis-of-Design Product: Subject to compliance with requirements, provide **Tarkett; Applause III** or comparable product by one of the following:

1. Architect and District approved equal.

B. Color: **Night Light 28531**

C. Fiber Type: Dynex SD®/ Dynex® Nylon.

D. Construction: Level-loop pile.

E. Density: 7448.

F. Pile Thickness: 0.087 inch.

G. Pile Height Average: 0.117 inch.

H. Stitches: 8.2 per inch.

I. Gage: 1/13.

J. Face Weight: 18 oz./sq. yd.

K. Total Weight: 117.1 oz./sq. yd. +/- 5 percent.

L. Backing System: Tarkett; Modular Flex Aire® Cushion RS

1. Cushion Weight: 35.5 oz./sq. yd. per ASTM D-3574
2. Cushion Density: 18.5 lbs/cu. ft. per ASTM D-3574
3. Cushion thickness: 0.156 inch per ASTM D-3574
4. Compression Set: Max. 10% per ASTM D-3574
5. Compression Deflection: 7 Min. at 25 max lbs/sq. inch at 25% per ASTM D-3574

M. Size: 24 by 24 inches.

N. Applied Soil-Resistance Treatment: Eco-Ensure.

O. Performance Characteristics: As follows:

1. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.

2. Surface Flammability: Passes CPSC FF 1-70 per ASTM D-2859.
3. Smoke Generation: Less than 450 per ASTM E-662.
4. Delamination: No Delamination per ASTM D 3936.
5. Colorfastness to Light: Greater than or equal to 4 after 60 hours (AATCC fading units) according to AATCC 16, Option E.
6. Electrostatic Propensity: 2.2 kV according to AATCC 134.

2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
 1. Material shall be compatible with vapor emission control system installed under Section 07 26 50.
- B. Primers: As recommended by carpet tile and adhesive manufacturers.
- C. Adhesives (Walk-Off Mats): Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
- D. Adhesives (Tufted Tile Carpet): Factory installed Peel & Stick System.
- E. Adhesives shall be compatible with vapor emission control system installed under Section 07 26 50.
- F. Adhesives shall be compatible with leveling and patching compounds installed over concrete substrate or vapor emission control system as applicable.
- G. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet tile, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- B. Verify that substrate surfaces are smooth and flat with maximum variation of 1/8 inch in 10 feet and are ready to receive work.
- C. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond.
 2. Subfloor finishes comply with requirements specified in Section 03 30 00 "Cast-in-Place Concrete" for slabs receiving carpet tile.
 3. Contractor shall be responsible for scheduling the tests and performing the necessary remediation work specified in Section 07 26 50 "Vapor Emission Control System" to allow

for the installation of the carpet. Tests shall be conducted at least two weeks prior to flooring installation with the building acclimated to working environment of the tenant.

4. Proceed with installation only after substrates pass testing in Section 07 26 50 "Vapor Emission Control System" and are acceptable to the Flooring and Adhesive Manufacturer.
5. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

- D. Proceed with installation only after unsatisfactory conditions have been corrected.
- E. Carpet tile shall not be installed when relative humidity exceeds 60 percent. Contractor shall provide dehumidifiers as required to maintain 60 percent maximum relative humidity for the duration of the carpet installation.
- F. Beginning of installation means acceptance of existing substrate and site conditions.

3.2 PREPARATION

- A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions. When required by patching compound manufacturer prime patched areas with primer recommended by carpet tile manufacturer.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer. Do not use solvents.
- D. Clean metal substrates of grease, oil, soil and rust, and prime if directed by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive
- E. Broom and vacuum clean substrates to be covered immediately before installing carpet.
- F. Allow carpet to acclimate at installation location for at least 72 hours prior to beginning installation.

3.3 INSTALLATION

- A. Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method (Walk-Off Mats): Glue down; install every tile with full-spread, releasable, pressure-sensitive adhesive.
- C. Installation Method (Tufted Tile Carpet): Peel & Stick.
- D. Maintain dye lot integrity. Do not mix dye lots in same area.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.

- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.

3.4 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."
- C. Prohibit traffic from carpet areas for 24 hours after installation. Installer shall take necessary steps to protect carpet tile work and work of other trades during carpet tile installation, and shall be responsible for restoration of work or property damaged by carpet tile installer.
- D. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 09 68 16

09 68 16 - SHEET CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Tufted carpet and walk-off mats.
- B. Related Requirements:
 - 1. Section 03 30 00 "Cast-in-Place Concrete" for concrete substrate.
 - 2. Section 09 65 13 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet.
 - 3. Section 09 68 13 "Tile Carpeting."

1.3 SUBMITTALS

- A. Product Data: For the following, including installation recommendations for each type of substrate:
 - 1. Carpet: For each type indicated. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
- B. California Green Building Standards Code (GBC) Submittals:
 - 1. Product Data: For adhesives, documentation indicating that products:
 - a. Comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits as shown in Tables 5.504.4.1 (2022 California Green Building Standards Code).
 - b. Comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene) except for aerosol products as specified in GBC 5.504.4.1.2.
 - 2. Product Data: For smaller unit sizes of adhesives (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces):
 - a. Comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
- C. Shop Drawings: Show the following:
 - 1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet.
 - 2. Carpet type, color, and dye lot.
 - 3. Locations where dye lot changes occur.

4. Seam locations, types, and methods.
5. Type of subfloor.
6. Type of installation.
7. Pattern type, repeat size, location, direction, and starting point.
8. Pile direction.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

D. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet: 18-inch- square Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- long Samples.
3. Carpet Seam: 6-inch Sample.

E. Product Schedule: For carpet. Use same designations indicated on Drawings.

F. Qualification Data: For qualified Installer.

G. Product Test Reports: For carpet, for tests performed by a qualified testing agency.

H. Sample Warranties: For special warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For carpet to include in maintenance manuals. Include the following:

1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
2. Precautions for cleaning materials and methods that could be detrimental to carpet.

B. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Deliver extra materials to owner where directed. Obtain signed receipt from owner that indicate where materials were delivered, the date of delivery, who accepted delivery and the amount and nature of materials delivered. Include copy of signed receipt in maintenance manuals.

1. Carpet: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.
2. Provide usable scrap (carpet remnants) 1 sq. yd. or larger in size.

1.5 QUALITY ASSURANCE

A. Manufacturer: Company specializing in the manufacture of woven and tufted carpet with sufficient documented experience.

B. Installer Qualifications: Company with sufficient documented experience, approved by manufacturer. All work shall be performed by qualified and experienced mechanics working under the supervision of an experienced supervisor.

C. Fire-Test-Response Ratings: Where indicated, provide carpet identical to those of assemblies tested for fire response per NFPA 253 by a qualified testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the site in manufacturer's original packaging listing manufacturer's name, product name, identification number, and related information.
- B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below 65 percent. Protect from damage and soiling. Stack carpet rolls horizontally on a flat surface, stacked no higher than two rolls.
- C. Make stored materials available for inspection by the Owner's representative.
- D. Store materials in area of installation for minimum period of 48 hours prior to installation.

1.7 FIELD CONDITIONS

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.
- C. Do not install carpet over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet, install carpet before installing these items.

1.8 WARRANTY

- A. Special Warranty for Carpet and Walk-Off Mats: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, more than 10 percent edge raveling, snags, runs, dimensional stability, excess static discharge (more than 3.0 kilovolts at a relative humidity of 20% and a room temperature of 70 degrees Fahrenheit, loss of face fiber, more than 10 percent loss of backing resiliency, 15 percent loss of pile fiber weight, and delamination.
 - 3. Warranty Period: Limited Lifetime.
- B. Provide installer's two-year warranty commencing from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 WALK-OFF MATS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide **Tarkett; Abrasive Action II** or comparable product by one of the following:
 - 1. Architect and District approved equal.
- B. Color: **Charcoal 19100**
- C. Fiber Type: TDX Nylon.

- D. Pile Characteristic: Patterned loop pile.
- E. Pile Thickness: 0.115 inch.
- F. Pile Height Average: 0.187 inch.
- G. Stitches: 8.0 per inch.
- H. Gauge: 1/12.
- I. Surface Pile Weight: 24 oz./sq. yd.
- J. Total Weight: 85 oz./sq. yd. +/- 5 percent.
- K. Backing System: Tarkett; Powerbond® Cushion RS.
 - 1. Cushion Weight: 35.5 oz./sq. yd. per ASTM D-3574
 - 2. Cushion Density: 18.5 lbs/cu. ft. per ASTM D-3574
 - 3. Cushion thickness: 0.156 inch per ASTM D-3574
 - 4. Compression Set: Max. 10% per ASTM D-3574
 - 5. Compression Deflection: 7 Min. at 25 max lbs/sq. inch at 25% per ASTM D-3574
- L. Width: 6 feet.
- M. Applied Soil-Resistance Treatment: Eco-Ensure.
- N. Performance Characteristics: As follows:
 - 1. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.
 - 2. Surface Flammability: Passes CPSC FF 1-70 per ASTM D-2859.
 - 3. Smoke Generation: Less than 450 per ASTM E-662.
 - 4. Delamination: No Delamination per ASTM D 3936.
 - 5. Colorfastness to Light: Greater than or equal to 4 after 100 hours according to AATCC 16, Option E.
 - 6. Electrostatic Propensity: Less than 1.5 kV according to AATCC 134.

2.2 TUFTED CARPET

- A. Basis-of-Design Product: Subject to compliance with requirements, provide **Tarkett; Applause III** or comparable product by one of the following:
 - 1. Architect and District approved equal.
- B. Color: **Night Light 28531**
- C. Fiber Type: Dynex SD®/ Dynex® Nylon.
- D. Construction: Level-loop pile.
- E. Density: 7448.
- F. Pile Thickness: 0.087 inch.
- G. Pile Height Average: 0.117 inch.

- H. Stitches: 8.2 per inch.
- I. Gage: 1/13.
- J. Face Weight: 18 oz./sq. yd.
- K. Total Weight: 79 oz./sq. yd. +/- 5 percent.
- L. Backing System: Tarkett; Powerbond Cushion RS
 - 1. Cushion Weight: 35.5 oz./sq. yd. per ASTM D-3574
 - 2. Cushion Density: 18.5 lbs/cu. ft. per ASTM D-3574
 - 3. Cushion thickness: 0.156 inch per ASTM D-3574
 - 4. Compression Set: Max. 10% per ASTM D-3574
 - 5. Compression Deflection: 7 Min. at 25 max lbs/sq. inch at 25% per ASTM D-3574
- M. Width: 6 feet.
- N. Applied Soil-Resistance Treatment: Eco-Ensure.
- O. Performance Characteristics: As follows:
 - 1. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.
 - 2. Surface Flammability: Passes CPSC FF 1-70 per ASTM D-2859.
 - 3. Smoke Generation: Less than 450 per ASTM E-662.
 - 4. Delamination: No Delamination per ASTM D 3936.
 - 5. Colorfastness to Light: Greater than or equal to 4 after 60 hours (AATCC fading units) according to AATCC 16, Option E.
 - 6. Electrostatic Propensity: 2.2 kV according to AATCC 134.

2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer.
 - 1. Material shall be compatible with vapor emission control system installed under Section 07 26 50.
- B. Primers: As recommended by carpet and adhesive manufacturers.
- C. Adhesives: Factory installed Peel & Stick System.
- D. Adhesives shall be compatible with vapor emission control system installed under Section 07 26 50.
- E. Adhesives shall be compatible with leveling and patching compounds installed over concrete substrate or vapor emission control system as applicable.
- F. Seam Adhesive: CA-Weld.
- G. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.
- B. Verify that substrate surfaces are smooth and flat with maximum variation of 1/8 inch in 10 feet and are ready to receive work.
- C. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
 - 1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. If used perform a bond test.
 - 2. Subfloor finishes comply with requirements specified in Section 03 30 00 "Cast-in-Place Concrete" for slabs receiving carpet.
 - 3. If moisture staining is noticeable on surface of concrete slab or there is standing water present, contractor shall be responsible for scheduling the tests and performing the necessary remediation work specified in Section 07 26 50 "Vapor Emission Control System" to allow for the installation of the carpet. Tests shall be conducted at least two weeks prior to flooring installation with the building acclimated to working environment of the tenant.
 - 4. Proceed with installation only after substrates pass testing in Section 07 26 50 "Vapor Emission Control System" and are acceptable to the Flooring and Adhesive Manufacturer.
 - 5. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.
- E. Carpet shall not be installed when relative humidity exceeds 60 percent. Contractor shall provide dehumidifiers as required to maintain 60 percent maximum relative humidity for the duration of the carpet installation.
- F. Beginning of installation means acceptance of existing substrate and site conditions.

3.2 PREPARATION

- A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions. When required by patching compound manufacturer prime patched areas with primer recommended by carpet manufacturer.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet manufacturer. Do not use solvents.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet.
- E. Allow carpet to acclimate at installation location for at least 72 hours prior to beginning installation.

3.3 INSTALLATION

- A. Comply with CRI 104 and carpet manufacturer's written installation instructions for the following:
 - 1. Direct-Glue-Down Installation: Comply with CRI 104, Section 9, and "Direct Glue-Down Installation."
- B. Comply with carpet manufacturer's written recommendations and Shop Drawings for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position.
- C. Lay out rolls of carpet for approval. Install wall to wall using as broad widths as possible to minimize placement of seams in traffic lanes.
- D. Verify carpet match before cutting to ensure minimal variations between dye lots.
- E. Double cut carpet to allow intended seam and pattern match. Make cuts straight, true and unfrayed.
- F. Locate seams in area of least traffic. End of cross seams permitted only where approved by the Architect and District.
- G. Fit seams straight, not crowed or peaked, and free of gaps. Seams shall be welded with manufacturer's recommended seam weld product. Seams shall be unnoticeable in finished installation.
- H. Lay carpet on floors with run of pile in same direction as anticipated traffic.
- I. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Locate change of color or pattern between rooms and under door centerline.
- J. Do not bridge building expansion joints with carpet.
- K. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
- L. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- M. Install edge strips at unprotected or exposed edges of carpet including terminations at thresholds and where carpet abuts a dissimilar finished floor material.
- N. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.

3.4 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing carpet:
 - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
 - 2. Remove yarns that protrude from carpet surface.
 - 3. Vacuum carpet using commercial machine with face-beater element.

- B. Protect installed carpet to comply with CRI 104, Section 16, "Protecting Indoor Installations."
- C. Prohibit traffic from carpet areas for 24 hours after installation. Installer shall take necessary steps to protect carpet work and work of other trades during carpet installation, and shall be responsible for restoration of work or property damaged by carpet installer.
- D. Protect carpet against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet manufacturer, do not use adhesive plastic protection material.

END OF SECTION 09 68 16

09 91 00 – PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Painting schedules, including painting of exposed surfaces, interior and exterior, except as otherwise specified or indicated.

1.2 RELATED SECTIONS

- A. Divisions 26 – 28 – Electrical Sections as applicable to the Project.

1.3 REFERENCES

- A. The publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by the basic designation only. Refer to Section 01 42 13, 01 42 16, and 01 42 19 for abbreviations, acronyms, definitions, and references.
- B. Unless otherwise noted, standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes as of the date of issue of this Project Manual
- C. Referenced Standards:
 - 1. ASTM D523 – Standard Test Method for Specular Gloss.
 - 2. The Master Painters Institute, MPI Gloss and Sheen Levels.

1.4 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with sufficient documented experience.
- B. Applicator: Company specializing in commercial painting and finishing with sufficient documented experience.

- C. Gloss Levels: Per Master Painters Institute (MPI) gloss standards "MPI Gloss and Sheen Levels," measured in accordance with ASTM D523.

GLOSS LEVEL	DESCRIPTION	GLOSS AT 60 DEGREES ASTM D523	SHEEN AT 85 DEGREES ASTM D523
G1	A traditional matte finish – flat.	5 units, maximum	and 10 units, maximum
G2	A high side sheet flat – "a velvet-like finish."	10 units, maximum	And 10 – 35 units
G3	A traditional "eggshell-like" finish	10-25 units	And 25 units maximum
G4	A "satin-like" finish	20-35 units	and 35 units maximum
G5	A traditional semi-gloss.	35 - 70 units	-
G6	A traditional gloss.	70 - 85 units	-
G7	A high gloss.	More than 85 units	-

1.5 REGULATORY REQUIREMENTS

- A. Conform to California Building Code for flame spread and smoke density requirements for finishes.
- B. Furnish certification that all paint coatings furnished for the location of the project comply with the EPA clean air act for permissible levels of volatile organic content for architectural coatings applied in California as designated by California Air Resources Board (CARB), 2022 California Green Building Standards Code, and the San Joaquin Valley Air Pollution Control District (SJVAPCD).
- C. At the completion of the project, all open containers shall be disposed of by the contractor per State and County Regulations.

1.6 SUBMITTALS

- A. Submit product data under provisions of Section 01 33 00.
- B. Provide product data on all finishing products.
- C. Submit four brush-out samples 8 inches by 10 inches in size illustrating color and gloss level selected for each surface finishing product scheduled.
- D. Field Sample: Furnish sample of actual paint colors selected on portion of building item to receive paint as directed by Architect, prior to beginning interior and exterior painting.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site in manufacturer's original unopened, labeled containers; inspect to verify acceptance.
- B. Store and protect products from abuse and contamination.

- C. Container labeling is to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation and instructions for mixing and reducing.
- D. Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well-ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 50 degrees F for 24 hours before, during and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 50 degrees F for exterior work and interior work, unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

1.9 EXTRA STOCK

- A. Provide a new and unopened five-gallon container of each type, color and sheen to Owner.
- B. Label each container with vendor, paint type, color name, and color code, in addition to the manufacturer's label.
- C. Coordinate with the District to transfer the extra stock over to the District.

PART 2 PRODUCTS

2.1 PAINT SYSTEMS, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

2.2 SUSTAINABLE DESIGN REQUIREMENTS

- A. VOC Content: Provide materials that comply with VOC limits set by Rule 4601 of the San Joaquin Valley Air Pollution Control District and 2022 California Green Building Standards Code Table 5.504.4.3; these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:
 - 1. Flat Paints and Coatings: VOC content not more than 50 g/L.
 - 2. Primers, Sealers, and Undercoaters: VOC content not more than 100 g/L.
 - 3. Nonflat Paints and Coatings: VOC content not more than 100 g/L.
 - 4. Nonflat-high gloss Paints and Coatings: VOC content not more than 150 g/L.
 - 5. Stains: VOC content not more than 250 g/L.

6. Anti-Corrosive and Anti-Rust Paints and Primers applied directly to Ferrous Metals: VOC content not more than 250 g/L.
7. Zinc-Rich Primer applied to Galvanized and Ferrous Metals: VOC content not more than 340 g/L.
8. Varnish: VOC content not more than 450 g/L.

2.3 ACCEPTABLE MANUFACTURERS – PAINT

- A. Refer to Table at the end of this Section.
- B. Substitutions: Under provisions of Section 01 25 13.

2.4 ACCEPTABLE MANUFACTURERS – PRIMER SEALERS

- A. Refer to Table at the end of this Section.
- B. Substitutions: Under provisions of Section 01 25 13.

2.5 ACCEPTABLE MANUFACTURERS – STAIN AND CLEAR FINISHES

- A. Refer to Table at the end of this Section.
- B. Substitutions: Under provisions of Section 01 25 13.

2.6 MATERIALS

- A. All paint materials shall be provided from a single manufacturer unless noted otherwise in this Section.
- B. Coatings: Ready mixed. Process pigments to a soft paste consistency capable of being readily and uniformly dispersed to a homogeneous coating.
- C. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- D. Accessory Materials: All other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
- E. All Materials specified by brand name or manufacturer shall be delivered unopened at the job in their original containers.

2.7 FINISHES

- A. Refer to schedule at end of Section for surface finish schedule.

PART 3 EXECUTION

3.1 GENERAL

- A. Storage: All materials used by the painting contractor shall be stored and mixed in a place designated by the Owner or the Architect. The storage place must be kept neat and clean at all times. All cloths, waste or other material that might constitute a fire hazard shall be placed in a suitable metal container or shall be removed from the site or destroyed at the end of each day's work.

3.2 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application to the Architect, Architect's representative or inspector in writing. The Architect will cause such defect to be remedied.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster; Gypsum Wallboard: 12 percent.
 - 2. Concrete Masonry Units: 10 percent.
 - 3. Interior Located Wood: 15 percent.
 - 4. Exterior Located Wood: 7 percent.
- D. Beginning of application constitutes acceptance of the surfaces.

3.3 PREPARATION

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or painting.
- B. Correct minor defects and clean surfaces that affect work of this Section.
- C. Seal marks that may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Gypsum Board Surfaces: Latex fill minor defects. Spot-prime defects after repair.
- F. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer, unless otherwise recommended by finish coating system manufacturer.
- G. Shop-Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces as recommended by primer manufacturer. Prime shop-primed steel items with steel primers specified in this Section.
- H. Concrete, Stucco and Masonry: All dust and loose mortar shall be removed by sweeping or by brushing with a stiff fiber or wire brush.
 - 1. Concrete and masonry surfaces that show signs of efflorescent shall be treated with a zinc sulfate wash (3lbs. per gallon of water), or by scrubbing affected areas with a solution of muriatic acid. Remove loose crystals and rinse with clear water. Allow to dry thoroughly before painting.
 - a. All surfaces defects and all cracks more than 1/16 inch wide shall be filled with patching plaster or spackle according to package directions and textured to match adjacent areas.
 - b. Form oils or separating agents that might impair the adhesion or the appearance of the specified finish shall be removed before any materials are applied.
 - 2. Plaster work that has cured for less than two months and all other plaster areas that show the presence of excessive amounts of free alkali when tested with phenolphthalein or some

other suitable means shall be treated with a zinc sulfate wash (3 lbs. per gallon of water) to neutralize the alkali and obtain the optimum of surface carbonation.

- a. All surface Cracks greater than 1/32 inch wide, holes and other surface defects shall be repaired as recommended by the finish paint manufacturer's written instructions.
- I. Interior Wood Items Scheduled to Receive Finish: Hand sandpaper and wipe off dust and grit prior to priming. Seal knots, pitch streaks and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
 1. At woodwork with transparent finish, nail holes, cracks or defects shall be filled with wood filler tinted to match color of stain.

3.4 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.5 WORKMANSHIP

- A. All work shall be performed by experienced mechanics in a skillful manner. All materials shall be evenly applied so as to be free from sags, crawls or other defects. Coats shall be of the proper consistency and well brushed out as to show the minimum brush marks, except varnish and enamel which shall be uniformly applied. Brushes shall be clean and in good condition. All areas with a transparent coat will be repainted at contractor's expense.
- B. All painting shall be by brush, except plaster and gypsum board which may be by spraying with back rolling. Underside of soffits, covered walks, acoustical panels and screens may be completed by spraying with back rolling.
- C. No work shall be completed under conditions that are unsuitable for the production of good results. No painting shall be completed while plaster is curing, or while wood sawing, sanding or cleaning is in process. Coats shall be thoroughly dry before the succeeding coat is applied. Finishes shall be uniform as to sheen, shine, color and texture, except when glazing is required.
- D. No exterior painting shall be done in rainy, damp, or frosty weather. No Interior painting or finishing shall be permitted until the building has been thoroughly dried out by artificial heat. A minimum temperature of 50 degrees Fahrenheit shall be maintained in areas where the application or drying of paint is occurring.
- E. This contractor shall take into account that not less than the following percentages of total surfaces shall be painted in deep (dark) tones of color selected: (This includes colors requiring ultra-deep bases)
 1. Walls: 25%
 2. Ceilings: 25%
 3. Doors and Door Frames: 100%

- 4. Sheet Metal: 50%
- 5. Exposed Steel: 100%

3.6 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
 - 1. Paint mil thicknesses shall not be less than the minimums recommended by the paint manufacturers.
 - 2. No Paint, varnish or stain shall be reduced or applied in any way except as herein specifically called for, or recommended by the manufacturer.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.
- D. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- E. Sand lightly between coats to achieve required finish.
- F. Allow applied coat to dry before next coat is applied.
- G. The number of coats called for in the Painting Schedules included in this specification are the minimum number required. Additional coats may be required to achieve the desired finish.
- H. The drawings reference the Painting Schedules included in this specification through the use of a note that references the Paragraph Number of the Schedule and the Painting Paragraph Letter Designation, i.e. **3.9A** references **Painting Schedule - Exterior Surface** and that the surface is **Ferrous Metal**.
- I. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- J. Prime back surfaces of interior and exterior woodwork with primer paint, type as recommended by manufacturer.
- K. Prime back surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.

3.7 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. See Divisions 21 – 23 and 25 – 28 for other items requiring painting.
- B. Paint interior surfaces of air ducts and convactor heating cabinets that are visible through grilles and louvers with one) coat of flat black paint, to limit of sight line. Paint dampers exposed behind grilles to match face panels. Paint all new interior and exterior exposed ductwork and ductwork supports. Paint all new conduit, pipes and conduit/pipe supports in exposed interior and exterior locations.
- C. Reinstall electrical plates, hardware, light fixture trim, and fittings removed for surface preparation or painting.
- D. Do not paint factory-finished mechanical and electrical equipment.

3.8 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed or spattered.
- B. During progress of Work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove from site daily.

3.9 PAINTING SCHEDULE – EXTERIOR SURFACES:

- A. Ferrous Metal
 - 1st coat – Acrylic Low Sheen Primer
 - 2nd and 3rd coats – 100 percent Acrylic Semi-Gloss
- B. Ferrous Metal (Industrial)
 - 1st coat – Epoxy Primer
 - 2nd and 3rd coats – Aliphatic Urethane Gloss Enamel
 - For use at exterior metal architectural features/exposed structure
- C. Galvanized Metal (Handrail and Guardrail Assemblies only)
 - 1st coat – Etch Prep
 - 2nd coat – Epoxy Satin Primer
 - 3rd and 4th coats – High Dispersion Pure Acrylic Polymer
- D. Galvanized Metal and Aluminum (Except Handrail and Guardrail Assemblies)
 - 1st coat – Etch Prep
 - 2nd coat – Acrylic Low Sheen Primer
 - 3rd and 4th coats – 100 percent Acrylic Semi-Gloss
- E. Exposed Concrete and Cement Plaster System with Cementitious Finish Coat
 - 1st coat – Acrylic Flat Primer
 - 2nd and 3rd coats – Elastomeric Flat
- F. Cement Plaster System with Acrylic Finish Coat
 - 1st coat – Acrylic Flat Primer
 - 2nd and 3rd coats – Elastomeric Flat
- G. Wood
 - 1st coat – Acrylic Flat Primer
 - 2nd and 3rd coats – 100 percent Acrylic Flat
- H. Wood
 - 1st coat – Acrylic Flat Primer
 - 2nd and 3rd coats – 100 percent Acrylic Semi-Gloss
- I. Pressure Treated Wood
 - 1st coat – Acrylic Flat Primer
 - 2nd and 3rd coats – 100 percent Acrylic Satin
- J. Masonry (CMU)
 - 1st coat – Acrylic Block Filler Primer
 - 2nd and 3rd coats – Elastomeric Flat

3.10 PAINTING SCHEDULE – INTERIOR SURFACES:

- A. Gypsum Board
 - 1st coat – PVA Primer Sealer
 - Texture by Section 09 29 00 Contractor
 - 2nd coat – PVA Primer Sealer – Tint towards final color.
 - 3rd and 4th coats – 100 percent Acrylic Egg Shell
- B. Interior Cement Plaster
 - 1st coat – PVA Primer Sealer
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss
- C. Gypsum Board (Whiteboard Finish)
 - 1st coat – PVA Primer Sealer
 - Texture by Section 09 29 00 Contractor (Level 5)
 - 2nd coat – Acrylic Flat Primer
 - 3rd coat – 2-Part Solvent Based Dry-Erase Coating
- D. Wood (Opaque Finish)
 - 1st coat – Acrylic Flat Primer – Tint towards final color.
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss
- E. Interior Ferrous Metal
 - 1st coat – Acrylic Low Sheen Primer – Tint towards final color.
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss Enamel
 - Typical paint system at all hollow metal doors, pressed metal frames, and exposed steel structure.
- F. Concrete
 - 1st coat – Acrylic Flat Primer – Tint towards final color
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss
- G. Masonry (CMU)
 - 1st coat – Acrylic Block Filler Primer
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss
- H. Wood (Transparent Finish)
 - 1st coat – Oil-based Interior Wood Stain
 - 2nd coat – Oil-based Interior Sanding Sealer
 - 3rd and 4th coats – Oil-based Interior Wood Varnish – Semi-Gloss
- I. Galvanized Metal, Zinc Alloy Metal and Aluminum
 - 1st coat – Etch Prep
 - 2nd coat – Acrylic Low Sheen Primer – Tint towards final color.
 - 2nd coat and 3rd coats – 100 percent Acrylic Semi-Gloss Enamel

PAINTING SCHEDULE

APPLICATION	TYPE	MPI Gloss Level	MANUFACTURER	PRODUCT NUMBER
PRIMERS				
Exterior Ferrous Metal	Acrylic	G2	Sherwin Williams	B50WZ1
Exterior Ferrous Metal (Industrial)	Epoxy	G6	Sherwin Williams	B66-310 Series
Exterior Galvanized Metal and Aluminum (Except Handrail and Guardrail Assemblies)	Acrylic	G2	Sherwin Williams	B66W1
Exterior Galvanized Metal (Handrail and Guardrail Assemblies Only)	Epoxy	G4	Tnemec	L69
Exterior Wood and Pressure Treated Wood	Acrylic	G1	Sherwin Williams	B51W Series
Exterior Cement Plaster and Concrete; and Interior Concrete	Acrylic	G1	Sherwin Williams	A24W
Exterior Cement Plaster System with Acrylic Finish Coat	Acrylic	G1	Sherwin Williams	B42W8041
Exterior and Interior Masonry (Block Filler)	Acrylic	G1	Sherwin Williams	B25W
Interior Gypsum Board & Cement Plaster	PVA	G1	Sherwin Williams	B28W02600
Interior Wood	Acrylic	G1	Sherwin Williams	B79W08810
Interior Ferrous Metal	Acrylic	G2	Sherwin Williams	B66W310
Interior Aluminum, Ferrous & Galvanized Metal	Acrylic	G2	Sherwin Williams	B66W1
Interior Gypsum Board (Dry-Erase)	Acrylic	G1	Kilz	Premium Primer
FINISHES				
Exterior Ferrous & Galvanized Metal, Aluminum, Wood and Pressure Treated Wood (Except Handrail and Guardrail Assemblies)	100 percent Acrylic	G5	Sherwin Williams	Duration Exterior
Exterior Ferrous Metal (Industrial)	100 percent Acrylic	G6	Sherwin Williams	DTM B66W Series
Exterior Galvanized Metal (Handrail and Guardrail Assemblies Only)	High Dispersion Pure Acrylic	G5	Tnemec	1029
Exterior Cement Plaster, Concrete, and CMU	Elastomeric	G1	Sherwin Williams	A05 Series
Exterior Wood and Masonry	100 percent Acrylic	G1	Sherwin Williams	A06 Series
Exterior Pressure Treated Wood	100 percent Acrylic	G4	Sherwin Williams	Duration
Interior Gypsum Board	100 percent Acrylic	G3	Sherwin Williams	B10W
Wood, Masonry (CMU) and Concrete	100 percent Acrylic	G5	Sherwin Williams	B10W
Interior Ferrous & Galvanized Metal and Aluminum	100 percent Acrylic Enamel	G5	Sherwin Williams	Duration A98
Interior Plaster (existing and new)	100 percent Acrylic Enamel	G5	Sherwin Williams	Duration A98

MISCELLANEOUS					
Interior Wood Stain	Oil-based	G1	Old Masters	11101	
Interior Sanding Sealer	Oil-based	G1	Old Masters	45004	
Interior Wood Varnish	Oil-based Polyurethane Semi-Gloss Finish	G5	Old Masters	495	
Exterior Heavy-Duty Cleaner	Water Based	-	Jasco	Prep & Prime	
Exterior & Interior Galvanized Metal Etch Prep.	Water Based	-	Jasco	Prep & Prime	

END OF SECTION

10 10 00 – MISCELLANEOUS SPECIALTIES

1. GENERAL:

1.1 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division –1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK: (provide and install complete)

A. Section Includes:

1. Projector
2. Projector Mount and Accessories (Wall Mount)
4. Portable Assistive Listening System

B. Related Sections:

1. Section 10 14 00 "Signage and Graphics" for Assistive Listening System Sign.

1.3 QUALITY ASSURANCE:

- A. Manufacturer's Data: Provide complete manufacturer's data, including installation instructions and details to contractor's job Superintendent, to facilitate coordination of work.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data and installation instructions for each material and component part, including data substantiating that materials comply with requirements.
- B. Shop Drawings: Submit for each type of product. Include sections of typical trim members and dimensioned elevations. Show anchors, grounds, reinforcement, and accessories, and installation details.
- C. Certification: Submit manufacturer's certification that all materials furnished for project comply with requirements specified herein.

2. PRODUCTS:

2.1 DIGITAL PROJECTOR:

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Epson Brightlink; 760Wi or comparable product by one of the following:
1. Architect and District approved equal.

2.2 PROJECTOR MOUNT AND ACCESSORIES (WALL MOUNT):

- A. **Basis-of-Design Product:** Subject to compliance with requirements, provide Epson ELPMB62, Ultra-Short Throw Wall Mount or comparable product by one of the following:
1. Architect and District approved equal.

2.3 PORTABLE ASSISTIVE LISTENING SYSTEM:

- A. Furnish five (5) portable RF (radio frequency) wireless assistive listening systems for use by the hearing-impaired. The assistive listening system (ALS) shall be capable of transmitting on the hearing assistance bandwidth between 72 MHz and 76 MHz. The ALS system shall offer a choice between 17 channels for flexibility and ease of setup. The ALS system shall have 65dB SNR or greater, end-to-end. Receivers shall be frequency agile and frequency set with a "seek" button. The receiver will incorporate a stereo headset jack that allows the user to plug in either a mono or stereo headset and listen to audio normally. The portable transmitters shall be capable of connecting to the room's sound system by means of 3.5 mm jack. The portable

receivers and transmitters shall incorporate automatic battery charging circuitry for recharging of Ni-MH batteries.

- B. Basis of Design Manufacturer: Subject to compliance with requirements, provide portable assistive listening system packages manufactured by Williams AV, LLC or comparable products by one of the following
 - 1. Listen Technologies Corporation
 - 2. Architect and District Approved Equal.
- C. Portable Assistive Listening System:
 - 1. Williams AV, LLC: Personal FM Value Pack System (with earbud), FM Systems PPA VP 37-00 with the following options and accessories:
 - a. PPA T27 Transmitter (Qty: 5 ea.)
 - b. MIC 027 Microphone (Qty: 5 ea.)
 - c. PPA R37 Receivers (Qty: 10 ea.)
 - d. EAR 013 Single Mono Earbud (Qty: 7 ea.)
 - e. NKL 001 Mono Neckloop 18" (for hearing aid and cochlear implants compatibility) (Qty: 5 ea.)
 - f. BAT 026 NiMH rechargeable batteries (pkg. of 2) (Qty: 5 ea.)
 - g. CHG 3512 PRO Body-pack charger, 12 bay with case (Qty: 1 ea.)
 - h. ANT 021 "Rubber Duckie" Antenna (Qty: 2 ea.)
 - i. ADP 010 Audio Adapter (Qty: 5 ea.)
 - j. WCA 013 Audio Cable (Qty: 5 ea.)
 - k. TFP 036 Power Supply (Qty: 5 ea.)

3. EXECUTION

3.1 GENERAL

- A. Field Conditions: Inspect field condition for suitability of proper installation. Inform contractor of conditions requiring attention. Make field measurements as required.

3.2 INSTALLATION

- A. Follow manufacturer's printed installation instructions and as shown on plans.

3.3 DEMONSTRATION AND TRAINING

- A. Before the date of beneficial occupancy/substantial completion, demonstrate and provide training to SUSD personnel and staff per Section 01 79 00 "Demonstration and Training."

END OF SECTION 10 10 00

10 10 10 – TOPCAT ACCESS AUDIO SYSTEM

PART 1. GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes Classroom Audio System for spoken and projected sound reinforcement within the classroom.
- B. Related Requirements:
 - 1. Section 10 10 00 "Miscellaneous Specialties" for Assistive Listening System and Ultra Short Throw Projectors.
 - 2. Section 10 14 00 "Signs and Graphics" for Assistive Listening System Signs

1.3 REGULATORY REQUIREMENTS

- A. Conform to 2022 California Building Code for requirements applicable to work specified herein.

1.4 QUALITY ASSURANCE

- A. Qualifications
 - 1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
 - a. Certificate: when requested, submit certificate, indicating qualification.
 - 2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method.
- B. Acceptable Manufacturers
 - 1. Basis of Design: Lightspeed Technologies, 11509 SW Herman Road, Tualatin, OR 97062, PH 800-732-8999, FAX 503-684-3197.
- C. Manufacturer Testing: Manufacturer to provide quality assurance certification for each system and all of its components. A report for each system will be available upon request. Report will include serial numbers and pertinent testing data for all of the system functions.
- D. Successful third-party installation (when needed) will be supplied with necessary training to allow for product installation certification by Manufacturer and will be installed according to Lightspeed recommendations.

1.5 SUBMITTALS

- A. General: Submit listed submittals in accordance with "Conditions of the Contract".
- B. Manufacturer's data on all products including but not limited to:
 - 1. Catalog cut sheets
 - 2. Installation instructions
 - 3. Typical wiring diagrams
 - 4. Drawings showing speaker locations
 - 5. Daily Use Guide
 - 6. Manufacturer's warranty documents
 - 7. Manufacturer's parts lists
 - 8. Product serial numbers

1.6 WARRANTY

- A. Warranty: Refer to "Conditions of the Contract" for warranty and repair provisions.

- B. Repair: Manufacturer shall offer repair service on all Classroom Audio components. Owner shall pre-pay shipping for all items returned to manufacturer for repair. The Manufacturer shall repair or replace system components as specified under warranty. Manufacturer shall ship repaired components within five (5) working days of receipt. Items returned to Owner are shipped via the same method in which they were received.
- C. Manufacturer's Warranty: All the major system components (transmitters, receiver-amplifier and speakers) must be warranted for five years against defects occurring while used in normal classroom instruction. The warranty shall be equivalent to a Lightspeed Technologies' Five-Year Warranty.
 - 1. Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.

1.7 OVERALL SYSTEM DESCRIPTION

- A. The system must have specifications and features that are equivalent to the Lightspeed Topcat Access™ In-Ceiling Classroom Audio System including the following:
 - 1. All-in-one, in-ceiling audio system with integrated amplifier, speakers and wireless audio receiver/transmitter
 - 2. Two-way hybrid speaker system with exciter technology sound panel and low frequency cone driver
 - 3. Cross over technology to deliver high speech intelligibility and full range sound with even distribution throughout the classroom
 - 4. Up to 2 microphones for whole room instruction, team-teaching or student sharing
 - 5. Pendant-style Flexmike™ classroom microphone with audio input utilizing Access Technology (1.9 GHz) for transmission. IR not acceptable
 - 6. Optional PageFirst emergency page priority
 - 7. In-Ceiling mounted
 - 8. Suitable for use in air-handling spaces (plenum-rated)
 - 9. Wireless Media Connector utilizing Access Technology (1.9 GHz) to integrate with and wirelessly transmit all classroom multimedia to be played through the Topcat
 - a. Includes 4 audio inputs with volume control
 - b. 2 audio outputs for Assisted Listening System Device (ALD) and/or recording with volume control
 - c. Tone control to remotely adjust bass/treble of Topcat
- B. The amplifier must contain a Page mute function (PageFirst™) that passively detects the audio signal of a page coming through the PA system without compromising system performance or voiding warranties. As an audio signal is sent to the PA speaker, the PageFirst™ detects that signal and immediately mutes the Topcat audio amplifier.
- C. The system must produce high speech intelligibility and full-range multimedia quality sound with excellent distribution throughout a classroom.
- D. The system must be capable to be installed in a classroom with no wires installed in or on the walls. The system must be fully operational without speaker wires or sensor cables.
- E. The system must be compatible and expandable to operate with 2-way small group speaker Pods allowing interoperability between both small group and whole group instruction.
- F. The system shall carry a "No Audio Dropout Guarantee" between the wireless microphone and the sound system. The guarantee applies to operation in any room up to its expected range of 200 feet (assuming no walls). The guarantee does not extend into other rooms separated by walls as this can limit transmission range significantly. Should any dropout within the classroom in audio transmission occur, the manufacturer would correct it at no additional charge.
- G. The system shall carry a standard warranty equivalent to the Lightspeed 5-year Warranty.

1.8 OWNER INSTRUCTION

- A. Owner's Instruction: user training will be performed by the manufacturer's local representative. The training will include the research and benefits of classroom amplification, system operation,

simple troubleshooting guidelines, and incorporating the classroom amplification into teaching styles. The manufacturer will also provide additional training in trouble-shooting techniques and product return procedures to one specified person per campus. This service shall be rendered to the Owner at no additional cost.

- B. A Daily Use Guide is included with system to provide information on how to use the system. In addition, instruction materials and detailed Owner's manual shall be available on manufacturer's website to cover complete operational and basic maintenance procedures.

PART 2. PRODUCTS

2.1 IN-CEILING CLASSROOM AUDIO SYSTEM SPECIFICATIONS

A. Overall System:

1. Power output: 20 Watts RMS
2. Acoustic Frequency response: 60 Hz to 18 kHz -10dB
3. AC Mains Power Input: 100-240V ~ 50/60Hz 1.5A
4. DC Power Input: 24V/2.5A
5. Signal-to-noise: 60 dB
6. Total Harmonic Distortion: <1%, 10 W
7. Wireless Communication: Access Technology (1.9 GHz + RF4CE)
8. Automatic power on when Flexmike is powered on and linked
9. Dimensions (W x D x H): 24" x 12" x 3.7" (Removable side spacers to fit international ceiling grids; 595mm x 295mm x 94mm)
10. Weight: 13.5 lbs. (6.1 kg)
11. Controls:
 - a. (1) Microphone volume control
 - b. (1) Tone control
 - c. (1) Audio input volume control
 - d. (1) PageFirst sensitivity adjustment
12. Connections:
 - a. (1) Direct AC mains power input
 - b. (1) Optional DC Power Input
 - c. (1) Audio input (Longer cable runs may require a ground loop isolator in order to prevent audio hum caused by a ground loop.)
 - d. (1) Optional Page mute (PageFirst™) input (Euro-block)
13. Device Registration: push button for transmitter(s), remote(s), speaker Pods, Media Connector, Activate Station
14. Wireless audio range: up to 200 feet
15. Integrated 2-Way Hybrid Speaker System:
 - a. Description: exciter technology sound panel plus low frequency cone driver
 - b. Integrated cross-over technology
 - c. Panel Size: 13.75" x 6.75"
 - d. Cone Driver Size: 5.25"
 - e. Overall Frequency Response: 60 Hz to 18 kHz -10dB
 - f. Impedance: 8 Ω
 - g. Power Handling: 25 W

- B. The in-ceiling classroom audio system shall use bi-directional wireless Access Technology to communicate with up to two wireless microphones.
- C. The in-ceiling classroom audio system shall use bi-directional wireless Access Technology to integrate with other audio sources in the classroom.
- D. The in-ceiling classroom audio system shall use bi-directional wireless Access Technology to send a mixed audio output to a media connector or Activate Station located at a convenient/student accessible location in the classroom.

- E. The in-ceiling classroom audio system shall use bi-directional wireless Access Technology to communicate with up to 12 optional tabletop speaker Pods available to facilitate small group instruction.
- F. The all-in-one system must contain a Page mute function (PageFirst™) that passively detects the audio signal of a page coming through the PA system without compromising system performance or voiding warranties. As an audio signal is sent to the PA speaker, the PageFirst passive sensor clip detects that signal and immediately mutes the Topcat.

2.2 FLEXMIKE PENDANT-STYLE MICROPHONE / TRANSMITTER

- A. Description: the pendant-style Flexmike transmitter shall contain microphone volume control on the unit allowing users to adjust volume level from anywhere in the classroom. The Flexmike shall be capable of being worn around a teacher's neck as a hands-free microphone via the lavalier cord or to be used as a handheld student pass-around microphone. The Flexmike must be rechargeable via cradle charger, computer, or Activate Bluetooth Charging Station and must have alkaline charge protection.
- B. Lanyard: adjustable length with magnetic clasp
- C. Wireless communication: bi-directional Access Technology (1.9 GHz)
- D. Audio distortion: <1%
- E. Integrated microphone type: uni-directional electret
- F. Audio input: 3.5mm
- G. Earbud output: 3.5mm (for monitoring optional Activate Pods)
- H. Push button volume control: +/- 6dB (total range = 12 dB)
- I. Power: on/off/mute button
- J. Battery Power: 2.4V NiMH battery pack
- K. Battery run time: 8 hours (fully charged)
- L. Charging: Integrated battery charger. The 5V power can be supplied via a cradle charger (charges two Flexmike transmitters)
- M. Alkaline Charge Protection: Yes
- N. USB Audio: interface with computer USB audio while charging
- O. Registration: push button for registration with Topcat
- P. Dimensions (L x W x H): 2.9" x 1.1" x 1.0" (74 x 28 x 25mm)
- Q. Weight: 1.8 oz. (51g)

2.3 WIRELESS MEDIA CONNECTOR

- A. Description: Wireless audio transmitter/receiver to integrate with classroom audio sources and send/receive the wireless to the Topcat system in the ceiling.
- B. Wireless Communication: Access Technology (1.9 GHz)
- C. Audio Inputs: (4) 3.5mm stereo jacks connect to classroom audio sources.
- D. Audio Outputs: (2) 3.5mm jack with volume control
- E. (1) Microphone volume control
- F. (1) Audio input volume control
- G. (1) Audio output volume control
- H. (1) Power button with LED
- I. (1) Tone control
- J. (1) Registration button with Registration LED and linked LED
- K. Audio frequency response: 80 Hz to 7 kHz ±3 dB
- L. Audio distortion: <1%
- M. DC Power Input: USB 5V/0.2A (type micro-B)
- N. Mounting: table-top or wall
- O. Dimensions (W x D x H): 7.6"x 4.1"x 1.1" (193 x 104 x 28mm)

2.4 WALL MOUNTING BRACKET (WHERE SHOWN)

- A. Description: Wall mounting bracket for Topcat classroom audio system to allow easy installation on a hard ceiling or a wall. Includes a breakout to accommodate conduit and allows space for j-box and power supply.
- B. Dimensions (L x H x D): 28.5" x 2" x 4.5"

- C. Weight: 7 lbs., with Topcat 21.5 lbs.

2.5 REGULATORY AND CERTIFICATIONS

- A. The classroom audio system and its components shall be manufactured using lead-free processes and free of other materials harmful to the environment (RoHS and WEEE compliant).
- B. The classroom audio system and its components shall be listed to UL/CUL standards and requirements for electrical safety by Underwriters Laboratories Inc.
- C. The classroom audio system must be suitable for use in air handling spaces and carry appropriate certifications (UL 2043).
- D. The classroom audio system and its components shall be CE Certified and conform with the essential requirements of the following European Union Directives: 2014/30 EU Electromagnetic Compatibility (EMC), 2014/35/EU Low Voltage Directive (LVD) and RED 2014/53/EU.
- E. The classroom audio system and its components shall comply with Part 15 of the FCC rules as a Class B digital device (FCC Certified).

PART 3. EXECUTION

3.1 SYSTEM PERFORMANCE

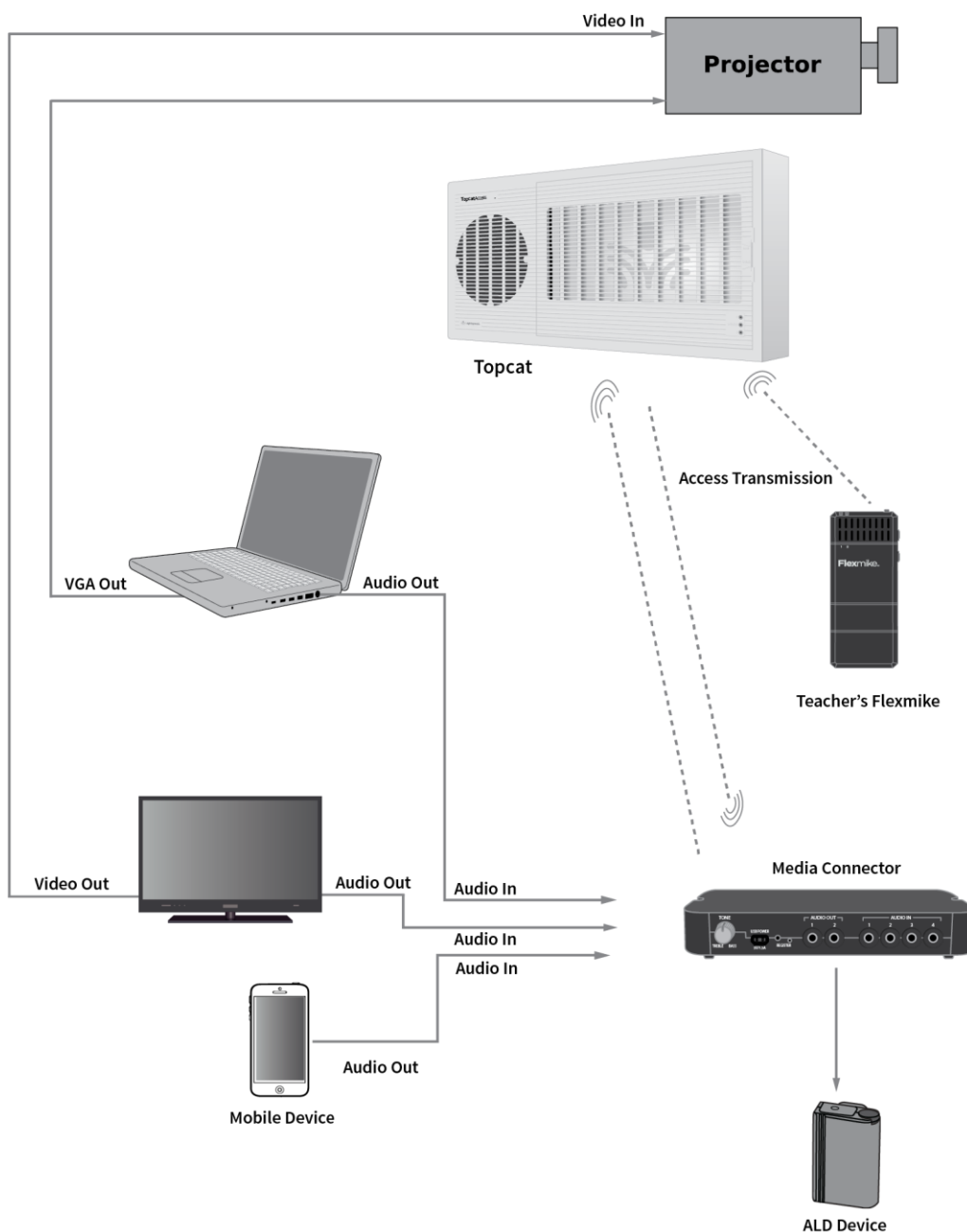
- A. Install in accordance with Manufacturer's installation instructions.
- B. Final adjustment: Upon completion, the system shall be clean, adjusted and left in perfect operating condition. Transmitters shall be plugged in and charging and Daily Use Guide should be left in a conspicuous place. The full user manual shall be available for download from the manufacturer's website.
- C. Provisions: There shall be no audible components of hum, noise, or distortion.

3.2 INSTALLATION

- A. Provide and install Sound Reinforcement System in the locations shown on drawings as required.
- B. All equipment and enclosures described in this specification shall be permanently attached to the structure and held firmly in place. Supports shall be adequate to support their loads per manufacturers specifications.
- C. The process of testing the Audio Sound System may necessitate moving and adjusting certain component parts (ex. loud speakers). Contractor shall provide at no additional cost to the owner.
- D. Take precautions as necessary to prevent and guard against electromagnetic and electrostatic noise interference. Long cable runs, unshielded and / or poorly shielded cable, multiple ground paths and improper grounding may all contribute to the production of a low frequency hum. In most cases a ground loop isolator (not provided) placed in line will attenuate or possibly eliminate the hum.
- E. Wireless Media Connector shall be located per Owner's request. Contractor to ensure all Media Connectors or Activate Charging Stations have power available, are properly registered, and all volume controls are set properly via a field test in every classroom.

3.3 TOPCAT AUDIO INTEGRATION USING MEDIA CONNECTOR

The wireless Media Connector must have four audio inputs to allow other audio sources to be wirelessly transmitted and played through the Topcat system. Computers, laptops, DVD/VCR's, LCD displays, etc. may be connected into the Media Connector using appropriate patch cords. The Media Connector must also receive audio back from the Topcat to output the mixed audio signal of both microphone channels and multimedia for recording purposes and interface with assistive listening devices. See the systems integration chart below.



10 14 00 – SIGNAGE AND GRAPHICS

1. GENERAL:

1.1 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division –01 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. Accessibility Signs meeting the requirements of Title 24 California Accessibility Standards and the Americans with Disabilities Act. Signs required in this project are as follows and are shown on the drawings:
 - 1. Room Identification Signs
 - 2. Toilet Room Door Symbols
 - 3. Exterior Entrance Sign
 - 4. Assistive Listening System Sign
 - 5. Tactile Exit Signs
 - 6. International Symbol of Accessibility Sign
- B. Parking Lot Accessibility Signs meeting the requirements of Title 24 California Accessibility Standards and the Americans with Disabilities Act. Signs required in this project are as follows and are shown on the drawings:
 - 1. “Tow Away” Sign
 - 2. Accessible Parking Space Sign
 - 3. Van Accessible Parking Space Sign
 - 4. \$250 Fine Sign
 - 5. Gate Sign
 - 6. Loading Space Sign

1.3 QUALITY ASSURANCE:

- A. Manufacturer's Data: Provide complete manufacturer's data, including installation instructions and details to contractor's job Superintendent, to facilitate coordination of work.
- B. All Signage must be field inspected after installation per CBC 11B-703.1.1.2.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's descriptive literature and specifications, including color samples of materials for applicable approval.
- B. Samples: Submit full size sample sign of each type, style, and color specified including method of attachment.
- C. Shop Drawings: Submit shop drawings showing sign styles, compliance with California Title 24 Accessibility Standards (where applicable), lettering, locations, and overall dimensions.
- D. Certification: Submit manufacturer's certification that all signs furnished for project comply with requirements specified herein.

2. PRODUCTS:

2.1 ACCESSIBILITY SIGNS:

A. Signs shall be as shown and detailed on the drawings.

B. PLAQUE MATERIAL:

1. One piece Melamine plastic laminate with a color contrasting core. Added-on and/or engraved characters are unacceptable.
2. Non-static, fire-retardant, and self-extinguishing.
3. Impervious to most acids, alkalies, alcohol, solvents, abrasives, and boiling water.

C. RAISED (TACTILE) LETTERS AND NUMBERS:

1. Sans-serif uppercase characters
2. Horizontal format
3. Raised 1/32" from sign plate face
4. 5/8" (min.) to 2" (maximum) high based on the height of the uppercase letter "I".
5. Character proportions shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I".
6. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.
7. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch minimum and 4 times the raised character stroke width maximum at the base of the cross section, and 1/8 inch minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch minimum.
8. Line spacing: Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.
9. Raised characters shall be duplicated in Braille complying with the following requirements.

D. CALIFORNIA CONTRACTED GRADE 2 BRAILLE:

1. Domed or rounded shape.
2. Indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns, and names, individual letters or the alphabet, initials, or acronyms.
3. Braille shall be positioned below the corresponding text in a horizontal format, flush left or centered. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated 3/8 inch (minimum) and 1/2 inch (maximum) from any other tactile characters and 3/8 inch (minimum) from raised borders and decorative elements.
4. Dot base diameter: 0.059 inches (minimum) to 0.063 inches (maximum).

5. Distance between two dots in the same cell (measured center to center): 0.100 inches.
6. Distance between corresponding dots in adjacent cells (measured center to center): 0.300 inches.
7. Dot height: 0.025 inches (minimum) to 0.037 inches (maximum).
8. Distance between corresponding dots from one cell directly below (measured center to center): 0.395 inches (minimum) to 0.400 inches (maximum).

E. COLOR/FINISH:

1. Color of signs shall match signs already on site and as indicated in the approved drawings.
2. Provide contrasting colors of character and background of tactile signs.
2. Finish shall be non-glare.

F. DECORATIVE LOGO:

1. Digitally print decorative logo shown on sign details in drawings directly to the surface of the sign with UV Flatbed Direct Print Technology.

2.3 PARKING LOT ACCESSIBILITY SIGNS:

- A. Signs shall be as shown and detailed on the drawings.
- B. Material: 14 gauge (min.) galvanized steel
- C. Text on sign shall be black capital sans serif letters on white baked enameled background. Size of letters shall be as shown on the drawings.
- D. White reflectorized International Symbol of Accessibility where shown on sign details on drawings shall be 6" high (min.) on a light blue porcelain background. Blue will be equal to Color No. 15090 per Federal Standard 595B.

3. EXECUTION:

3.1 GENERAL

- A. Field Conditions: Inspect field condition for suitability of proper installation. Inform contractor of conditions requiring attention.

3.2 INSTALLATION

- A. Locate sign units where indicated on drawings, using mounting methods of the type described and in compliance with manufacturer's instructions and as indicated on drawings.
- B. Install signs level, plumb, and at heights indicated on drawings.
- C. Attach and secure signs to walls, doors, poles, fences, or glass with appropriate screws and adhesives or as indicated on drawings.

END OF SECTION 10 14 00

10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Hand dryers.
 - 3. Underlavatory guards.
 - 4. Custodial accessories.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.
- B. Samples: For each exposed product and for each finish specified, full size.
 - 1. Approved full-size Samples will be returned and may be used in the Work.
- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated on approved drawings.
 - 2. Identify accessories using designations indicated on approved drawings.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 WARRANTY

- A. Manufacturer's Special Warranty for Hand Dryers: Manufacturer agrees to repair or replace hand dryers that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Seven** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.
2. Shower Seats: Installed units are able to resist 360 lbf applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Toilet Tissue (Roll) Dispenser (Student Restrooms – Standard Toilet Stall):

1. Basis-of-Design Product: Subject to compliance with requirements, provide **Pioneer Chemical Company; EC200DLZNC** or comparable product by one of the following:

- a. Architect and District approved equal.

2. Description: Vandal Resistant Double-roll toilet tissue dispenser.
3. Mounting: Surface mounted.
4. Operation: Slow down dispensing of tissue with wide steel cross-bar.
5. Capacity: Designed for 4-1/2- or 5-inch- diameter tissue rolls.
6. Material and Finish: 3/8" thick galvanized steel.
7. Accessories: **Keyed-Alike Padlock**

- B. Toilet Tissue (Roll) Dispenser (Staff Accessible Restrooms, Public & Staff Accessible Toilet Stalls and Student Accessible Toilet Stall):

1. Basis-of-Design Product: Subject to compliance with requirements, provide **Bobrick; B-3888** or comparable product by one of the following:

- a. Architect and District approved equal.

2. Description: Roll-in-reserve dispenser with hinged front secured with tumbler lockset.
3. Mounting: Recessed.
4. Operation: Noncontrol delivery with theft-resistant spindle.
5. Capacity: Designed for 4-1/2- or 5-inch- diameter tissue rolls.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).

- C. Toilet Tissue (Roll) Dispenser (Public & Staff Toilet Stalls):

1. Basis-of-Design Product: Subject to compliance with requirements, provide **Bobrick; B-2888** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Description: Roll-in-reserve dispenser with hinged front secured with tumbler lockset.
 3. Mounting: Surface Mounted.
 4. Operation: Noncontrol delivery with theft-resistant spindle.
 5. Capacity: Designed for 4-1/2- or 5-inch- diameter tissue rolls.
 6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- D. Paper Towel (Roll) Dispenser (Classrooms):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **San Jamar; T950** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Description: Lever-actuated mechanism permitting controlled delivery of paper rolls in preset lengths.
 3. Mounting: Surface mounted.
 4. Minimum Capacity: 8-inch- wide, 800-foot- long roll.
 5. Material and Finish: Impact-resistant plastic construction with translucent front cover.
 - a. Color: District selected from Manufacturer's Standard Color Chart. (or Arctic Blue (suffix TBL) or Black Pearl (suffix TBK))
 6. Lockset: Tumbler type.
- E. Soap Dispenser:
1. Basis-of-Design Product: Subject to compliance with requirements, provide **GOJO®; FMX-20** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Description: Designed for manual operation and dispensing soap in foam form.
 3. Mounting: Vertically oriented, surface mounted.
 4. Capacity: 2000 mL.
 5. Materials: Durable ABS Plastic with rugged polycarbonate view windows.
 6. Lockset: Tumbler type.
 7. Refill Indicator: Window type.
- F. Grab Bar (Accessible Toilet (36" long):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **ASI; 3801** or comparable product by one of the following:
 - a. Bobrick
 - b. Architect and District approved equal.
 2. Mounting: Flanges with concealed fasteners.
 3. Material: Stainless steel, 18 gauge thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin).

4. Outside Diameter: 1-1/2 inches.
 5. Configuration and Length: Straight, 36 inches long.
- G. Grab Bar (Accessible Toilet Room or Stall (48" long)):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **ASI; 3801** or comparable product by one of the following:
 - a. Bobrick
 - b. Architect and District approved equal.
 2. Mounting: Flanges with concealed fasteners.
 3. Material: Stainless steel, 18 gauge thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin).
 4. Outside Diameter: 1-1/2 inches.
 5. Configuration and Length: Straight, 48 inches long.
- H. Sanitary-Napkin Disposal Unit (Girls Standard Toilet Stall):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Hospeco; ND-1E** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Mounting: Surface mounted.
 3. Door or Cover: Hinged Cover and Hinged Bottom (for easy removal of filled liner).
 4. Receptacle: Fixed.
 5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- I. Sanitary-Napkin Disposal Unit (Girls Accessible Toilet Staff and Staff Toilet Room):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Bobrick; B-353** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Mounting: Recessed.
 3. Door or Cover: Self-closing, disposal-opening cover and hinged face panel with tumbler lockset.
 4. Receptacle: Removable, leak-proof, rigid molded polyethylene with a capacity of 1.2 gallons.
 5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- J. Seat-Cover Dispenser (Staff Toilet Rooms):
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Hospeco; HG-1-2** or comparable product by one of the following:
 - a. Architect and District approved equal.
 2. Mounting: Surface Mounted
 3. Minimum Capacity: two sleeves of 250 half-fold seat covers.

4. Exposed Material and Finish: Styrene Plastic.

K. Mirror Unit (Staff Toilet Rooms):

1. Basis-of-Design Product: Subject to compliance with requirements, provide **ASI; 0600-C** or comparable product by one of the following:
 - a. Architect and District approved equal.
2. Material: Stainless steel, 20 gauge thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 8 finish (mirror).
3. Size: 18" wide x 36" high.
4. Hangers: Manufacturer's standard rigid.

L. Mirror Unit (Student Toilet Rooms):

1. Basis-of-Design Product: Subject to compliance with requirements, provide **ASI; 0600-C** or comparable product by one of the following:
 - a. Architect and District approved equal.
2. Material: Stainless steel, 20 gauge thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 8 finish (mirror).
3. Size: 42" wide x 36" high.
4. Hangers: Manufacturer's standard rigid.

2.3 HAND DRYERS

A. High-Speed Air Dryer:

1. Basis-of-Design Product: Subject to compliance with requirements, provide **Excel Dryer Inc.; Xlerator XL-SB w/ ADA-Compliant Recess Kit and HEPA Filtration System** or comparable product by one of the following:
 - a. Architect and District approved equal.
2. Description: High-speed, warm-air hand dryer for rapid hand drying.
3. Mounting: Semirecessed.
 - a. Protrusion Limit: Installed unit protrudes maximum 4 inches from wall surface.
4. Operation: Infrared-sensor activated with timed power cut-off switch.
 - a. Average Dry Time: 8 seconds.
 - b. Automatic Shut Off: At 35 seconds.
5. Sound Level: Adjustable 65-75 dB.
6. Heat Range: Adjustable 72°F - 135°F
7. Cover Material and Finish Stainless steel, ASTM A480/A480M No. 4 finish (satin).
8. Electrical Requirements: 110 to 120 V, 11.3 to 12.2 A, 1240 to 1450 W or 208 to 277 V, 5.6 to 6.2 A, 1160 to 1490 W.

2.4 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

1. Basis-of-Design Product: Subject to compliance with requirements, provide **Truebro, an IPS Corporation; Lav Guard® 2E-Z** or comparable product by one of the following:
 - a. Architect and District approved equal.
2. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
3. Material and Finish: Antimicrobial, molded vinyl, white.

2.5 CUSTODIAL ACCESSORIES

A. Custodial Mop and Broom Holder:

1. Basis-of-Design Product: Subject to compliance with requirements, provide **ASI; 1315** or comparable product by one of the following:
 - a. Architect and District approved equal.
2. Description: **Unit with shelf, hooks, holders, and rod suspended beneath shelf.**
3. Length: **36 inches.**
4. Hooks: Three.
5. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
 - a. Shelf: Not less than nominal 18-gauge thick stainless steel.
 - b. Rod: Approximately 3/8" diameter stainless steel.

2.6 MATERIALS

- A. Fasteners:** Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.

2.7 FABRICATION

- A. General:** Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys:** Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of **six** keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories** according to manufacturers' written instructions and per approved details, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
1. Remove temporary labels and protective coatings.

- B. Grab Bars: Install to comply with specified structural-performance requirements and per approved details.
- C. Shower Seats: Install to comply with specified structural-performance requirements and per approved details.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Clean and polish exposed surfaces according to manufacturer's written instructions.

END OF SECTION 10 28 00

22 40 00 - PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Drinking fountains.
- B. Fixtures:
 - 1. Plumbing fixtures and trim, including rims for sinks and lavatories in casework or counters, chair carriers (as required), drinking fountains, drains, cleanouts, floor sinks, and related fixtures shown on the Drawings.
 - 2. Rough and final connection to equipment and fixtures, relocated or provided under other sections by Owner and under other divisions of the work.
 - 3. Standards and supports for equipment requiring them.
 - 4. Instructions and maintenance manuals for equipment furnished by this Section.

1.2 RELATED REQUIREMENTS

- A. Refer to the General Conditions, Special Conditions and Division 1 General Requirements. The requirements of these sections apply to this section.
- B. Section 07 92 00 – Joint Sealants.

1.3 REFERENCE STANDARDS

- A. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; 2002.
- B. ASME A112.18.1 - Plumbing Supply Fittings; 2018.
- C. NSF 61 - Drinking Water System Components - Health Effects; 2018.
- D. NSF 372 - Drinking Water System Components - Lead Content; 2011.

1.4 SUBMITTALS

- A. See Section 01 33 00 - Submittals, for submittal procedures.
- B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- C. Manufacturer's Instructions: Indicate installation methods and procedures.
- D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.
- E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
- B. Manufacturers: Firms regularly engaged in manufacture of plumbing system products, of types, materials, and sizes required.
- C. Regulatory Requirements:
 - 1. Codes: Comply with UPC pertaining to plumbing materials, construction and installation of products. Comply with local and state regulations.
 - 2. ANSI Compliance: Comply with applicable American National Institute standards pertaining to products and installation.
 - 3. PDI Compliance: Comply with applicable Plumbing and Drainage Institute standards pertaining to products and installation.
 - 4. Federal Standards: Comply with applicable Federal Specification WW-P-541 Series sections pertaining to plumbing fixtures.
 - 5. NAHB Label: Provide fiberglass bathtub units and shower stalls which have been tested and labeled by NAHB Research Foundation.
 - 6. ADA Compliance: Construct and install barrier-free plumbing fixtures in accordance with "The Americans with Disabilities" Act.

7. UL and NEMA Compliance: Provide electric motors and electrical components required as part of plumbing equipment, which have been listed and labeled by UL and which comply with NEMA standards.
8. CEC Compliance: Comply with CEC as applicable to installation and electrical connections of ancillary electrical components of plumbing equipment.

1.6 REGULATORY REQUIREMENTS

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept fixtures on site in factory packaging. Inspect for damage.
- B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.8 WARRANTY

- A. See Section 01 78 36 - Warranties, for additional warranty requirements.

PART 2 PRODUCTS

2.1 GENERAL

- A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.2 GENERAL REQUIREMENTS:

- A. Refer to Architectural drawings for exact locations, fixture mounting heights and ADA accessibility requirements.
- B. Insulate domestic hot water, tempered water and waste piping below handicapped plumbing fixtures with molded single piece removable insulation covers, foam, fire resistant, Truebro, or equal. Install insulation covers in accordance with ADA requirements.
- C. Provide 85% IPS red brass pipe for each connection to faucets, stops, hose bibs, and other fixtures/trim. Securely anchor brass pipe to structure. Install stop valves on water supply lines for each fixture, except hose bibbs.
- D. Provide compression shutoff control stop valves with IPS inlets and threaded brass nipples at pipe connection on water supplies to each fixture. Provide stops with lock shield loose key and key handle for each stop. For combination fixtures, provide with compression stop and IPS inlet on each water supply fitting.
- E. Provide cast brass escutcheons, except escutcheons exposed to view shall have chrome plated finish.
- F. Provide chromium-plated finish on fittings and accessories exposed to view.
- G. Fixture fittings and trim: Conform to ASME A112.18.1M and ASME A112.19.5, as applicable.
- H. Centerset faucets: Top-mounted with inlets on not greater than 4-inch centers, unless specified otherwise below.
- I. Separate faucets and combination supply fittings: Provide inlets on 8-inch centers.
- J. Zinc-alloy or plastic handles are not permitted for faucets and valves.
- K. Provide special roughing-in for wheelchair fixtures.
- L. Provide water hammer arrestors at end of pipe runs to two or more fixtures, properly sized with sufficient displacement volume to dissipate calculated energy in the piping systems. Water hammer arrestors shall be stainless steel shell with stainless steel bellows contained within the casing, Zurn Model Z-1700, or equal. See Section 22 10 06. Locate in accessible location or provide access panel with location approved by Architect.
- M. Fixture dimensions specified are nominal.

2.3 PLUMBING FIXTURES

- A. General: Provide factory fabricated fixtures of type, style and material indicated on the plumbing fixture connection schedule on the Drawings. For each type fixture, provide fixture manufacturer's standard trim, carrier, seats, and valves as indicated by their published product information; either as designed and constructed, or as recommended by manufacturer, and as required for complete installation. Where more than one type is indicated, selection is installer's option; but, fixtures of same type must be furnished by a single manufacturer. Where type is not otherwise indicated, provide fixtures complying with governing regulations.
 - 1. Fixtures: Complete with fittings, supports, fastening devices, faucets, valves, traps, stops and appurtenances required.
 - 2. Exposed IPS Piping and Tubing: Brass, chrome plated.
 - 3. Escutcheons: Brass, chrome plated.
 - 4. Fixture Locations: As shown on Drawings.
 - 5. Stops: Stops installed in each supply pipe at each fixture accessibly located with wall escutcheons.
 - 6. Public Lavatories: Provide with flow control device to prevent flow over 0.5 GPM.
 - 7. Interior Faucets Except Public Lavatories: Provide with flow control device to prevent flow over 0.5 GPM.

2.4 FIXTURE TRIM

- A. Traps: Provide traps on fixtures except fixtures with integral traps. Exposed traps chromium plated cast brass or 17-gauge chromium plated brass tubing. American Standard, Kohler, Chicago, BrassCraft, Eastman, Speedway, McGuire, or approved.
- B. Supplies and Stops: First quality, chrome plated with brass stems. Stops: Loose key type. American Standard, Kohler, Chicago, BrassCraft, Eastman, Legend, Speedway, McGuire, or approved.

2.5 DRINKING FOUNTAINS with BOTTLE FILLER (DF-3)

- A. Drinking Fountain Manufacturers:
 - 1. Murdock Manufacturing; Model GYQ84. www.murdockmfg.com
 - 2. Approved equal.
- B. Fountain:
 - 1. Pedestal Mounted Round Bi-Level Bottle Filler with Drinking Fountain: Construction shall be 12-gauge, all stainless steel with 18-gauge, Type 304, No. 4 satin finish stainless steel fountain bowls, two dual height one pieces fountains with round bowls and recessed filler. Unit shall be a free standing pedestal mounted outdoor bottle filler. Unit shall have a strong vandal-resistant design for years of trouble-free service. Bottle filler shall be activated by a 9-volt sensor or a pushbutton as standard. Fixture shall have a self-closing pushbutton that requires less than 5 pounds of force to activate the internally mounted valve. ADA accessible.
 - 2. Mounting: Manufacturer provided ¼" stainless steel mounting plate.
 - 3. Electrical: None

2.18 Hose Bibb (HB-1)

- A. Hose Bibb Manufacturers:
 - 1. Acorn; Model 8121CR-LF.
 - 2. Approved equal.
- B. Hose Bibb:
 - 1. Lead-Free, cartridge operated hose valve with lock shield bonnet, bent nose with flange, vacuum breaker, and removable loose key handle.
 - 2. Vacuum Breaker: Atmospheric type conforming to the requirements of ASSE Standard 1011.
 - 3. Finish: Rough chrome plated.

2.20 Wall Hydrant (H-1)

- A. Wall Hydrant Manufacturers:
 - 1. Acorn; Model 8151-SSLF.
 - 2. Approved equal.
- B. Wall Hydrant
 - 1. Recessed hose box with wall flange. Box shall be fabricated from 18-gauge, type 304 stainless steel with satin finish exterior. Flange shall be 16-gauge stainless steel with satin finish exterior. Lead-Free, cartridge operated hose valve with vandal-resistant lockshield, removable loose key wheel handle, and screw driver operated Stop. Door shall be 16-gauge stainless steel with satin finish and shall have a removable hinge and cylinder lock.
 - 2. Vacuum Breaker: Atmospheric type conforming to the requirements of ASSE Standard 1011.
 - 3. Stop: Screwdriver Stop in supply permits servicing the control valve without shutting down the water supply.
 - 4. Cylinder Lock: Coordinate Keying of Cylinder Lock with District's Locksmith Department.
 - 5. Finish: Type 304 Stainless Steel – Satin Finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
- B. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.2 PROTECTION

- A. Protect fixtures and equipment from damage. Replace damaged items with new.
- B. Keep pipe openings closed by means of plugs or caps to prevent the entrance of foreign matter. Protect piping, ductwork, fixtures, equipment and apparatus against dirty water, chemical or plumbing damage both before and after installation. Restore to its original condition or replace fixtures, equipment or apparatus damaged prior to final acceptance of the work.
- C. Protect bright finished shafts, bearing housings and similar items, until in service; no rust will be permitted.
- D. Cover equipment and materials stored on the job site or otherwise suitably protect at the direction of, and to the satisfaction of Architect. If coverings become torn, replace until the equipment is connected and operating.

3.3 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.4 INSTALLATION - GENERAL

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Provide chrome plated rigid supplies to fixtures with loose key stops, reducers, and escutcheons.
- C. Install components level and plumb.
- D. Install and secure fixtures in place with wall supports and bolts.
- E. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 90 05, color to match fixture.
- F. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

3.5 FIXTURES INSTALLATION

- A. General:
 - 1. Install plumbing fixtures of types indicated where shown and at indicated heights; in accordance with fixture manufacturer's written instructions, roughing-in drawings, and with recognized industry practices. Ensure that plumbing fixtures comply with requirements and serve intended purposes.
 - 2. Verification of Conditions: Examine roughing-in work of potable water and waste piping systems to verify actual locations of piping connections prior to installing fixtures. Examine floors and substrates, and conditions under which fixture work is to be accomplished. Correct any incorrect locations of piping and other unsatisfactory conditions for installation of plumbing fixtures.
 - 3. Set and connect to soil, waste, vent and water piping in neat, finished and uniform manner. Connections to be equal height, plumb and set at right angles to floor, or both unless otherwise required or specified.
 - 4. Seal fixtures mounted on floors and walls at abutting joints with approved sealant compounds as directed by Architect.
- B. Fixture Locations: As shown on Drawings. Center water closets and urinals between privacy partitions unless noted otherwise.
- C. Stops: Stops installed in each supply pipe at each fixture accessibly located with stops of loose key type. Concealed stops to be screwdriver or loose key type with wall escutcheons.
- D. Fixture Supports:
 - 1. Support wall hung water closets, urinals and lavatories on heavy duty, full size, concealed, commercial grade chair carriers mounted to floor structure. Refer to plumbing fixture connection schedule on drawings.
 - 2. Support other fixtures mounted on stud partitions on heavy concealed wall brackets bolted to a 1/4-inch thick by 5-inch high steel plate anchored firmly to studs with bolts (or welded to metal studs). Plate to extend one stud each way beyond fixture mounting point width.
- F. After fixtures are set in place and secured to walls, caulk around between fixtures and wall with white silicone caulking compound. Dow Corning 780, General Electric Construction Sealant, or approved.
- I. After fixture installation is complete, cover and protect rims, fronts and exposed parts until completion of construction phase. Contractor to be responsible for damage to fixtures and assumes related fixture repair or replacement costs.
- J. Adjusting and Cleaning: Clean plumbing fixtures, trim, and strainers of dirt and debris upon completion of installation. Adjust water pressure at drinking fountains, faucets, shower valves and flush valves to provide proper flow stream and specified GPM. Repair leaks at faucets and stops.
- K. Extra Stock: Furnish special wrenches and other devices necessary for servicing plumbing fixtures and trim to Owner.
- L. Field Quality Control:
 - 1. Upon completion of installation of plumbing fixtures and after units are water pressurized, test fixtures to demonstrate capability and compliance with requirements. When possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units and proceed with retesting.
 - 2. Inspect each installed unit for damage to finish. If feasible, restore and match finish to original at site; otherwise, remove fixture and replace with new unit. Feasibility and match to be judged by Architect. Remove cracked or dented units and replace with new units.
- M. Adjusting and Cleaning: Piping: Clean piping exterior surfaces. Comply with Section 22 07 19, Insulation, as applicable. Flush out water filled or drainage piping systems with clean water.

- N. Hose Bibb Piping: Provide each hose bibb with an individual accessible shutoff valve (ball type). Locate where shown on Drawings. Provide full access.

3.6 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

END OF SECTION

26 00 00 – BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Furnish and install all necessary labor, materials, tools and equipment to perform and completely finish the work according to the intent of this specification, and the accompanying drawings.
- B. Furnish and install any incidental work which can reasonably be inferred as required and necessary to provide complete and workable systems.
- C. Provide connections of all equipment specified under these sections and other Divisions including Divisions 22 (Plumbing) and 23 (HVAC) including installation and connection of all motors, relays, remote starters, etc.
- D. The requirements of the General and Supplemental Conditions, and Division 01 apply to Divisions 26, 27 and 28, and these specifications. All sections in Divisions 26, 27, and 28 are interrelated. Work specified in other sections, as applicable, shall apply to all work hereunder.

1.2 LOCAL CONDITIONS

- A. Examine site; verify dimensions and locations against drawings and become informed of all conditions under which work is to be done before submitting proposal. No allowance will be made for extra expenses because of omission on Contractor's part to include cost of work under prevailing conditions.
- B. Information shown relative to services is based upon available records and data shall be regarded as approximate only. Minor deviations found necessary to conform with actual locations and conditions shall be made without extra cost.
- C. Extreme care shall be exercised in excavating near existing utilities to avoid any damage thereto. It shall be the contractor's responsibility to verify existing underground utilities prior to digging anywhere. Information provided on these plans indicating existing conditions shall only be used as reference, and shall not be deemed considered accurate. Any damage to existing utilities done by the contractor shall be repaired and/or replaced by the contractor at their expense to its pre-damage condition.

1.3 PERMITS AND INSPECTIONS

- A. Obtain and pay for all permits and service charges required in installation of the work. Arrange for required inspections and secure approvals from authorities having jurisdiction.
- B. During its progress, work shall be subject to inspection by Project Inspector.

1.4 CODES AND STANDARDS

- A. Work and materials shall be in full accordance with California Occupational Safety Health Act (CAL-OSHA), California Electrical Code (CEC), State Fire Marshal, Electrical Safety Orders (Title 8, Subchapter 5), the National Fire Protection Association, California Building Code (CBC); California Code of Regulations - Title 24 and other applicable State or local laws or regulations. Nothing in the Drawings or Specifications shall be construed to permit work not conforming to these codes.

- B. Electrical materials shall bear the label of, or be listed by, the Underwriter's Laboratories (UL) unless of a type for which label or listing service is not provided.
- C. Materials and components shall conform to Industry Standards, including:
- | | | |
|-------|---|---|
| NEMA | - | National Electrical Manufacturer's Association |
| ANSI | - | American National Standards Institute |
| ASTM | - | American Society For Testing Material Association |
| IPCEA | - | Insulated Power Cable Engineer's Association |
| CBM | - | Certified Ballast Manufacturers |
- D. When Contract Documents differ from governing codes, furnish and install larger size or higher standards called for without extra charge.

1.5 REVIEW OF MATERIALS

- A. Prior to commencement of Work and within 35 days after award of contract, submit for approval in accordance with General Conditions all equipment and materials to be furnished.
1. Equipment/Product submittals shall be bound and indexed and shall include a table of contents listing all equipment submitted. The table of contents shall include: Project designation, submittal number, submittal name including specification section, date, and include manufacturer, model number, reference specification paragraph or sheet detail number, description, and page location. Where a group or series of products are submitted, each item does not have to be listed, only the series need to be identified. Example:

Project:
Submittal No.
Submittal Name:
Date:

Page(s)	Manufacturer	Model No.	Detail No.	Spec para., Description
1-12	XYZ Corp	123ABC	2.05	Control pane
13,14	XYZ Corp	456DEF	2.06-A	Power supply
15	ABC Corp	789GHK	A/E9.5	Rack
16,17	Cantex	PVC-40	2.01	PVC conduit
18	Steel City	XYZ series	2.02	Steel fittings

2. Shop drawings submittals shall be neat and professionally done using CAD (computer aided drafting), hand-drawn submittals will not be accepted. Shop drawings shall have sufficient information to clearly indicate work to be performed and be complete including device/equipment locations, wire sizes, wire types and number of wires, symbol list or legend, point-to-point connections, wiring diagrams, and equipment anchorage detail where needed. Shop drawings shall utilize the same size paper as the Bid set of plans.
3. Electronic submittals in PDF format are allowed and preferred.

B. Substitutions:

1. Only one request for substitution will be considered on each item of material or equipment. No substitutions will be considered thereafter. Substitutions will be interpreted to be all manufacturers other than those specifically listed by model or catalog number. Should the original submittal of a proposed substitution be rejected, the specified item shall be furnished.
 2. Submit complete information or catalog data to show equality of equipment or material offered to that specified. Identify which product is being substituted in the specifications and/or the plans and provide analysis as indicating either it "Complies" or that it "Does Not Comply" and providing a reason. Each Specification paragraph shall be provided with this analysis. No substitutions will be allowed unless requested and approved in writing. Materials of equal merit and appearance, in the opinion of the Engineer, will be approved for use. Engineer reserves the right to require originally specified item.
 3. Acceptance of a substitute is not to be considered a release from the Specifications. Any deficiencies in an item, even though approved, shall be corrected by the Contractor at his expense.
 4. Responsibility for installation of approved substitution is included herein. Any changes required for installation of approved substituted equipment shall be made without additional cost to Owner.
- C. Where it is in the best interest of the Owner, Engineer may give written consent to a submittal received after expiration of designated time limits, or for an additional resubmittal.
- D. Submit for approval in ample time to avoid delay of construction, shop drawings or submittals on all items of equipment and materials covered in list mentioned above. Submit in accordance with General Conditions in a complete package; partial submittals will not be considered.
- E. Failure to comply with any of the preceding requirements will necessitate that the specified materials be submitted and supplied.

1.6 RECORD DRAWINGS

- A. Upon completion of Work, furnish Engineer with Autocad file, PDF file, and one printed full-size hardcopy upon which shall be shown all Work installed under contract including any work which are not in accordance with Original Contract Drawings. Autocad files shall be 2004 or later version, with external references bound to its parent drawing. Provide a separate PDF file for each sheet, do not combine all sheets into a single file. Furnish digital files on a USB flash drive or CD.
1. The above shall also include shop drawings.
- B. All symbols and designations used in preparing Record Drawing shall match those used in Contract Drawings.
- C. Show all buried and concealed conduit, stub-outs, etc. Locate all buried conduit and stub-outs by dimensions from permanent, easily located and identifiable portions of structure; also, dimension ends of stub-outs, etc. Note depth of buried items below grade.

1.7 ADDENDA AND CHANGE ORDERS

- A. Changes in the plans and specifications shall be made by Addenda or Change Orders signed by the Architect and Engineer.

PART 2 PRODUCTS

BASIC ELECTRICAL REQUIREMENTS

2.1 MATERIALS

- A. Materials mentioned herein or on drawings require that each item listed be provided and of quality noted, or an approved equal. All material shall be new, full weight and standard in all respects and in first-class conditions. Where possible, all materials used shall be of the same brand or manufacturer throughout for each class of material or equipment.
- B. Grade or quality of materials desired is indicated by trade names or catalog numbers stated herein. Dimensions, sizes and capacities shown are a minimum and shall not be changed without permission of Engineer.

PART 3 EXECUTION

3.1 DRAWINGS AND COORDINATION

- A. Examine Drawings and Site; be familiar with types of construction where electrical installation is involved. Work shall be neatly installed in a workmanlike manner in accordance with NECA Standard of Installation. Work shall be coordinated with other trades to avoid conflicts. Clarifications will be made by Engineer and minor adjustments shall be made without additional cost to Owner. Obtain ruling from Engineer concerning any obvious discrepancies or omissions in work before bidding. All work involved in correcting obvious errors or omissions after award of Contract shall be performed as directed by Engineer without additional cost to Owner.
- B. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial), but shall be followed as closely as possible. Drawings and Specifications are for assistance and guidance, and exact locations, distances, levels, etc., will be governed by Site.
- C. All equipment (devices, conduits, boxes, etc.) shall be flush or semi-flush mounted unless otherwise noted. Where conditions do not allow flush mounting and where acceptable to the Architect, equipment may be surface mounted.

3.2 WORKING SPACE

- A. Provide adequate working space around electrical equipment in compliance with Article 4 of Electrical Safety Orders. In general, provide 36 inches minimum clear work space in front of panelboards and controls of 120/208 volt systems and 42 inches minimum for 277/480 volt systems.

3.3 CARE AND CLEANING

- A. All broken, damaged or otherwise defective parts shall be repaired or replaced without additional cost to Owner. Work shall be left in a condition satisfactory to Engineer. At completion, carefully clean and adjust all equipment, fixtures and trim installed as part of this work. Systems and equipment shall be left in a satisfactory operating condition.
- B. All surplus materials and debris resulting from this work shall be cleaned out and removed from site; this includes surplus excavated material.

3.4 EXCAVATING AND BACKFILLING

- A. Excavate and backfill as required for installation of electrical work. Restore all surfaces, roadways, sod, walks, curbs, walls, existing underground installation, etc., cut by installations to original condition in an acceptable manner. Maintain all warning signs, barricades, flares and lanterns as required by the Safety Orders and local ordinances.
- B. Excavation: Dig trenches straight and true to line and grade, with bottom clear of any rock points. Minimum conduit depth of pipe crown shall be 24 inches below finished grade.

- C. Backfill: Support conduits with 2" sand bedding at bottom of trench. Provide sand backfill from bottom to 12" below finished grade. The top 12" to be local fine earth material free of rubble, rubbish or vegetation. Trenches shall be backfilled and compacted to 90% (per ASTM D1557) (95% under AC pavement and all roadways) of maximum dry density at optimum moisture content in layers not to exceed 6" when compacted.

3.5 PROTECTION

- A. In performance of work, protect work from damage. Protect electrical equipment, stored and installed, from dust, water or other damage.

3.6 EQUIPMENT IDENTIFICATION

- A. Panelboards, remote control switches, terminal boxes, etc., shall be properly identified with a descriptive nameplate. Nameplate shall be made of 3/32-inch laminated plastic with black background and white letters. Size of letters shall be 1/4-inch-high for equipment in device box or boxes 12" or smaller, and 1/2-inch-high for panelboard, terminal can, or larger items. Letters shall be machine engraved. Punched strip type nameplates and cardholders in any form are not acceptable. Nameplates shall be attached with oval head machine screws tapped into front panel.
- B. Indicate type of equipment and equipment designation, ex. "PANEL-XXX", "MAIN SWITCHBOARD-XXX", "TRANSFORMER-XXX", "SIGNAL-XXX", "TV-XXX", "EF-1", "AC-1", etc.
- C. Label receptacles and light switches with printed plastic adhesive letters on cover plates. Labels shall indicate "PANEL-XXX" and "Circuit Number".

3.7 RUST INHIBITOR

- A. Channels, joiners, hangers, straps, clamps, brackets, caps, nuts and bolts and associated parts shall be plated electrolytically with zinc followed immediately thereafter by treating freshly deposited zinc surfaces with chromic acid to obtain a surface which will not form a white deposit on surface for an average of one hundred twenty (120) hours when subjected to a standard salt spray cabinet test, or shall be hot dipped galvanized.

3.8 NOT USED.

3.9 EQUIPMENT ANCHORAGE

- A. Seismic Anchorage of Electrical equipment shall conform to the regulations of 2022 CBC (California Building Code) and ASCE 7-16, sections 13.3, 13.4, and 13.6. All equipment shall be braced or anchored to resist a horizontal force acting in any direction using the following criteria:
 - 1. The total design lateral seismic force shall be determined from section 1614A of 2022 CBC and 13.3 ASCE 7-16. Forces shall be applied in the horizontal directions which results in the most critical loading for design.
 - 2. The value if A_p (component Amplification factor) and R_p (component response modification factor) of section 13.3.1 ASCE 7-16 shall be selected from section 13.6-1 ASCE 7-16. The value of I_p (seismic importance factor) shall be selected from 13.1.3 ASCE 7-16.
- B. Where anchorage details are not shown on the drawings, the field installation shall be subject to the approval of the structural engineer and the field representative of the Division of the State Architect.

3.10 ARC FLASH

- A. Electrical equipment such as switchboards, panelboards, load centers, motor control centers, industrial control panels, meter centers shall be field marked to warn persons of potential electric arc flash hazards per CEC 110.16 and NFPA 70E Standard for Electrical Safety in the Workplace. Minimum label wording shall be as follows:

DANGER
Arc Flash and Shock Hazard.
Appropriate PPE Required.
Do not operate controls or open doors without appropriate
personal protection equipment.
Failure to comply may result in injury or death.

3.11 TEST

- A. Test all wiring and connections for continuity and grounds; where such test indicate faulty insulation or other defects, locate, repair and retest. Balance loads at panelboards. Furnish all testing equipment.

3.12 CLOSING OF AN UNINSPECTED WORK

- A. Do not allow or cause any of work installed hereunder to be covered up or enclosed before it has been inspected and approved.
- B. Should any work be enclosed or covered up before it has been approved, uncover such work and after it has been inspected and approved, make all repairs necessary to restore work of others to conditions in which it was found at time of cutting, all without additional cost to Owner.

3.13 WARRANTY

- A. All materials and installation shall be provided with a minimum of one (1) year warranty which shall include replacement parts, labor, retesting, and travel to and from the job site. The warranty period shall begin after final acceptance of the project. The warranty shall cover but is not limited to the following:
1. Defective workmanship and installation.
 2. All System components, devices, conduit, wires, etc.
 3. Manufactured items such as light fixtures, receptacles, switchboard, panelboard, transformer, switches, etc.
 4. Basic materials such as conduit, wires, boxes, cabinets, etc.
- B. Certain manufactured items will have longer warranty periods. Refer to specific item and specification section for warranty information and terms.

END OF SECTION 26 00 00

26 05 00 - BASIC MATERIALS & METHODS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Raceways.
 - 2. Wires, cables and connectors.
 - 3. Outlet boxes.
 - 4. Devices and plates.
 - 5. Safety disconnect switches.
 - 6. Identification.
 - 7. Surface raceway system.

1.2 SYSTEM DESCRIPTION

- A. Provide raceways, wires, cables, connector, boxes, devices, finish plates and the like for a complete and operational electrical system.
- B. Electrical Connections: Connect equipment, whether furnished by Owner or other Divisions of the Contract, electrically complete.
- C. Supporting Devices: Safety factor of 4 required for every fastening device or support for electrical equipment installed. Support to withstand four times weight of equipment it supports. Bracing to comply with Seismic Zone 4 requirements.

1.3 SUBMITTALS

- A. Provide shop drawings, product data and product selection for the following:
 - 1. Raceways.
 - 2. Wires, cables and connectors.
 - 3. Outlet boxes.
 - 4. Devices and plates.
 - 5. Safety disconnect switches.
 - 6. Identification equipment.
 - 7. Surface raceway system.
 - 8. Submit only one manufacturer per product.

- B. Provide the following operating and maintenance instructions from the manufacturer for project closeout, see project closeout requirements in Division 1:

- 1. Devices and plates.
- 2. Safety disconnect switches.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of the CEC, latest adopted version with amendments by local AHJs.
- B. Furnish products listed by UL or other testing firm acceptable to AHJ.

1.5 SPLICES

- A. Make Connections, splices, taps and joints mechanically and electrically secure. Protect exposed wires and connecting devices with electrical tape or insulation to provide protection not less than that of the conductor.
 - 1. Splices of #10 and smaller, including fixture tape, shall be made with Scotchlok connectors, T & B "Piggys" or equal.
 - 2. Splices of #8 through #4 shall be split bolt service connectors "Kerneys", T & B "Lock Tites" or equal, insulated with Scotch #88 or Okeweld four-purpose tape.
 - 3. Splices #2 and larger shall be OZ "ST" Series insulated with Scotch fill and Scotch #88 or Okeweld.
 - 4. Splices in underground pull boxes shall be Scotchcast, cast resin splices.
 - 5. Wire splice devices shall be sized according to manufacturer's recommendations.
 - 6. Fire Alarm and Intercom shall not be spliced.

1.6 CONDUCTORS IN PANELS

- A. Conductors in panels, motor control centers, etc. shall be laced with T & B Ty-raps.
- B. All current carrying conductors in panels shall be labeled.

1.7 LUBRICANT

- A. Lubricant for conductor installation shall be powdered soapstone, Y-er, Minerallac "Pull-In" compound or other U.L. approved lubricant. Flax soap is not approved and not permitted on the job.

PART 2 - PRODUCTS

2.1 RACEWAYS

- A. Conduits:

1. Galvanized Rigid Steel Conduit (GRC):
 - a. Hot-dip galvanized after thread cutting. Manufacture in conformance with Federal Specification WWC-581 and ANSI C80.1.
 - b. $\frac{3}{4}$ " Minimum size.
 - c. Standard weight, zinc coated on outside by hot dipping or sherardized process, with either zinc coating or other approved corrosion resistant coating on the inside.
 - d. Fitting shall be threaded and finished similar to conduit. Threadless fittings shall not be used. Condulets and unilets shall be **malleable** iron.
 - e. Conduits connected to boxes and cabinets shall be fitted with two locknuts and insulated bushing, OA "A" Series, indoors only.
 - f. Conduits not connected with locknuts and bushings shall be fitted with grounding bushing, OZ "BL" Series; U. L. approved and bonded.
 - g. Conduit stubs underground shall be capped with coupling, nipple, coupling and plug.
 - h. Conduits connected to boxes, cabinets, etc., outdoors, exposed to weather or in areas subject to excessive moisture shall be fitted with watertight sealing hubs of steel or malleable iron with sealing ring and insulated throat, Myers hub, T&B 370 Series, or equal.
 - i. Conduits in contact with the ground must be wrapped with corrosion resistant tape of 10 mil or equiv.
 - j. Erickson Couplings (three piece threaded coupling) may be used in limited locations, where standard threaded couplings can not be used.
 - k. All Thread (Running Thread) shall not be used as a Raceway
 - l. All conduits installed on exterior of buildings shall be painted to match mounting surfaces.
 - m. All conduits mounted under covered walkways or other areas where they are accessible shall be blocked or framed above to prevent grasping, per details in plans.
 - n. All conduits shall be bonded per NEC
 - o. Conduit runs shall be mechanically and electrically continuous from outlet to outlet, box to box or panel to panel. Conduit size should provide a maximum of 40% fill ratio for the relative cable runs.
 - p. Conduits shall be concealed in walls, ceilings or below grade where possible. Exposed conduit shall be run parallel to room surfaces.
2. Intermediate Metal Conduit (IMC): Not permitted on this project.
3. Electrical Metallic Tubing (EMT): (**Indoor Only**)

- a. $\frac{3}{4}$ " Minimum size.
 - b. Hot-dip galvanized and chromate coated. Manufacture in conformance with Federal Specification WWC-563 and ANSI C80.3.
 - c. Couplings shall be steel compression gland fittings, Appleton or equal. Set screw type couplings shall not be used.
 - d. Connectors shall be steel compression gland fitting with insulated throat, Appleton or equal. Set screw connectors shall not be used.
 - e. Maximum Trade Width – Two inch (2").
 - f. May be used:
 - 1) Concealed in drywall partitions.
 - 2) Exposed in telephone equipment rooms above six-foot elevations
 - 3) Concealed above furred ceilings
 - 4) Exposed in Fan rooms and/or plenum chambers provided the location is dry.
 - g. May not be used:
 - 1) Any Exterior Location.
 - 2) Jointed in as continuous run with other types of conduit.
 - 3) Any location subject to physical damage.
 - 4) In Boiler rooms.
 - 5) Any other areas not listed in (d) above, unless specifically otherwise noted on plans.
4. Flexible Steel Conduit: Reduced wall flexible steel conduit. Hot-dip galvanized. Manufacture in conformance with Federal Specification A-A-55810.
- a. Type: Continuous, flexible interlocked galvanized inside and out, shall have smooth internal wiring channel.
 - b. Provide connectors with insulating bushings
 - c. Minimum size permitted $\frac{1}{2}$ " trade size.
 - d. Uses Permitted:
 - 1) Final Connections to mechanical equipment, not to exceed 36".
 - 2) Final connections to recessed lighting, not to exceed 72".
5. Liquid Tight Flexible Metallic Conduit

- a. Same as flexible steel conduit except with heavy watertight plastic jacket.
 - b. Minimum size permitted one half (1/2") trade size.
 - c. Uses Permitted: In Outdoor/wet/damp locations for the final connections to mechanical equipment.
 - d. Shall be used to connect portable / modular buildings between rigid stub up and building.
6. Electric Nonmetallic flexible conduit may not be used.
7. Liquid Tight Non-metallic flexible conduit may not be used.
8. Flexible Conduit, PVC Coated: Hot-dip galvanized steel. PVC chemical resistant jacket extruded to core, up to 1-inch trade size. PVC chemical resistant jacket, tubed over core, up to 4-inch trade size.
9. PVC: Class 40 heavy wall rigid PVC. Rated for use with 90C conductors. Manufacture in conformance with Federal Specification WC1094A and NEMA TC-2.
- a. Minimum size permitted one half (3/4") trade size.
 - b. Joints shall be solvent cemented in accordance with the recommendations of the manufacturer.
 - c. All portions shall be below grade, (minimum of 24 inches).
 - d. Not suitable for conduit stub for future extension.
 - e. A copper-bonding conductor shall be pulled in each power raceway and bonded to equipment at each end with approved lugs.
 - f. Continuation of run into the building interior shall be with rigid steel, including elbow or bend.
 - g. Connection to steel conduit shall be made with approved threaded adapters.
10. AC and MC cable is not permitted on this project.
11. Wireways and Auxiliary Gutters
- a. Shall be painted steel or galvanized steel.
 - b. Shall be the size and/or shape as indicated on the drawings and shall be sized in accordance with reference codes.
 - c. Wire Retainers not less than 12" on centers.
 - d. Shall be bonded with listed fitting or at each section of wireway.

B. Surface Receptacle/Signal Raceway Systems:

1. Two-Channel Surface Raceway: One channel for power, the other channel for signal. Provide 20 amp multi-circuit as indicated on Drawings. Provide divider between channels. Hubble 400 series, Wiremold 4000 Series, or approved. Raceway shall be metallic.
 2. Provide lengths taken from Drawings to a tolerance of 1/2 inch over raceway length between end wall surface. Do not scale from Division 16 Drawings.
 3. Provide prewired receptacles every 36 inches unless otherwise noted on Drawings.
 4. Provide endcaps, corner joints, tees, transition fittings and hardware for a complete installation.
 5. Verify exact mounting height with Drawings.
 6. Finish: Shall be of same color of wall or surface it is applied to.
- C. Conduit Fittings:
1. Bushings: Malleable iron with plastic insulator lining, 150C rated.
 2. Ground Bushings: Malleable iron with plastic insulating liner and aluminum grounding lug rated for copper or aluminum conductor, 150C rated.
 3. EMT Connectors and Couplings:
 - a. Set Screw Type: Not allowed.
 - b. Compression Type: Zinc plated steel, insulated throat connectors, raintight up to 2 inches. Appleton TWC-S1 series or equal.
 - c. Fitting shall be threaded and finished similar to conduit. Threadless fittings shall not be used.
 - d. Conduits connected to boxes and cabinets shall be fitted with two lock nuts and insulated bushings OA "A" series, indoor only.
 4. Rigid Steel Conduit Ells: PVC coated or painted with No. 51 bitumastic material, long radius ells, and minimum radius of 36 inches.
 5. Expansion/Deflection Fittings:
 - a. EMT: Use O-Z Gedney Type TX.
 - b. GRC: Use O-Z Gedney Type AX, DX and AXDX.

2.2 WIRES AND CABLES

- A. Copper, 600 volt rated throughout. Branch circuit conductors shall be stranded. Phase color to be consistent at all feeder terminations; A-B-C, top to bottom, left to right, front to back. Conductors 3AWG and larger, minimum insulation rating of 75C. Insulation types THWN or THHN. Minimum insulation rating of 90C for branch circuits. Color code conductors as follows:

PHASE	208 VOLT WYE
A	Black
B	Red
C	Blue
Neutral	White
Ground	Green
Isolated Ground	Green w/yellow trace

- B. Refer to signal and communications Specification Sections for cable requirements.
- C. Conductors shall be as manufactured by Anaconda, General Electric, Rome Cable Co. or approved equal.
- D. Deliver to site in unbroken packages, plainly marked with the manufacturer's name, date of manufacture (not more than six months old), and voltage size and classification number.

2.3 TRANSFORMERS

- A. NOT USED.

2.4 CONNECTORS

- A. Copper Pads: Drilled and tapped for multiple conductor terminals.
- B. Lugs: Indent/compression type for use with stranded branch circuit or control conductors. Manufacturers: Anderson, Ilsco, Panduit, Thomas & Betts, or approved.
- C. Conductor Branch Circuits: Spring connectors, wire nuts, for conductors 18 through 8AWG. Manufacturers: 3M, Ideal, Scotch-Lock, or approved.

2.5 BOXES

- A. General:
 - 1. Device Outlet: Installation of one or two devices at common location, minimum 4 inches square, minimum 1-1/2 inches deep. One- or two-gang flush device raised covers. Bowers, Raco Series 681 and 686 or approved.
 - 2. Signal and Communication Systems Outlet: 4-inch square box, 2-1/8 inches deep. One- or two-gang raised device cover. Bowers, Raco Series, or approved.
 - 3. Multiple Devices: Three or more devices at common location. Install one-piece gang boxes with one-piece device cover. Install one device per gang. Bowers, Raco, or approved.
 - 4. Masonry Boxes: Outlets in concrete, Bowers, Raco Series 690, or approved.
 - 5. Accessories: Provide outlet box accessories as required for each installation, including mounting brackets, wallboard hangers, extension rings, luminaire studs, cable clamps and metal straps for supporting outlet boxes, compatible with outlet boxes being used and meeting requirements of individual wiring situations.

- B. Weatherproof Outlet Boxes (Lockable): Provide corrosion-resistant Malleable iron weatherproof outlet wiring boxes, of the type, shape and size, including depth of box, with threaded conduit ends, cast metal face plate with spring-hinged waterproof cap suitably configured for each application, including face plate gasket, blank plugs and corrosion proof fasteners. Weatherproof boxes to be constructed to have smooth sides, gray finish. Appleton, Carlon, or approved equal. Provide a minimum of 12 keys for the box.
- C. Junction and Pull Boxes: Provide galvanized sheet steel junction and pull boxes, with screw-on covers; of the type shape and size, to suit each respective location and installation; with welded seams and equipped with steel nuts, bolts, screws and washers. Circle AW, Hoffman, or approved.
- D. Box Extension Adapter: Malleable Iron construction. Install over flush wall outlet boxes to permit flexible raceway extension to equipment Appleton, Carlon, , or approved equal.
- E. Conduit Fittings: Provide corrosion-resistant punched-steel box knockout closures, conduit locknuts and plastic conduit bushings of the type and size to suit each respective use and installation. O-Z Gedney, Thomas & Betts, or approved.
- F. Floor Boxes:
 - 1. Multi-Gang Box, Slab on Grade: Wiremold RFB4-CI series cast iron housing with S36CCTC series brass finish, steel flanged activation for use with matching carpet or tile insert. Rubber gasket protects interior from water and debris. Provide with two duplex receptacles and blank inserts for two future data outlets.
 - 2. Multi-Gang Box, Slab Above Grade: Wiremold RFB4 series steel housing with S36CCTC series brass finish, steel flanged activation for use with matching carpet or tile insert. Rubber gasket protects interior from water and debris. Provide with two duplex receptacles and blank inserts for two future data outlets.
 - 3. Multi-Gang Box, Concrete Finish Floor: Same as above, except use Wiremold S36BBTC series brass finish, steel flanged activation.
 - 4. Single-Gang Box, Slab on Grade: Wiremold 880CM (cast-iron) series with 817 series brass finish flange suitable for both carpet and tile floors, and 828GFI brass finish cover plate insert.
 - 5. Single-Gang Box, Slab Above Grade: Wiremold 880S (stamped steel) series with 817 series brass finish flange suitable for both carpet and tile floors, and 828GFI brass finish cover plate insert.
- G. Provide floor boxes sized minimum 3-7 /16 inches deep with 1-inch factory knockouts.

2.6 WIRING DEVICES

- A. Wall Switches:
 - 1. Characteristics:
 - a. Toggle Type: Quiet acting, 20-amp, 120/277 volt, UL listed for motor loads up to 80 percent of rated amperage. Cooper 1221, Leviton 1221, Hubbell 1221, Pass & Seymour 20ACI.

2. Key Switches: 20 amp/120-277-volt, key locking barrel switch. Hubbell 1221-RKL, Leviton 1221-2KL, or approved. Provide a minimum of 12 keys for the switch.
 3. Finish: Steel.
- B. Wall Dimmers: Compatible with type or load controlled (i.e., electronic ballast, low voltage luminaire, and the like). Finish to match wall switches. Size dimmers to accept connected load. Do not cut fins. Where dimmers are ganged together, provide a single multi-gang coverplate. Leviton TN Series, Lutron NT Series, or approved.
- C. Receptacles:
1. Finish: Same exposed finish as switches.
 2. Duplex Receptacle Characteristics: Straight parallel blade, 125-volt, 2 pole, 3 wire grounding.
 - a. Commercial Grade: Riveted. Brass ground contact on steel mounting strap. 20 amp. Cooper BR20, Hubbell CR5362, Leviton BR20, Pass & Seymour BR20.
 3. Ground Fault Circuit Interrupter (GFCI) Receptacle: Meets or exceeds UL943 (Class A GFCI), UL498. Feed through type, back-and-side wired, 20 amp, 125VAC, Cooper XGF20, Hubbell GF5362, Leviton 8898, and Pass & Seymour 2094.
 4. UL Wet-Listed Covers While-In-Use: NEMA 3R when closed over energized plug. Vertical mount for duplex receptacle. Provide continuous use cover with cover capable of closing over energized cord cap with bottom aperture for cord exit.
 5. Special Purpose Receptacles: Refer to Drawings for NEMA Standard Specification.
 6. Receptacles and switches shall be terminated with stakon type fork on ring crimp terminal, on the side of the devices.
- D. Finish Plates. Provide telephone/signal system device plates; activated outlets to have coverplates to match modular jack. Cooper, Hubbell S Series, Leviton, Pass & Seymour. Commercial grade thermoplastic, finish to match device finish.
- E. Surface Covers:
1. Material: Galvanized or cadmium plated steel, 1/2-inch raised industrial type with openings appropriate for devices installed in surface outlets.
 2. Cast Box and Extension Adaptors: Aluminum, with gasket, blank. One gang, Bell 240-ALF, Carlon; two gang, Bell 236-ALF, Carlon, or approved.

2.7 SAFETY DISCONNECTS

- A. Toggle Type Disconnect Switches: 120 volt, 1 pole, 20 amp, 1 HP maximum. NEMA 1 enclosure for indoors, NEMA 3R enclosure for outdoors.

- B. Manual Motor Starters: Quick-make, quick-break. Thermal overload protection. Device labeled with maximum voltage, current and horsepower. Eaton Electrical, General Electric, Siemens, Square D Class 2510, or approved. Provide NEMA 1 enclosure for indoors, NEMA 3R enclosure for outdoors.
- C. Safety Switches: Heavy duty, fused type, dual rated, quick-make, quick-break with fuse rejection feature for use with Class R fuses only, unless other fuse type is specifically noted. Provide NEMA 1 enclosure for indoors, NEMA 3R enclosure for outdoors. Switches clearly marked for maximum voltage, current and horsepower. Equip enclosure with defeatable cover interlock. Switches rated for maximum available fault current. Approved Manufacturers: Eaton Electrical, General Electric or Siemens.

2.8 SUPPORTING DEVICES

- A. Hangers: Kindorf B-905-2A channel, H-119-D washer, C105 strap, 3/8-inch rod with ceiling flange. Conduits shall be supported with straps, with galvanized malleable split rings and rod for individual runs or with Kindorf, Unistrut, or equal channel for multiple runs
- B. Concrete Inserts: Kindorf D-255, cast in concrete for support fasteners for loads up to 800 lbs.
- C. Pipe Straps: Two-hole galvanized or malleable iron.
- D. Luminaire Chain: Single jack chain No. 10, 40 lb. working load limit.

2.9 ELECTRICAL IDENTIFICATION

- A. Engraved Labels: Melamine plastic laminate, white with black core, 1/16 inch thick, manufactured by Lamicoid. Engravers standard letter style, minimum 3/16-inch high letters, all capitals. Drill or punch labels for mechanical fastening except where adhesive mounting is necessary because of substrate. Use self-tapping stainless steel screws.
- B. Conductor Numbers: Manufacturers standard vinyl-cloth self-adhesive cable and conductor markers of the wraparound type. Preprinted black numbers on yellow field. Brady, Panduit, or approved.
- C. Branch Circuit Panel Schedules: Provide branch circuit identification schedules, typewritten, clearly filled out, to identify load connected to each circuit and location of load. Numbers to correspond to numbers assigned to each circuit breaker pole position.
- D. Relay Panel Schedule: Provide typewritten schedule to identify the incoming circuit, the controlled load, and the controlling devices for each relay.
- E. Underground Utilities Markers: Inert polyethylene plastic ribbon, 6 inches wide by 4 mil thick. Safety Red for electric power distribution. Safety Alert Orange for telephone, signal, data and cable TV. Imprint over entire length of ribbon in permanent black letters, the system description, selected from manufacturer's standard legend which most accurately identifies the subgrade system. Manufacturers: Allen Systems, Inc., Panduit Corp., or approved.
- F. Circuit Breaker Identification: Provide permanent identification number in or on panelboard dead-front adjacent to each circuit breaker pole position.

PART 3 - EXECUTION

3.1 ELECTRICAL CHARACTERISTICS

- A. Verify electrical characteristics of equipment prior to installation of conduits and wiring for equipment. Coordinate HVAC voltage requirements with Drawings and equipment submittals prior to rough in.

3.2 APPLIANCE/UTILIZATION EQUIPMENT

- A. Provide appropriate cable and cord cap for final connection unless equipment is provided with same. Verify special purpose outlet NEMA configuration and ampere rating with equipment supplier prior to ordering devices and coverplates.

3.4 INSTALLATION

- A. Conduit:
 - 1. Conduit Joints: Assemble conduits continuous and secure to boxes, panels, luminaires and equipment with fittings to maintain continuity. Provide watertight joints where embedded in concrete, below grade or in damp locations. Seal PVC conduit joints with solvent cement and metal conduit with metal thread primer. All rigid conduit connections to be threaded, clean and tight (metal to metal).
 - 2. Conduit Placement:
 - a. Install continuous conduit and raceways for electrical power wiring and signal systems wiring. Conduit runs shall be mechanically and electrically continuous from origination to termination.
 - b. All thread (running thread) shall not be used as a raceway.
 - c. Conceal all conduits. Exposed conduits are permitted only in the following areas:
 - 1) Mechanical rooms, electrical rooms or spaces where walls, ceilings and floors will not be covered with finished materials.
 - 2) Where specifically noted on the Drawings.
 - d. Where exposed conduits are permitted install parallel or at right angles to building lines, tight to finished surfaces and neatly offset into boxes.
 - e. Do not install conduits or other electrical equipment in obvious passages, doorways, scuttles or crawl spaces which would impede or block the area passage's intended usage.
 - f. Do not install conduits on surface of building exterior, across roof, on top of parapet walls, or across floors.
 - g. Route raceway at least 6 inches from hot surfaces above 120F, including non-insulated steam lines, heat ducts, and the like.
 - 3. Below Grade Conduit and Cables: Place a minimum 3-inch cover of sand or clean earth fill around the cable or conduit on a leveled trench bottom. Lay

conduit on a smooth level trench bottom, so that contact is made for its entire length. Remove water from trench before electrical conduit is installed. Conduit stubs from underground shall be capped with a coupling, nipple, coupling and manufactured plug until use. Conduits shall be capped during construction.

4. Maximum Bends: Install code sized pull boxes to limit sum of bends in a run of conduit to 270 degrees.
5. Flexible Conduit: Install 12-inch minimum slack loop on flexible metallic conduit and PVC coated flexible metallic conduit. Minimum trade size: one half inch (1/2")
6. Conduit Size: Size as indicated on Drawings. Where size is not indicated, provide conduit in minimum code permitted size for THW conductors of quantity required for complete operation. Minimum trade size 3/4 inch.
7. Fire Alarm Conduit: All fire alarm system wiring shall be in conduit, 3/4 inch minimum.
8. Provide pull cord in all empty conduits that exceed 10 feet in length or the total sum of bends exceed 90 degree radius. Pull wires shall be #12 TW in conduits 1 inch and smaller and 3/16 inch polypropylene rope in conduits 1 1/4 inch and larger.
9. Conduit Use Locations:
 - a. Underground: PVC.
 - b. Wet Locations, and Subject to Mechanical Damage: GRC.
 - c. Damp Locations and Locations Exposed to Rain: GRC only.
 - d. Cast-In-Place Concrete and Masonry: GRC and PVC. Horizontal runs of conduit in poured-in-place concrete slabs, maximum diameter of conduit is 1.25 inches.
 - e. Dry, Protected: GRC, EMT.
 - f. Sharp Bends and Elbows: GRC, EMT use factory elbows.
 - g. Install pull wire or nylon cord in empty raceways provided for other systems. Secure wire or cord at each end.
 - h. Elbow for Low Energy Signal Systems: Use long radius factory ells where linking sections of raceway for installation of signal cable.
 - i. Motors, recessed luminaires and equipment connections subject to movement or vibration, use flexible metallic conduit.
 - j. Motors and equipment connections subject to movement or vibration and subjected to any of the following conditions; exterior location, moist or humid atmosphere, water spray, oil or grease use PVC coated liquid tight flexible metallic conduit.
10. Branch Circuits: Do not change the intent of the branch circuits or controls without approval. Homeruns for 20 amp branch circuits may be combined to a

maximum of six current carrying conductors in a homerun. Apply de-rating factors as required by CEC. Increase conductor size as needed.

11. Feeders: Do not combine or change feeder runs.
12. Unless otherwise indicated, provide raceway systems for lighting, power and Class 1 remote-control and signaling circuits and Class 2 and 3 remote-control signaling and communication circuits.

B. Conduit Fittings:

1. Use compression fittings in dry locations, damp and rain-exposed locations. Maximum size permitted in damp locations and locations exposed to rain is 2 inches in diameter.
2. Use threaded type fittings in wet locations, and damp or rain-exposed locations where conduit size is greater than 2 inches.
3. Use PVC coated rigid steel conduit ells for underground power and telephone service entrance conduits to each building. Use 36-inch radius ells for power service conduits and 48-inch radius ells for telephone service conduits make adjustments in trenching accordingly.
4. Telephone and signal conduit bends where required shall have a radius of ten times the conduit trade size, unless otherwise noted.
5. Underground conduit bends shall have a minimum radius of 12 times the conduit trade size, unless otherwise noted.
6. Use insulated type bushings with ground provision at switchboards, panelboards, safety disconnect switches, junction boxes and the like that have feeders 60 amperes and greater.
7. Provide bushing or EMT connector for conduits that do not terminate in box, enclosure, or the like.
8. Conduits shall be capped during construction with manufactured plugs until use. Electrical tape is not acceptable for this use.
 - a. Provide conduit expansion fittings at building expansion joints and at locations where conduit is exposed to thermal expansion and contraction. Where expansion joints are required over 1" trade size, an expansion fitting shall be used (flexible conduit may not be used). Expansion joints 1" and under may be flexible conduit
9. Condulets and Conduit Bodies: Do not use condulets and conduit bodies in conduits for signal wiring or in feeders 100 amp and larger.

C. Surface Receptacle/Signal Raceway System: Install per manufacturer's installation instructions. Install perpendicular and parallel to building lines.

D. Sleeves and Chases: Provide necessary rigid conduit sleeves, openings and chases where conduits or cables are required to pass through floors, ceiling or walls. Maintain integrity of fire-rated assemblies at penetrations of walls, ceilings or floors.

E. Conductors, Wires and Cables:

1. Conductor Installation: Install conductors in raceways having adequate, code size cross-sectional area for wires indicated. Install conductors with care to avoid damage to insulation. Do not apply greater tension on conductors than recommended by manufacturer during installation. Use of pulling compounds is permitted. Clean residue from exposed conductors and raceway entrances after conductor installation. Do not use pulling compounds for installation of conductors connected to GFI circuit breakers or GFI receptacles.
2. Conductor Size and Quantity: Install no conductors smaller than 12AWG unless otherwise shown. Provide all required conductors for a fully operable system.
3. Provide dedicated neutrals (one neutral conductor for each phase conductor) in the following single phase circuits:
 - a. Dimmer controlled circuits.
 - b. Isolated ground circuits.
 - c. Ground fault protected circuits where a GFI breaker is used in a panelboard.
 - d. Other electronic equipment which produces a high level of harmonic distortion including but not limited to computers, printers, plotters, copy machines, fax machines.
 - e. There shall be no reduction of the neutral Capacity
4. Conductors in Cabinets: Hold conductors away from sharp metal edges. Cable and tree all wires in panels and cabinets for power and control. Use plastic ties in panels and cabinets. Tie and bundle feeder conductors in wireways of panelboards.
5. Exposed cable is not allowed.

F. Connectors: Retighten lugs and connectors for conductors to equipment prior to Substantial Completion.

G. Boxes:

1. Location: Locate boxes and conduit bodies so as to ensure accessibility of electrical wiring. Boxes shall be located and placed according to architectural and structural requirements.
2. Round Boxes: Avoid using round boxes where conduit must enter through side of box, which would result in a difficult and insecure connection with a locknut or bushing on the rounded surface.
3. Boxes shall be of the shape and size best suited for the particular application and shall be supported directly to the structural members, framing or blocking by means of screws, anchors, and bolts or embedded in masonry.
4. Anchoring: Secure boxes rigidly to the substrate upon which they are being mounted, or solidly embed boxes in concrete or masonry.

5. Special Application: Provide weatherproof outlets for locations exposed to weather or moisture.
6. Knockout Closures: Provide knockout closures to cap unused knockout holes where blanks have been removed.
7. Outlet System: Provide electrical boxes and fittings as required for a complete installation. Include but not limited to outlet boxes, junction boxes, pull boxes, bushings, locknuts, and all other necessary components.
8. Code Compliance: Comply with CEC as applicable to construction and installation of electrical boxes and fittings and size boxes according to CEC, except as noted otherwise.
9. Flush Outlets in Finished Spaces: Maintain integrity of insulation and vapor barrier. Surface outlets are only acceptable in areas with surface conduit.
10. Mount center of outlet boxes as required by ADA, or noted on Drawings, the following distance above the floor:
 - a. Control Switches: 48 inches.
 - b. Receptacles: 18 inches.
 - c. Telecom Outlets: 18 inches.
 - d. Other Outlets: As indicated in other Sections of Specifications or as detailed on Drawings.
11. Coordinate all electrical device locations (switches, receptacles, and the like) with Drawings to prevent mounting devices in mirrors, back splashes, behind cabinets, and the like.
12. Boxes for special equipment shall be suitable for the particular equipment
13. Junction boxes shall be bonded to ground, unless otherwise noted.
14. Conduits entering junction boxes shall be terminated with locknuts or appropriate fittings at the junction boxes.
- H. Wiring Devices:
 1. Wall-Mounted Receptacles: Install with long dimension oriented vertically at centerline height shown on Drawings or specified herein.
 2. Vertical Alignment: When more than one outlet is shown on Drawings in close proximity to each other, but at different elevations, align the outlets on a common vertical center line for best appearance. Verify with Architect.
- I. Provide CEC-required disconnect switches whether specifically shown on Drawings or not. Provide disconnect switch in sight of each motor location unless otherwise noted. Provide disconnect switch in site of each motor controller. Motor controller disconnect equipped with lock-out/tag-out padlock provisions do not require a disconnect switch at the controlled motor location. Coordinate fuse ampere rating with installed equipment. Fuse ampere rating variance between original design information and installed

equipment, size in accordance with Bussmann Fusetron 40C recommendations. Do not provide fuses of lower ampere rating than motor starter thermal units.

J. Supporting Devices:

1. Verify mounting height of all luminaires or items prior to installation when heights are not detailed.
2. Install vertical support members for equipment and luminaires, straight and parallel to building walls. Provide independent supports to structural member for electrical luminaires, materials, or equipment installed in or on ceiling, walls or in void spaces or over furred or suspended ceilings.
3. Do not use other trade's fastening devices as supporting means for electrical equipment, materials or luminaires. Do not use supports or fastening devices to support other than one particular item. Conduits shall be supported independently of one another.
4. Support conduits within 18 inches of outlets, boxes, panels, cabinets and deflections. Maximum distance between supports not to exceed 7 foot spacing.
5. Securely suspend all junction boxes, pull boxes or other conduit terminating housings located above suspended ceiling from the floor above or roof structure to prevent sagging and swaying.
6. Provide seismic bracing per IBC requirements for this building location.
7. Conduits ran on roof shall be fastened to a 4x4x length as required, redwood block set in mastic on roof structure. Unistrut or equal channel shall be installed on the blocks. The Conduit shall be individually strapped to the strut, unless otherwise noted.
8. Conduit straps for individual runs shall be secured by toggle bolts on hollow masonry, expansion shields and machine screws on solid masonry, machine screws or bolts on metal surfaces and wood screws on wood construction. Use of nails to anchor straps on wood construction is prohibited. Straps shall be one or two hole malleable iron or snap type steel with ribbed back, galvanized or cadmium plated. Use of perforated strap or nail type straps is prohibited.

K. Electrical Identification:

1. Graphics: Coordinate names, abbreviations and designations used on Drawings with equipment labels.
2. Underground Utilities Markers: Install continuous tape, 6 to 8 inches below finish grade, for each exterior underground raceway.
3. Conductor Identification: Apply markers on each conductor for power, control, signaling and communications circuits.
4. Install an engraved label on each major unit of electrical equipment, including but not limited to the following items: Disconnect switches, relays, override switches, service disconnects, distribution switches, branch circuit panelboards, and central or master unit of each electrical system including communication/signal systems.

5. Install engraved labels on the inside of flush panels, visible when door is opened. Install label on outside of surface panel.
6. Install signs at locations detailed or, where not otherwise indicated, at location for best convenience of viewing without interference with operation and maintenance of equipment.
7. On the back of receptacle and switch finish plates legibly write with indelible ink pen the circuit that each device is connected to.
8. On the front of receptacle and switch finish plates provide label with the circuit that each device is connected to. Label is self-adhesive type with black letters and clear background, 18 point lettering size.
9. Non-ferrous identifying tags or pressure sensitive labels shall be securely fastened to all cables, feeders, and power circuits in pull boxes and manholes. Tags or labels shall be stamped or printed to correspond with markings on drawings or marked so that feeder or cable may be readily identified.
10. Identify each branch circuit with wire markers. This is inclusive of wires terminated or spliced in switches, receptacles, disconnects, panelboards, switchgear, junction boxes and any other devices in which wires are terminated or spliced.
11. Junction Boxes: Provide identification labels with panel origination and circuit numbers on all junction box and enclosure covers. Four square box covers hidden above the ceiling may be marked with indelible ink marker instead of using printed labels.

L. Equipment Identification:

1. Nameplates shall be installed on electrical equipment. Equipment to be labeled shall include the following:
 - a. Individual enclosures such as disconnect switches, time switches, pushbuttons, contractors, relays, motor starters, etc.
 - b. Group mounted equipment such as panelboards, switchboards, and motor control devices.
 - c. Individual circuit breakers of switchboards.
 - d. Wall switches for lighting or other use where the control function is not self-evident.
2. Each panel shall be labeled to provide the following information as a minimum:
 - a. Panel name.
 - b. Size of feeder feeding the panel.
 - c. Rated voltage, amps and phases.
 - d. Panel feeder origination

3. Each main service switchboard and distribution panel shall be labeled to provide the following information as a minimum:
 - a. Rated voltage, amps and phases.
 - b. Main switch rating.
 - c. Feeder circuit breaker rating with name of panel or equipment fed and size of feeder to this equipment.
 - d. Panel feeder origination.
 4. Nameplates shall adequately describe the item and its function or use of the particular equipment involved.
 5. Nameplate material shall be laminated phenolic plastic, black front and back with white core. Engraving shall be through the outer layer. Embossed plastic pressure sensitive labels are not acceptable.
 6. In lieu of plastic plates, device plates shall be engraved directly with lettering filled with black enamel.
 7. Nameplates shall be securely fastened to the equipment with #4 Phillips round cadmium plated steel self-tapping screws, brass bolt, or with a plastic resin adhesive glue, Goodyear "Phiebond" or equal.
- M. Building Seismic Joints:
1. Conduit Crossing Building Seismic Joints or covered: Provide box on either side of joint and flexible conduit between the box. Provide for a minimum of 12 inches of movement at the seismic joint. Rigid conduit crossings at seismic joints are not acceptable.

3.5 FIELD QUALITY CONTROL

- A. Wiring Device Tests: Test wiring devices to ensure electrical continuity of grounding connections, and after energizing circuitry, to demonstrate compliance with requirements. Test receptacles for line to neutral, line to ground and neutral to ground faults. Correct any defective wiring.
- B. Feeder Tests:
 1. Test conductor insulation on feeders of 100 amp and greater for conformity with +1000 volt megohmmeter. Use Insulated Cable Engineers Association testing procedures. Minimum insulation resistance acceptable is 1 megohm for systems 600 volts and below. Notify Architect if insulation resistance is less than 1 megohm.
 2. Test Report: Prepare a typed tabular report indicating the testing instrument, the feeder tested, amperage rating of the feeder, insulation type, voltage, the approximate length of the feeder, conduit type, and the measured resistance of the megohmmeter test. Submit report with operating and maintenance manual.

END OF SECTION

26 07 00 - COMMISSIONING OF ELECTRICAL

PART 1 GENERAL

1.1 SUMMARY

- A. See Section 01 91 13 - General Commissioning Requirements for overall objectives; comply with the requirements of Section 01 91 13.
- B. This section covers the Contractor's responsibilities for commissioning; each subcontractor or installer responsible for the installation of a particular system or equipment item to be commissioned is responsible for the commissioning activities relating to that system or equipment item.
- C. The Commissioning Authority (CA) directs and coordinates all commissioning activities and provides Prefunctional Checklists and Functional Test Procedures for Contractor's use.
- D. The entire electrical system is to be commissioned, including commissioning activities for the following specific items:
 - 1. Sensor placement and orientation for all sensor types.
 - 2. Manual control placement and operation.
 - 3. Automated control operation, including scheduled on/off functions and dimming trims and presets.
 - 4. Override operation, access, and functionality.
 - 5. Centralized control interfaces and operation.
 - 6. Client education of operations.
 - 7. Documentation archived to client.
 - 8. Other equipment and systems explicitly identified elsewhere in Contract Documents as requiring commissioning.
- E. The Prefunctional Checklist and Functional Test requirements specified in this section are in addition to, not a substitute for, inspection or testing specified in other sections.

1.2 RELATED REQUIREMENTS

- A. Section 01 77 00 - Closeout Submittals: Scope and procedures for operation and maintenance manuals and project record documents.
- B. Section 01 91 13 - Commissioning: Commissioning requirements that apply to all types of work.
- C. Section 26 08 00 – Electrical Acceptance Tests.

1.3 SUBMITTALS

- A. Updated Submittals: Keep the Commissioning Authority informed of all changes to control system documentation made during programming and setup; revise and resubmit when substantial changes are made.
- B. DRAFT Prefunctional Checklists and Functional Test Procedures for Control System: Detailed written plan indicating the procedures to be followed to test, checkout and adjust the control system prior to full system Functional Testing; include at least the following for each type of equipment controlled:
 - 1. System name.

2. List of devices.
 3. Step-by-step procedures for testing each controller after installation, including:
 - a. Process of verifying proper hardware and wiring installation.
 - b. Process of downloading programs to local controllers and verifying that they are addressed correctly.
 - c. Process of performing operational checks of each controlled component.
 - d. Plan and process for calibrating all sensors.
 - e. Description of the expected field adjustments for controllers and sensors should control responses falling outside of expected values.
 4. Copy of proposed log and field checkout sheets to be used to document the process; include space for initial and final read values during calibration of each point and space to specifically indicate when a sensor or controller has "passed" and is operating within the contract parameters.
 5. Description of the instrumentation required for testing.
- C. Startup Reports and Prefunctional Checklists: Submit for approval of Commissioning Authority.
- D. Electrical System O&M Manual Requirements. In addition to documentation specified elsewhere, compile and organize at minimum the following data on the control system:
1. Specific step-by-step instructions on how to perform and apply all functions, features, modes, etc. mentioned in the controls training sections of this specification and other features of this system. Provide an index and clear table of contents. Include the detailed technical manual for programming and customizing control loops and algorithms.
 2. Full as-built set of control drawings.
 3. Full as-built sequence of operations for each piece of equipment.
 4. Full points list; in addition to the information on the original points list submittal, include a listing of all rooms with the following information for each room:
 - a. Floor.
 - b. Room number.
 - c. Room name.
 - d. Sensor ID.
 - e. Reference drawing number.
 - f. Control device ID.
 - g. Controlled components address.
 5. Full print out of all schedules and set points after testing and acceptance of the system.
 6. Full as-built print out of software program.
 7. Electronic copy on disk of the entire program for this facility.
 8. Marking of all system sensors and thermostats on the as-built floor plan and electrical drawings with their control system designations.
 9. Maintenance instructions, including sensor calibration requirements and methods by sensor type, etc.
 10. Control equipment component submittals, parts lists, etc.
 11. Warranty requirements.
 12. Copies of all checkout tests and calibrations performed by the Contractor (not commissioning tests).
 13. Organize and subdivide the manual with permanently labeled tabs for each of the following data in the given order:
 - a. Sequences of operation.
 - b. Control drawings.
 - c. Points lists.
 - d. Controller and/or module data.
 - e. Sensors and DP switches.
 - f. Program setups (software program printouts).

- E. Project Record Documents: See Section 01 78 00 for additional requirements.
 - 1. Submit updated version of control system documentation, for inclusion with operation and maintenance data.
 - 2. Show actual locations of all sensors and control devices on project record drawings.
- F. Training Manuals: See Section 01 79 00 for additional requirements.
 - 1. Provide three extra copies of the controls training manuals in a separate manual from the O&M manuals.

PART 2 PRODUCTS

2.1 TEST EQUIPMENT

- A. Provide all standard testing equipment required to perform startup and initial checkout and required functional performance testing; unless otherwise noted such testing equipment will NOT become the property of Owner.
- B. Equipment-Specific Tools: Where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in order to accomplish startup or Functional Testing, provide such equipment, tools, and instruments as part of the work at no extra cost to Owner; such equipment, tools, and instruments are to become the property of Owner.

PART 3 EXECUTION

3.1 PREPARATION

- A. Cooperate with the Commissioning Authority in development of the Prefunctional Checklists and Functional Test Procedures.
- B. Furnish additional information requested by the Commissioning Authority.
- C. Prepare a preliminary schedule for equipment start-up and testing, adjusting, and completion for use by the Commissioning Authority; update the schedule as appropriate.
- D. Notify the Commissioning Authority when system testing, startup and adjusting will occur; when commissioning activities not yet performed or not yet scheduled will delay construction notify ahead of time and be proactive in seeing that the Commissioning Authority has the scheduling information needed to efficiently execute the commissioning process.
- E. Put all electrical systems into operation and continue operation during each working day of testing, adjusting, and commissioning, as required.

3.2 INSPECTING AND TESTING - GENERAL

- A. Submit startup plans, startup reports, and Prefunctional Checklists for each item of equipment or other assembly to be commissioned.
- B. Perform the Functional Tests directed by the Commissioning Authority for each item of equipment or other assembly to be commissioned.
- C. Provide two-way radios for use during the testing.

3.3 OPERATION AND MAINTENANCE MANUALS

- A. See Section 07 78 23 for additional requirements.
- B. Add design intent documentation furnished by Architect to manuals prior to submission to Owner.
- C. Submit manuals related to items that were commissioned to Commissioning Authority for review; make changes recommended by Commissioning Authority.
- D. Commissioning Authority will add commissioning records to manuals after submission to Owner.

3.4 DEMONSTRATION AND TRAINING

- A. See Section 01 79 00 for additional requirements.
- B. Demonstrate operation and maintenance of electrical system to Owner' personnel; if during any demonstration, the system fails to perform in accordance with the information included in the O&M manual, stop demonstration, repair or adjust, and repeat demonstration. Demonstrations may be combined with training sessions if appropriate.
- C. These demonstrations are in addition to, and not a substitute for, Prefunctional Checklists and demonstrations to the Commissioning Authority during Functional Testing.
- D. Provide the services of manufacturer representatives to assist instructors where necessary.

END OF SECTION 26 07 00

26 08 00 - ELECTRICAL ACCEPTANCE TESTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section defines the Electrical Acceptance Tests and checks that shall be made on all electrical equipment and wiring to ensure compliance with all applicable Codes and Standards, and with the requirements of the Contract Documents.
- B. All electrical equipment testing, and related costs shall be included in the Contractor's bid.

1.2 GENERAL REQUIREMENTS

- A. The Contractor shall test equipment of all kinds installed on this project to determine whether it fulfills the requirements of these Specifications. The Contractor shall furnish all labor necessary to adjust the operation of the apparatus and make the connections for the tests. After the tests have been completed, the Contractor shall restore all connections, apparatus, etc., to their original condition.
- B. The Contractor shall retain the services of a qualified Independent Testing Agency holding a valid current C-10 License to perform **certain** tests and prepare reports, as enumerated in the following Articles. The Independent Testing Agency shall be a company that specializes in electrical equipment testing and shall be NETA or NICET certified.
- C. Contractor shall obtain approval from the architect of proposed independent testing agency(s) before any testing is started.
- D. Electrical systems, equipment and materials shall be tested prior to final acceptance of the work.

1.3 INDEPENDENT TESTING AGENCY REQUIREMENTS

- A. The Independent Testing Agency shall furnish personnel acceptable to Engineer to conduct all testing. Supervising engineer shall have a minimum of five years experience in testing of equipment of the type to be tested on this Project.
- B. The Independent Testing Agency shall furnish all labor required for and incidental to testing.
- C. The Independent Testing Agency shall provide minor field repairs, adjustments, and wiring modifications at the time of inspection and testing.
- D. The Independent Testing Agency shall furnish all necessary test equipment to satisfactorily perform all tests specified herein.
- E. The Independent Testing Agency shall check all devices for proper operation - checking for wear, tightness, dirt, etc.
- F. The Independent Testing Agency shall check for conformance to published curves.

- G. The Independent Testing Agency shall notify and coordinate with the Owner's representative at least 3 working days prior to the commencement of any Electrical Acceptance Testing. Tests shall be witnessed by the Owner's representative unless such witnessing is waived in writing by the Owner's Representative.

1.4 CODES AND STANDARDS

- A. Current California Electrical Code (CEC).
- B. National Electrical Manufacturer's Association (NEMA).
- C. Manufacturer's Instructions and Maintenance Manual applicable to each particular apparatus.
- D. OSHA Rules and Regulation.
- E. National Electrical Testing Association (NETA) "Acceptance Testing Specifications".
- F. Procedures as directed by Engineer.

1.5 CARE AND PRECAUTIONS

- A. Contractor shall be responsible for any damage to equipment or material due to improper test procedures or test apparatus handling, and shall replace or restore to original condition, any damaged equipment or material.
- B. Contractor shall furnish and use safety devices such as rubber gloves and blankets, protective screens, barriers, and danger signs to adequately protect and warn all personnel in the vicinity of the tests.

1.6 EQUIPMENT TO BE TESTED BY CONTRACTOR

- A. Perform the visual inspections, manual operations and tests on systems and equipment as described in Part 3, "Execution".
- B. Molded Case Circuit Breakers Rated Less Than 100A
- C. Disconnect Switches
- D. Lighting
- E. Title 24 Acceptance Testing
- F. Fire Alarm System
- G. Communication System

1.7 EQUIPMENT TO BE TESTED BY INDEPENDENT TESTING AGENCY

- A. Circuit Breakers Rated 100A and Greater

- B. Grounding System
- C. Panels
- D. Power Cable

1.8 SUBMITTALS

- A. Submittals for this Section shall be made according to the Conditions of the Contract, Division 1 Specification Sections and Specification Section 16010.
- B. Test Reports
 - 1. Provide written test reports, signed and dated, for all tests prior to acceptance of the tested equipment by the Owner.
 - 2. Submit certified reports of Independent Tests and Observations indicating and interpreting test results specified in Part 3 of this Section.
 - a. The Test Report shall include the following:
 - 1) Description of equipment tested.
 - 2) Description of test procedure.
 - 3) Calibration record for all testing devices used.
 - 4) Test results.
 - 5) Recommendations.
 - 6) Appendix, including all field test reports.
 - b. Furnish six copies of completed report to the Electrical Engineer no later than ten days after test completion unless requested otherwise by Owner.
 - c. Instrumentation-Traceability: The testing agency shall provide calibration labels for all relays and circuit breakers tested.
 - d. Labels shall be self-adhesive and placed on covers or frames so as not to obscure nameplate, tap block or time dial. Label shall indicate date tested and firm name.

PART 2 - PRODUCTS

2.1 TESTING EQUIPMENT

- A. Furnish suitable electrical instruments including voltmeters, ammeters, wattmeters, tachometers and all other equipment necessary to perform tests specified.
- B. Make necessary openings in circuits for testing instruments and place and connect all instruments, equipment and devices necessary for the tests. Upon completion of tests, remove instruments and instrument connections and restore all circuits to permanent condition.

2.2 TESTING COORDINATION

- A. Coordinate activities and cooperate with others on the Project to ensure that systems are energized when required, when loads are applied, and that other requirements of this Section of the Specifications are carried out in a timely, coordinated basis.
- B. Conduct tests in the presence of the Architect/Engineer and the Construction Manager. Notify the Architect/Engineer and Construction Manager seven calendar days or more in advance when any test is to be performed, and do not start tests without the permission of the Architect/Engineer and Construction Manager.
- C. Make up no permanent connections until correct phase sequence of all equipment is determined.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall provide Acceptance Testing on the entire Electrical System. Certain of this testing shall be performed by an Independent Testing Agency as indicated.
- B. Acceptance Testing shall include Visual Inspections, Manual Operations, Electrical Tests, and Functional Testing.
- C. Whenever possible, all Visual Inspections, Manual Operations and Electrical Tests shall be made just prior to energizing the equipment or circuits, and shall be coordinated with the field schedule and field conditions.
- D. Test reports on megger, dielectric absorption and high potential tests shall include the ambient temperature and relative humidity existing at the time of the tests.
- E. Should any piece of apparatus or any material or work fail during any of these Tests, it shall be immediately removed and be replaced by perfect material by this Contractor at his expense and the portion of the work replaced be again tested by the Contractor.
- F. Before testing and energizing a system, all necessary precautions shall be taken to ensure the safety of personnel and equipment. All conductors and all electrical equipment shall be properly insulated and enclosed. All enclosures for conductors and equipment shall be properly grounded. Insulation resistance measurements must have been made and approved on all conductors and energized parts of electrical equipment.
 - 1. During actual testing, the Contractor or Independent Testing Agency shall:
 - a. Ensure that temporary power terminations are connected in such a manner that commercial power may be restored in forty-five minutes upon request.
 - b. Place temporary power cables out of the way in a safe manner that provides no hazard to personnel or equipment in the area.
 - c. Provide all special connections required.
 - d. Conduct all tests in presence of the representative except where advised this would not be necessary.

- G. The entire installation shall be free from short circuits and improper grounds. Test shall be made in the presence of the Architect, his Engineer or his representative. Panels and circuits shall be tested for grounds and shorts with mains disconnected from the feeder, branches connected, lamps removed or omitted from the sockets and all wall switches closed. Each individual circuit shall be tested at the panel with the equipment connected for proper operation
- H. The following minimum tests are required, but shall not be limited to this list. Tests will be supervised and witnessed by the Architect/Engineer and Construction Manager:
 - 1. Proper phase rotation.
 - 2. Short circuits.
 - 3. Improper grounds.
 - 4. Power and control electrical circuits for circuit continuity and function test.
- I. Furnish all personnel, labor, meters, instruments, cable, connections, equipment and apparatus necessary for making all tests.
- J. Check and test all switchboards, transformers, panelboards, feeders, power and control cables, communication system devices and wiring, and all connections to all equipment.
- K. After wires and cables are in place and connected to devices and equipment, the system shall be tested for short circuits, improper grounds, and other faults. If fault condition is present, the trouble shall be rectified and the wiring system shall be retested.
- L. A voltage test shall be made at each lighting panel, distribution panel and at the last outlet on each circuit. If drop in potential exceeds one percent, correct the condition by locating the ground or high resistance splice or connection and retest.
- M. Any wiring device, electrical apparatus, or lighting fixture grounded or shorted on any integral "live" part, shall be removed and the trouble rectified by replacing the defective parts or materials.
- N. The Architect/Engineer will conduct from time to time such tests as may be required to any part of the equipment to determine if it is installed in accordance with specifications. Extend to the Architect/Engineer all facilities to this end and furnish skilled or unskilled help required.
- O. All final tests shall be witnessed by the Architect/Engineer and Construction Manager and three copies of the verified test results shall be given to the Architect/Engineer and Construction Manager promptly upon completion of a test.
- P. Provide assistance to the various equipment manufacturers' field engineers as required in the testing and adjusting of the electrical power and control equipment. Cooperation shall be such that a minimum of time is required for equipment testing.
- Q. A log shall be maintained for all tests. This log shall be certified before completion of the project, both as to test value and date of test. All major equipment such as the switchboard and panelboards shall be energized initially in the presence of the Architect/Engineer and Construction Manager.
- R. The Owner reserves the right to operate any system or equipment prior to final completion and acceptance of the work. Such preliminary operation shall not be

construed as an acceptance of any work. Each piece of equipment and all of the systems shall be adjusted to insure proper functioning and shall be left in first class operating condition.

3.2 VISUAL INSPECTIONS

- A. Prior to Manual Operation and Electrical Testing, perform Visual Inspections to verify the following:
 - 1. The equipment is completely and properly installed.
 - 2. The equipment is free from damage and defects.
 - 3. Shipping blocks and restraints have been removed.
 - 4. Electrical terminations have been properly tightened.
 - 5. The equipment has been properly aligned.
 - 6. The equipment has been properly lubricated.
 - 7. The ventilation louvers are open and unobstructed.
 - 8. Voltages and phases have been properly identified.
 - 9. Terminations in control panels have been properly identified.
 - 10. The equipment is ready to be tested

3.3 MANUAL OPERATION

- A. Prior to any Electrical Testing, mechanical devices shall be exercised or rotated manually to verify that they operate properly and freely.

3.4 ELECTRICAL TESTS BY CONTRACTOR

- A. Switchboard
 - 1. The Contractor shall perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification, Sections 7.1, 7.6, 7.9, 7.10, 7.11, and 7.14, as appropriate. Certify compliance with test parameters.
 - 2. Switchboard and completed installation shall be inspected for adequate size, bus spacing, bracing, physical damage, proper alignment, anchorage and grounding.
 - 3. Switchboard frame will be inspected for alignment, level, and anchorage.
 - 4. Check tightness of accessible bolted bus joints using calibrated torque wrench per manufacturer's recommended torque value. All bus bolts will be torqued to their proper value. A mark to be placed on each tightened bolt to ensure completeness.
 - 5. Switchboard interior will be vacuumed and wiped clean.
 - 6. The following tests and checks shall be performed before placing in operation:

- a. Check all new bus and cable connections for proper contact pressure and mark each bolt with a red "dot" of paint to indicate it has been checked.
 - b. Check all the new equipment for mechanical adjustment, lubrication, and freedom of operation. Remove all shipping blocks.
 - c. Operate and test trip units for all new breakers.
 - d. Test all transfer switches and associated control circuits for correct connection and operation.
 - e. Test all panel feeders and main breakers.
 - f. Test ground fault systems by operating push-to-test button.
 - g. Physically test key interlock systems to check for proper functionality.
 7. Using a Megger, measure the insulation resistance of each bus section phase-to-phase and phase-to-ground for one minute each, at minimum test voltage of 1000VDC. Minimum acceptable value for insulation resistance is one (1) megohm. Refer to manufacturer's literature for specific testing procedure.
- B. Molded Case Circuit Breakers rated less than 100A
1. Circuit breakers will be operated manually several times to ensure smooth operation.
 2. Molded case will be inspected for cracks.
 3. Rated current will be passed through each phase and millivolt readings taken across contacts.
 4. Time current characteristic tests will be performed by passing 300% rated current through each phase and monitoring trip time.
 5. Instantaneous pickup current will be determined by finding the current level at which the breaker trips out in less than 2 cycles.
 6. Insulation resistance tests will be performed at 1000 Volts DC.
 7. Circuit breaker covers will be removed on unsealed units and checked for cracks. Interphase barriers and arc chutes to be inspected. All bolts and lugs will be tightened. All internal auxiliary devices will be inspected.
 8. Contacts, shunts, etc., will be visually inspected for wear and alignment.
 9. Inverse trip time, instantaneous pickup current and millivolt drop across contacts, insulation resistance values, as well as deficiencies causing breaker to function outside published limits will be recorded. Times will then be compared with manufacturer's or NEMA published values.
- C. Disconnect Switches
1. Check for cleanliness of contacts, operation, etc.
 2. Lubricate contacts and mechanical devices.
 3. Check fuse-clip tightness.
 4. Perform a 1,000-volt megger test on disconnect switches rated for 600V and at 500 volts for disconnect switches rated for 240V.

D. Lighting

1. Upon completion of installation of lighting fixtures and controls, and after building circuitry has been energized, apply electrical energy to demonstrate capability and compliance with requirements. The Contractor shall replace at his expense all noisy ballasts, broken or cracked lenses or other defective items. Where possible, correct malfunctioning units at site, then re-test to demonstrate compliance; otherwise, remove and replace with new units, and proceed with re-testing.
2. At the time of substantial completion, replace lamps in interior lighting fixtures, which are observed to be noticeably dimmed after Contractor's use and testing, as judged by Architect or Electrical Engineer.
3. Replace defective and burned out fluorescent lamps for a period of one-year following the time of substantial completion
4. Give advance notice of dates and times for field tests.
5. Provide instruments to make and record test results.
6. Tests and Observations
 - a. Verify normal operation of lighting units after installing fixtures and energizing circuits with normal power source.
 - b. Check for excessively noisy ballasts.
 - c. Contractor shall advise Owner at least 72 hours prior to testing emergency lighting system, and shall allow Owner to witness testing.

Interrupt electrical energy to demonstrate proper operation of emergency lighting installation. Include the following information in tests of emergency lighting equipment:

 - 1) Duration of supply
 - 2) Low battery voltage shutdown.
 - 3) Normal transfer to battery source and retransfer to normal.
 - 4) Low supply voltage transfer.
 - 5) Report results of tests in wiring.

E. Title 24 Acceptance Testing

1. Perform tests as outlined in Part 3 of Specification Section 16500.

F. Fire Alarm System

1. Perform testing in accordance with NFPA 72-2022, Chapter 10.

3.5 INDEPENDENT AGENCY TESTING

A. Circuit Breakers rated 100A or greater

1. All circuit breakers, 100 amps or more, shall be tested by an independent testing agency in accordance with NETA specifications and a report submitted to the architect. Any circuit breaker that does not pass the test shall be replaced.

2. Circuit breakers will be operated manually several times to ensure smooth operation.
3. Molded case will be inspected for cracks.
4. Rated current will be passed through each phase and millivolt readings taken across contacts.
5. Time current characteristic tests will be performed by passing 300% rated current through each phase and monitoring trip time.
6. Instantaneous pickup current will be determined by finding the current level at which the breaker trips out in less than 2 cycles.
7. Insulation resistance tests will be performed at 1000 Volts DC.
8. Circuit breaker covers will be removed on unsealed units and checked for cracks. Interphase barriers and arc chutes to be inspected. All bolts and lugs will be tightened. All internal auxiliary devices will be inspected.
9. Contacts, shunts, etc., will be visually inspected for wear and alignment.
10. Inverse trip time, instantaneous pickup current and millivolt drop across contacts, insulation resistance values, as well as deficiencies causing breaker to function outside published limits will be recorded. Times will then be compared with manufacturer's or NEMA published values.
11. The testing agency shall provide calibration labels for all relays and circuit breakers tested. Labels shall be self-adhesive and placed on covers or frames so as not to obscure nameplate, tap block or time dial. Label shall indicate date tested and firm name.

B. Grounding System

1. Test shall be performed for every new **SEPARATELY DERIVED AC SYSTEM**.
2. Ground tests shall meet the requirements of the California Electrical Code and comply with UL 467. The grounding electrode system at the main electrical service equipment shall be tested by an Independent Testing Agency in accordance with the three point fall of potential method as specified in IEEE Standard 81-1983. Maximum ground resistance shall be 5 OHMS. A copy of the test report shall be submitted to the architect and engineer of record.
3. Maximum grounding to resistance values are as follows:
 - a. Equipment Rated 500 kVA and Less: 5 ohms.
 - b. Equipment Rated 500 to 1000 kVA: 5 ohms.
 - c. Equipment Rated More than 1000 kVA: 3 ohms.
4. Tests: Subject the completed grounding system to a megger test at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, and at ground test wells. Measure ground resistance not less than 2 full days after the last trace of precipitation, and without the soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests by the 2-point method according to IEEE 81.

5. The test agency shall remove the test link between the ground and neutral, and test the neutral for any parallel and/or superfluous ground paths. If any are found, a report should be given to the Engineer. No grounds are to be removed unless authorized in writing.
6. Ground electrode resistance shall be taken using a Biddle ground resistance meter and readings given to the report.
7. All ground connections in switchboard as well as that to cold water pipes shall be check for tightness and adequacy.
8. Measure the resistance to ground of each ground rod [in a ground mat] before connection to the other ground rods. The resistance shall not exceed 10 ohms.
9. Measure the resistance to ground of the total ground system with all connections completed. The resistance shall not exceed 2 ohms for primary services or 5 ohms for secondary services.
10. Tests of the resistance to ground shall be made using either the three point method or the fall-of-potential method.
11. Perform a continuity check from equipment ground bus bars and ground lugs to the ground system.
12. Ground rods for manholes and light poles need not be tested.
13. Excessive Ground Resistance: Where resistance to ground exceeds specified values, notify Owner promptly and include recommendations to reduce ground resistance and to accomplish recommended work.
14. Report: Prepare test reports, certified by the testing organization, of ground resistance at each test location. Include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

C. Panels

1. The Independent Testing Agency shall perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification, Sections 7.1, 7.6, 7.9, 7.10, 7.11, and 7.14, as appropriate. Certify compliance with test parameters.
2. After Substantial Completion, but not more than 2 months after Final Acceptance, The Independent Testing Agency shall perform an infrared scan of each switchboard and panel.
 - a. Remove fronts to make joints and connections accessible to a portable scanner.
 - b. Use an approved infrared-scanning device designed to measure temperature or detect significant deviations from normal values.
 - c. Provide calibration record for device used.
 - d. Prepare a certified report identifying switchboards and panels checked and describing results of infrared scanning. Include notation of deficiencies detected, remedial action taken and observations after remedial action.

D. Power Cable

1. The 600-volt insulated wires and cables shall be factory tested prior to shipment in accordance with ICEA Standards for the insulation specified.
2. Perform a continuity check and a 1,000 volt DC megger test on 600 volt power cables No. 6 AWG and larger as outlined in latest version NETA Acceptance Testing Specifications.
3. Phase conductors, if shorted, grounded or at fault shall be removed, shall be replaced and the wiring system shall be retested.

3.6 FUNCTIONAL TESTING

- A. All automatic and manual functions shall be checked for proper operation.
- B. All indicating circuits, lights and alarms shall be tested for correct operation. Burned out indicators shall be re-lamped.
- C. Upon completion of the Work, place the entire installation in operation, test for proper function, and show systems and equipment to be free of defects.

END OF SECTION 16950

26 20 00 - SERVICE AND DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Grounding.
2. Overcurrent protection devices.
3. Photoelectric switches.

B. Fees:

1. Pay all fees levied by serving electric utility to provide service to this project.
2. Obtain fees from serving electric utility prior to submitting a bid.

1.2 SYSTEM DESCRIPTION

A. Electrical Service System: 208Y/120, 3 phase, 4 wire, and wye. Refer to One Line Diagram for further requirements.

1. Grounding: Provide grounding and bonding of electrical service, circuits, equipment, signal and communications systems.
2. Building Ground Electrode: Coordinate placement of ground rods and grounding electrode conductor as depicted on the plans.
3. Performance Requirements: Supplement the grounded neutral of the secondary distribution system with an equipment grounding system to properly safeguard the equipment and personnel. Install equipment grounding such that all metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, portable equipment and other conductive items in close proximity with electrical circuits operate continuously at ground potential and provide a low impedance path for possible ground fault currents.

1.3 SUBMITTALS

A. Provide Shop Drawings and Product Data for the Following Equipment:

1. Grounding.
2. Overcurrent protection devices.

B. Provide operating and maintenance instructions from the manufacturer for project closeout, see Project Closeout Requirements in Division 1.

1. Overcurrent protection devices.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of the CEC, latest adopted version with amendments by local AHJs.
- B. Furnish products listed by UL or other testing firm acceptable to AHJ.
- C. Conform to the requirement of the serving electric utility.

PART 2 - PRODUCTS

2.1 METERING EQUIPMENT

- A. Existing,

2.2 GROUNDING MATERIALS

- A. Ground Rods: Copperclad steel, 3/4-inch diameter, 20 feet long, tapered point, chamfered top. Manufacturers: Weaver, Thomas & Betts, Talley or approved.
- B. Grounding Connectors: Hydraulic compression tool applied connectors or exothermic welding process connectors or powder actuated compression tool applied connectors. Mechanical type of connectors is not acceptable. Manufacturers: Burndy Hyground Compression System, Erico/Cadweld, Amp Ampact Grounding System or approved.
- C. Pipe Grounding Clamp: Mechanical ground connector with cable parallel or perpendicular to pipe. Burndy GAR Series, O-Z Gedney, Thomas & Betts or approved.
- D. Telecommunications Grounding Bar: 1/4-inch thick by 4-inch high by 20-inch long copper ground bar with insulators. Manufacturers: Erico/Cadweld or approved.
- E. Grounding Electrode Conductor: Bare copper stranded conductor.

2.3 DRY-TYPE TRANSFORMERS

- A. NOT USED

2.4 OVERCURRENT PROTECTION DEVICES

- A. Fusible Switches:
 - 1. Provide fusible switches quick-make, quick-break with fuse rejection feature for Class J fuses up to 600 amp and group-mounted in panel-type construction.
 - 2. Provide switches of 30 to 200 amp with plug-on line side connections.
 - 3. Provide high contact pressure switch 800 to 1200 amps with shunt trip and ground fault capabilities.
 - 4. Provide bolted pressure switch 1600 to 4000 amps with ground fault protection.

5. Provide each switch enclosed in a separate steel enclosure. The enclosure will employ a hinged cover for access to the fuses which will be interlocked with the operating handle to prevent opening the cover when the switch is in the "ON" position. Construct this interlock so that it can be released with a standard electrician's tool for testing fuses without interrupting service.
 6. Provide the units with padlocking provisions in the "OFF" position and the operating handle position giving positive switch position indication, i.e. red for "ON," black for "OFF."
 7. Provide switches which pass industry standard I²t withstandability tests and fuse tests suitable for use as service equipment.
- B. Fuses: Dual element, time delay, current limiting, nonrenewable type, rejection feature. UL Class J, 1/10 to 600 amp, UL Class L, above 600 amps. Provide fuse pullers for complete range of fuses. Manufacturers: Bussmann, Ferraz-Shawmut, Littelfuse, or approved.
- C. Molded Case Circuit Breakers:
1. 1-, 2-, or 3-pole bolt-on, single-handle common trip, 600VAC or 250VAC as indicated on Drawings.
 2. Overcenter toggle-type mechanism, quick-make, quick-break action. Trip indication is by handle position.
 3. Calibrate for operation in 40C ambient temperature.
 4. 15 to 150 Amp Breakers: Permanent trip unit containing individual thermal and magnetic trip elements in each pole.
 5. 151 to 400 Amp Breakers: Variable magnetic trip elements. Provide push-to-trip button on cover of breaker for mechanical tripping.
 6. Greater than 401 Amp: Electronic trip type with adjustments for long-time, instantaneous, and short-time functions. Provide ground fault function for breakers greater than 400 amps.
 7. Provide all circuit breakers series rated when series combination ratings are applied, identify all equipment enclosures.
 8. Manufacturers: Eaton Electrical, General Electric or Siemens.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ground Rod Electrode:
1. Coordinate placement of ground rods and interconnecting conductor in base of building concrete footing prior to placement of concrete.

2. Install 40 feet of No. 3/0 stranded bare copper conductor in base of perimeter concrete footing.
 3. Lay out conductor to provide maximum exposure to earth in the perimeter footing. Do not fold conductor.
 4. Bond to driven ground rods at 20 feet o.c.
 5. Tap at center ground rod and extend ground electrode conductor to service ground bus. Install ground electrode conductor extension in rigid PVC conduit for physical protection.
- B. Water Service Grounding: Bond building ground electrode and water service pipe to service ground bus. Connect to water pipe on utility side of isolating fittings or meters, bond across water meters.
- C. Other Piping Systems: Bond gas piping system, fire sprinkler piping system and other metallic piping systems.
- D. Raceway Grounding:
1. Ground all metallic raceway systems. Bond to ground terminal with code size jumper except where code size or larger grounding conductor is included with circuit, use grounding bushing with lay-in lug.
 2. Connect all metal raceways, which terminate within an enclosure but without mechanical connection to the enclosure, by grounding bushings and ground wire to the grounding bus.
 3. Where equipment supply conductors are in flexible metallic conduit, install stranded copper equipment grounding conductor from outlet box to equipment frame.
 4. Install equipment grounding conductor, code size minimum unless noted on Drawings, in all raceway systems.
- E. Feeders and Branch Circuits Grounding:
1. Install continuous insulated equipment copper ground conductors within the following circuits; feeders, circuits for computer systems and other circuits as indicated on Drawings.
 2. Where installed in a continuous solid metallic raceway system and larger sizes are not detailed, provide insulated equipment ground conductors for feeders and branch circuits sized in accordance with Table 250-122.
- F. Boxes, Cabinets, Enclosures and Panelboards Grounding: Bond grounding conductors to enclosure with specified conductors and lugs. Install lugs only on thoroughly cleaned contact surfaces.
- G. Motors, Equipment and Appliance Grounding: Install code size equipment grounding conductor from outlet box to (motor) equipment frame or manufacturer's designated ground terminal.

- H. Receptacle Grounding: Connect ground terminal of receptacle to equipment ground system by No. 12 conductor bolted to outlet box except isolated grounds where noted. Self grounding nature of receptacle devices does not eliminate conductor bolted to outlet box.
- I. Telecommunications Backboard: Provide telecommunications grounding bar at each telecommunications backboard. Bond the grounding bar to service grounding bar in the main service equipment of each building with a 6AWG copper equipment grounding conductor.
- J. Separately Derived Systems: Ground each separately derived system.
- K. Switchboard, and Distribution Panelboards:
 - 1. Install equipment as directed by manufacturer's installation instructions.
 - 2. Install distribution panelboards surface or flush-mounted in accessible locations as indicated on Drawings. Maintain or exceed minimum clearances required by code.
 - 3. Install equipment in conformance with work space requirements of CEC. Locate equipment in rooms or spaces dedicated to such equipment. Coordinate with other Divisions of work.
 - 4. Equipment arrangement in electrical room is based on one manufacturer. Coordinate space requirements with equipment supplier. Maintain code required and manufacturer's clearances.
 - 5. Where flush panels are installed, verify available recessing depth and coordinate wall framing with other Divisions.
 - 6. Feeder conductors to enter directly in line with lug terminals wherever practicable. Feeder conductors, except ground and neutral, not to exceed 45 degree deflection from raceway entry to feeder phase lugs.
 - 7. Paint panel cover and surface-mounted enclosure (if surface allowed) to match finished wall color where panels are located in finished spaces.
 - 8. Where panels are installed flush, provide 3 1-inch spare conduits from panel to accessible space above.
 - 9. Where panels are installed flush in fire rated walls, maintain fire rating of wall.
 - 10. Cable and tree conductors in panelboards with plastic ties.
 - 11. Provision for Future: Where provision for "future" or "space" is noted on Drawings, equip the space with bus connections to the future overcurrent device with suitable insulation and bracing to maintain proper short circuit rating and physical clearance. Provide buses for the ampere rating as shown for the future device.
- L. Overcurrent Protection Devices:

1. Fuses: For each class and ampere rating of fuse installed, provide the following quantities of spares for quantity of fuses installed:
 - a. 1 to 24: Provide 6 spare.
 - b. 25 to 48: Provide 9 spare.
 - c. 49 and Above: Provide 12 spare.
 2. Provide testing of ground fault interrupting breakers.
- M. Control Devices:
1. Install photoelectric control devices at such locations as necessary to be most effective. Avoid locating photoelectric devices in or at locations where they can be influenced by other than natural light or under eaves. Verify location of equipment with Architect.
 2. Factory Testing:
 - a. The following standard factory tests shall be performed on the equipment provided under this section. All tests shall be in accordance with the latest version of ANSI and NEMA standards.
 - 1) Ratio tests at the rated voltage connection and at all tap connections.
 - 2) Polarity and phase relation tests on the rated voltage connection.
 - 3) No-load and excitation current at rated voltage on the rated voltage connection.

3.2 CLEANING

- A. Thoroughly clean the exterior and the interior of each switchboard and distribution panelboard in accordance with manufacturer's installation instructions.
- B. Vacuum construction dust, dirt and debris out of each switchboard and distribution panelboard.
- C. Where enclosure finish is damaged, touch up finish with matching paint in accordance with manufacturer's specifications and installation instructions.

3.3 TESTING

- A. Refer to Section 16950 for Testing procedures and requirements.

END OF SECTION

27 00 00 – COMMUNICATIONS, PAGING, & SIGNAL CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work specified in this Section.

1.2 SCOPE

- A. The installation shall include an extension to the existing telephone/speaker communication system. Add new speakers, push buttons, outdoor speakers as indicated in drawings. Include the furnishing of all materials, equipment, supplies and labor and perform all operations necessary for the installation of the complete systems, as indicated on the drawings and/or described herein. Contractor shall visit the site to familiarize themselves with existing systems.
- B. Provide new pathways and site wiring as shown on the plans.

1.3 MANUFACTURER

- A. The contractor shall furnish and install all equipment, accessories, and materials necessary for a complete operating system in accordance with the specification and applicable drawings.
- B. The equipment furnished under this specification shall be the standard product of one manufacturer and shall match existing, or be 100% compatible with existing. Products having less than 5 years field service will not be acceptable.
- C. The contractor shall guarantee availability of local service (within 50 miles) by factory-trained personnel from an authorized distributor of the equipment manufacturer. The distributor shall have available stock of the manufacturer's standard parts. On-the-premises maintenance shall be provided for a period of twelve (12) months from date of completion on installation.
- D. On-the-premises demand service at other than normal working hours shall also be available and may be charged for by the manufacturer's distributor at the prevailing labor rates.
- E. Approved manufactures representative shall provide on-site training for site and maintenance personal, as well as furnish District with complete as-built drawings.

1.4 SUBMITTALS AND SUBSTITUTIONS

- A. Within thirty-five (35) calendar days after the date of the award of the contract, the Contractor shall submit to the Owner for review eight (8) copies of a complete submission. The submission shall consist of five (5) major sections with each section separated with insertable index tabs. The first section shall be the "Index" which shall include the project title and address, name of the firm submitting the proposal and name of the Engineer and Owner. Each page in the submission shall be numbered chronologically and shall be summarized in the index. The second section shall include a copy of the authorized distributor's valid C-61 California State Contractor's License, letters of factory authorization and guaranteed service, list of projects of equal scope and a list of proposed instrumentation to be used by the Contractor. The third section shall contain the comparative specification listing, including a complete listing of the characteristics of the equipment in the specifications. The fourth

section shall contain a wiring destination schedule for each circuit leaving each piece of equipment. The fifth section shall include a complete drawing with devices and wire type and quantity.

- B. For purposes of determining equality, all mechanical, electrical and general information set forth on the respective data sheets for each specified item shall be considered as part of these specifications and binding herein. Any proposed equal item offered shall be substantiated fully to prove equality. The Owner reserves the right to require a complete sample of any proposed equal item and may, if necessary, request a sample tested by an independent testing laboratory to prove equality. The decision of the Owner regarding equality of proposed equal items will be final.
- C. Submit equipment prints, inter-panel and intra-panel, full electronic wiring diagrams and specification sheets for each item specified herein. Provide a tabulation of the specification clearly comparing the submitted item with the specified item, being able to refer to all written expressed functions and capabilities. Specification Sheets shall be submitted on all items including cable types.
- D. Shop drawings, detailing Integrated Electronic Communications Network system including, but not limited to, the following:
 - 1. Built-in station arrangement
 - 2. Equipment cabinet arrangement
 - 3. Wiring diagrams, detailing wiring for power, signal and control, differentiating clearly between manufacturer installed wiring and field installed wiring. Identify terminals to facilitate installation, operation and maintenance.
 - 4. Submit wiring diagrams showing typical connections for all equipment.
 - 5. Provide a riser diagram for the system showing in technically accurate detail all connections, interconnections and all provisions available and made for adaptability of all specified future functions. In addition, riser diagram must include all calculations, charts and test data necessary to demonstrate that all systems and system components deliver the specified signals, grades and levels at all required points and locations.
 - 6. Submit a certificate of completion of installation and service training.

1.5 OPERATING AND SERVICE MANUALS

- A. The Contractor shall provide two copies of an "Operating and Servicing Manual" for the system. The manuals shall be bound in flexible binders. All data shall be printed material or typewritten. Each manual shall include the following:
 - 1. Instruction necessary for the proper operation and servicing of the system.
 - 2. Complete as-built installation drawings of the system.
 - 3. A wiring destination schedule for each circuit leaving each piece of equipment.
 - 4. Schematic diagram of each amplifier and other major components with transistor complements and replacement number.

1.6 FUNCTION AND OPERATION

- A. The communication system shall consist of classroom loudspeakers, and intercom system and handsets.
 - 1. The classroom loudspeakers will be used to transmit audio paging and electronic generated time tones. Amplifiers, control relay panels shall be interconnected to provide proper signal distribution and access to the paging system from selected handsets.
- B. The communication system is existing. New addition shall extend all existing capabilities to new building.

1.7 QUALITY ASSURANCE

- A. All items of equipment including wire and cable shall be designed by the manufacturer to function as a complete system and shall be accompanied by the manufacturer's complete service notes and drawings detailing all interconnections.
- B. The contractor shall be an established communications and electronics contractor that has had and currently maintains a locally run and operated business for at least five years. The contractor shall utilize a duly authorized distributor of the equipment supplied for this project location with full manufacturer's warranty privileges.
- C. The contractor shall show satisfactory evidence, upon request, that the supplier maintains a fully equipped service organization capable of furnishing adequate inspection and service to the system. The supplier shall maintain at his facility the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being supplied.
- D. Electrical Component Standard: Provide work complying with applicable requirements of NFPA 70 "National Electrical Code" including, but not limited to:
 - 1. Article 250, Grounding
 - 2. Article 300, Part A. Wiring Method
 - 3. Article 310, Conductors for General Wiring
 - 4. Article 725, Remote Control, Signaling Circuits
 - 5. Article 800, Communication Systems
- E. EIA Compliance: Comply with the following Electronics Industries Association Standards:
 - 1. Sound Systems, EIA-160
 - 2. Loudspeakers, Dynamic Magnetic Structures and Impedance, EIA-299-A
 - 3. Racks, panels and Associated Equipment, EIA-310-A
 - 4. Amplifiers for Sound Equipment, SE-101-A
 - 5. Speakers for Sound Equipment, SE-103

- F. Installation and start up of all systems shall be under the direct supervision of a local agency regularly engaged in installation, repair and maintenance of such systems. The supplier shall be accredited by the proposed equipment manufacturers and be prepared to offer a service contract for system maintenance on completion of the guarantee period to provide the names, locations and size of ten (10) recent successful installations in the area.
- G. The agency providing equipment shall be responsible for providing all specified equipment and mentioned services for all equipment as specified herein. The agency must be a local authorized distributor of all specified equipment for single source of responsibility and shall provide documents proving such. The agency must have established business for and currently be providing all services for the equipment to be provided for a minimum of five (5) years.
- H. The contractor shall guarantee availability of local service by factory-trained personnel of all specified equipment from an authorized distributor of all equipment specified under this section. On-the-premise maintenance shall be provided at no cost to the purchaser for a period of one (1) year (parts and labor) from date of acceptance unless damage or failure is caused by misuse, abuse, neglect or accident. Additionally, all Rauland-Borg manufactured products are covered by a five (5) year (parts only) limited warranty from the date of acceptance. The warranty period shall begin on the date of acceptance by the owner/engineer.
- I. The contractor shall, at the owner's request, make available a service contract offering continuing factory authorized service of the system after the initial warranty period.
- J. The supplier shall visit the sites and familiarize himself with the existing conditions and field requirements prior to submitting a proposal.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in factory containers. Store in a clean, dry space in original containers. Protect products from fumes and construction traffic. Handle carefully to avoid damage.

1.9 IN-SERVICE TRAINING

- A. The contractor shall provide a minimum of eight hours of in-service training with this system. These sessions shall be broken into segments that will facilitate the training of individuals in the operation of this system. Operators Manuals and Users Guides shall be provided at the time of this training.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The Contractor through the authorized manufacturer's representative shall furnish and install all equipment, material, devices, labor required and necessary to provide proper operation of the public address and intercommunication system in complete compliance with the function and general conditions described preceding, whether or not all such equipment, material, etc., is specifically called out herein.
- B. The Contractor's bid shall include the cost of all labor, materials, including circuit boards, transistors, pilot lamps, fuses, appliances, equipment, and adjustments required to maintain the sound system in first class operation conditions for a period of one (1) year following completion date of the contract. This shall apply to repairs and maintenance made

necessary by normal wear and usage.

- C. The Contractor shall also guarantee to maintain a full inventory of all necessary replacement parts within the area and to provide service as required herein within 24 hours of proper notification.

2.2 EQUIPMENT AND MATERIALS

- A. A contractor shall visit site to familiarize themselves with existing systems.
- B. Classroom speakers shall be vandal resistant and white in color.
- C. Outside speakers shall be vandal resistant and weatherproof. Outside speakers shall provide adequate volume for the environment.
- D. Wiring shall be done per manufacturer's recommendation, West Penn #372; all terminal connections to be on barrier strips. All cables to be labeled at all termination points with the room numbers they are providing connection to.
- E. Central Controller Unit is existing.
- F. Program Distribution System is existing.

2.3 TELEPHONES

- A. The classroom phones shall be call in rocker type switches.

2.4 NOT USED.

2.6 TERMINAL BLOCKS

- A. All conductors in all terminal cabinets, equipment rack, etc., shall be terminated on Siemens 66M1-50 punch blocks or approved equal.

2.7 CONDUCTORS

- A. Provide to match existing on site.
- B. Underground conductors shall be listed for underground installation.

PART 3 - EXECUTION

3.1 DIVISION OF WORK

- A. While all work included under this specification is the complete responsibility of the Contractor, the division of actual work listed following shall occur.
- B. The conduit, outlets, terminal cabinets, etc., which form part of the rough-in work shall be furnished and installed complete by the Electrical Contractor. The balance of the system, including installation of speakers and equipment, making all connections, etc., shall be performed by the manufacturer's authorized representative, and the entire responsibility of the system, its operation, function, testing and complete maintenance for one (1) year after final acceptance of the project by the Owner, shall be the responsibility of this organization.

3.2 EQUIPMENT MANUFACTURER'S REPRESENTATIVE

- A. All work described herein to be done by the manufacturer's authorized representative shall be provided by a documented factory authorized representative of the basic line of equipment to be utilized.
- B. As further qualification for bidding and participating in the work under this specification the manufacturer's representative shall hold a valid C-61 Contractor's State License Board of California. The manufacturer's representative shall have completed at least ten (10) projects of equal scope, giving satisfactory performance and has been in the business of furnishing and installing sound systems of this type for at least five (5) years. The manufacturer's representative shall be capable of being bonded to assure the owner of performance and satisfactory service during the guarantee period.
- C. The manufacturer's representative shall provide a letter with submittals from the manufacturer of all major equipment stating that the manufacturer's representative is an authorized distributor. This letter shall also state the manufacturer guarantees service performance for the life of the equipment, and that there will always be an authorized distributor assigned to service the area in which the system has been installed.
- D. The Contractor shall furnish a letter from the manufacturer of the equipment, which certifies that the equipment has been installed according to factory intended practices, that all the components used in the system are compatible and that all new portions of the systems are operating satisfactorily. Further, the Contractor shall furnish a written unconditional guarantee, guaranteeing all parts and all labor for a period of one (1) year after final acceptance of the project by the Owner.

3.3 INSTALLATION

- A. Plug Disconnect: All major equipment components shall be fully pluggable by means of multi-pin receptacles and matching plugs to provide for ease of maintenance and service.
- B. Protection of Cables: Cables within terminal cabinets, equipment racks, etc., shall be grouped and bundled (harnessed) as to type and laced with No. 12 cord waxed linen lacing twine or T & B "Ty-Rap" cable. Edge protection material ("cat-tract") shall be installed on edges of holes, lips of ducts or any other point where cables or harnesses cross metallic edge. All wiring shall be in conduit. Conceal conduits in ceiling and walls whenever possible. Interior exposed conduits shall be "surface raceway" type installed parallel and at right angle to room dimensions. Surface raceway shall be installed tight against wall/ceiling and wall/wall room edges. Conduit/raceways shall be installed as per section 16110 and CEC.
- C. Cable Identification: Cable conductors shall be color-coded and individual cables shall be individually identified. Each cable identification shall be a unique number located approximately 1-1/2" from cable connection at both ends of cable. Numbers shall be approximately 1/4" in height. These unique numbers shall appear on the As-Built Drawings.
- D. Shielding: Cable shielding shall be connected to common ground at point of lowest audio level and shall be free from ground at any other point. Cable shields shall be terminated in same manner as conductors.
- E. All cable and wires shall be labeled at terminal cabinets, speakers, call-in switches and at telecenter station.

- F. Nameplates: Terminal cabinets and junction boxes shall have plastic engraved nameplate to identify each with Drawings and Specifications. Nameplate letters or numbers shall be minimum 3/8" high.
- G. Provide complete "in service" instructions of system operations to school personnel. Provide programming of telephone system in accordance with school staff.
- H. Outlet Box Identification: All outlet boxes mounted in attic space shall be individually identified with waterproof marker.
- I. All cables shall be run in continuous lengths between terminal cabinets and equipment, no splicing permitted.
- J. Provide 6 feet of wires inside speaker box.
- K. Contractor is responsible for performing underground survey of all areas to be trenched to locate all existing utilities. Contractor will repair any damaged underground utilities at no cost to the District.
- L. All intercom Stations shall be labeled with the circuit feeding the system.

3.4 GROUNDING

- A. Provide equipment grounding connections for Integrated Electronic Communications Network systems as indicated. Tighten connections to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounds.
- B. Ground equipment, conductor and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk and other impairments. Provide 5-ohm ground at main equipment location. Measure, record and report ground resistance.
- C. The contractor shall provide all necessary transient protection on the AC power feed and on all station lines leaving or entering the building.
- D. The contractor shall note in his system drawings, the type and location of these protection devices, as well as all wiring information.
- E. The contractor shall furnish and install a dedicated, isolated earth ground from the central equipment rack and bond to the incoming electrical service ground buss bar.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a duly factory authorized service representative for this project location to supervise the field assembly and connection of components and the pre-testing, testing and adjustment of the system.
- B. Inspection: Make observations to verify that units and controls are properly labeled and interconnecting wires and terminals are identified. Provide a list of final tap settings of paging speaker line matching transformers.
- C. Testing: Rectify deficiencies indicated by tests and completely re-test work affected by such deficiencies at the Contractor's expense. Verify by the system test that the total system meets the Specifications and complies with applicable standards.

- D. Commissioning: Train Owner's maintenance personnel in the procedures and schedules involved in operating, programming schedule, troubleshooting, servicing and preventative maintenance of the system. Provide a minimum of four (4) hours training. Operators Manuals and Users Guides shall be provided at the time of this training.
- E. Schedule training with Owner through the Architect with at least seven (7) days advance notice.

3.6 OCCUPANCY ADJUSTMENTS

- A. When requested by the Architect within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels, resetting matching transformer taps and adjusting controls to suit actual occupied conditions. Provide up to three visits to the site for this purpose.

3.7 CLEANING AND PROTECTION

- A. Prior to final acceptance, clean system components and protect from damage and deterioration.

END OF SECTION

27 13 00 - COMMUNICATIONS BACKBONE CABLING

PART 1 GENERAL

1.1 SUMMARY

A. Work included: Materials, installation and testing of:

1. Fiber Optic Backbone Cable
2. Copper Termination Hardware
3. Fiber Optic Termination Hardware
4. Copper Patch (Jumper) Cords
5. Fiber Optic Patch (Jumper) Cords
6. Splice Cases

1.2 RELATED SECTIONS

A. Contents of Division 27 and Division 01, General Requirements apply to this Section.

1.3 REFERENCES AND STANDARDS

A. References and Standards as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, meet the following:

1. NFPA 780, Standards for Installation of Lightning Protection Systems.

1.4 SUBMITTALS

A. Submittals as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, provide:

1. Shop Drawings that include, but are not limited to, the following: Telecommunication Room layout, Telecommunication Room wall elevations, equipment rack elevations, cable routing, cable connecting diagrams, termination pin outs, supporting hardware details, block diagrams, riser diagrams and cable pathways. Work may not begin until shop drawings are approved. Note: Intent of submitting shop drawings is for contractors to display a conceptual understanding of the issued Engineer drawings. Do not submit Engineer Drawings on your title block.
2. Procedures for cable labeling and identification, long term documentation methods and numbering scheme in accordance with ANSI/TIA/EIA-606-A.
3. A copy of certified installer certificates and warranty certificates for products proposed.

1.5 QUALITY ASSURANCE

A. Quality assurance as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, meet the following:

1. Manufacturers to have a recognized certified installer program in place for system components proposed. Cable will be approved with manufacturer system installed.

1.6 WARRANTY

- A. Warranty of materials and workmanship as required by Section 27 00 00 and Division 01, General Requirements.
- B. In addition, provide:
 - 1. Labor, materials, and documentation according to Panduit/General manufacturer requirements necessary to ensure that the Owner will be furnished with an Extended Product Warranty and Application Assurance of a minimum of 25 years in length. The Application Assurance Warranty will cover the failure of the wiring system to support current or future applications that are designed for the link/channel specifications of ANSI/TIA/EIA-568-C. These applications include, but are not limited to, 10BASE-T, 100BASE-T, 1000BASE-T, 10GBASE-T, and 155 Mb/s ATM.
 - 2. Provide a warranty on the physical installation.
 - 3. Furnish necessary documentation required by Panduit/General immediately following 100 percent testing of cables.
 - 4. Administer the warranty process with the responsible Panduit/General representative. Provide warranty directly to the Owner from the manufacturer. Ensure that the manufacturer provides the Owner with the appropriate warranty certification within 90 calendar days of the final project completion.

1.7 SYSTEM DESCRIPTION

- A. Provide a standards-based cable system to serve backbone communication systems requirements as specified in these specifications and shown on Drawings. Closely follow ANSI/TIA/EIA, IEEE and ISO standards which apply to backbone communication systems.
- B. Install intrabuilding backbone cables from ER-s to TR's through raceway systems as shown on Drawings.
- C. Install interbuilding (OSP) backbone cables from EF to ER's through duct and tunnel raceway systems as shown on Drawings.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide like items from one manufacturer, such as jacks, patch panels, equipment connection cords, and wall plates. The following manufacturers/solutions are preapproved.
 - 1. ADC
 - 2. Belden
 - 3. BTR Netcom
 - 4. Commscope
 - 5. Corning -fiber optic only
 - 6. Leviton
 - 7. Ortronics/Berk-Tek
 - 8. General or Panduit
 - 9. Mohawk or Siemon

2.2 FIBER OPTIC BACKBONE CABLE

- A. Interbuilding: Singlemode: 12-strand, 8.3-micron, high performance low water peak loose tube cable with maximum attenuation of .35dB/km at 1310 nm and .25dB/km at 1550 nm. Cable will be hybrid under one jacket. Corning or approved equal.
- B. General: between MDF and IDF: 12-strand singlemode 8.3-micron, high performance cable with maximum attenuation of .35dB/Km at 1310 nm and .25dB/Km at 1550 nm. Cable will be hybrid under one jacket. Corning or approved equal.

2.3 FIBER OPTIC TERMINATION HARDWARE

- A. High Density Fiber Termination Shelf:
 - 1. 3.5-inch-high shelf designed for mounting in 19-inch equipment racks and capable of accepting 6 adapter panels. The shelf will contain built-in slack management and be accessible from the front or rear with locking doors.
 - a. 19-inch Rack Mount, 13-inches deep
 - b. 19-inch rack mount, 19-inches deep
 - 2. Fiber Adapter Panels:
 - a. Adapter panel for high density termination shelf with 6 LC multimode phosphor-bronze alignment sleeves.
 - 3. Preloaded Fiber Termination Shelf:
 - a. 1.75-inch-high shelf designed for mounting in 19-inch equipment racks with 12 LC multimode phosphor-bronze alignment sleeves. The shelf will contain built-in slack management and be accessible from the front or rear.
 - b. 1.75-inch-high shelf designed for mounting in 19-inch equipment racks with 24 LC multimode phosphor-bronze alignment sleeves. The shelf will contain built-in slack management and be accessible from the front or rear.
- B. Singlemode LC Connector:
 - 1. Ceramic tip LC style capable of being terminated on 8.3/125 fiber with 900-micron buffer.

2.4 FIBER OPTIC PATCH (JUMPER) CORDS

- A. Singlemode Fiber Optic Jumpers:
 - 1. Factory terminated double ended, two-strand singlemode cordage with LC connectors on each end, length as defined by the Owner.

2.5 SPLICE CASES

- A. Fiber Optic: Provide as close as practicable (within 50-feet) of where OSP cable enters building in a duct or conduit system. Size splice cases(s) to accommodate strand count of the cable(s) entering building. Splice case must be capable of bonding to the Telecommunications Main Grounding Bus Bar (TMGB). Complete with end caps to properly seal cable from expanding water blocking gel. Approved manufacturers: Preformed, Corning, and 3M.

2.6 MISCELLANEOUS HARDWARE

- A. Provide supporting hardware, cable ties, labels, underground vault racking, bullet bonds, gel blocking kits, pull rope, and other miscellaneous hardware for a complete and operable system.

PART 3 EXECUTION

3.1 GENERAL

- A. Communications Backbone Cabling includes cables, jacks, patch panels, connecting blocks, and patch cords, as well as the necessary support systems, such as cable managers, tie wraps, and D-rings.
- B. Furnish and install materials necessary for a complete and working system.
- C. Contractor must be a Certified Installer for selected manufacturer prior to, during, and through completion of the system installation, and must be able to provide the manufacturer's extended warranty.
- D. Perform work in a neat and workmanlike manner.
- E. Install cable after interior of building has been physically protected from the weather and mechanical work likely to damage cabling has been completed.
- F. Before installing cabling, ensure cable pathways are completely and thoroughly cleaned:
 - 1. Inspect conduit, wireway, cable trays, and innerduct systems prior to installation.
 - 2. Swab any additional enclosed raceway and innerduct systems.
- G. Provide protection for exposed cables where subject to damage. Provide abrasion protection for any cable or wire bundles, which pass through holes or across edges of sheet metal.
- H. Install cable ties and other cable management clamps via hand so that it fits snugly. Do not over tighten or use mechanical tools which could compress, crimp, or otherwise change the physical characteristics of the cable jacket or distort the placement of twisted-pair components. Replace any cable exhibiting stresses due to over tightening of cable management devices.
- I. Where possible, route cables in overhead cable trays and inside wire management systems attached to the equipment cabinets and racks. Use Velcro ties or ducts to restrain cabling installed outside of wire management systems on racks or in cabinets.
- J. Co-install a pull cord (nylon; 1/8-inch minimum) with cable installed in conduit.
- K. Limit cable raceway fill to less than the TIA/EIA-569-B maximum fill for the particular raceway type.
- L. If a J-hook or trapeze system is used to support cable bundles, support cables at a maximum of 48 to 60-inch intervals. Cables are prohibited to rest on acoustic ceiling grids or panels.
- M. Cable sizes are shown on Drawings. Verify that as a minimum, two cable pairs are provided for each telephone user outlet. Install specified fiber optic cable between TRs as shown on drawings.
- N. Install cable above fire-sprinkler systems and ensure that the cable does not attach to the system or any ancillary equipment or hardware. Install cable system and support hardware such that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.

- O. Do not attach cables to ceiling grid or lighting fixture wires. Where support for cable is required, install appropriate carriers to support the cabling.
- P. Any cable damaged or exceeding recommended installation parameters during installation will be replaced by the contractor prior to final acceptance at no cost to the Owner.
 - 1. Install cable in accordance with manufacturer's recommendations and best industry practices.
 - 2. Install cables in continuous lengths from origin to destination (no splices) except for transition points, or consolidation points.
 - 3. Install transition points or consolidation points in accessible locations and housed in an enclosure intended and suitable for the purpose, where allowed by standards and approved by the Owner's representative.
 - 4. Do not exceed the cable's minimum bend radius and maximum pulling tension.
 - 5. Install unshielded twisted pair cable so that there are no bends smaller than four times the cable outside diameter at any point in the run and at the termination field.
 - 6. Do not exceed 25-lbf pulling tension on 4-pair UTP cable.
- Q. Splice Case Installation: Provide splice cases within 50-feet of where OSP cable enters building in a duct or conduit system. Size splice cases to accommodate pair or strand count of cable entering building. Properly bond cable entering and exiting splice case to Main Telecommunication Grounding Bus Bar (TMGB). Install end caps to properly seal cable from expanding water blocking gel.
- R. Determine requirements for plenum rated cable and devices. When doubt exists, seek prior determination in writing by AHJ.
- S. Seal conduits entering from outside the building and install listed firestop material in conduits and sleeves to satisfy CEC and local codes.
- T. Dress and terminate cables in accordance with the recommendations made in the ANSI/TIA/EIA-568-C.1 document, manufacturer's recommendations and best industry practices.
- U. Terminate 4 pair cables on the jack and patch panels using T568A wiring scheme.
- V. Maintain the cable jacket within 1-inch of the termination point.
- W. Do not exceed 0.5-inch of pair untwist at the termination point.
- X. Do not exceed 4 times the outside diameter of the cable in the termination area for bend radiance compliance.
- Y. Neatly bundle and dress cables to their respective panels or blocks. Feed each panel or block by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame.

3.2 OPTICAL FIBER CABLE INSTALLATION PRACTICES

- A. Place fiber optic cable so as to maintain the minimum cable bend radius limits specified by the manufacturer or ten times the cable diameter, whichever is larger.
- B. Place fiber optic cable runs in innerduct. Use care when handling fiber optic cable. Carefully monitor pulling tension so as not to exceed the limits specified by the manufacturer.
- C. Terminate fiber optic cable in rack-mounted fiber optic terminated units at each end using standard SC style bulkhead connectors.

- D. Splicing of fiber optic cable is prohibited unless directed in drawings or approved via RFI.

3.3 TESTING PROCEDURES

- A. Test cables and termination hardware for defects in installation and to verify cabling system performance under installed conditions according to the requirements of ANSI/TIA/EIA-568-C.
- B. Verify pairs of each installed cable prior to system acceptance. Repair or replace any defect in the cabling system installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks in order to ensure 100 percent useable conductors in cables installed.
- C. Test cables in accordance with this document, the ANSI/TIA/EIA standards, the manufacturer's procedures and best industry practice. If any of these are in conflict, bring any discrepancies to the attention of the project team for clarification and resolution.
1. The cable length will conform to the maximum distances set forth in the ANSI/TIA/EIA-569-C standard. Record cable lengths, referencing the cable identification number and circuit or pair number. For multi-pair cables, record the shortest pair length as the length for the cable.
 2. Follow the Standards requirements established in ANSI/TIA/EIA-568-C.
 3. Perform testing with a Level IV tester.
 4. The basic tests required are:
 - a. Wire Map
 - b. Length
 - c. Attenuation
 - d. NEXT (Near end crosstalk).
 - e. Return Loss
 - f. ELFEXT Loss
 - g. Propagation Delay
 - h. Delay skew
 - i. PSNEXT (Power sum near-end crosstalk loss).
 - j. PSELFEXT (Power sum equal level far-end crosstalk loss).
 - k. Provide test results in written format, with the following minimum information per cable:
 - l. Circuit ID
 - m. Test result, "Pass" or "Fail"
 - n. Date and Time of test
 - o. Project Name
 - p. NVP
- D. Provide an electronic copy of the test results, in the native tester software format, to the Consultant along with the written test results.
- E. Provide a fully functional version of the tester software for use by the Consultant in reviewing the test results.
- F. Any failed test results that cannot be remedied through re-termination (as in the case of reversed or split pairs), must be reported in writing to the Consultant immediately, along with a copy of the test results.
- G. Labeling:
1. Label cables using a machine printed label at each end of the cable at approximately 12 inches of the termination point, and again at approximately 48-inches from the termination point. Do not use handwritten labels.

2. Label patch panel ports with the cable identifier.
3. Provide the final cable ID matrix to the Architect one week prior to cable installation.
4. Note labeling information on the as-built drawings.

3.4 PATCH CORDS

- A. Fiber Optic: Provide sufficient duplex fiber optic jumpers (patch cords) at each fiber termination point to cross-connect one-half the number and type of fibers terminated there. Assume a minimum of 2 duplex fiber optic jumpers per termination point for a 6-strand optical fiber.
- B. Provide lengths for a neat appearance not to exceed 15-feet. Some jumpers may require LC to SC, or SC to ST connections to support existing or readily available hardware. Coordinate connector requirements with Owner.
- C. Field terminated patch cords and jumpers are not allowed.

END OF SECTION 27 13 00

27 15 00 - COMMUNICATIONS HORIZONTAL CABLING

PART 1 GENERAL

1.1 SUMMARY

A. Work included: Provision of materials, installation and testing of:

1. Station Cabling
2. Modular Jacks/Adapters
3. Work Area Outlets
4. Termination Block
5. Patch Panels

1.2 RELATED SECTIONS

A. Contents of Division 27 and Division 01, General Requirements apply to this Section.

B. In addition, reference the following:

1. Use this Section in conjunction with other Division 27 specifications and related Contract
2. Documents to establish the total general requirements for the project communications systems and equipment.

1.3 REFERENCES AND STANDARDS

A. References and Standards as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, meet the following: NFPA 780, Standard for the Installation of Lightning Protection Systems.

1.4 SUBMITTALS

A. Submittals as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, provide:

1. Shop Drawings that include, but are not limited to, the following: Telecommunication Room layout, Telecommunication Room wall elevations, equipment rack elevations, cable routing, cable connecting diagrams, termination pin outs, supporting hardware details, block diagrams, riser diagrams, cable pathways. Work may not begin until shop drawings are approved. Note: Intent of submitting shop drawings is for contractors to display a conceptual understanding of the issued Engineer drawings. Do not submit engineers drawing on your title block.
2. Procedures for cable labeling and identification, long term documentation methods and numbering scheme in accordance with ANSI/TIA/EIA-606A.
3. A copy of certified installer certificates and warranty certificates for products proposed.

1.5 QUALITY ASSURANCE

A. Quality assurance as required by Section 27 00 00 and Division 01, General Requirements.

B. In addition, meet the following:

1. Manufacturers to have a recognized certified installer program in place for system components proposed. Cable will be approved with manufacturer system installed.

1.6 WARRANTY

- A. Warranty of materials and workmanship as required by Section 27 00 00 and Division 01, General Requirements.
- B. In addition, provide:
 1. Labor, materials and documentation according to selected manufacturer requirements necessary to ensure that the Owner will be furnished with an Extended Product Warranty and Application Assurance of a minimum of 20 years in length. The Application Assurance. Warranty will cover the failure of the wiring system to support current or future applications that are designed for the link/channel specifications of ANSI/TIA/EIA-568-C.1. These applications include, but are not limited to, 10BASE-T, 100BASE-T, 1000BASE-T, 10GBASE-T and 155 Mb/s ATM.
 2. A warranty on the physical installation.
 3. Necessary documentation required by the manufacturer immediately following 100 percent testing of cables.
- C. Administer the warranty process with the responsible manufacturer's representative. Provide warranty directly to the Owner from the manufacturer. Ensure that the manufacturer provides the Owner with the appropriate warranty certification within 90 calendar days of the final project completion.

1.7 SYSTEM DESCRIPTION

- A. Provide a standards-based cable system to serve horizontal communication systems requirements as specified and as shown on Drawings. Closely follow ANSI/TIA/EIA, IEEE and ISO standards.
- B. The horizontal distribution subsystem refers to intra-building twisted-pair and fiber optic communications cabling connecting telecommunications rooms (TRs) to telecommunications outlets (TOs) located at individual work areas and consists of the following:
 1. Category 6a 100 Ohm, 4-pair, unshielded twisted pair cables from the TRs to the TOs.
 2. The horizontal system includes cables, jacks, patch panels, connecting blocks, patch cords, fiber connectors and jumpers as well as the necessary support systems, such as cable managers and faceplates.
 3. Cables are routed through conduit, spaces below raised floors, open ceiling areas, nonventilated spaces above ceiling tile, and through plenum air-handling spaces above ceiling tile.
 4. Furnish and install materials necessary for a complete and working system.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide like items from one manufacturer, such as jacks, patch panels, equipment connection cords, and wall plates. The following manufacturers/solutions are preapproved.
 1. ADC
 2. Belden
 3. BTR Netcom
 4. Commscope

5. Corning -fiber optic only
6. Leviton
7. Ortronics/Berk-Tek
8. General or Panduit
9. Mohawk or Siemon
10. Tyco AMP NETCONNECT

2.2 STATION CABLING

A. Inside Plant Category 6a Cable, UTP.

1. Cable shall meet, as a minimum, the requirements of the latest revision of EIA/TIA Category 6a.
2. The UTP cabling shall be Belden 7851A DataTwist 600e or equivalent (please have SUSD Information Services approve any replacement brands).

B. Outside Plant Category 6a Cable, UTP.

1. Outside plant Category 6a cable shall be designed and constructed for installation in outside underground conduits and shall meet the transmission requirements for TIA/EIA 568-B Category 6a horizontal cables.
2. Cable construction shall utilize a UN-resistant Polyethylene jacket with water blocking flooded core. The Outside Plant Category 6a cable shall be Mohawk part# M57622 or equal.

2.3 MODULAR JACKS/ADAPTERS

A. Category 6a Modular Jacks:

1. Eight-position modular jack, Category 6a, IDC terminals, T568B wiring scheme
2. Each jack must be stamped or have icons to identify it as CAT 6.
3. Coordinate color with building finishes.

B. Multimode Fiber Modular Adapter:

1. One-strand fiber optic TracJack modular adapter, Simplex SC type connectors, phosphor-bronze alignment sleeves with 180-degree exit
2. One-strand fiber optic TracJack modular adapter, Simplex SC type connectors, phosphor-bronze alignment sleeves with 45-degree exit
3. Two-strand fiber optic TracJack modular adapter, two Simplex SC type connectors,
4. phosphor-bronze alignment sleeves with 180-degree exit

2.4 WORK AREA OUTLETS

A. Flush Mounted Faceplate:

1. Two-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a single gang wall box.
2. Four-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a single gang wall box.
3. Six-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a single gang wall box.
4. Six-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a double gang wall box.

5. Eight-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a double gang wall box.
6. Twelve-port faceplate, constructed from high impact thermo-plastic, with recessed label fields, mounts within a double gang wall box.
7. Coordinate faceplate color with building finishes. Submit to Architect for approval prior to
8. installation.

B. Flush Mounted Stainless Steel Faceplates:

1. Two-port stainless steel faceplate, with recessed label fields, mounts within a single gang wall box.
2. Four-port stainless steel faceplate, with recessed label fields, mounts within a single gang wall box.
3. Six-port stainless steel faceplate, with recessed label fields, mounts within a single gangwall box.
4. Eight-port stainless steel faceplate, with recessed label fields, mounts within a double gang wall box.
5. Twelve-port stainless steel faceplate, with recessed label fields, mounts within a double gang wall box.

C. Surface Mounted Outlet Boxes:

1. Two-port surface mount box, constructed from high impact thermo-plastic, with recessed label fields.
2. Four-port surface mount box, constructed from high impact thermo-plastic, with recessed label fields.
3. Four-port surface mount box, constructed from high impact thermo-plastic, with recessed label fields, jacks exit from both sides.
4. Six-port surface mount box, constructed from high impact thermo-plastic, with recessed label fields.
5. Coordinate surface box colors with building finishes. Submit to Architect for approval prior to installation.

D. Modular Furniture Faceplates:

1. 0.125-inch-deep modular furniture bezel fits 1.375-inch x 2.71-inch furniture knockout.
2. 0.625-inch-deep modular furniture bezel fits 1.375-inch x 2.71-inch furniture knockout, with recessed label field.
3. 1-inch-deep modular furniture bezel fits 1.375-inch x 2.71-inch furniture knockout, with recessed label field.
4. Three-port modular furniture adapter plate
5. Adjustable Four-port modular furniture faceplate fits 2.67-inch to 2.75-inch x 1.34-inch to 1.41-inch furniture knockout.
6. Four-port modular furniture faceplate fits Herman Miller Beltline furniture openings 2.35-inch x 3.41-inch.
7. Six-port modular furniture faceplate fits Herman Miller Beltline furniture openings 2.35-inch x 3.41-inch.
8. Six-port modular furniture faceplate fits Herman Miller Baseline furniture openings 1.89-inch x 2.99-inch.
9. Coordinate furniture plate colors with building finishes. Submit to Architect for approval prior to installation.

E. Modular Mounting Frames/Covers:

1. Two-port 106-Type duplex frame, mounts within a single gang wall box.
2. Three-port 106-Type duplex frame, mounts within a single gang wall box.

3. Four-port 106-Type duplex frame, mounts within a single gang wall box.
4. Three-port Stylistics rectangular (GFCI) footprint frame, mounts within a single gang wall box.
5. Four-port Stylistics rectangular (GFCI) footprint frame, mounts within a single gang wall box.
6. Single gang 106-Type Plastic Cover Plate
7. Double gang 106-Type Plastic Cover Plate
8. Single gang Stylistics Plastic Cover Plate
9. Double gang Stylistics Plastic Cover Plate
10. Coordinate mounting frame colors with building finishes. Submit to Architect for approval prior to installation.

F. Dust Covers: Single port dust cover for modular openings, color to match faceplate.

2.5 TERMINATION BLOCKS

A. Category 6a 110-style Blocks:

1. Category 6a, 288 Pair, 110-style, with mounting legs, wall -mount.
2. Category 6a, 96 Pair, 110-style, with mounting legs, wall -mount.
3. Category 6a, 288 Pair, 110-style, without mounting legs, rack-mount.
4. Category 6a, 96 Pair, 110-style, without mounting legs, rack-mount.

B. Connecting Blocks:

1. 3 Pair 110-style connecting blocks.
2. 4 Pair 110-style connecting blocks.
3. 5 Pair 110-style connecting blocks.

C. Wiring Troughs:

1. Horizontal trough for routing of patch cords and cross-connect wire, with mounting legs.
2. Horizontal trough for routing of patch cords and cross-connect wire, without mounting legs.

D. 110 Block Labels:

1. Clear plastic holder for 110 blocks with paper inserts, for blocks with legs
2. Clear plastic holder for 110 blocks with paper inserts, for blocks without legs

E. Mounting Brackets: 19-inch rack mount brackets for 200 pair 110 termination blocks and wiring troughs.

2.6 PATCH PANELS

A. Category 6a Modular Patch Panels:

1. 24 port, eight-position modular jack panel, high density, 6 port modules, Category 6a, IDC terminals, T568A/B wiring scheme.
2. 48 port, eight-position modular jack panel, high density, 6 port modules, Category 6a, IDC terminals, T568A/B wiring scheme.
3. 24 port, eight-position modular jack panel, high density, 8 port modules, Category 6a, IDC terminals, T568A/B wiring scheme.
4. 48 port, eight-position modular jack panel, high density, 8 port modules, Category 6a, IDC terminals, T568A/B wiring scheme.

B. Universal Patch Panels:

1. 19-inch rack mounted panel with isolation capable of accepting up to 24 modular jacks.
2. 19-inch rack mounted panel capable of accepting up to 24 modular jacks.

2.7 MISCELLANEOUS HARDWARE

- A. Provide supporting hardware, cable ties, labels, underground vault racking, bullet bonds, gel blocking kits, pull rope, and other miscellaneous hardware for a complete and operable system.

PART 3 EXECUTION

3.1 GENERAL

- A. Horizontal cabling includes cables, jacks, patch panels, connecting blocks, and patch cords, as well as the necessary support systems, such as cable managers and faceplates.
- B. Furnish and install materials necessary for a complete and working system.
- C. Contractor must be a Certified Installer for selected manufacturer prior to, during, and through completion of the system installation, and must be able to provide the manufacturer's extended warranty.
- D. Perform work in a neat and workmanlike manner.
- E. Install cable after interior of building has been physically protected from the weather and mechanical work likely to damage cabling has been completed.
- F. Before installing cabling, ensure cable pathways are completely and thoroughly cleaned.
 1. Inspect conduit, wireway, cable trays, and innerduct systems prior to installation.
 2. Swab any additional enclosed raceway and innerduct systems.
- G. Provide protection for exposed cables where subject to damage. Provide abrasion protection for any cable or wire bundles, which pass through holes or across edges of sheet metal.
- H. Install cable ties and other cable management clamps via hand so that it fits snugly. Do not over tighten or use mechanical tools which could compress, crimp, or otherwise change the physical characteristics of the cable jacket or distort the placement of twisted-pair components. Replace any cable exhibiting stresses due to over tightening of cable management devices.
- I. Where possible, route cables in overhead cable trays and inside wire management systems attached to the equipment cabinets and racks. Use Velcro ties or ducts to restrain cabling installed outside of wire management systems on racks or in cabinets.
- J. Co-install a pull cord (nylon; 1/8-inch minimum) with cable installed in conduit.
- K. Limit cable raceway fill to less than the TIA/EIA-569-B maximum fill for the particular raceway type.
- L. If a J-hook or trapeze system is used to support cable bundles, support horizontal cables at a maximum of 48-to 60-inch intervals. Cables are prohibited to rest on acoustic ceiling grids or panels.
- M. Bundle horizontal distribution cables in groups of no more than 50 cables. Cable bundle quantities in excess of 50 cables may cause deformation of the bottom cables within the bundle and degrade cable performance.

- N. Install cable above fire-sprinkler systems and ensure that the cable does not attach to the system or any ancillary equipment or hardware. Install cable system and support hardware such that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.
- O. Do not attach cables to ceiling grid or lighting fixture wires. Where support for horizontal cable is required, install appropriate carriers to support the cabling.
- P. Any cable damaged or exceeding recommended installation parameters during installation will be replaced by the contractor prior to final acceptance at no cost to the Owner.
- Q. Determine requirements for plenum rated cable and devices. When doubt exists, seek prior determination in writing by AHJ.
- R. Unshielded Twisted Pair Cable Installation Practices:
 - 1. Install cable in accordance with manufacturer's recommendations and best industry practices.
 - 2. Install cables in continuous lengths from origin to destination (no splices) except for transition points, or consolidation points.
 - 3. Install transition points or consolidation points in accessible locations and housed in an enclosure intended and suitable for the purpose, where allowed by standards and approved by the Owner's representative.
 - 4. Do not exceed the cable's minimum bend radius and maximum pulling tension.
 - 5. Install unshielded twisted pair cable so that there are no bends smaller than four times the cable outside diameter at any point in the run and at the termination field.
 - 6. Do not exceed 25-lbf pulling tension on 4-pair UTP cable.
- S. Provide the following minimum separation distances between pathways for copper communications cables and power wiring of 480 volts or less:
 - 1. Open or Nonmetal Communications Pathways:
 - a. 12-inches from electric motors, fluorescent light fixtures, and unshielded power lines carrying up to 3 kVA.
 - b. 36-inches from electrical equipment and unshielded power lines carrying more than 5 kVA.
 - c. 48-inches from large electrical motors or transformers.
 - 2. Grounded Metal Conduit Communications Pathways:
 - a. 2 1/2-inches from electrical equipment and unshielded power lines carrying up to 2 kVA.
 - b. 6-inches from electrical equipment and unshielded power lines carrying from 2 kVA to 5 kVA.
 - c. 12-inches from electrical equipment and unshielded power lines carrying more than 5 kVA.
 - d. 3-inches from power lines enclosed in a grounded metal conduit (or equivalent shielding) carrying from 2 kVA to 5 kVA.
 - e. 6-inches from power lines enclosed in a grounded metal conduit (or equivalent shielding) carrying more than 5 kVA.

3.2 UNSHIELDED TWISTED PAIR TERMINATION

- A. Coil cables in the in-wall or surface-mount boxes if adequate space is present to house the cable coil without exceeding the manufacturers bend radius. In hollow wall installations where box-eliminators are used, excess wire can be stored in the wall. Do not store more than 12-

inches of UTP and 36-inches of fiber slack in an in-wall box, modular furniture raceway, or insulated walls. Loosely coil and store excess slack in accessible ceiling space above each drop location when there is not enough space present in the outlet box to store slack cable.

- B. Dress and terminate cables in accordance with the recommendations made in the ANSI/TIA/EIA-568-C.1 document.
- C. Terminate 4 pair cables on the jack and patch panels using T568A wiring scheme.
- D. Maintain the cable jacket within 1-inch of the termination point.
- E. Do not exceed 0.5-inch of pair untwist at the termination point.
- F. Do not exceed 4 times the outside diameter of the cable in the termination area for bend radiance compliance.
- G. Neatly bundle and dress cables to their respective panels or blocks. Feed each panel or block by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame.

3.3 TESTING PROCEDURES

- A. Test cables and termination hardware for defects in installation and to verify cabling system performance under installed conditions according to the requirements of ANSI/TIA/EIA-568-C.
- B. Verify pairs of each installed cable prior to system acceptance. Repair or replace any defect in the cabling system installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks in order to ensure 100 percent useable conductors in cables installed.
- C. Test cables in accordance with this document, the ANSI/TIA/EIA standards, the manufacturer's procedures and best industry practice. If any of these are in conflict, bring any discrepancies to the attention of the project team for clarification and resolution.
- D. Test Unshielded Twisted Pair Cables as Follows:
 - 1. Test twisted-pair copper cable links for continuity, pair reversals, shorts, opens and performance as indicated below. Additional testing is required to verify Category performance. Test horizontal cabling using a Level III test unit for Category 6a performance compliance as specified in ANSI/TIA/EIA-568 C.1, C.2.
 - 2. Continuity -Test each pair of each installed cable using a test unit that shows opens, shorts, polarity and pair-reversals, crossed pairs and split pairs. Test shielded/screened cables with a device that verifies shield continuity in addition to the above stated tests.
 - 3. Record the test as pass/fail as indicated by the test unit in accordance with the manufacturers' recommended procedures, and referenced to the appropriate cable identification number and circuit or pair number. Correct or repair any faults in the wiring and retest the cable prior to final acceptance.
 - 4. Length -Test each installed cable link for installed length using a TDR type device. Test the cables from patch panel to patch panel, block to block, patch panel to outlet or block to outlet as appropriate. The cable length will conform to the maximum distances set forth in the ANSI/TIA/EIA-568-C Standard. Record cable lengths, referencing the cable identification number and circuit or pair number. For multipair cables, record the shortest pair length as the length for the cable.
- E. Follow the Standards requirements established in ANSI/TIA/EIA-568-C.1, C.2.

- F. Perform testing with a Level IV tester. The basic tests required are:
1. Wire Map
 2. Length
 3. Attenuation
 4. NEXT (Near-end Crosstalk)
 5. Return Loss
 6. ELFEXT Loss
 7. Propagation Delay
 8. Delay Skew
 9. PSNEXT (Power Sum Near-end Crosstalk Loss)
 10. PSELFEXT (Power Sum Equal Level Far-end Crosstalk Loss)
- G. Provide test results in electronic format, with the following minimum information per cable:
1. Circuit ID
 2. Test Result, "Pass" or "Fail"
 3. Date and Time of Test
 4. Project Name
 5. NVP
 6. Cable Length
 7. Tester Name
- H. Provide an electronic copy of the test results, in the native tester software format, to the Consultant along with the written test results.
- I. Provide a fully functional version of the tester software for use by the Consultant in reviewing the test results.
- J. Any failed test results that cannot be remedied through re-termination (as in the case of reversed or split pairs), must be reported in writing to the Consultant immediately, along with a copy of the test results.
- K. Labeling.
1. Label horizontal cables using a machine printed label at each end of the cable at approximately 1 inch from the termination point on each end, approximately 12-inches of the termination point, and again at approximately 48-inches from the termination point. Do not use handwritten labels.
 2. Label patch panel ports and TO ports with the cable identifier.
 3. Denote the TO ID, as well as the unique cable number for that TO, i.e. A-001-A for cable number 1, A-001-B for cable number 2, and so forth on the labels. Provide the final cable ID matrix to the Architect one week prior to cable installation.
 5. Note labeling information on the as-built drawings.

3.4 PATCH CORDS

- A. Field terminated patch cords and jumpers are not allowed. At a minimum, provide equipment connection cords for one-half the total number of cables installed at each termination point. For example: A telecommunications outlet with four Category 6a cables installed would require two Category 6a equipment connection cords at the work area outlet and two Category 6a equipment connection cords in the telecommunications equipment room for a total of four Category 6a equipment connection cords. A telecommunications outlet with a 4-strand fiber optic cable installed would require one duplex fiber optic patch cord(s) at the work area outlet and one duplex fiber optic patch cord(s) in the telecommunications equipment room for a total

of two duplex fiber optic patch cord(s). Provide equal amounts of each length indicated in Part 2, Products.

3.5 COORDINATION OF CONDITIONS

- A. Structured cabling for wireless access points of a given description may be used in more than one type of ceiling or wall structure. Coordinate ceiling construction, wall types, recessing depth and other construction details prior to ordering special components indicated in the details for shipment. Where materials supplied do not match ceiling construction replace them at no cost to Owner.

END OF SECTION

28 16 00 – HARDWIRED INTRUSION ALARM

PART 1 GENERAL

1.1 WORK INCLUDED

- A. General Conditions and requirements of Division 1, Section 26 00 00 and Section 26 05 00 apply to work hereunder.
- B. Furnish and install an extetnsion to existing intrusion Detection and Alarm system including all wiring and connections and other materials as shown on Plans and specified herein. It is the intent that a complete operating system conforming to all applicable codes be installed and that any power supplies, relays, resistors, programming, or other items required to achieve this end result shall be furnished whether or not such item or items are specified herein.
- C. The contract Drawings and Specifications indicate the general scope of the Intrusion Alarm System. The bidder shall insure that the system conforms to all applicable codes and District intrusion alarm requirements. The bidder shall verify all District alarm requirements with representative, and include them in the bid whether specifically mentioned herein or not. The Contractor responsible for this section of the Specifications shall lay out all devices, equipment, conduit, wiring, etc. And submit drawings per paragraph "Submittals" hereinafter. All locations and spacings shall conform to applicable codes. Any additional detection and signaling devices required by codes and the District shall be provided as part of this contract.
- D. It is the contractor's responsibility to provide the School District with a complete and working system that meets the intent of these specifications. Omissions in the written specifications and/or plans will not relieve the contractor of this responsibility.

1.2 GENERAL REQUIREMENTS

A. SYSTEM REQUIREMENTS:

- 1. All of various equipment components to be complete with all appurtenant accessories required to provide specified facilities and perform specified functions throughout presently planned construction and space; and provisions for expanding system to provide same facilities, and perform same functions in all future planned construction, including space and mountings in control panels and terminal cabinets.

B. INSTRUCTIONS AND MANUALS:

- 1. Equipment supplier of systems to demonstrate complete operation of system to satisfaction of Owner's maintenance personnel and School Administrative staff. Provide training to staff for programming and use of all equipment.
- 2. Manuals with wiring schematics, installation instructions, and details of all routine maintenance and servicing which must be given system by Owner shall be provided in substantial fiberboard covers, with title page, list of contents, and conspicuous label on cover and shall be delivered to District. Submit to architect for approval before delivering to Owner.

- C. Installation of the intrusion alarm system and equipment shall not be started until submittals, for each component of the system, have been submitted to and approved by Architect and the District Facilities Planning. Contractor is responsible for submission and approval and shall submit all materials via Architect.

- D. When the alarm contractor proceeds without coordination and approval of the District Facilities Planning, then all drawings and specifications may be superseded by later detailed specifications and detailed alarm drawings prepared by Stockton Unified School District Facilities Planning, and the alarm contractor shall conform to them and to such changes as may be called for by those revisions without extra cost to the District. Where work called for exceeds code requirements, the drawings and specifications shall take precedence.

1.3 SUBMITTALS:

Furnish the following as a minimum:

- A. Scope of project.
- B. Scaled site plan and building floor plans showing intrusion alarm device locations.
- C. Single line riser diagram and point-to-point diagram.
- D. Use of "E" drawings for intrusion alarm limited to intrusion alarm equipment only. All other signal, fixture, and power references shall not be permitted.
- E. Manufacturer's specification sheet on all intrusion alarm equipment.
- F. DSA project number and school district/school file number.
- G. Complete symbol legend for all intrusion alarm devices being installed.
- H. Elevation detail of detection devices.
- I. Identification of type of wiring used.
- J. Details on support and anchorage of intrusion alarm equipment weighing over 20 pounds.
- K. Sequence of operations/events when alarm system is activated:
 - 1. Building plans shall be 1/8" = 0", and site plans shall be no smaller than 1" = 40'. Contractor shall also submit name of firm he proposes to do work under this Section, addresses, phone numbers, and name of firm's contact, for approval. Such firms shall be factory authorized representatives of the equipment specified, who shall furnish all equipment, make all connections to same, and place the systems in operation. Such firms shall have offices and service departments within a 75-mile radius of project and shall have been in business of this type for at least five years.
 - 2. The intrusion alarm system contractor must have completed similar systems in the past five years and shall include in submittal, a list of contracts of the work performed at schools within the past five years. Additionally, the intrusion alarm system contractor shall be licensed by the California Consumer Affairs Department, Bureau of Collections and Investigations and possess a valid Alarm Company operators license. Only contractors holding valid licenses shall perform any alarm work on project. A copy of the licenses shall be provided with submittal. Also, refer to requirement for shop drawings, substitutions, materials, and submittals in Section 26 00 00 "Electrical General Requirement". The Architect's representative will make two submittal reviews. Subsequent reviews will be charged to the Contractor. A rejection of a submittal or review of a partially presented submittal constitutes one submittal review.
- L. RECORD DRAWINGS: Refer to General Conditions and Section 26 00 00. Final punch list will not be provided until drawings are received and approved.

- M. Manufacturer's DIRECTIONS: The alarm contractor shall follow manufacturer's directions where these directions cover points not included in the drawings or in these specifications, after obtaining written approval from the District Facilities Planning.

1.4 GUARANTEE:

- A. One firm to assume full responsibility for performance on all work of this section. Guarantee all equipment against defects in material and workmanship for one (1) year, and provide on-the-premises service during normal working hours for one year, at no cost to purchaser if trouble is not caused by misuse, abuse, or accident, or at current labor rates if so caused. Provide manufacturer's written one-year guarantee for equipment and parts.
- B. Service shall normally be available within 24 hours from service department of authorized distributor of manufacturer by factory-trained servicemen.
- C. On the premises service at other than normal working hours to also be available, but labor charges for such calls to be paid by purchaser at current labor rates.
- D. Alarm contractor shall respond to any emergency repair work on the alarm system, in the one-year period for warranties and guarantees, within two hours, regardless of the hour or day of week.
- E. If the alarm contractor fails to respond within two hours, Stockton Unified School District reserves the right to call another vendor to perform the emergency repair, and then back charge the alarm contractor for work performed during this emergency. The District reserves sole right for determination whether repair work is of an emergency nature.

PART 2 DETAIL REQUIREMENTS AND PRODUCTS

2.1 SYSTEM OPERATION

- A. Operation of door switches or motion detectors shall transmit alarm signal to District Police Central Station via telephone leased line. Telephone company leased lines shall be arranged by the Owner.
- B. The system shall be electrically supervised against open circuits and grounds on the wiring in the system. In addition, wireless devices shall be self-testing and shall report trouble, malfunction, or battery failure to control panel.

2.2 STANDARD PRODUCTS

- A. Equipment and accessories furnished under the terms of these specifications shall be the standard products of a single manufacturer. All equipment shall be listed by U.L. and acceptable to the Stockton Unified School District Facilities Planning.
- B. INTRUSION ALARM CONTROL PANEL: Existing. A contractor shall familiarize themselves with existing system before bid.
- C. INTRUSION DETECTORS - Wired Motion Sensors shall be Dual Tec Sensors. Sensors installed shall be 100% compatible with existing system.
- D. DOOR SWITCHES – Wired, recessed, addressable type door switches that are compatible with existing system.

PART 3 EXECUTION

3.1 INSTALLATION REQUIREMENTS

- A. Electrical Contractor shall retain the services of the duly appointed representative as specified hereinbefore, who shall furnish all equipment, make all connections to same, and place system in operation. Technician and workman employed shall be particularly skilled in this type of work.
- B. Device locations shown on drawings are approximate only. Exact locations shall be field verified in accordance with manufacturer's recommendations. District Facilities Planning or his representative to approve sensor locations when modified from original blueprint locations.
- C. Upon completion of installation, Electronic Copy (PDF) of one-line "as-built" wiring diagram shall be furnished to Architect.
- D. Each cable run on wiring diagram shall be identified with exact wire marker code (numerical or alphabetical) as appears in terminal cabinets.
- E. No splices shall occur in underground pull boxes.
- F. The Intrusion Alarm control panels shall be located in a secured utility room.
- G. All conductors shall be installed in conduit and shall comply with Section 26 05 00 "Basic Materials and Methods".

3.2 PHONE LINES

- A. The contractor shall coordinate with District Facilities Planning for telephone line requirements for connection of the control panel to Central Station, and field program the panel and communicator chips.

3.3 CONSTRUCTION MEETINGS

- A. The Contractor shall schedule construction meetings at the jobsite as follows:
 - 1. Pre-rough-in meeting shall occur before installation of any boxes, raceways, etc.
 - 2. Pre-wire meeting shall occur after raceways are installed and prior to pulling of any wire or cable.
 - 3. Pre-termination meeting shall occur after wire and cable has been installed and prior to termination.
- B. Meetings shall be scheduled by the Contractor on a building-by-building basis and shall include the Project Inspector, School's Representative, the electrical subcontractor, and the Intrusion Alarm System subcontractor as a minimum.

3.4 TESTS

- A. After all equipment specified herein has been installed and is in operating condition, performance tests shall be conducted to verify that installation and components comply with these specifications. Contractor shall furnish competent personnel for this test. Testing shall be scheduled with the Facilities Planning and shall occur after receipt by Architect of Contractor's written certification of completion, record one-line diagram, wiring diagrams, maintenance and operation manuals, and other "As-built" data required by these specifications.
- B. Upon completion of the installation of the intrusion detection and signaling equipment and after satisfactory performance tests have been conducted, a satisfactory demonstration of the entire system shall be made in the presence of the District Facilities Planning representative. School shall have a complete demonstration prior to occupancy.

3.5 KEYS

- A. Provide District with three (3) sets of keys required to operate and maintain system. Keys must be turned over to the District Facilities Planning representative at the time of final testing by the Contractor before approval and acceptance can be made.

END OF SECTION

28 31 00 – FIRE ALARM INTEGRATED SAFETY SYSTEM

PART 1 GENERAL

1.1 SUMMARY

A. General

1. Drawings and conditions of the contract, including but not limited to General Conditions, and the Special Conditions listed below, apply to work of this section.
 - a. Supplementary Instructions to Bidders.
 - b. Supplementary Conditions.
 - c. Summary of the Work.
 - d. Project Coordination.
 - e. Cutting and Patching.
 - f. Definitions and Standards.
 - g. Submittals.
 - h. Schedules and Reports.
 - i. Temporary Facilities.
 - j. Security Regulations.
 - k. Safety and Health.
 - l. Products.
 - m. Project Closeout.
 - n. Section 26 05 00, Basic Materials and Methods

B. Project/Work Identification

1. Project Name and Location: **Various Sites - ELOP Portable and Sitework Project**, Stockton Unified School District. Contract documents indicate the work of the contract, related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the contract documents include, but are not necessarily limited to, the following:
 - a. Existing site conditions and restrictions.
 - b. Other work prior to work of contract.
 - c. Alterations and coordination with existing work.
 - d. Other work to be performed concurrently by Owner.
 - e. Other work to be performed concurrently by separate contractors.
 - f. Other work subsequent to work of Contract.
 - g. Requirements for occupancy by Owner prior to completion of work of contract.

C. Summary – Fire

1. This performance specification provides the minimum requirements for the Life Safety System. The system shall include, but not limited to all equipment, materials, labor, documentation and services necessary to furnish and install a complete, operational system to include but not limited to the following functions:
 - a. Smoke, and fire detection.
 - b. Off-premise notification.
 - c. Smoke control.
 - d. Emergency Voice Alarm communication

D. Project representatives

1. All contacts with the Project Building shall be directed to the Owner's Representative, hereafter referred to as the Architect.

E. Interpretation

1. No interpretations of the meaning of the bid documents will be made to any bidder orally. Each request for such interpretation shall be made to the engineer in writing, addressed to the Architect of Record.
2. Written requests for interpretation will be received until 10 days prior to bid date.

F. Manufacturer

1. Edwards (United Technologies Corporation), EST3 Life Safety Platform – existing fire alarm control panel.
2. Provide manufacturer's current model of equipment and components. The materials, appliances, equipment, and devices to be tested and listed by a nationally recognized approvals agency for use as part of a protected premises protective signaling (fire alarm) system. The authorized representative of the manufacturer of the major equipment, such as control panels, is responsible for the satisfactory installation of the complete system.
3. Provide from the acceptable manufacturer's current product lines, equipment and components which comply with the requirements of these specifications. Equipment or components, which do not provide the performance and features, required by these specifications are not acceptable, regardless of manufacturer.

G. Alternates – Fire

1. Strict conformance to this specification is required to ensure that the installed and programmed system will function as designed, and will accommodate the future requirements and operations of the building owner. All specified operational features must be met without exception.
2. The authorized representative of the manufacturer of the major equipment shall be responsible for the satisfactory installation of the complete system.
3. All equipment and components shall be the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protected premises protective signaling system, access control, and smoke control.
4. All control panel assemblies and connected field appliances shall be provided by the same system supplier, and shall be designed and tested to ensure that the system operates as specified. The system shall utilize independently addressed, microprocessor-based smoke detectors, heat detectors, as described in this specification.
5. All equipment and components shall be installed in strict compliance with the manufacturer's recommendations.
6. The equipment to be supplied will be considered only if it meets all sections of the performance specification. Any deviations of system performance outlined in this specification will only be considered when the following requirements have been met:
 - a. A complete description of proposed alternate system performance methods with three (3) copies of working drawings thereof for approval by the Owner, not less than ten (10) calendar days prior to the scheduled date for submission of bids.
 - b. The supplier shall furnish evidence that the proposed or alternate system performance is equal or superior to the system operation stated in the specification. Such evidence shall be submitted to and accepted by the Owner, not less than ten (10) calendar days prior to the scheduled date for submission of bids.
 - c. The supplier shall submit a point-by-point statement of compliance for all sections in this specification. The statement of compliance shall consist of a list of all paragraphs within these sections. Where the proposed system complies fully with the paragraph as written, placing the word "comply" opposite the paragraph number shall indicate such. Where the proposed system does not comply with the paragraph as written and the supplier feels the proposed system will accomplish the intent of the

paragraph, a full description of the function as well as a full narrative description of how its proposal will meet its intent shall be provided. Any submission that does not include a point by point statement of compliance as described herein shall be disqualified. Where a full description is not provided, it shall be assumed that the proposed system does not comply.

- d. Contractor shall be responsible for paying all fees, including design fees, associated with obtaining DSA approval for the alternate system.
7. The acceptability of any alternate proposed system shall be the sole decision of the Owner or his authorized representative.

1.2 REFERENCES

A. Definitions and abbreviations - general

ADA: Americans with Disabilities Act.
AFF: Above Finished Floor.
AHJ: Authority Having Jurisdiction.
Approved: Unless otherwise stated, materials, equipment or submittals approved by the Authority or AHJ.
Circuit: Wire path from a group of devices or appliances to a control panel or transponder.
CPU: The central computer of a multiplex fire alarm or voice command control system.
CRC: Card Reader Controller
CRT: Cathode Ray Tube.
FACP: Fire Alarm Control Panel.
FCC: Fire Command Center.
FSCP: Firefighter's Smoke Control Panel
HVAC: Heating Ventilating and Air Conditioning.
IDC: Initiating Device Circuit.
LED: Light Emitting Diode.
LCD: Liquid Crystal Display.
NFPA: National Fire Protection Association.
NAC: Notification Appliance Circuit.
NCP: Local Network Control Panel.
PTR: Printer.
RCP Remote Control Panel
SLC: Signaling Line Circuit.
Style 1: As defined by NFPA 72, Class B.
Style 4: As defined by NFPA 72, Class B.
Style 6: As defined by NFPA 72, Class A.
Style 7: As defined by NFPA 72, Class A.
Style B: As defined in NFPA 72, Class B.
Style D: As defined in NFPA 72, Class A.
Style Y: As defined in NFPA 72, Class B.
UL or ULI: Underwriters Laboratories, Inc.
UL Listed: Materials or equipment listed and included in the most recent edition of the UL Fire Protection Equipment Directory.
Zone: Combination of one or more circuits or devices in a defined building area, i.e. 3 speaker circuits on a floor combined to form a single zone.

B. Codes – general

1. All work and materials shall conform to all applicable Federal, State and local codes and regulations governing the installation. If there is a conflict between the referenced standards, federal, state or local codes, and this specification, it is the bidder's responsibility to immediately bring the conflict to the attention of the Engineer for resolution. National standards shall prevail unless local codes are more stringent. The

bidder shall not attempt to resolve conflicts directly with the local authorities unless specifically authorized by the Engineer.

2. System components proposed in this specification shall be ULI listed to operate together as a system. The supplier shall provide evidence, with his submittal, of listings of all proposed equipment and combinations of equipment. The supplier shall be responsible for filing of all documents, paying all fees (including, but not limited to plan checking and permit) and securing all permits, inspections and approvals. Upon receipt of approved drawings from the authority having jurisdiction, the supplier shall immediately forward two sets of drawings to the Owner. These drawings shall either be stamped approved or a copy of the letter stating approval shall be included.

C. Codes - fire

1. The equipment and installation shall comply with the current provisions of the following codes and standards:
 - a. NFPA 70 – 2022 California Electric Code®
 - b. NFPA 72 – 2022 NFPA Fire Alarm Code
 - c. NFPA 90A - Air-Conditioning and Ventilating Systems
 - d. NFPA 92A - Smoke Control Systems
 - e. NFPA 92B - Smoke Management Systems in Malls, Atria, and Large Areas
 - f. NFPA 101- Life Safety Code®
 - g. UL 864 - Control Units for Fire Protective Signaling Systems.
 - h. UL 268 - Smoke Detectors for Fire Protective Signaling Systems.
 - i. UL 268A - Smoke Detectors for Duct Applications.
 - j. UL 217 - Single and Multiple Station Smoke Alarms
 - k. UL 521 - Heat Detectors for Fire Protective Signaling Systems.
 - l. UL 228 - Door Closers-Holders, With or Without Integral Smoke Detectors.
 - m. UL 464 - Audible Signaling Appliances.
 - n. UL 38 - Manually Actuated Signaling Boxes for Use with Fire-Protective Signaling Systems
 - o. UL 346 - Waterflow Indicators for Fire Protective Signaling Systems.
 - p. UL 1971 - Signaling Devices for the Hearing-Impaired.
 - q. UL 1481 - Power Supplies for Fire Protective Signaling Systems.
 - r. UL 1711 - Amplifiers for Fire Protective Signaling Systems.
 - s. UL 1635 - Digital Alarm Communicator System Units
 - t. Division of the State Architect
 - u. California State Fire Marshall
 - v. Federal Codes and Regulations
 - w. Americans with Disabilities Act (ADA)
 - x. Factory Mutual (FM) approval
 - y. International Standards Organization (ISO)
 - z. ISO-9000
 - aa. ISO-9001
 - bb. Electromagnetic Compatibility Requirements

1.3 SYSTEM DESCRIPTION

A. General – fire

1. Automatic fire alarm system shall transmit the alarm supervisory and trouble signals to a proprietary supervising station as required by NFPA 72. The supervising station shall be listed as UUKA by Underwriters Laboratory or shall meet the requirements of Factory Mutual Research approval standard 3011. Supervision of system and leased telephone lines shall be arranged by owner.
2. The automatic system shall cover all rooms and areas and upon activation of an initiating device alert all occupants and transmit the alarm, supervisory and trouble signals to an approved supervising station.

3. The Contractor shall furnish all labor, services and materials necessary to furnish and install a complete, functional addition to existing fire alarm system. The System shall comply in respects with all pertinent codes, rules, regulations and laws of the Authority, and local jurisdiction. The System shall comply in all respects with the requirements of the specifications, manufacturer's recommendations and Underwriters Laboratories Inc. (UL) listings.
 - B. It is further intended that upon completion of this work, the Owner be provided with:
 1. Complete information and drawings describing and depicting the entire system(s) as installed, including all information necessary for maintaining, troubleshooting, and/or expanding the system(s) at a future date.
 2. Complete documentation of system(s) testing.
 3. Certification that the entire system(s) has/have been inspected and tested, is/are installed entirely in accordance with the applicable codes, standards, manufacturer's recommendations and UL listings, and is/are in proper working order. Fire Alarm System shall be tested only when the system is 100% complete. Contractor shall use "Fire Alarm System Certification and Description" as required by Section 1-6.2 of NFPA 72 - 2022 edition.
 4. Manufacturer supplied training to allow district personnel to access and program Fire Alarm system.
- 1.4 Description – Fire Detection and Alarm System
- A. Provide and install an addition to and existing fire detection and alarm system consisting of:
1. Power supplies shall be located, as shown on the approved drawings.
 2. Area smoke detection shall be provided as shown on approved drawings.
 3. Area heat detection shall be provided as shown on approved drawings.
 4. Provide emergency voice system amplifier as addition to existing fire alarm control panel, and audible appliances located throughout the building(s), as shown on the approved drawings.
 5. Provide synchronized visual appliances located throughout the building, as shown on the approved drawings.
 6. Provide fan shutdown controls as shown on approved drawings.
 7. Provide elevator recall functions for primary and alternate floors and elevator power shunt trip activation.
 8. Connection to a Central Station is existing..

1.5 SEQUENCE OF OPERATIONS

A. General

1. Upon the alarm activation of any area smoke detector, heat detector, the following functions shall automatically occur:
 - a. The internal audible device shall sound at the control panel or command center.
 - b. The LCD display shall indicate all applicable information associated with the alarm condition including; zone, device type, device location and time/date.
 - c. All system activity/events shall be documented on the system printer.
 - d. Any remote or local annunciator LCD/LED's associated with the alarm zone shall be illuminated.
 - e. Activate audible notification.

- f. Activate visual strobes notification appliances. The visual strobe shall continue to flash until the system has been reset. The visual strobe shall not stop operating when the "Alarm Silence" is pressed.
- g. Transmit signal to the central station with point identification.
- h. Activate automatic smoke control sequences.
- i. All automatic events programmed to the alarm point shall be executed and the associated outputs activated.
- j. All self-closing fire/smoke doors held open shall be released.
- k. Transmit alarm text messages to "alpha-numerical" display pagers.

B. Supervisory operation

- 1. Upon supervisory activation of any sprinkler valve supervisory switch, the following functions shall automatically occur:
 - a. The internal audible device shall sound at the control panel or command center.
 - b. The LCD display shall indicate all applicable information associated with the supervisory condition including; zone, device type, device location and time/date.
 - c. All system activity/events shall be documented on the system printer.
 - d. Any remote or local annunciator LCD/LED's associated with the supervisory zone shall be illuminated.
 - e. Transmit signal to the central station with point identification.

C. Trouble operation

- 1. Upon activation of a trouble condition or signal from any device on the system, the following functions shall automatically occur:
 - a. The internal audible device shall sound at the control panel or command center.
 - b. The LCD keypad display shall indicate all applicable information associated with the trouble condition including; zone, device type, device location and time/date.
 - c. All system activity/events shall be documented on the system printer.
 - d. Any remote or local annunciator LCD/LED's associated with the trouble zone shall be illuminated.
 - e. Transmit signal to the central station with point identification.

D. Monitor activation

- 1. Upon activation of any device connected to a monitor circuit, the following functions shall automatically occur:
 - a. The internal audible device shall sound at the control panel or command center.
 - b. The LCD display shall indicate all applicable information associated with the status condition including; zone, device type, device location and time/date.
 - c. All system activity/events shall be documented on the system printer.
 - d. Any remote or local annunciator LCD/LED's associated with the status zone shall be illuminated.

1.6 SUBMITTALS

A. Project

- 1. The contractor shall purchase no equipment for the system specified herein until the owner has approved the project submittals in their entirety and has returned them to the contractor. It is the responsibility of the contractor to meet the entire intent and functional performance detailed in these specifications. Approved submittals shall only allow the contractor to proceed with the installation and shall not be construed to mean that the contractor has satisfied the requirements of these specifications. The contractor shall submit one (1) complete set of documentation in PDF format within 30 calendar days after date on notice to proceed.

2. The submittal shall include a cover letter providing a list of each variation that the submittal may have from the requirements of the contract documents. In addition, the Contractor shall provide specific notation on each shop drawing, sample, catalog cut, data sheet, installation manual, etc. submitted for review and approval, of each such variation.
 3. All drawings and diagrams shall include the contractor's title block, complete with drawing title, contractor's name, and address, date including revisions, and preparer and reviewer's initials.
- B. Product data
1. Data sheets with the printed logo or trademark of the manufacturer for all equipment. Indicated in the documentation will be the type, size, rating, style, and catalog number for all items proposed to meet the system performance detailed in this specification. The proposed equipment shall be subject to the approval of the Architect/Engineer.
- C. Shop drawings
1. A complete set of shop drawings shall be supplied. The shop drawings shall be reproduced electronically in digital format. This package shall include but not be limited to:
 - a. New voice control/amplifier and existing control panel wiring and interconnection schematics.
 - b. Complete point-to-point wiring diagrams.
 - c. Riser diagrams.
 - d. Complete floor plan drawing locating all system devices and 1/4" = 1'-0" scale plan and elevation of all equipment in the Fire Command Station. Including showing the placement of each individual item of fire alarm, security, and access control equipment as well as raceway size and routing, junction boxes, and conductor size, quantity, and color in each raceway.
 - e. Detailed system operational description. Any Specification differences and deviations shall be clearly noted and marked.
 - f. Complete system bill of material.
 - g. All drawings shall be reviewed and signed off by an individual having a minimum of a NICET certification in fire protection engineering technology, subfield of fire alarm systems.
- D. Samples
1. A sample of each smoke detector, intelligent modules, speaker, strobes, card reader controller, card reader, and door locking mechanism shall be provided to the contractor for their familiarization.
- E. Quality assurance /control submittals
1. Installer's Certification
 - a. The engineered systems distributor must be licensed in the state of project location and have been incorporated in the business in that state for a minimum of 5 years.
 - b. Submit a copy of the system supplier's training certification issued by the manufacturer of the integrated life safety system, and a copy of the installing technician's NICET certification.
- F. System calculations
1. Complete calculations shall be provided which show the electrical load on the following system components:
 - a. Each system power supply, including stand alone booster supplies.
 - b. Each standby power supply (batteries).

- c. Each notification appliance circuit.
- d. Each auxiliary control circuit that draws power from any system power supply.

G. Close out

1. Two (2) print copies and one (1) electronic copy in PDF of the following documents shall be delivered to the building owner's representative at the time of system acceptance. The close out submittals shall include:
 - a. Project specific operating manuals covering the installed integrated life safety system. The manual shall contain a detailed narrative description of the system architecture, inputs, notification signaling, auxiliary functions, annunciation, sequence of operations, expansion capability, application considerations and limitations. Manufacturer's data sheets and installation manuals/instructions for all equipment supplied. A generic or typical owner's instruction and operation manual shall not be acceptable to fulfill this requirement.
2. As-Built drawings consisting of: a scaled plan of each building showing the placement of each individual item of the Integrated Life Safety System equipment as well as raceway size and routing, junction boxes, and conductor size, quantity, and color in each raceway. All drawings must reflect point to point wiring, device address and programmed characteristics as verified in the presence of the engineer and/or the end user unless device addressing is electronically generated, and automatically graphically self-documented by the system. Supply one set of as-built drawings, to be installed in lockable print holder (tube style) located at Main FACP, on site.
3. All drawings shall be provided in standard .DXF and PDF formats. A bond plot of each sheet shall also be provided.
4. The application program listing for the system as installed at the time of acceptance by the building owner and/or local AHJ (disk, hard copy printout, and all required passwords).
5. Provide the name, address and telephone of the authorized factory representative.
6. A filled-out Record of Completion in accordance with NFPA 72 verifying that the system has been installed and tested in accordance with the approved plans and specifications.
7. Provide a detailed test report of the final commissioning of the Fire Alarm System. Report shall include the number of devices installed within each building.

1.7 QUALITY ASSURANCE

A. Qualifications of contractor

1. Fire Alarm
 - a. The contractor shall have successfully installed similar system fire detection, evacuation voice and visual signaling control components on a previous project of comparable size and complexity. The owner reserves the right to reject any control components for which evidence of a successful prior installation performed by the contractor cannot be provided.
 - b. The contractor shall have in-house engineering and project management capability consistent with the requirements of this project. Qualified and approved representatives of the system manufacturer shall perform the detailed engineering design of central and remote-control equipment. Qualified and approved representatives of the system manufacturer shall produce all panel and equipment drawings and submittals, operating manuals. The contractor is responsible for retaining qualified and approved representative(s) of those system manufacturers specified for detailed system design and documentation, coordination of system installation requirements, and final system testing and commissioning in accordance with these specifications.

B. Pre-installation requirements

1. The provider shall submit a detailed project plan that will describe in detail how the provider will approach the project, from inception to finalization. The plan must include at a minimum the following information:
 - a. Project Staging
 - b. Project Management
 - c. Equipment Schedules
 - d. Installation Time Lines
 - e. Other Trade Requirements
 - f. Final Acceptance Testing
 - g. Personnel Resumes
 - h. Progress Report Sample
2. All equipment and components shall be installed in strict compliance with each manufacturer's recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc. before beginning system installation. Refer to the manufacturer's riser/connection diagram and details for all specific system installation/termination/wiring data.

C. Start and completion dates

1. The starting and completion dates for this work will be established at the pre-bid meeting.

1.8 DELIVERY, STORAGE AND HANDLING

A. Receiving and handling

1. The Contractor shall be responsible for all receiving, handling, and storage of his materials at the job site.
2. Use of loading docks, service driveways, and freight elevators shall be coordinated with the Owner.

1.9 PROJECT CONDITIONS

- A. It shall be the Contractor's responsibility to inspect the job site and become familiar with the conditions under which the work will be performed. Inspection of the building may be made by appointment with the Owner. Contractors are requested to inspect the building prior to the pre-bid meeting.
- B. A pre-bid meeting will be held to familiarize the Contractors with the project. Failure to attend the pre-bid meeting may be considered cause for rejection of the Contractor's bid. The minutes of this meeting will be distributed to all attendees and shall constitute an addendum to these specifications.
- C. The Contractor shall be responsible for prior coordination of all work and demolition with the Owner.

1.10 WARRANTY AND MAINTENANCE

A. Spare parts – fire alarm system

1. The Contractor shall supply the following spare parts:
 - a. Automatic detection devices - Two (2) percent of the installed quantity of each type.
 - b. Manual fire alarm stations - Two (2) percent of the installed quantity of each type.
 - c. Audible and visible devices - One (1) percent of the installed quantity of each type, but no less than two (2) devices.
 - d. Keys - A minimum of three (3) sets of keys shall be provided and appropriately identified.

B. Warranty

1. The contractor shall warranty all materials, installation and workmanship for one (1) year from date of acceptance, unless otherwise specified. A copy of the manufacturer's warranty shall be provided with closeout documentation and included with the operation and installation manuals.
2. The System Supplier shall maintain a service organization with adequate spare parts stock within 25 miles of the installation. Any defects that render the system inoperative shall be repaired within 24 hours of the owner notifying the contractor.

1.11 TRAINING

- A. The System Supplier shall schedule and present a minimum of 8 hours of documented formalized instruction for the building owner, detailing the proper operation of the installed System.
- B. The instruction shall be presented in an organized and professional manner by a person factory trained in the operation and maintenance of the equipment and who is also thoroughly familiar with the installation.
- C. The instruction shall cover the schedule of maintenance required by NFPA 72 and any additional maintenance recommended by the system manufacturer.
- D. Instruction shall be made available to the Local Municipal Fire Department if requested by the Local Authority Having Jurisdiction.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Fire Alarm System: Edwards (United Technologies Corporation EST3 Life Safety Platform)
 1. The manufacturer of the system equipment shall be regularly involved in the design, manufacture, and distribution of all products specified in this document. These processes shall be monitored under a quality assurance program that meets the ISO 9000 requirements.
 2. All System components shall be the cataloged products of a single supplier. All products shall be listed by the manufacturer for their intended purpose.
 3. All control panel assemblies and connected field appliances shall be both designed and manufactured by the same company, and shall be tested and cross-listed as to ensure that a fully functioning is designed and installed. The system supplied under this specification shall be a microprocessor-based direct wired, multi-priority peer-to-peer networked system. The system shall utilize independently addressed, microprocessor-based smoke detectors, heat detectors, and modules as described in this specification.

2.2 SYSTEM CONFIGURATION

- A. General:
 1. Provide Life Safety System equipment arranged and programmed to provide the early detection of fire, the notification of building occupants, the automatic summoning of the local fire department, the override of the HVAC system operation, and the activation of other auxiliary systems to inhibit the spread of smoke and fire, and to facilitate the safe evacuation of building components.
- B. Power Supply:
 1. Provide standby power supply that is an electrical battery with capacity to operate the system under maximum supervisory load for 24 hours and capable of operating the system for 15 minutes in the alarm mode at 100% load. System to include a charging circuit to automatically maintain the electrical charge of the battery. System to automatically adjust the charging of the battery to compensate for temperature.

- C. Display:
 - 1. Existing
- D. Initiating Device Circuits:
 - 1. Initiating device circuits monitoring manual fire alarm stations, smoke, smoke/CO, and heat detectors, waterflow switches, valve supervisory switches, fire pump functions, and air pressure supervisory switches shall be Class B (Style "A" or "B").
- E. Notification Appliance Circuits:
 - 1. All notification appliance circuits shall be Class "B" (Style "Y"). All notification appliance circuits shall have a minimum circuit output rating of: 2 amps at 24 vdc. The notification circuits shall be power limited. Non-power limited circuits are not acceptable.
- F. Signaling Line Circuits
 - 1. When a signaling line circuit covers more than one fire/smoke compartment, a wire-to-wire short shall not effect the operation of the circuit from the other fire/smoke compartments. The signaling line circuit connecting network panel/nodes, annunciators, command centers, shall be Class A (Style 7). The media shall be copper except where fiber optic cable is specified on the approved drawings.
 - 2. The signaling line circuit connecting to addressable/analog devices including, detectors, monitor modules, control modules, isolation modules, intrusion detection modules, and notification circuit modules shall be Class B (Style 4).
 - 3. The signaling line circuit connecting to the audio communications (pre-amp signal), amplifiers, and nodes shall be Class B (Style 4). The circuit shall be power limited.
 - 4. The signaling line circuit connecting to the two-way communications circuit (riser) shall be Class B (Style 4).
- G. Network Wiring
 - 1. The system supplied under this specification shall utilize node-to-node, direct wired multi-priority peer-to-peer network operations. The system shall utilize independently addressed smoke detectors, smoke/CO detectors, heat detectors, and input/output as described in this specification. The peer-to-peer network shall contain multiple nodes consisting of the command center, main controller, remote control panels, LCD/LED annunciation nodes, and workstations. Each node is an equal, active functional node of the network, which is capable of making all local decisions and generating network tasks to other nodes in the event of node failure or communications failure between all nodes.
 - 2. When a network is wired in a Class B configuration, a single break or short on the network wiring isolates the system into two groups of panels. Each group continues to function as a peer-to-peer network working with their combined databases. When wired using a Class A configuration, a single break or short on the network wiring causes the system to isolate the fault, and network communication continues uninterrupted, without any loss of function. Should multiple wiring faults occur, the network re-configures into many sub-networks and continues to respond to alarm events from every panel that can transmit and receive network messages.
- H. Network Nodes
 - 1. The remotest control panel(s) (network nodes) shall meet the same requirements as described in the control panel section and shall contain the following:
 - a. Integral power supply(s) with secondary stand-by power.
 - b. Signaling line circuits for communications with analog/addressable devices, as required.
 - c. Notification appliance circuits, as required.
 - d. Auxiliary function circuits and operations, as required.

I. DACT

1. Existing.

2.3 PANEL COMPONENTS & FUNCTIONS

Existing

2.6 FIELD MOUNTED SYSTEM COMPONENTS

A. FIRE INITIATING DEVICES

1. ANALOG ADDRESSABLE SMOKE – GENERAL

- a. Provide analog addressable smoke detectors at locations shown on the drawings.
- b. Each analog addressable smoke detector's sensitivity shall be capable of being programmed individually as: most sensitive, more sensitive, normal, less sensitive or least sensitive. In addition to the five sensitivity levels the detector shall provide a pre-alarm sensitivity setting, which shall be settable in 5% increments of the detector's alarm sensitivity value.
- c. An alternate alarm sensitivity level shall be provided for each detector, which can be set to any of the five (5) sensitivity settings manually or automatically using a time of day event. In addition to the five alternate sensitivity levels the detector shall provide an alternate pre-alarm sensitivity setting, which shall be settable in 5% increments of the detector's alternate alarm sensitivity value.
- d. The detector shall be able to differentiate between a long drift above the prealarm threshold and fast rise above the threshold.
- e. The detector's sensing element reference point shall automatically adjust, compensating for background environmental conditions such as dust, temperature, and pressure. Periodically, the sensing element real-time analog value shall be compared against its reference value. The detector shall provide a maintenance alert signal that 75% to 99% compensation has been used. The detector shall provide a dirty fault signal that 100% or greater compensation has been used.
- f. The system shall allow for changing of detector types for service replacement purposes without the need to reprogram the system. The replacement detector type shall automatically continue to operate with the same programmed sensitivity levels and functions as the detector it replaced. System shall display an off-normal condition until the proper detector type has been installed or change in the application program profile has been made.

A. HEAT DETECTORS

1. FIXED TEMPERATURE-ROR HEAT DETECTOR

- a. Provide analog/addressable combination fixed temperature / rate-of-rise detectors at the locations shown on the drawings. The heat detector shall have a nominal fixed temperature alarm point rating of 195°F (57°C) and a rate of rise alarm point of 15°F (9°C) per minute. The heat detector shall be rated for ceiling installation at a minimum of 70 ft (21.3m) centers and be suitable for wall mount applications. When installed above ceilings, an identification label visible from the ground shall identify the location of the heat detector.

B. DETECTOR BASE – STANDARD

1. Provide standard detector mounting bases suitable for mounting on either North American 1-gang, 3½ or 4-inch octagon box and 4-inch square box, or European BESA or 1-gang box. The base shall, contain no electronics and support all series detector types.

2.6 NOTIFICATION APPLIANCES

A. LOW PROFILE SPEAKERS

1. Provide low profile wall and ceiling mount speakers at the locations shown on the drawings. The speaker shall provide an 84 dBA sound output at 10 ft. when measured in reverberation room per UL-464. The speaker shall have a selectable output. In and out screw terminals shall be provided for wiring. The speaker shall mount in a North American 1-gang box.

B. LOW PROFILE SPEAKER / STROBES

1. Provide low profile wall/ceiling mount speaker/strobes at the locations shown on the drawings. The speaker/strobe shall provide an audible output of 84 dBA at 10 ft. when measured in reverberation room per UL-464. Strobes shall provide synchronized flash outputs. The strobe output shall be determined as required by its specific location and application from a family of 15cd, 30cd, 60cd, 75cd & 110cd devices. The speaker shall have a selectable output. In and out screw terminals shall be provided for wiring. Low profile speaker/strobes shall mount in a North American 1-gang box.

C. LOW PROFILE STROBES

1. Provide low profile wall mounted strobes at the locations shown on the drawings. In and out screw terminals shall be provided for wiring. Strobes shall provide synchronized flash outputs. Strobe output shall be determined as required by its specific location and application from a family of 15cd, 30cd, 60cd, 75cd, or 110cd devices. Low profile strobes shall mount in a North American 1-gang box.

D. GENERAL

1. All appliances which are supplied for the requirements of this specification shall be UL Listed for Fire Protective Service, and shall be capable of providing the "equivalent facilitation" which is allowed under the Americans with Disabilities Act Accessibilities Guidelines (ADA (AG)), and shall be UL 1971 Listed.
2. All appliances shall be of the same manufacturer as the fire alarm control panel specified to ensure absolute compatibility between the appliances and the control panels, and to ensure that the application of the appliances is done in accordance with the single manufacturer's instructions.
3. Any appliances that do not meet the above requirements, and are submitted for use must show written proof of their compatibility for the purpose intended. Such proof shall be in the form of documentation from all manufacturers that clearly states that their equipment (as submitted) is 100% compatible with each other for the purpose intended. All strobes shall be provided with lens markings oriented for wall mounting.
4. All notification appliances shall be red unless noted otherwise on the drawings.

2.7 INITIATION & CONTROL MODULES

A. MONITOR MODULE

1. Provide addressable monitor modules at the locations shown on the drawings.

B. NOTIFICATION APPLIANCE CIRCUITS

1. Provide addressable notification appliance circuit modules at the locations shown on the drawings. The module shall provide one (1) supervised Class B notification circuit. The module shall provide polarized audible / visual selection for 24Vdc @ 2amps, audio outputs at 25Vrms @ 50 watts or 70 Vrms @ 35 watts.

2.8 MISCELLANEOUS COMPONENTS

A. Remote Diagnostic Software

1. The system shall have the ability to upload its status and sensitivity remotely using either a direct connection or through a network connection to an owner supplied personal computer. The remote diagnostic software shall be capable of generating sensitivity and system status reports. The utility shall supply data for trend analysis reports using an owner supplied spreadsheet program. The Remote Diagnostic Software shall be Windows based and capable of receiving data from multiple installed life safety systems. The software shall be capable of off-line reports. Use of the remote diagnostic software shall not compromise the functionality of the site-installed software.

B. DRAWING STORAGE BOX

1. Basis of Design Product: Subject to compliance with requirements, provide AcerBox; DSB ACE-12 or comparable product by one of the following:
 - a. District and Architect approved equal.
2. 37 inches tall x 5 ½ inches wide x 4 ½ inches deep
3. The Drawings Storage Box (DSB) shall be UL and CSFM listed and constructed of 18 gauge cold rolled steel. It shall be painted with a durable read powder coat paint. The access door shall be lettered on 2 angled sides of the cabinet providing 180 degrees of viewing. "FIRE ALARM DOCUMENTS" in White indelible letters minimum of 1 inch in height. The door shall have a stainless steel continuous piano hinge. The door of the DSA shall be locked with a keyed lock ¾ inch barrel. Inside the cabinet there shall be a strap to secure the drawings in the cabinet that is adjustable for the size of rolled drawings. Location to hold keys and to secure emergency contact information inside cabinet for easy access shall be provided.

PART 3 EXECUTION

3.1 INSTALLATION

A. INSTALL SEQUENCE

1. Installation of the systems shall be conducted in stages and phased such that circuits and equipment are installed in the following order:
 - a. Riser conduits, AC power conduits and control cabinets.
 - b. Fire command center, remote control panel(s), control component(s), annunciator(s), remote CRT terminal(s), and printer(s). Provide temporary mounting of fire command center in <location.>
 - c. Conduits and wiring for complete notification circuits and appliance installation throughout facility.
 - d. Pre-test the audible and visual notification appliance circuits.
 - e. Install all new detection devices.
 - f. Terminations between field devices and the associated control equipment.
 - g. The detection system shall be switched over and end of each day the system shall be operational. At no time will the system be placed out of service over night.
 - h. Complete the interface to the building automation system.
 - i. Complete contractor pre-test of system.
 - j. Complete system testing.

B. GENERAL

1. All equipment shall be attached to walls and ceiling/floor assemblies and shall be mounted firmly in place. Detectors shall not be supported solely by suspended ceilings. Fasteners and supports shall be sized to support the required load.
2. Where notification devices or initiation devices are surface mounted, provide manufacturer's surface backbox.

C. CONDUCTORS

1. The requirement of this section applies to all system conductors, including all signaling line, initiating device, notification appliance, auxiliary function, remote signaling, AC and DC power and grounding/shield drain circuits, and any other wiring installed by the Contractor pursuant to the requirements of these Specifications.
2. All circuits shall be rated power limited in accordance with NEC Article 760.
3. Installed in conduit or enclosed raceway.
4. The existing cable/wiring may be re-used providing they meet the manufacturer's published wiring requirements.
5. All new system conductors shall be of the type(s) specified herein.
6. All initiating circuit, signaling line circuit, AC power conductors, shield drain conductors and grounding conductors, shall be solid copper, stranded or bunch tinned (bonded) stranded copper.
7. All signaling line circuits, including all addressable initiating device circuits shall be 18 AWG minimum multi-conductor jacketed twisted cable or twisted shielded or as per manufacturer's requirements.
8. All non-addressable initiating device circuits, 24 VDC auxiliary function circuits shall be 18 AWG minimum or per manufacturer's requirements.
9. All notification appliance circuit conductors shall be solid copper or bunch tinned (bonded) stranded copper. Where stranded conductors are utilized, a maximum of 7 strands shall be permitted for No. 16 and No. 18 conductors, and a maximum of 19 strands shall be permitted for No. 14 and larger conductors.
10. All audible notification appliance circuits shall be 14 AWG minimum twisted pairs or twisted pairs shielded or per manufacturer's requirements.
11. All visual notification appliance circuits shall be 14 AWG minimum THHN or twisted pairs or twisted shielded pairs or per manufacturer's requirements.

D. CONDUCTORS AND RACEWAY

1. Except as otherwise required by, the installation of all system circuits shall conform to the requirements of Article 760 and raceway installation to the applicable sections of Chapter 3 of NFPA 70, National Electrical Code. Fire alarm circuit wiring shall include all circuits described in Section 760-1 including Fine Print Note No. 1 (FPN No. 1), and as defined by the manufacturer's UL listing.
2. The entire system shall be installed in a skillful manner in accordance with approved manufacturer's installation manuals, shop drawings and wiring diagrams. The contractor shall furnish all conduit, wiring, outlet boxes, junction boxes, cabinets and similar devices necessary for the complete installation. All wiring shall be of the type required by the NEC and approved by local authorities having jurisdiction for the purpose.
3. Any shorts, opens, or grounds found on new or existing wiring shall be corrected prior to the connection of these wires to any panel component or field device.
4. The contractor shall neatly tie-wrap all field-wiring conductors in the gutter spaces of the control panels and secure the wiring away from all circuit boards and control equipment components. All field-wiring circuits shall be neatly and legibly labeled in the control panel. No wiring except home runs from life safety system circuits and system power supply circuits shall be permitted in the control panel enclosures. No wiring splices shall be permitted in a control panel enclosure.

- E. All penetration of floor slabs and firewalls shall be fire stopped in accordance with all local fire codes.

F. CONDUIT RACEWAY

1. All systems and system components listed to UL864 Control Units for Fire Protective Signaling Systems maybe installed within a common conduit raceway system, in accordance with the manufacture's recommendations. System(s) or system components not listed to the UL864 standard shall utilize a separate conduit raceway system for each of the sub-systems.
2. The requirements of this section apply to all system conduits, raceways, electrical enclosures, junction boxes, pull boxes and device back boxes.
3. All system conduits shall be of the sizes and types specified.
4. All system conduits shall be EMT, 3/4 -inch minimum, except for flexible metallic conduit used for whips to devices only, maximum length 6 feet, 3/4-inch diameter, minimum.
5. All system conduits shall be installed in accordance with Division 26 Electrical Specifications.
6. Conduits shall be sized according to the conductors contained therein. Cross sectional area percentage fill for system conduits shall not exceed 40%.
7. Provide all new conduit raceway and conduit riser.
8. Existing conduit raceway system may be re-used where possible.
9. All fire alarm conduit systems shall be routed and installed to minimize the potential for physical, mechanical or by fire damage, and so as not to interfere with existing building systems, facilities or equipment, and to facilitate service and minimize maintenance.
10. All conduits, except flexible conduit whips to devices, shall be solidly attached to building structural members, ceiling slabs or permanent walls. Conduits shall not be attached to existing conduit, duct work, cable trays, other ceiling equipment, drop ceiling hangers/grids or partition walls, except where necessary to connect to initiating, notification, or auxiliary function devices.
11. All system conduits, junction boxes, pull boxes, terminal cabinets, electrical enclosures and device back boxes shall be readily accessible for inspection, testing, service and maintenance.

G. IDENTIFICATION AND LABELS

1. Label each FACP with a printed label that contains the following information:
 - a. Fire alarm panel number
 - b. Supply power feed designation
2. Label wires at each device with the designated zone and device number.
3. Submit and affix in a clear folder, to the inside door of the control panel, a plot plan of the site that will identify the following:
 - a. Location of each fire Alarm Control Panel
 - b. Location of supply power for each control panel
 - c. General location of the designated zone as per the FACP programming
4. All FA devices should be identified in programming with physical location, corresponding room number, and/or name of room:

3.2 FIELD QUALITY CONTROL

A. TEST & INSPECTION

1. All fire alarm testing shall be in accordance with National Fire Alarm Code, NFPA 72 – 2022, Chapter 14.
2. All intelligent analog addressable devices shall be tested for current address, sensitivity, and user defined message.

3. All wiring shall be tested for continuity, shorts, and grounds before the system is activated.
4. All test equipment, instruments, tools and labor required to conduct the tests shall be made available by the installing contractor.
5. The system including all its sequence of operations shall be demonstrated to the Owner, his representative, and the local fire inspector. In the event the system does not operate properly, the test shall be terminated. Corrections shall be made and the testing procedure shall be repeated until it is acceptable to the Owner, his representatives and the fire inspector.
6. **SYSTEM MODIFICATIONS – REACCEPTANCE TESTING** Reacceptance testing is required after any of the following occur: Addition or deletion of system components; any modification, repair, or adjustment to system hardware or wiring; and any change to site-specific software. The extend of testing necessary is determined as follows:
 - a. When an initiating device, notification appliance, or control relay is added, it must be functionally tested.
 - b. When an initiating device, notification appliance, or control relay is deleted, another device, appliance or control relay on the circuit must be operated.
 - c. When modifications to control equipment hardware are made, the control equipment must be tested in accordance with NFPA 72, Table 14.4.2.2, items 1(a) and 1(d).
 - d. When changes are made to site-specific software, all functions known to be affected by the change or identified by a means that indicates changes, must be 100 percent tested. In addition, 10 percent of initiating devices that are not directly affected, up to a maximum of 50 devices, must also be tested and proper operation verified.
 - e. Whenever there are changes to control units connected or controlled by the system executive software, a 10 percent functional test of the system is required, including a test of at least one device on each input and output circuit to verify critical system functions such as notification appliances, control functions, and off-premises reporting.
7. A letter from the Contractor certifying that the system is installed entirely in accordance with the system manufacturer's recommendations and within the limitations of the required listings and approvals, that all system hardware and software has been visually inspected and functionally tested by a manufacturer's certified representative, and that the system is in proper working order.
8. The "End of Line Resistance" for each circuit shall be tested in the presence of the project inspector and shall not exceed a maximum of 10% of the 24-volt system. Each component in the circuit shall not exceed the listed manufacturer's minimum operating voltages. See NFPA 72, Loop resistance. This section requires that all initiating and notification appliance circuits be measured and recorded.

END OF SECTION

31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Removing above- and below-grade site improvements.
 - 6. Disconnecting, capping or sealing, and removing site utilities or abandoning site utilities in place.
- B. Related Sections:
 - 1. Section 01 50 00 "Temporary Facilities and Controls" for temporary utility services, construction and support facilities, security and protection facilities, and temporary erosion- and sedimentation-control measures.

1.3 DEFINITIONS

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.
- D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 REFERENCES

- A. Perform on-site work in accordance with these specifications, City of Stockton Standard Specifications, and CalTrans Standard Specifications.
- B. Perform Work within the street right-of-way in accordance with these specifications, City of Stockton Standard Specifications and CalTrans Standard Specifications.

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable City, County, State and Federal Regulations and/or codes for environmental requirements, handling and disposal of debris, and use of herbicides.
- B. City of Stockton is the jurisdictional agency within the public road/street right-of-ways. An encroachment permit must be obtained from the City of Stockton by the Contractor prior to performing any work within the road/street right-of-ways. The Contractor will be reimbursed by the Owner for the fees associated with the encroachment permit.

1.6 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.7 SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or videotape.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.8 QUALITY ASSURANCE

- A. Pre-site clearing Conference: Conduct conference at Project site.

1.9 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Contact Underground Service Alert (USA) at 1-800-227-2600 for the locating of existing utilities in the area where the project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- E. The following practices are prohibited within tree and landscape areas identified to remain unless with written permission from the Owner:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging, unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- F. Prohibit heat sources, flames, ignition sources, and smoking within or near tree and landscape areas identified to remain.
- G. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.
- H. The use of explosives and burning on site is prohibited.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 31 20 00 "Earth Moving."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain. Wrap a 1-inch blue vinyl tie tape flag around each tree trunk at 54 inches above the ground.
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants identified to remain or to be relocated.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

3.3 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
- B. Excavate for and remove underground utilities indicated to be removed.

3.4 CLEARING AND GRUBBING

- A. Clear site as indicated on drawings.
- B. Clear areas required for access to site and execution of work.
- C. Grub site as indicated on drawings. At a minimum, grubbing should extend laterally 10 feet outside the limits of the new improvements (i.e., proposed buildings, slabs-on-grade, pavements, etc.). The grubbed material will not be suitable for use as engineered fill.
- D. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Tree root systems in proposed construction areas shall be removed to a minimum depth of 2 feet below footing elevation, concrete flatwork and asphalt paving and to such an extent which would permit removal of all roots larger than 1/2 inch in diameter.
 - 3. Chip removed tree branches and stockpile in areas approved by Owner.
- E. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Backfill of tree root excavations shall not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proposed control of backfill placement and compaction.
 - 2. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials.

3. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, moisture conditioned (1 to 3 percentage points above the optimum moisture content) as necessary and compact each layer to at least 90 percent of maximum dry density per ASTM D1557.

3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to a minimum depth of 2 to 4 inches or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas.
 1. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
 2. The materials removed will not be suitable for Engineered Fill.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 1. Limit height of topsoil stockpiles to 72 inches.
 2. Do not stockpile topsoil within protection zones.
 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.6 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 31 10 00

31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Preparing subgrades for walks, slabs, pavements, turf and grasses, and plants.
- 2. Excavating and backfilling for buildings and structures.
- 3. Aggregate base course for concrete walks, slabs, and pavements.
- 4. Aggregate base course for asphalt paving.
- 5. Excavating and backfilling trenches for utilities and pits for buried utility structures.

B. Related Sections:

- 1. Section 01 50 00 "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities; also for temporary site fencing if not in another Section.
- 2. Section 31 10 00 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

1.3 DEFINITIONS

- A. Aggregate base Course: Aggregate layer placed between the subgrade and hot-mix asphalt or concrete paving.
- B. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
- F. Fill: Soil materials used to raise existing grades.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- H. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- I. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 REFERENCES

- A. Standard Caltrans Specifications, 2023 edition.
- B. Perform on-site work in accordance with these specifications, City of Stockton Standard Specifications, and CalTrans Standard Specifications.

- C. Perform Work within the street right-of-way in accordance with these specifications, City of Stockton Standard Specifications and CalTrans Standard Specifications.

1.5 SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
 - 1. Controlled low-strength material, including design mixture.
 - 2. Warning tapes.
- B. Samples: For the following products, in sizes indicated below:
 - 1. Warning Tape: 12 inches long; of each color.
- C. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D 2487.
 - 2. Laboratory compaction curve according to ASTM D 1557.
- D. Certification: For each borrow soil material proposed for fill and backfill shall be certified by the Contractor and supplier (to the satisfaction of the Owner) that the soils do not contain any environmental contaminants regulated by local, state, or federal agencies having jurisdiction. This certification shall consist of, as minimum, analytical data specific to source of the import material in accordance with the Department of Toxic Substances Control, "Informational Advisory, Clean Imported Fill Material," dated October 2001.
- E. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

1.6 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Utility Locator Service: Contact Underground Service Alert (USA) at 1-800-227-2600 for the locating of existing utilities in the area where the project is located before beginning earth moving operations.
- D. Seasonal Limits: Fill material shall not be placed, spread, or rolled during unfavorable weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until field tests indicated that the moisture contents of the subgrade and fill materials are satisfactory.
- E. Soils beneath existing asphalt pavements, exterior flatwork, and slab areas will likely be at an elevated moisture content regardless of the time of year of construction. Such soils, intended for use as engineered fill, will require a prolonged period of dry weather and/or considerable aeration to reach a moisture content suitable for proper compaction.
- F. The following practices are prohibited within landscape and tree areas identified to remain unless permission is granted by owner:
 - 1. Storage of construction materials, debris, or excavated material.

2. Parking vehicles or equipment.
 3. Heavy Foot traffic.
 4. Erection of temporary sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- G. Prohibit heat sources, flames, ignition sources, and smoking within landscape and tree areas identified to remain.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
1. Plasticity Index: Less than 12.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
1. Unsatisfactory soils also include satisfactory soils not maintained at a minimum of 3 percentage points above optimum moisture content at time of compaction as determined by ASTM D1557 test method.
- D. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 10 percent passing a No. 200 sieve. Engineered fill shall be free of rock or gravel larger than 3 inches in any dimension. At least seven days prior to the placement of any fill, the engineer shall be notified of the source of materials. Samples of the proposed fill shall be obtained to determine the suitability of the materials for use as engineered fill.
1. Plasticity Index: Less than 12.
 2. Minimum Electrical Resistance: 5000 ohms per cubic centimeter (when wetted to any moisture content with distilled water).
- E. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Class 2 Aggregate Base Course: Clean mixture of 3/4-inch natural or crushed gravel, crushed stone, and natural or crushed sand complying with Caltrans Standard Specification, Section 26, Class 2.
- G. Sand: ASTM C 33; fine aggregate.

2.2 CONTROLLED LOW-STRENGTH MATERIAL (CDF)

- A. Controlled Low-Strength Material (CDF): Self-compacting, low-density, flowable concrete material produced from the following:
1. Portland Cement: ASTM C 150, Type II.
 2. Fly Ash: ASTM C 618, Class C or F. The fly ash shall not inhibit the entrainment of air.

3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.
 4. Water: ASTM C 94.
 5. Air-Entraining Admixture: ASTM C 260. Air entrainment shall not exceed 20 percent.
- B. Produce conventional-weight, controlled low-strength material with 80-psi to 140-psi compressive strength when tested according to ASTM C 495.

2.3 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
1. Red: Electric.
 2. Yellow: Gas, oil, steam, and dangerous materials.
 3. Orange: Telephone and other communications.
 4. Blue: Water systems.
 5. Green: Sewer systems.
- B. Water: Potable water free from oil and shall contain no more than 650 parts per million of chlorides as Cl, nor more than 1,300 parts per million of sulfates as SO₄. The water shall not contain an amount of impurities that will cause a reduction in the strength of the stabilized material.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

- A. Excavate to lines and levels required for construction of the work indicated on the drawings.
- B. Replace damaged or displaced subsoil to same requirements as for specified fill.
- C. Prevent displacement or loose material from falling into excavation, maintain soil stability. Comply with the requirements of Title 8, CCR, Sections 1539 – 1543.
- D. Grade top perimeter of excavation to prevent surface water from draining into excavation.

- E. The surface and near-surface soils at the site should be readily excavatable with conventional earthmoving and trenching equipment. Based on borings by the Geotech (except boring D3), excavations associated with building foundations, shallow trenches for utilities, and other excavations less than five feet deep associated with the proposed construction, should stand vertically for short periods of time (i.e. less than one day) required for construction, unless cohesionless, saturated, or disturbed soils are encountered. These unstable conditions may result in caving or sloughing; therefore, the contractor should be prepared to brace or shore the excavations, if necessary.
- F. Temporarily sloped excavations should be constructed no steeper than a one horizontal to one vertical (1H:1V) inclination. Temporary slopes likely will stand at this inclination for short-term duration of construction, provided significant pockets of loose and/or saturated granular soils are not encountered. Flatter slopes would be required if these conditions are encountered.
- G. Notify Owner's Representative of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- H. Stockpile excavated material in area designated on site. Excavated materials shall not be stockpiled directly adjacent to an open excavation to prevent surcharge loading of the excavation sidewalls. Excessive truck and equipment traffic shall be avoided near excavations. If material or heavy equipment is stationed and/or operated near an excavation, a shoring system shall be designed to resist the additional pressure due to the superimposed loads. Remove excess or unsuitable material from site or stockpile on site as directed. Contractor shall work with the school district and the site to determine the best location for stockpiling of excavated material.
- I. Permanent excavation and fill slopes shall be constructed no steeper than two horizontal to one vertical (2:1). Revegetation of the slopes as soon as possible following grading will help reduce erosion.

3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
- B. Underpin adjacent structures, which may be damaged by excavating work.
- C. Excavate subsoil to accommodate site structure foundations. Footings may bear on firm native moisture conditioned soils. Footings shall be a minimum of 12 inches wide and shall have a minimum depth of 18 inches below lowest surrounding grade. When footings are located adjacent to trenches, the bottom of such footings should be at least 9 inches below an imaginary plane with an inclination of 2.0 horizontal to 1.0 vertical extending upward from the nearest bottom edge of the adjacent trench.
- D. Voids resulting from the removal of any buried structures (such as irrigation structures or pipes, foundations, tanks, septic systems, sewer lines, water lines and storm drain lines) should be cleared of all loose soil and debris so that they may be backfilled during filling operations.

3.6 EXCAVATION FOR WALKS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.
- B. Over-excavate at the proposed walks and exterior slabs on grade at a minimum to the bottom of the 4-inch class 2 aggregate base section (9 inches below top of finished walk or exterior slab on grade.)

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Comply with Title 8, CCR, Sections 1539 through 1541.
- B. Excavate trenches to indicated gradients, lines, depths, and elevations.

- C. For trenches less than 5'-0" deep, the general contractor, at time of trenching, shall have the soil examined by a competent person to determine soil stability; unstable sidewalls shall be shored or sloped.
- D. For trenches 5'-0" or deeper, the general contractor, in advance of excavation, shall secure a permit through the Division of Occupational Safety and Health. The contractor shall submit a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches to the School District through the Architect.
- E. When sloping of sidewalls is employed the following slopes shall be followed:
 - 1. Maximum slope of 1H:1V (horizontal to vertical) for excavations less than 5 feet deep.
 - 2. For excavations greater than 5 feet deep, the contractor shall consult with the geotechnical engineer to determine maximum slope.
- F. Excavate trenches to uniform widths (unless otherwise prohibited) to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 6 inches each side of pipe or conduit.
- G. Trench Bottoms: Excavate trenches 4 inches deeper (minimum) than bottom of pipe and conduit elevations to allow for bedding course. Hand excavate deeper for bells of pipe.

3.8 SUBGRADE INSPECTION

- A. Notify Architect and Geotechnical Engineer when excavations have reached required subgrade.
- B. If Geotechnical Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Geotechnical Engineer, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring and bracing, and sheeting.

7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.12 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Utility trench backfill shall be mechanically compacted as engineered fill in accordance with the following recommendations. Bedding of utilities and initial backfill around and over the pipe and conduits shall be in accordance with the manufacturer's recommendations for the pipe materials selected and applicable community and utility provider requirements. Utility trench backfill shall be continuously observed by a representative of the Geotechnical Engineer during Construction.

C. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

D. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 03 30 00 " Cast-in-Place Concrete."

E. Trenches under Roadways: Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Section 03 30 00 " Cast-in-Place Concrete."

F. Utility trench backfill shall be placed in relatively thin lifts, moisture conditioned to at least two percent above the optimum moisture content and mechanically compacted to at least 90 percent of the ASTM D 1557 maximum dry density. The actual lift thickness used will depend on the compaction equipment used, but shall not be more than 12 inches (compacted thickness). Within the upper six inches of untreated pavement areas and the upper 12 inches of treated pavement areas, the minimum compaction should be increased to 95 percent of ASTM D 1557.

G. Backfill for the upper 12 inches of trenches shall match the adjacent materials. That is, if the upper 12 inches of subgrades for the building pad and exterior flatwork consists of granular fill materials, the top 12 inches of trench backfill shall consist of the same materials or Class 2 aggregate base. If the top 12 inches of the improvement areas consist of lime-treated soils, the upper 12 inches of trench backfill shall consist of Controlled Low-Strength Materials or Class 2 Aggregate Base.

H. Backfill voids with satisfactory soil while removing shoring and bracing.

I. Place and compact initial backfill of bedding material to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

J. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.13 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations of subgrade as follows:

1. Under grass and planted areas, use native soil.

2. Under walks and pavements, use imported engineered fill.

3. Under steps and ramps, use imported engineered fill.

4. Under footings and foundations, use imported engineered fill.
 - C. Seasonal Limits: Fill material shall not be placed, spread, or rolled during unfavorable weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until filed tests indicated that the moisture contents of the subgrade and fill materials are satisfactory.
- 3.14 SOIL MOISTURE CONTROL
- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to a minimum of 2 percentage points above optimum moisture content as determined in the ASTM D1557 test method.
 1. The optimum moisture content will be determined by the Geotechnical Engineer, who will supply this information to the contractor.
 2. The moisture conditioning of the subgrade is highly dependent on the time of year of construction. The Geotechnical Engineer shall be present to observe the exposed subgrade and will specify the moisture conditioning required for the subgrade.
 3. If necessary to obtain uniform distribution of moisture, water shall be added to each layer by sprinkling and the soil disked, harrowed, or otherwise manipulated after the water is added.
 4. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 5. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that is too wet to compact to specified dry unit weight.
- 3.15 COMPACTION OF SOIL BACKFILLS AND FILLS
- A. Compaction should be performed using a heavy, self-propelled sheepsfoot compactor (Caterpillar 815 or equivalent) and must be performed in the presence of the Geotechnical Engineer's representative who will evaluate the performance of the subgrade under compactive load, and identify any loose or unstable soil conditions that could require additional excavation
 - B. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and when compacted shall not be more than 6 inches, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to promote uniformity of material in each layer.
 - C. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
 - D. The maximum dry density will be determined by the Geotechnical Engineer, who will supply this information to the contractor.
 - E. Compact soil materials to not less than the following percentages of maximum dry density according to ASTM D 1557:
 1. The depth of scarification of native soils of the subgrade is highly dependent on the time of year. The Geotechnical Engineer shall be present to observe the exposed subgrade and specify the depth of scarification required. **Note: The depth of scarification listed below is for bidding purposes.**
 2. Scarification of the subgrade is required where native or imported soil is placed to raise existing grade for proposed building pad and other site improvements.
 3. Under structures, and steps, scarify and recompact top 12 inches (minimum) of existing subgrade and each layer of backfill or fill soil material at 90 percent relative compaction.

4. Under asphalt and concrete vehicle pavements (not walkways), scarify and recompact top 12 inches (minimum) of existing subgrade and each layer of backfill or fill soil material at 95 percent relative compaction.
5. Under concrete walkways, asphalt playgrounds, and fall protection tile, scarify and recompact top 12 inches (minimum) below subgrade and compact each layer of backfill or fill soil material at 90 percent.
6. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
7. For utility trenches not in vehicle pavement areas, compact each layer of initial and final backfill soil material at 90 percent.
8. For utility trenches within vehicle pavement areas, compact each layer of initial backfill soil material at 90 percent and compact the upper 8 inches of backfill to at least 95 percent.

3.16 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.17 CLASS 2 AGGREGATE BASE COURSES UNDER PAVEMENTS, WALKS, & SLABS

- A. Place class 2 aggregate base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place class 2 aggregate base course under pavements, walks, and fall protection turf as follows:
 1. Shape base course to required crown elevations and cross-slope grades.
 2. Place base course 6 inches or less in compacted thickness in a single layer.
 3. Place base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 4. Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 90 percent of maximum dry density with a minimum moisture content of at least optimum as obtainable by the ASTM D 1557 test method.

3.18 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
 1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
 2. Determine that fill material and maximum lift thickness comply with requirements.

3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.
 - B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
 - C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
 - D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by the Geotechnical Engineer.
 - E. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
 1. Paved Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area, but in no case fewer than three tests.
 2. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length, but no fewer than two tests.
 - F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.
- 3.19 PROTECTION
- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
 - B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
 - C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.
- 3.20 DISPOSAL OF SURPLUS AND WASTE MATERIALS
- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, lime treated spoils, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hot-mix asphalt patching.
 - 2. Hot-mix asphalt paving.
- B. Related Requirements:
 - 1. Section 31 10 00 "Site Clearing" for demolition and removal of existing asphalt pavement.
 - 2. Section 31 20 00 "Earth Moving" for subgrade preparation, fill material, and unbound-aggregate subbase and base courses.
 - 3. Section 32 17 23 "Pavement Markings" for application of pavement markings on asphalt concrete paving.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include technical data and tested physical and performance properties.
 - 2. Job-Mix Designs: For each job mix proposed for the Work.
- B. Qualification Data: For manufacturer.
- C. Material Certificates: For each paving material. Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.
- D. Material Test Reports: For each paving material, by a qualified testing agency.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by CalTrans.
- B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of the City of Stockton, California and CalTrans for asphalt paving work.
 - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
 - 1. Tack Coat: Minimum surface temperature of 60 deg F.

2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.
4. Single Course (3 inch minimum): Minimum surface temperature of 50 deg F and rising with a minimum atmospheric temperature of 45 deg F and rising at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. In accordance with CalTrans Section 39:
 1. Single or Top Layer: 1/2 inch maximum, medium, Type A.
 2. Lower Layer: 3/4 inch maximum, coarse, Type A.
 3. Reclaimed asphalt pavement (RAP) may be used as aggregate for a part of the virgin aggregate in the asphalt paving in a quantity not exceeding 15 percent of the aggregate blend.

2.2 ASPHALT MATERIALS

- A. Asphalt Binder: AASHTO M 320, PG 64-10.
- B. Asphalt Cement: ASTM D 3381/D 3381M for viscosity-graded material.
- C. Tack Coat: AASHTO M 140 emulsified asphalt, or AASHTO M 208 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.
- D. Water: Potable.
- E. Undersealing Asphalt: ASTM D 3141; pumping consistency.

2.3 AUXILIARY MATERIALS

- A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement and reclaimed, unbound-aggregate base material from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.
- B. Herbicide: Commercial chemical for weed control, registered by the California EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.
- C. Sand: AASHTO M 29, Grade No. 2 or No. 3.
- D. Joint Sealant: AASHTO M 324, Type I, hot-applied, single-component, polymer-modified bituminous sealant.

2.4 MIXES

- A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:
 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that compacted subgrade is dry and in suitable condition to begin paving.
- B. Verify that compacted subgrade is ready to support paving and imposed loads.
- C. Verify that gradients and elevations of base are correct.
- D. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PATCHING

- A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Re-compact existing unbound-aggregate base course to form new subgrade.
- B. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.150.10 gal./sq. yd.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- C. Placing Patch Material: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

3.3 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
- B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
 - 1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.
 - 2. Coordinate treatment application with School District personnel. Provide School District a minimum of 72-hour advance notice before application to allow time for notification of parents and staff.

3.4 PLACING HOT-MIX ASPHALT

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated on approved drawings.

2. Place hot-mix asphalt surface course in single lift.
 3. Spread mix at a minimum temperature of 250 deg F.
 4. Begin applying mix on high side of one-way slopes unless otherwise indicated.
 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.
 2. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.5 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
1. Clean contact surfaces and apply tack coat to joints.
 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
 6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.6 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent or greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.7 INSTALLATION TOLERANCES

- A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus or minus 1/2 inch.
 - 2. Single Course or Surface Course: Plus 1/4 inch, no minus.
- B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
 - 1. Base Course: 1/4 inch.
 - 2. Single Course or Surface Course: 1/8 inch.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures according to AASHTO T 168.
 - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
 - a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than three cores taken.
 - b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- E. Replace and compact hot-mix asphalt where core tests were taken.

- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

END OF SECTION 32 12 16

32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Curbs and gutters.
- 2. Walks.
- 3. Exterior concrete slabs

B. Related Sections:

- 1. Section 03 30 00 " Cast-in-Place Concrete for general building applications of concrete.
- 2. Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and adjacent construction.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.
- C. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- D. Qualification Data: For installer and Design Mixture Engineer (California Registered Civil or Structural Engineer).
- E. Material Certificates: Certificates shall be signed by manufacturers and contractor certifying that each material complies with, or exceeds specified requirements for the following:
 - 1. Cementitious materials.
 - 2. Aggregates.
 - 3. Steel reinforcement and reinforcement accessories.
 - 4. Admixtures.
 - 5. Curing compounds.
 - 6. Applied finish materials.
 - 7. Joint fillers.

1.5 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified.
 - 1. California Building Code - Title 24, Part 2, CCR-2022 Edition with State of California Amendments.
 - 2. ACI 301 "Specifications for Structural Concrete for Buildings." A registered civil engineer with experience in concrete mix design shall select the relative amounts of ingredients to be used as basic proportions of the concrete mixes proposed for use under CBC Section 1905A.2 and testing shall be performed in a laboratory acceptable to the enforcement agency.
 - 3. ACI 318 "Building Code Requirements for Reinforced Concrete."
 - 4. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
- B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- C. Concrete Testing Service: The Owner shall employ a testing laboratory acceptable to the Architect to perform material evaluation tests. Design of concrete mixes shall be by a registered civil engineer retained by the Contractor.
 - 1. Materials and installed work may require testing and retesting, as directed by the Architect, at any time during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including re-testing of rejected materials and installed work, shall be paid by Owner, but backcharged to the Contractor.
 - 2. Testing shall be performed per Section 3.10 of these Specifications and Chapter 19A, Title 24

1.6 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
 - 1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- C. Reinforcing Bars: ASTM A 615, Grade 60 for #4 and larger, and ASTM A615, Grade 40 for #3 and smaller ; deformed.
- D. Plain-Steel Wire: ASTM A 82, cold drawn.
- E. Deformed-Steel Wire: ASTM A 496.
- F. Joint Dowel Bars: ASTM A 615, Grade 60 plain-steel bars. Cut bars true to length with ends square and free of burrs.
- G. Slip Dowel System: Greenstreak two component Speed Dowel System to accept #4 x 12" to 24" long slip dowels (see drawings for size at specific details.) The Greenstreak Speed Dowel System is comprised of a reusable base and a plastic sleeve. Both pieces shall be manufactured from polypropylene plastic.
- H. Tie Bars: ASTM A 615, Grade 60 for #4 and larger, and ASTM A615, Grade 40 for #3 and smaller, deformed.
- I. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:
 - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, gray portland cement Type II
- B. Normal-Weight Aggregates and Exposed Aggregate: ASTM C 33, Class 1N, uniformly graded. Provide aggregates from a single source.
 - 1. Maximum Coarse-Aggregate Size: 1 inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: Potable and complying with ASTM C 94.

2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.5 RELATED MATERIALS

- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork in preformed strips.
- B. Chemical Surface Retarder: Water-soluble, liquid, set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.

2.6 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, as specified in ACI 301 and Chapter 5 of ACI 318.
 - 1. Use a qualified independent testing agency, acceptable to Architect, for preparing and reporting proposed mixture designs based on laboratory trial mixtures. The testing shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.
 - 2. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.
- B. Adjustment to Concrete Mixes: Mix design adjustment may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and approved by Architect before using in work.
- C. Proportion mixtures to provide normal-weight concrete with the following properties:
 - 1. Compressive Strength (28 Days): 2500 psi.
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.60.
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.
 - 4. Air Content: Plus or minus 1.5 percent for 1-inch nominal maximum aggregate size.
- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. Delete references for allowing additional water to be added to batch for material with sufficient slump. Addition of water to the batch will not be permitted.
 - 2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required.
 - 3. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that compacted subgrade, granular base is dry and in suitable condition to begin paving.
- B. Verify that compacted subgrade, granular base is ready to support paving and imposed loads.
- C. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Assemble formwork to permit easy stripping and dismantling of without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.
- D. Clean forms and adjacent surface to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- E. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints, score lines, and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
 - 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
 - 1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
 - 2. Slip Doweled Joints (Speed Dowel System): Install dowel bars and support assemblies at joints where indicated.
 - a. Attach Speed Dowel System bases to the face of the concrete forms using a double headed nail or self-tapping screw.
 - b. Center of Speed Dowel System base shall be centered on form. Place edge forms plumb. Out of plumb forms will result in misaligned dowels.
 - c. Prior to pouring concrete, Speed Dowel System sleeve shall be slipped over Speed Dowel System base.
 - d. Pour concrete minimum of 18" from Speed Dowel System and work concrete around the Speed Dowel System. Concrete shall not be poured directly over the Speed Dowel System.
 - e. Concrete forms shall be removed with Speed Dowel System bases still attached. Speed Dowel System bases may be reused.
 - f. Install slip dowels to the full depth of the embedded Speed Dowel System sleeve and proceed with next concrete pour. Greasing of dowels is not required as the embedded Speed Dowel System sleeve accommodates expansion and shrinkage movements that may occur. Bent or badly sheared slip dowels shall not be used. Saw cut dowels recommended.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
 - 1. Locate expansion joints at intervals of no more than 30 feet unless otherwise indicated.
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 - 4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 5. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Control Joints: Form weakened-plane control joints, alternating with score lines and sectioning the concrete into areas as indicated. Construct weakened-plane joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
 - 1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes.

- E. Score Lines: Form score lines, alternating with weakened-plane joints and sectioning the concrete into areas as indicated. Construct score lines for a depth as indicated, as follows:
 - 1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes.
- F. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.
- B. Remove ice or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
 - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
 - 1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete temperature within the temperature range required by ACI 301.
 - 2. Do not use frozen materials or materials containing ice or snow.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

K. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface to provide a uniform, fine-line texture.
 - a. Curbs and Gutters.
2. Medium-Textured Broom Finish: Draw a stiff-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, medium-line texture.
 - a. Sidewalk Paving: Slopes less than 6%.
 - b. Gutters in Path of Travel: Slopes less than 6%.
3. Heavy-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.
 - a. Sidewalk Paving: Slopes of 6% or greater.
 - b. Gutters in Path of Travel: Slopes of 6% or greater.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these as follows:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.9 TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 1/4 inch.
2. Thickness: Plus 3/8-inch, minus 1/4 inch.
3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/2 inch.
4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches of tie bar.
5. Lateral Alignment and Spacing of Dowels: 1 inch.
6. Vertical Alignment of Dowels: 1/4 inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches of dowel.
8. Joint Spacing: 3 inches.
9. Weakened-plane Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.

3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing laboratory to perform field tests and prepare test reports.
- B. Waiver of Batch Plant Inspection: For site concrete, batch plant inspection is waived:
1. The concrete plant complies fully with the requirements of ASTM C94, Sections 8 and 9, and has a current certificate from the National Ready Mixed Concrete Association or another agency acceptable to DSA. The certification shall indicate that the plant has automatic batching and recording capabilities.
 2. When batch plant inspection is waived the following requirements shall apply:
 - a. An approved inspector of the testing laboratory shall check the first batching at the start of work and furnish mix proportions to the licensed weighmaster.
 - b. The licensed weighmaster shall positively identify materials as to quantity and certify each load by a ticket.
 - c. The ticket shall be transmitted to the project inspector by a truck driver with load identified thereon. The inspector will not accept the load without a load ticket identifying the mix. The inspector will keep a daily record of placements, identifying

- each truck, its load and time of receipt, and approximate location of deposit in the structure. The inspector will transmit a copy of the daily record to DSA.
- d. At the end of the project, the weighmaster shall furnish an affidavit to DSA on form SSS 411-8 certifying that all concrete furnished conforms in every particular to the proportions established by mix designs.
- C. Testing Services: Testing of composite samples of fresh concrete obtained according to CBC Section 1905A.6 and ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. Additional samples for seven-day compressive strength tests shall be taken for each class of concrete at the beginning of the concrete work or whenever the mix or aggregate is changed.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C 31; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C 39; test one specimen at seven days and one specimen at 28 days.
- D. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- E. Test results shall be reported in writing to Architect, project inspector, district, concrete batch plant, and Contractor on same day that tests are made. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- G. Concrete paving will be considered defective if it does not pass tests and inspections.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Prepare test and inspection reports.

3.11 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.
- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

32 13 73 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Joint-sealant backer materials.
 - 3. Primers.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
- B. Installation Instructions: Manufacturer's written installation instructions for products and applications indicated for each joint-sealant product.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Paving-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

- E. Qualification Data: For Installer.
- F. Product Certificates: For each type of joint sealant and accessory.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.

2.3 JOINT-SEALANT BACKER MATERIALS

- A. Joint-Sealant Backer Materials: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.
- B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.4 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.
- C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
 - 1. Place joint sealants so they fully contact joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

- A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.
- B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.5 PAVING-JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Joints within concrete paving (**PJS-1**).
 - 1. Joint Location:
 - a. Expansion and isolation joints in concrete paving.
 - b. Contraction joints in concrete paving.
 - c. Other joints as indicated.
 - 2. Joint Sealant: Single-component, self-leveling, silicone joint sealant.
 - 3. Joint-Sealant Color: Manufacturer's standard.

END OF SECTION 32 13 73

32 17 23 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes painted markings applied to asphalt pavement.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include technical data and tested physical and performance properties.
- B. Shop Drawings: For pavement markings.
 - 1. Indicate pavement markings, colors, lane separations, defined parking spaces, and dimensions to adjacent work.
 - 2. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.
- C. Samples: For each exposed product and for each color and texture specified; on rigid backing, 8 inches square.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 55 deg F for water-based materials, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Ennis-Flint; **EF Series Fast Dry** or a comparable product by one of the following:
 - 1. Aexcel Inc.
 - 2. PPG Industries.
 - 3. Rodda Paint Co.

2.2 PAVEMENT-MARKING PAINT

- A. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, Type II, with drying time of less than 45 minutes.
 - 1. Colors: White and Blue as indicated on the drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that pavement is dry and in suitable condition to begin pavement marking according to manufacturer's written instructions.
- B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for a minimum of 14 days before starting pavement marking. Place an inconspicuous test stripe to determine if new asphalt surface has cured sufficiently to allow placement of pavement markings. If the asphalt lifts or cracks during the curing of the test paint film, the asphalt has not cured sufficiently to allow placement of the pavement markings.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 - 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, firmly secured to pavement. Mask an extended area beyond edges of each stencil to prevent paint application beyond the stencil. Apply paint so that it cannot run beneath the stencil.

3.3 PROTECTING AND CLEANING

- A. Protect pavement markings from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 32 17 23

32 17 26 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place detectable warning tiles.
 - 2. Surface-applied detectable warning tiles.
- B. Related Requirements:
 - 1. Section 32 12 16 "Asphalt Paving" for asphalt paving serving as substrates for tactile warning surfacing.
 - 2. Section 32 13 13 "Concrete Paving" for concrete walkways serving as substrates for tactile warning surfacing.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For each type of exposed finish requiring color selection.
- C. Samples for Verification: For each type of tactile warning surface, in manufacturer's standard sizes unless otherwise indicated, showing edge condition, truncated-dome pattern, texture, color, and cross section; with fasteners and anchors.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For tactile warning surfacing, to include in maintenance manuals.

1.5 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
- B. Weather Limitations for Adhesive Application:
 - 1. Apply adhesive only when ambient temperature is above 50 deg F and when temperature has not been below 35 deg F for 12 hours immediately before application. Do not apply when substrate is wet or contains excess moisture.
- C. Weather Limitations for Mortar and Grout:
 - 1. Cold-Weather Requirements: Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

2. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602. Provide artificial shade and windbreaks, and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F and higher.
 - a. When ambient temperature exceeds 100 deg F, or when wind velocity exceeds 8 mph and ambient temperature exceeds 90 deg F, set unit pavers within 1 minute of spreading setting-bed mortar.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of tactile warning surfaces that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering and wear.
 - b. Separation or delamination of materials and components.
 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

- A. Accessibility Requirements: Comply with applicable provisions in Chapter 11B of the 2022 California Building Code for tactile warning surfaces.
 1. For tactile warning surfaces composed of multiple units, provide units that when installed provide consistent side-to-side and end-to-end dome spacing that complies with requirements.
- B. Source Limitations: Obtain each type of tactile warning surfacing, joint material, setting material, anchor, and fastener from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

2.2 DETECTABLE WARNING TILES

- A. Cast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Engineered Plastics Inc.; Armor-Tile; (Drawings Mark) **ADA-C**.
 2. Material: Vitrified polymer composite
 3. Color: Federal Yellow (Federal Color No. 33538 SAE AMS-STD-595A)
 4. Shapes and Sizes:
 - a. Rectangular panels as indicated on approved drawings.
 5. Dome Spacing and Configuration: 2.35-inch spacing, in square pattern.
 6. Mounting:
 - a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.

- B. Surface-Applied Detectable Warning Tiles: Accessible truncated-dome detectable warning concrete tiles configured for surface application on existing concrete walkway surfaces, with slip-resistant surface treatment on domes, field of tile, and beveled outside edges.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Engineered Plastics Inc.; Armor-Tile; (Drawings Mark) **ADA-S**.
 - 2. Material: Vitrified polymer composite.
 - 3. Color: Federal Yellow (Federal Color No. 33538 SAE AMS-STD-595A).
 - 4. Shapes and Sizes:
 - a. Rectangular panels as indicated on the approved drawings.
 - 5. Dome Spacing and Configuration: 2.35-inch spacing, in square pattern.
 - 6. Mounting: Adhered and fastened to existing concrete or new asphalt surface.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of tactile warning surfaces, noncorrosive and compatible with each material joined, and complying with the following:
 - 1. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant heads, colored to match tile.
- B. Adhesive: As recommended by manufacturer for adhering tactile warning surfacing unit to pavement.
- C. Sealant: As recommended by manufacturer for sealing perimeter of tactile warning surfacing unit.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that pavement is in suitable condition to begin installation according to manufacturer's written instructions. Verify that installation of tactile warning surfacing will comply with accessibility requirements upon completion.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF TACTILE WARNING SURFACING

- A. General: Prepare substrate and install tactile warning surfacing according to manufacturer's written instructions unless otherwise indicated.
- B. Place tactile warning surfacing units in dimensions and orientation indicated. Comply with location requirements of Chapter 11B of the 2022 California Building Code.

3.3 INSTALLATION OF DETECTABLE WARNING TILES

- A. Cast-in-Place Detectable Warning Tiles:
 - 1. Concrete Paving Installation: Comply with installation requirements in Section 32 13 13 "Concrete Paving." Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of tile.

2. Set each detectable warning tile accurately and firmly in place and completely seat tile back and embedments in wet concrete by tamping with rubber mallet until concrete seeps through vent holes.
3. Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding $\pm 1/8$ inch from flush.
4. Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
5. Clean tiles using methods recommended in writing by manufacturer.

B. Surface-Applied Detectable Warning Tiles:

1. Lay out detectable warning tiles as indicated and mark concrete pavement.
2. Prepare existing paving surface by grinding and cleaning as recommended by manufacturer.
3. Apply adhesive to back of tiles in amounts and pattern recommended by manufacturer, and set tiles in place. Firmly seat tiles in adhesive bed, eliminating air pockets and establishing full adhesion to pavement. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
4. Install anchor devices through face of tiles and into pavement using anchors located as recommended by manufacturer. Set heads of anchors flush with top surface of mat.
5. Mask perimeter of tiles and adjacent concrete, and apply sealant in continuous bead around perimeter of tile installation.
6. Remove masking, adhesive, excess sealant, and soil from exposed surfaces of detectable warning tiles and surrounding concrete pavement using cleaning agents recommended in writing by manufacturer.
7. Protect installed tiles from traffic until adhesive has set.

3.4 CLEANING AND PROTECTION

- A. Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Architect. Replace using tactile warning surfacing installation methods acceptable to Architect.
- B. Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

END OF SECTION 32 17 26

32 31 13 – CHAIN LINK FENCING AND GATES

1. GENERAL:

1.1 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Special Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. Extent of chain link fences and gates is indicated on drawings.

1.3 QUALITY ASSURANCE:

A. Provide chain link fences and gates as complete units controlled by a single source including necessary erection accessories, fittings, and fastenings.

1.4 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data, and installation instructions for metal fencing, fabric, gates and accessories.

B. Shop Drawings: Submit shop drawings indicating extent, type gate locations and post footing details.

2. PRODUCTS:

2.1 GENERAL: Dimensions indicated for pipe, roll-formed, and H-sections are outside dimensions, exclusive of coatings.

2.2 MANUFACTURER: Subject to compliance with requirement, provide products of one of the following:

A. Galvanized Steel Fencing and Fabric: Equal to:

1. United States Steel Corp.
2. Anchor Fence, Inc.
3. Master-Holco Co.

2.3 STEEL FABRIC:

A. Fabric: No 9-gauge (0.148" + or – 0.005") size steel wires, 1"x1" wire mesh, with top and bottom selvages knuckled.

B. Furnish one-piece fabric widths for fencing up to 12' high.

C. Fabric Finish: Galvanized, ASTM A 392, Class I, with not less than 1.2 oz. Zinc per sq. ft of surface.

2.4 FRAMING AND ACCESSORIES:

A. Steel Framework General: Galvanized steel, ASTM A 120 or A 123, with not less than 1.8 oz. Zinc per sq. ft. of surface.

B. Fittings and Accessories: Galvanized, ASTM A 153, with zinc weights per Table 1.

C. Line Posts: Space 10' o.c. maximum, unless otherwise indicated of following minimum sizes and weights.

1. 6' to 8' fabric height 2.375" OD steel pipe, 3.65 lbs. per lin. ft.
2. Over 8' fabric height, 2.875" OD steel pipe, 5.79 lbs. per lin. ft.

- 2.5 GATE POSTS: Furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:

LEAF WIDTH	GATE POST	LBS./LIN. FT.
Up to 6'	3.5 "x 3.5" roll-formed Section	4.85
	or 2.875: OD pipe	5.79
Over 6' to 13'	4.000 OD pipe	9.11
Over 13' to 18'	6.625 OD pipe	18.97
Over 18'	8.625 OD pipe	28.55

- 2.6 TOP RAIL: Manufacturer's longest lengths, with expansion type couplings, approximately 6" long, for each joint. Provide means for attaching top rail securely to each gate corner, pull and end.

- A. 1.66" OD pipe, 2.27 lbs. per ft.
- B. Post Brace Assembly: Manufacturer's standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375" diameter rod and adjustable tightener.

- 2.7 TENSION WIRE (BOTTOM):

- A. Metallic-Coated Steel Wire: 0.177-inch diameter, marcelled tension wire according to ASTM A817 or ASTM A824 with the following metallic coating:
 1. Type II: Zinc coated (galvanized) by hot-dip process, with the following minimum coating weight:
 - a. Class 4: Not less than 1.2 oz./sq. ft. of uncoated wire surface.

- 2.8 POST TOPS: Provide weathertight closure cap with loop to receive tension wire or top rail; one cap for each post.

- 2.9 STRETCHER BARS: One-piece lengths equal to full height of fabric, with minimum cross-section of 3/16" x 3.4". Provide one stretcher bar for each gate and end post, and two for each corner and pull post, except where fabric is integrally woven into post.

- 2.10 STRETCHER BAR BANDS: Space not over 15" o.c., to secure stretcher bars to end, corner, pull, and gate posts.

- 2.11 MAINTENANCE/SERVICE GATES:

- A. Fabrication: Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding or with special fittings and rivets for rigid connections, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8' apart unless otherwise indicated. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate ramp at not more than 15" o.c. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.
- B. Swing Gates: Fabricate perimeter frames of minimum 1.90" OD pipe.
- C. Gate Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A 153, and in accordance with the following:
 1. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180-degree gate opening. Provide 1 1/2" pair of hinges for each leaf over 6' nominal height.

2. Latch (Single Gates wider than 4'-0" wide): Forked type or plunger bar type to permit operation from either side of gate, with padlock eye as integral part of latch.
 - a. Padlock and Chain: Padlock: Schlage KS23F2300 Brass Padlock w/ Schlage 47-743 Primus Core Composite Keyway to accept district standard (SX Keyway) gate key for site. Chain to be welded to gate frame and padlock.
 3. Latch (Single Gates 3'-0" wide to 4'-0" wide): Lockset w/ lever handles equal to: Schlage ND96PD – Storeroom Function w/ Schlage "Primus" System, Security Level Three, Type EP Keyways using 20-700 controlled access cylinders. Coordinate keying with the District's Locksmith Department.
 4. Kickplate (Single Gates 3'-0" wide to 4'-0" wide): Provide 10" high (minimum) galvanized steel kickplate on both sides of gate.
- D. Keeper: Provide keeper for vehicle gates, which automatically engages gate leaf and holds it in open position until manually released.
- E. Double Gates: Provide gate stops for double gates, of pipe sleeve, set in concrete, and designed to engage center drop bolt. Include locking device and padlock eyes as integral part of latch, permitting both gate leaves to be locked with single padlock.
1. Padlock and Chain: Padlock: Schlage KS23F2300 Brass Padlock w/ Schlage 47-743 Primus Core Composite Keyway to accept district standard (SX Keyway) gate key for site. Chain to be welded to gate frame and padlock.

2.12 PEDESTRIAN GATES:

- A. Pedestrian Gates along accessible path of travel (POT) shall comply with 2022 CBC 11B-404.
- B. Fabrication: Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding or with special fittings and rivets for rigid connections, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8' apart unless otherwise indicated. Provide header at 6'-8" (min.) above walking surface to tie gate posts together. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate ramp at not more than 15" o.c. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.
- C. Swing Gates: Fabricate perimeter frames of minimum 1.90" OD pipe.
- D. Expanded Metal Mesh (Vandal Screens): ASTM F 1267, Type II (expanded and flattened), Class 1 (Uncoated): 1/2" x #13 with 14-gauge Type 014 U-Edging (0.080" opening x 1" width) welded around the perimeter. Mesh shall be attached to the gate and extended beyond each gate post as shown on the approved drawings to prevent the ability to reach around the sides to open the gates.
- E. Gate Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A 153, and in accordance with the following:
 1. Hinges (Gate-Closer): Vandal-proof 180-degree self-closing hinge with hydraulic damping, and powder coated aluminum housing. Universal design that allows for left and right opening gates.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide **Locinox; Mammoth180** or comparable product by one of the following:
 - i. District and Architect approved equal.

- b. Provide manufacturer's standard chain link bracket.
 - c. Gate-Closer shall be capable of operating gates weighing up to 330lbs and 5'-0" in width.
 - d. Opening pressure of the Gate-Closer shall be between 3 and 5 pounds maximum applied perpendicular to the gate.
 - e. The gate closing sweep period from an open position of 90 degrees to a position of 12 degrees from the latch shall be 5 seconds minimum.
 - f. Color: Silver
- 2. Panic Device: Corbin Russwin ED5200 (Nightlatch function) w/ VT957ET Pull. Provide Schlage "Primus" System, Security Level Three, Type EP Keyways using 20-700 controlled access cylinders. Coordinate keying with the District's Locksmith Department. Manual cane bolts are prohibited on leaf with panic device.
 - 3. Kickplate: Provide 10" high (minimum) galvanized steel kickplate on both sides of gate.

2.13 HORIZONTAL-SLIDE GATES:

- A. General: ASTM F 1184 for gate posts and single slide gate types.
 - 1. Classification: Type II Cantilever Slide, Class 1 with external roller assemblies and 6-inch double rolling gate wheel carrier.
 - a. Gate Frame Width and Height: More than 48 inches wide by any height (8'-0" maximum).
- B. Fabrication:
 - 1. Fabricate perimeter frames of minimum 1.90" OD pipe.
 - 2. Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding or with special fittings and rivets for rigid connections, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8' apart unless otherwise indicated.
 - 3. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate ramp at not more than 15" o.c. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.
- C. Horizontal-Slide Gate Hardware:
 - 1. Hangers, Roller Assemblies, Stops, Double Wheel Carrier: Fabricated from galvanized steel. Wheel: Rubber
 - 2. Latch: Forked type or plunger bar type to permit operation from either side of gate, with padlock eye as integral part of latch.
 - 3. Padlock and Chain: Schlage KS23F2300 Brass Padlock w/ Schlage 47-743 Primus Core Composite Keyway to accept district standard (SX Keyway) gate key for site. Chain to be welded to gate frame and padlock.

2.14 CONCRETE:

Provide concrete consisting of portland cement, ASTM C 150, aggregate ASTM C 33, and clean water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2500 psi

using at least 4 sacks of cement per cu. yd., 1" maximum size aggregate, maximum 3" slump, and 2% to 4% entrained air.

2.15 PRIVACY SLATS (where indicated on drawings):

- A. Tubular Polyethylene Slats: Minimum 0.023-inch-thick tubular polyethylene, manufactured for chain-link fences from virgin polyethylene with UV inhibitor, sized to fit mesh specified for direction indicated, with vandal-resistant fasteners and lock strips.

3. EXECUTION:

3.1 INSTALLATION:

- A. Do not begin installation and erection before final grading is completed, unless otherwise permitted.
- B. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.

3.2 EXCAVATION: Drill or hand excavate (using post hole digger) holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.

3.3 SETTING POSTS: Center and align posts in holes 3" above bottom of excavation.

- A. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations. Unless otherwise indicated, extend concrete footings 2" above grade and trowel to a crown to shed water.

3.4 TENSION WIRE: Pull wire taut, without sags. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:

- A. Extended along bottom of fence fabric. Install bottom tension wire within 3 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

3.5 TOP RAILS: Run rail continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

3.6 BRACE ASSEMBLIES: Install braces so posts are plumb when diagonal rod is under proper tension.

3.7 FABRIC: Leave approximately 2" between finish grade and bottom salvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

3.8 STRETCHER BARS: Thread through or clamp to fabric 4" o.c., and secure to posts with metal bands spaced 15" o.c.

3.9 GATES: Install gates plumb, level, and secure to full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.10 TIE WIRES: Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two full turns. Bend ends of wire to minimize hazard to persons or clothing. Tie fabric to line posts, with wire ties spaced 12" o.c. Tie fabric to rails and braces, with wire ties spaced 24" o.c. Tie fabric to tension wires, with hog rings spaced 24" o.c.

3.11 FASTENERS: Install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.12 PRIVACY SLATS: Install slats vertically for privacy factor of 70 to 75 percent securely locked in place. Pop rivet locking strips at ends.

END OF SECTION 32 31 13

33 05 00 - COMMON WORK RESULTS FOR UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Piping joining materials.
 - 2. Transition fittings.
 - 3. Dielectric fittings.
 - 4. Sleeves.
 - 5. Identification devices.
 - 6. Grout.
 - 7. Flowable fill.
 - 8. Piped utility demolition.
 - 9. Piping system common requirements.
 - 10. Equipment installation common requirements.
 - 11. Painting.
 - 12. Concrete bases.
 - 13. Metal supports and anchorages.

1.3 DEFINITIONS

- A. Exposed Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions.
- B. Concealed Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- C. ABS: Acrylonitrile-butadiene-styrene plastic.
- D. PE: Polyethylene plastic.
- E. PVC: Polyvinyl chloride plastic.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Dielectric fittings.
 - 2. Identification devices.
- B. Welding certificates.

1.5 QUALITY ASSURANCE

- A. Steel Support Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

- B. Steel Piping Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
 - 1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
 - 2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
- C. Comply with ASME A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- B. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.7 COORDINATION

- A. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- B. Coordinate installation of identifying devices after completing covering and painting if devices are applied to surfaces.
- C. Coordinate size and location of concrete bases. Formwork, reinforcement, and concrete requirements are specified in Section 03 30 00 "Cast-in-Place Concrete."

PART 2 - PRODUCTS

2.1 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness, unless otherwise indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
 - 2. AWWA C110, rubber, flat face, 1/8 inch thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.
- B. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.
- C. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.
- D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

- E. Brazing Filler Metals: AWS A5.8, BCuP Series, copper-phosphorus alloys for general-duty brazing, unless otherwise indicated; and AWS A5.8, BAg1, silver alloy for refrigerant piping, unless otherwise indicated.
- F. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.2 TRANSITION FITTINGS

- A. Transition Fittings, General: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.
- B. Transition Couplings NPS 1-1/2 and Smaller:
 - 1. Underground Piping: Manufactured piping coupling or specified piping system fitting.
 - 2. Aboveground Piping: Specified piping system fitting.
- C. AWWA Transition Couplings NPS 2 and Larger:
 - 1. Description: AWWA C219, metal sleeve-type coupling for underground pressure piping.
- D. Plastic-to-Metal Transition Fittings:
 - 1. Description: PVC one-piece fitting with manufacturer's Schedule 80 equivalent dimensions; one end with threaded brass insert, and one solvent-cement-joint or threaded end.
- E. Plastic-to-Metal Transition Unions:
 - 1. Description: MSS SP-107, PVC four-part union. Include brass or stainless-steel threaded end, solvent-cement-joint or threaded plastic end, rubber O-ring, and union nut.
- F. Flexible Transition Couplings for Underground Nonpressure Drainage Piping:
 - 1. Description: ASTM C 1173 with elastomeric sleeve, ends same size as piping to be joined, and corrosion-resistant metal band on each end.

2.3 DIELECTRIC FITTINGS

- A. Dielectric Fittings, General: Assembly of copper alloy and ferrous materials or ferrous material body with separating nonconductive insulating material suitable for system fluid, pressure, and temperature.
- B. Dielectric Unions:
 - 1. Description: Factory fabricated, union, NPS 2 and smaller.
 - a. Pressure Rating: 150 psig minimum at 180 deg F.
 - b. End Connections: Solder-joint copper alloy and threaded ferrous; threaded ferrous.
- C. Dielectric Flanges:
 - 1. Description: Factory-fabricated, bolted, companion-flange assembly, NPS 2-1/2 to NPS 4 and larger.

- a. Pressure Rating: 150 psig minimum.
- b. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

D. Dielectric-Flange Kits:

- 1. Description: Nonconducting materials for field assembly of companion flanges, NPS 2-1/2 and larger.
 - a. Pressure Rating: 150 psig minimum.
 - b. Gasket: Neoprene or phenolic.
 - c. Bolt Sleeves: Phenolic or polyethylene.
 - d. Washers: Phenolic with steel backing washers.

E. Dielectric Couplings:

- 1. Description: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining, NPS 3 and smaller.
 - a. Pressure Rating: 300 psig at 225 deg F.
 - b. End Connections: Threaded.

F. Dielectric Nipples:

- 1. Description: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining.
 - a. Pressure Rating: 300 psig at 225 deg F.
 - b. End Connections: Threaded or grooved.

2.4 SLEEVES

- A. Mechanical sleeve seals for pipe penetrations are specified in Section 22 05 17 "Sleeves and Sleeve Seals for Plumbing Piping."
- B. Galvanized-Steel Sheet Sleeves: 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint.
- C. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized, plain ends.
- D. Cast-Iron Sleeves: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

2.5 IDENTIFICATION DEVICES

- A. General: Products specified are for applications referenced in other utilities Sections. If more than single type is specified for listed applications, selection is Installer's option.
- B. Equipment Nameplates: Metal permanently fastened to equipment with data engraved or stamped.
 - 1. Data: Manufacturer, product name, model number, serial number, capacity, operating and power characteristics, labels of tested compliances, and essential data.
 - 2. Location: Accessible and visible.

- C. Pressure-Sensitive Pipe Markers: Manufacturer's standard preprinted, color-coded, pressure-sensitive-vinyl type with permanent adhesive.
- D. Pipes with OD, Including Insulation, Less Than 6 Inches: Full-band pipe markers, extending 360 degrees around pipe at each location.
- E. Pipes with OD, Including Insulation, 6 Inches and Larger: Either full-band or strip-type pipe markers, at least three times letter height and of length required for label.
- F. Lettering: Manufacturer's standard preprinted captions as selected by Architect.
 - 1. Arrows: Either integrally with piping system service lettering to accommodate both directions of flow, or as separate unit on each pipe marker to indicate direction of flow.
- G. Plastic Tape: Manufacturer's standard color-coded, pressure-sensitive, self-adhesive vinyl tape, at least 3 mils thick.
 - 1. Width: 1-1/2 inches on pipes with OD, including insulation, less than 6 inches; 2-1/2 inches for larger pipes.
 - 2. Color: Comply with ASME A13.1, unless otherwise indicated.
- H. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch sequenced numbers. Include 5/32-inch hole for fastener.
 - 1. Material: 0.032-inch- thick, polished brass.
 - 2. Size: 1-1/2 inches in diameter, unless otherwise indicated.
 - 3. Shape: As indicated for each piping system.
- I. Valve Tag Fasteners: Brass, wire-link or beaded chain; or brass S-hooks.
- J. Engraved Plastic-Laminate Signs: ASTM D 709, Type I, cellulose, paper-base, phenolic-resin-laminate engraving stock; Grade ES-2, black surface, black phenolic core, with white melamine subcore, unless otherwise indicated. Fabricate in sizes required for message. Provide holes for mechanical fastening.
 - 1. Engraving: Engraver's standard letter style, of sizes and with terms to match equipment identification.
 - 2. Thickness: 1/8 inch, unless otherwise indicated.
 - 3. Thickness: 1/16 inch, for units up to 20 sq. in. or 8 inches in length, and 1/8 inch for larger units.
 - 4. Fasteners: Self-tapping, stainless-steel screws or contact-type permanent adhesive.
- K. Plastic Equipment Markers: Manufacturer's standard laminated plastic, in the following color codes:
 - 1. Green: Cooling equipment and components.
 - 2. Yellow: Heating equipment and components.
 - 3. Brown: Energy reclamation equipment and components.
 - 4. Blue: Equipment and components that do not meet criteria above.
 - 5. Hazardous Equipment: Use colors and designs recommended by ASME A13.1.
 - 6. Terminology: Match schedules as closely as possible. Include the following:
 - a. Name and plan number.
 - b. Equipment service.

- c. Design capacity.
 - d. Other design parameters such as pressure drop, entering and leaving conditions, and speed.
- 7. Size: 2-1/2 by 4 inches for control devices, dampers, and valves; 4-1/2 by 6 inches for equipment.
- L. Plasticized Tags: Preprinted or partially preprinted, accident-prevention tags, of plasticized card stock with mat finish suitable for writing.
 - 1. Size: 3-1/4 by 5-5/8 inches.
 - 2. Fasteners: Brass grommets and wire.
 - 3. Nomenclature: Large-size primary caption such as DANGER, CAUTION, or DO NOT OPERATE.
- M. Lettering and Graphics: Coordinate names, abbreviations, and other designations used in piped utility identification with corresponding designations indicated. Use numbers, letters, and terms indicated for proper identification, operation, and maintenance of piped utility systems and equipment.
 - 1. Multiple Systems: Identify individual system number and service if multiple systems of same name are indicated.

2.6 GROUT

- A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.
 - 1. Characteristics: Post hardening, volume adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5000-psi, 28-day compressive strength.
 - 3. Packaging: Premixed and factory packaged.

2.7 FLOWABLE FILL

- A. Description: Low-strength-concrete, flowable-slurry mix.
 - 1. Cement: ASTM C 150, Type I, portland.
 - 2. Density: 115- to 145-lb/cu. ft.
 - 3. Aggregates: ASTM C 33, natural sand, fine and crushed gravel or stone, coarse.
 - 4. Water: Comply with ASTM C 94.
 - 5. Strength: 100 to 200 psig at 28 days.

PART 3 - EXECUTION

3.1 DIELECTRIC FITTING APPLICATIONS

- A. Dry Piping Systems: Connect piping of dissimilar metals with the following:
 - 1. NPS 2 and Smaller: Dielectric unions.
 - 2. NPS 2-1/2 to NPS 12: Dielectric flanges or dielectric flange kits.
- B. Wet Piping Systems: Connect piping of dissimilar metals with the following:
 - 1. NPS 2 and Smaller: Dielectric couplings.
 - 2. NPS 2-1/2 to NPS 4: Dielectric nipples.

3. NPS 2-1/2 to NPS 8: Dielectric nipples or dielectric flange kits.
4. NPS 10 and NPS 12: Dielectric flange kits.

3.2 PIPING INSTALLATION

- A. Install piping according to the following requirements and utilities Sections specifying piping systems.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on the Coordination Drawings.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping to permit valve servicing.
- E. Install piping at indicated slopes.
- F. Install piping free of sags and bends.
- G. Install fittings for changes in direction and branch connections.
- H. Select system components with pressure rating equal to or greater than system operating pressure.
- I. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.
 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of equipment areas or other wet areas 2 inches above finished floor level.
 2. Install sleeves in new walls and slabs as new walls and slabs are constructed.
 - a. Steel Pipe Sleeves: For pipes smaller than NPS 6.
 - b. Steel Sheet Sleeves: For pipes NPS 6 and larger, penetrating gypsum-board partitions.
- J. Verify final equipment locations for roughing-in.
- K. Refer to equipment specifications in other Sections for roughing-in requirements.

3.3 PIPING JOINT CONSTRUCTION

- A. Join pipe and fittings according to the following requirements and utilities Sections specifying piping systems.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

- D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- E. Welded Joints: Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- F. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- G. Grooved Joints: Assemble joints with grooved-end pipe coupling with coupling housing, gasket, lubricant, and bolts according to coupling and fitting manufacturer's written instructions.
- H. Soldered Joints: Apply ASTM B 813 water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy (0.20 percent maximum lead content) complying with ASTM B 32.
- I. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.
- J. Plastic Pressure Piping Gasketed Joints: Join according to ASTM D 3139.
- K. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D 3212.
- L. Bonded Joints: Prepare pipe ends and fittings, apply adhesive, and join according to pipe manufacturer's written instructions.

3.4 PIPING CONNECTIONS

- A. Make connections according to the following, unless otherwise indicated:
 - 1. Install unions, in piping NPS 2 and smaller, adjacent to each valve and at final connection to each piece of equipment.
 - 2. Install flanges, in piping NPS 2-1/2 and larger, adjacent to flanged valves and at final connection to each piece of equipment.
 - 3. Install dielectric fittings at connections of dissimilar metal pipes.

3.5 EQUIPMENT INSTALLATION

- A. Install equipment level and plumb, unless otherwise indicated.
- B. Install equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference with other installations. Extend grease fittings to an accessible location.
- C. Install equipment to allow right of way to piping systems installed at required slope.

3.6 PAINTING

- A. Painting of piped utility systems, equipment, and components is specified in Section 09 91 00 "Painting and Finishing." Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.7 IDENTIFICATION

- A. Piping Systems: Install pipe markers on each system. Include arrows showing normal direction of flow.
 - 1. Plastic markers, with application systems. Install on insulation segment if required for hot noninsulated piping.
 - 2. Locate pipe markers on exposed piping according to the following:
 - a. Near each valve and control device.
 - b. Near each branch, excluding short takeoffs for equipment and terminal units. Mark each pipe at branch if flow pattern is not obvious.
 - c. Near locations where pipes pass through walls or floors or enter inaccessible enclosures.
 - d. At manholes and similar access points that permit view of concealed piping.
 - e. Near major equipment items and other points of origination and termination.
- B. Equipment: Install engraved plastic-laminate sign or equipment marker on or near each major item of equipment.
 - 1. Lettering Size: Minimum 1/4 inch high for name of unit if viewing distance is less than 24 inches, 1/2 inch high for distances up to 72 inches, and proportionately larger lettering for greater distances. Provide secondary lettering two-thirds to three-fourths of size of principal lettering.
 - 2. Text of Signs: Provide name of identified unit. Include text to distinguish among multiple units, inform user of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
- C. Adjusting: Relocate identifying devices that become visually blocked by work of this or other Divisions.

3.8 CONCRETE BASES

- A. Concrete Bases: Anchor equipment to concrete base according to equipment manufacturer's written instructions and according to seismic codes at Project.
 - 1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit.
 - 2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of base.
 - 3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
 - 4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 5. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 6. Install anchor bolts according to anchor-bolt manufacturer's written instructions.
 - 7. Use 3000-psi, 28-day compressive-strength concrete and reinforcement as specified in Section 03 30 00 "Cast-in-Place Concrete"

3.9 ERECTION OF METAL SUPPORTS AND ANCHORAGES

- A. Refer to Section 05 50 00 "Metal Fabrications" for structural steel.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor piped utility materials and equipment.
- C. Field Welding: Comply with AWS D1.1.

3.10 GROUTING

- A. Mix and install grout for equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases and provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout.

END OF SECTION 33 05 00

33 11 00 - FACILITY WATER PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes water-distribution piping and related components outside the building for water service and fire-service mains.

1.3 DEFINITIONS

- A. LLDPE: Linear, low-density polyethylene plastic.
- B. PE: Polyethylene plastic.
- C. PVC: Polyvinyl chloride plastic.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Detail precast concrete vault assemblies and indicate dimensions, method of field assembly, and components.
- C. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.
- D. Field quality-control test reports.
- E. Operation and Maintenance Data: For water valves and specialties to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
 - 2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
 - 3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.
- D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

- E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.

- 1. Flush immediately prior to connecting to fire sprinkler systems.

- F. NSF Compliance:

- 1. Comply with NSF 14 for plastic potable-water-service piping. Include marking "NSF-pw" on piping.
 - 2. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:

- 1. Ensure that valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to threaded ends and flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.

- B. During Storage: Use precautions for valves, including fire hydrants, according to the following:

- 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

- C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

- D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

- E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.

- F. Protect flanges, fittings, and specialties from moisture and dirt.

- G. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:

- 1. Notify Architect and Owner no fewer than three business days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of water-distribution service without Owner's written permission.

1.8 COORDINATION

- A. Coordinate connection to water main with utility company.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.
 - 1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
- B. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.
- C. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

2.2 DUCTILE-IRON PIPE AND FITTINGS

- A. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated.
 - 1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - 2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
- B. Flanges: ASME 16.1, Class 125, cast iron.

2.3 PVC PIPE AND FITTINGS

- A. PVC, Schedule 80 Pipe: ASTM D 1785.
 - 1. PVC, Schedule 80 Socket Fittings: ASTM D 2467.
 - 2. PVC, Schedule 80 Threaded Fittings: ASTM D 2464.
- B. PVC, AWWA Pipe: AWWA C900, Class 150 and Class 200, with bell end with gasket, and with spigot end.
 - 1. Comply with UL 1285 for fire-service mains if indicated.
 - 2. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

2.4 JOINING MATERIALS

- A. Refer to Section 33 05 00 "Common Work Results for Utilities" for commonly used joining materials.
- B. Brazing Filler Metals: AWS A5.8, BCuP Series.
- C. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

2.5 CORROSION-PROTECTION PIPING ENCASEMENT

A. Encasement for Underground Metal Piping:

1. Standards: ASTM A 674 or AWWA C105.
2. Form: Sheet or tube.
3. Material: LLDPE film of 0.008-inch minimum thickness, or high-density, crosslaminated PE film of 0.004-inch minimum thickness.
4. Color: Black.

2.6 GATE VALVES

A. AWWA, Cast-Iron Gate Valves:

1. Non-rising-Stem, Metal-Seated Gate Valves:

- a. Description: Gray- or ductile-iron body and bonnet; with cast-iron or bronze double-disc gate, bronze gate rings, bronze stem, and stem nut.
 - 1) Standard: AWWA C500.
 - 2) Minimum Pressure Rating: 200 psig.
 - 3) End Connections: Mechanical joint.
 - 4) Interior Coating: Complying with AWWA C550.

B. UL/FMG, Cast-Iron Gate Valves:

1. UL/FMG, Non-rising-Stem Gate Valves:

- a. Description: Iron body and bonnet with flange for indicator post, bronze seating material, and inside screw.
 - 1) Standards: UL 262 and FMG approved.
 - 2) Minimum Pressure Rating: 175 psig.
 - 3) End Connections: Flanged.

C. Bronze Gate Valves:

1. Non-rising-Stem Gate Valves:

- a. Description: Class 125, Type 1, bronze with solid wedge, threaded ends, and malleable-iron handwheel.
 - 1) Standard: MSS SP-80.

2.7 GATE VALVE ACCESSORIES AND SPECIALTIES

A. Tapping-Sleeve Assemblies:

1. Description: Sleeve and valve compatible with drilling machine.
 - a. Standard: MSS SP-60.
 - b. Tapping Sleeve: Cast- or ductile-iron or stainless-steel, two-piece bolted sleeve with flanged outlet for new branch connection. Include sleeve matching size and type of pipe material being tapped and with recessed flange for branch valve.

- c. Valve: AWWA, cast-iron, non-rising-stem, metal-seated gate valve with one raised face flange mating tapping-sleeve flange.
- B. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter.
 - 1. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.
- C. Indicator Posts: UL 789, FMG-approved, vertical-type, cast-iron body with operating wrench, extension rod, and adjustable cast-iron barrel of length required for depth of burial of valve.

2.8 DETECTOR CHECK VALVES

- A. Detector Check Valves for Automatic Fire Sprinkler Systems:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide FEBCO; SPX Valves & Controls; Series 800 or a comparable product by one of the following:
 - a. Ames Fire & Waterworks; a division of Watts Regulator Co.
 - b. Badger Meter, Inc.
 - c. Victaulic Company of America.
 - d. Viking Corporation.
 - e. Watts Water Technologies, Inc.
 - f. Wilkins; Zurn Industries LLC.
 - 2. Description: Detector check shall consist of a single spring-loaded swing check in parallel with a bypass meter assembly. Seat rings shall be bronze, bolted to the valve bodies with an elastomer seal. The main check assembly shall be hinge guided. Head loss through the assembly shall not exceed 3 psi at velocities from zero up to and including 15fps. Mainline check body and cover shall be manufactured of Ductile Iron ASTM A536 Grade 6545-12. Ductile Iron bodies shall be flanged ANSI B16.42, Class 150 and fusion epoxy coated 8 mils minimum to meet A.W.W.A. C550-90. Disc shall be rubber encapsulated ductile iron. Set valve to allow minimal water flow through bypass meter when major water flow is required.
 - a. Standards: UL 312 and FMG approved.
 - b. Pressure Rating: 175 psig (maximum).
 - c. Water Meter: AWWA C700, disc type, at least one-fourth size of detector check valve. Include meter, bypass piping, gate valves, check valve, and connections to detector check valve.

2.9 FIRE HYDRANTS

- A. Dry-Barrel Fire Hydrants:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Cast Iron Pipe Co.; American Flow Control Div.: American Darling Model B-84-B
 - b. American Cast Iron Pipe Co.; Waterous Co. Subsidiary; Pacer WB-87.
 - c. Mueller Co.; Water Products Div.: Model #A423 traffic type.

2. Description: Freestanding, with one NPS 4 and two NPS 2-1/2 outlets, 5-1/4-inch main valve, drain valve, and NPS 6 mechanical-joint inlet. Include interior coating according to AWWA C550. Hydrant shall have cast-iron body, compression-type valve opening against pressure and closing with pressure.
 - a. Standard: AWWA C502.
 - b. Pressure Rating: 250 psig.
 - c. Outlet Threads: NFPA 1963, with external hose thread used by local fire department. Include cast-iron caps with steel chains.
 - d. Operating and Cap Nuts: Pentagon, 1-1/2 inches point to flat.
 - e. Direction of Opening: Open hydrant valve by turning operating nut to left or counterclockwise.
 - f. Exterior Finish: Safety Yellow alkyd-gloss enamel paint, unless otherwise indicated.

2.10 FIRE DEPARTMENT CONNECTIONS

A. Fire Department Connections:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Elkhart Brass Mfg. Co., Inc.
 - b. Fire End & Croker Corporation.
 - c. Guardian Fire Equipment, Inc.
 - d. Kidde Fire Fighting.
 - e. Potter Roemer.
 - f. Reliable Automatic Sprinkler Co., Inc.
2. Description: Exposed, with cast-bronze or cast-brass body, thread inlets according to NFPA 1963 and matching local fire department hose threads, and threaded inline outlet. Include lugged caps, gaskets, and chains; lugged swivel connection and drop clapper for each hose-connection inlet.
 - a. Standard: UL 405.
 - b. Connections: Two NPS 2-1/2 inlets and one NPS 4 outlet.
 - c. Inlet Alignment: Inline, horizontal.
 - d. Finish: Cast-bronze or cast-brass.
 - e. Body Marking: "AUTO SPKR."

2.11 ALARM DEVICES

- A. Alarm Devices, General: UL 753 and FMG approved, of types and sizes to mate and match piping and equipment.
- B. Supervisory Switches: Single pole, double throw; designed to signal valve in other than fully open position.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Refer to Section 31 20 00 "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

- A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.
- B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.
- C. Do not use flanges or unions for underground piping.
- D. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.
- E. Underground water-service piping NPS 3/4 to NPS 3 shall be the following:
 - 1. PVC, Schedule 80 pipe; PVC, Schedule 80 socket fittings; and solvent-cemented joints.
- F. Underground water-service piping NPS 4 to NPS 8 shall be the following:
 - 1. NPS 4 and NPS 6: NPS 6 PVC, AWWA Class 150 pipe; PVC, AWWA Class 150 mechanical-joint, ductile-iron fittings; and gasketed joints.
 - 2. NPS 8: PVC, AWWA Class 200 pipe; mechanical-joint, ductile-iron fittings; and gasketed joints.
- G. Aboveground Water-Service Piping NPS 3/4 to NPS 3 shall be the following:
 - 1. Hard copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
- H. Vault Water-Service Piping NPS 3/4 to NPS 3 shall be the following:
 - 1. PVC, Schedule 80 pipe; PVC, Schedule 80 threaded fittings; and threaded joints.
- I. Aboveground water-service piping NPS 4 to NPS 8 shall be the following:
 - 1. Ductile-iron, grooved-end pipe; ductile-iron, grooved-end appurtenances; and grooved joints.
- J. Vault water-service piping NPS 4 to NPS 8 shall be any of the following:
 - 1. Ductile-iron, grooved-end pipe; ductile-iron, grooved-end appurtenances; and grooved joints.
 - 2. PVC, Schedule 80 pipe; PVC, Schedule 80 threaded fittings; and threaded joints.
- K. Underground Fire-Service-Main Piping NPS 4 to NPS 12 shall be the following:
 - 1. PVC, AWWA Class 200 pipe listed for fire-protection service; PVC Class 200 fabricated fittings; and gasketed joints.
- L. Aboveground Fire-Service-Main Piping NPS 4 to NPS 12 shall be ductile-iron, grooved-end pipe; ductile-iron-pipe appurtenances; and grooved joints.

3.3 VALVE APPLICATIONS

- A. General Application: Use mechanical-joint-end valves for NPS 3 and larger underground installation. Use threaded- or flanged-end valves for installation in vaults. Use UL/FMG, non-rising-stem gate valves for installation with indicator posts.
- B. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:
 - 1. Underground Valves, NPS 3 and Larger: AWWA, cast-iron, non-rising-stem, metal-seated gate valves with valve box.
 - 2. Underground Valves, NPS 4 and Larger, for Indicator Posts: UL/FMG, cast-iron, non-rising-stem gate valves with indicator post.
 - 3. Use the following for valves in vaults and aboveground:
 - a. Gate Valves, NPS 2 and Smaller: Bronze, non-rising stem.
 - b. Gate Valves, NPS 3 and Larger: AWWA, cast iron, OS&Y rising stem, metal seated.

3.4 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. See Section 33 05 00 "Common Work Results for Utilities" for piping-system common requirements.

3.5 PIPING INSTALLATION

- A. Make connections larger than NPS 2 with tapping machine according to the following:
 - 1. Install tapping sleeve and tapping valve according to MSS SP-60.
 - 2. Install tapping sleeve on pipe to be tapped. Position flanged outlet for gate valve.
 - 3. Use tapping machine compatible with valve and tapping sleeve; cut hole in main. Remove tapping machine and connect water-service piping.
 - 4. Install gate valve onto tapping sleeve. Comply with MSS SP-60. Install valve with stem pointing up and with valve box.
- B. Comply with NFPA 24 for fire-service-main piping materials and installation.
 - 1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.
- C. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.
 - 1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.
- D. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.
- E. Bury piping with depth of cover over top at least 30 inches and according to the following:
 - 1. Under Driveways: With at least 36 inches cover over top.
- F. Install piping by tunneling or jacking, or combination of both, under streets and other obstructions that cannot be disturbed.
- G. Extend water-service piping and connect to water-supply source and building-water-piping systems at 5 feet outside face of building wall in locations and pipe sizes indicated.

1. Terminate water-service piping to 5 feet of building wall until building-water-piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building-water-piping systems when those systems are installed.
 - H. Sleeves are specified in Section 22 05 29 "Hangers and Supports for Plumbing Piping and Equipment."
 - I. Mechanical sleeve seals are specified in Section 22 05 29 "Hangers and Supports for Plumbing Piping and Equipment."
 - J. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.
 - K. See Section 21 13 00 "Fire Suppression Sprinklers" for fire-suppression-water piping inside the building.
 - L. See Section 22 10 05 "Plumbing Piping" for potable-water piping inside the building.
- 3.6 JOINT CONSTRUCTION
- A. See Section 33 05 00 "Common Work Results for Utilities" for basic piping joint construction.
 - B. Make pipe joints according to the following:
 1. Ductile-Iron Piping, Gasketed Joints for Water-Service Piping: AWWA C600 and AWWA M41.
 2. Ductile-Iron Piping, Gasketed Joints for Fire-Service-Main Piping: UL 194.
 3. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
- 3.7 ANCHORAGE INSTALLATION
- A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:
 1. Concrete thrust blocks.
 2. Locking mechanical joints.
 3. Set-screw mechanical retainer glands.
 4. Bolted flanged joints.
 5. Heat-fused joints.
 6. Pipe clamps and tie rods.
 - B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:
 1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
 2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.
 3. Bonded-Joint Fiberglass, Water-Service Piping: According to AWWA M45.
 4. Fire-Service-Main Piping: According to NFPA 24.
 - C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.8 VALVE INSTALLATION

- A. AWWA Gate Valves: Comply with AWWA C600 and AWWA M44. Install each underground valve with stem pointing up and with valve box.
- B. AWWA Valves Other Than Gate Valves: Comply with AWWA C600 and AWWA M44.
- C. UL/FMG, Gate Valves: Comply with NFPA 24. Install each underground valve and valves in vaults with stem pointing up and with vertical cast-iron indicator post.
- D. UL/FMG, Valves Other Than Gate Valves: Comply with NFPA 24.
- E. MSS Valves: Install as component of connected piping system.

3.9 DETECTOR-CHECK VALVE INSTALLATION

- A. Install in vault or aboveground.
- B. Install for proper direction of flow. Install bypass with water meter, gate valves on each side of meter, and check valve downstream from meter.
- C. Support detector check valves, meters, shutoff valves, and piping on concrete piers.

3.10 FIRE HYDRANT INSTALLATION

- A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.
 - 1. Provide physical damage protection (bollards) where applicable, retaining a 3'-0" clearance (minimum) around fire hydrants and other equipment. Pipe bollards are specified in Section 05 50 00 "Metal Fabrications."
- B. AWWA Fire Hydrants: Comply with AWWA M17.
- C. UL/FMG Fire Hydrants: Comply with NFPA 24.

3.11 FIRE DEPARTMENT CONNECTION INSTALLATION

- A. Install at detector check assembly as indicated on drawings.
- B. Install protective pipe bollards on two sides of each fire department connection (when required and shown on drawings). Pipe bollards are specified in Section 05 50 00 "Metal Fabrications."

3.12 ALARM DEVICE INSTALLATION

- A. General: Comply with NFPA 24 for devices and methods of valve supervision. Underground valves with valve box do not require supervision.
- B. Supervisory Switches: Supervise valves in open position.
 - 1. Valves: Grind away portion of exposed valve stem. Bolt switch, with plunger in stem depression, to OS&Y gate-valve yoke.
- C. Locking and Sealing: Secure unsupervised valves as follows:

1. Valves: Install chain and padlock on open OS&Y gate valve.

- D. Connect alarm devices to building fire alarm system. Wiring and fire-alarm devices are specified in Section 28 31 00 "Fire Alarm Integrated Safety System."

3.13 CONNECTIONS

- A. See Section 33 05 00 "Common Work Results for Utilities" for piping connections to valves and equipment.
- B. Connect water-distribution piping to utility water main. Use tapping sleeve and tapping valve.
- C. Connect water-distribution piping to interior domestic water and fire-suppression piping.
- D. Ground equipment according to Section 26 05 00 "Basic Materials and Methods."

3.14 FIELD QUALITY CONTROL

- A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests: Test per 2022 California Plumbing Code Section 609.4 "Testing."
 1. Remake leaking joints with new materials and repeat test until leak free.
- C. Prepare reports of testing activities.

3.15 IDENTIFICATION

- A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping. Underground warning tapes are specified in Section 31 20 00 "Earth Moving."
- B. Permanently attach equipment nameplate or marker indicating plastic water-service piping, on main electrical meter panel. See Section 33 05 00 "Common Work Results for Utilities" for identifying devices.

3.16 CLEANING

- A. Clean and disinfect water-distribution piping as follows:
 1. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651 or do as follows:
 - a. Fill system or part of system with water/chlorine solution containing at least 50 ppm of chlorine; isolate and allow to stand for 24 hours.
 - b. Drain system or part of system of previous solution and refill with water/chlorine solution containing at least 200 ppm of chlorine; isolate and allow to stand for 3 hours.
 - c. After standing time, flush system with clean, potable water until no chlorine remains in water coming from system.
 - d. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination shows evidence of contamination.

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- B. Prepare reports of purging and disinfecting activities.

END OF SECTION 33 11 00

33 31 00 - FACILITY SANITARY SEWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe and fittings.
 - 2. Non-pressure couplings.
 - 3. Cleanouts.
 - 4. Manholes.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from sewer system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.
- C. Field quality-control reports.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic pipe and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.

1.5 PROJECT CONDITIONS

- A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Architect and Owner no fewer than three days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

- A. PVC Type PSM Sewer Piping:
 - 1. Pipe: ASTM D 3034, SDR 26, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
 - 2. Fittings: ASTM D 3034, PVC with bell ends.
 - 3. Gaskets: ASTM F 477, elastomeric seals.

2.2 NON-PRESSURE-TYPE TRANSITION COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
 - 1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - 2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.
- C. Unshielded, Flexible Couplings:
 - 1. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.
- D. Shielded, Flexible Couplings:
 - 1. Description: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
- E. Ring-Type, Flexible Couplings:
 - 1. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.
- F. Non-pressure-Type, Rigid Couplings:
 - 1. Description: ASTM C 1461, sleeve-type, reducing- or transition-type mechanical coupling, molded from ASTM C 1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.3 CLEANOUTS

- A. Cast-Iron Cleanouts:
 - 1. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
 - 2. Top-Loading Classification(s): Light Duty, Medium Duty, Heavy Duty, and Extra-Heavy Duty.
 - 3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.
- B. PVC Cleanouts:
 - 1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.4 MANHOLES

- A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: Class "B" concrete base with 8 inch minimum thickness below pipe and with top of base at 3 inches minimum above top of pipe and at least 1 foot larger than outside diameter of manhole.
5. Riser Sections: 5-inch minimum thickness, of length to provide depth indicated.
6. Top Section: Concentric-cone; with top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
9. Grade Rings: Reinforced-concrete rings, 6- to 12-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

2.5 CONCRETE

- A. General: Cast-in-place concrete complying with ACI 318, ACI 350, and the following:
 1. Cement: ASTM C 150, Type II.
 2. Fine Aggregate: ASTM C 33, sand.
 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.
 1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.
- C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
 1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 31 20 00 "Earth Moving."

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

- C. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- D. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.
- E. Install gravity-flow, non-pressure, drainage piping according to the following:
 - 1. Install piping pitched down in direction of flow, at minimum slope of 1 percent unless otherwise indicated.
 - 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
 - 3. Install piping with 36-inch minimum cover.
 - 4. Install PVC Type PSM sewer piping according to ASTM D 2321 and ASTM F 1668.
- F. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, non-pressure, drainage piping according to the following:
 - 1. Join PVC Type PSM sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
 - 2. Join dissimilar pipe materials with non-pressure-type, flexible or rigid couplings.

3.4 MANHOLE INSTALLATION

- A. General: Install manholes complete with appurtenances and accessories indicated.
- B. Install precast concrete manhole sections with sealants according to ASTM C 891.
- C. Form continuous concrete channels and benches between inlets and outlet.
- D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements.
- E. Install manhole-cover inserts in frame and immediately below cover.

3.5 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.6 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Install piping so cleanouts open in direction of flow in sewer pipe.
 - 1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
 - 2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
 - 3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
- B. Set cleanout frames and covers in earth in cast-in-place-concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch above surrounding grade.

- C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.7 CONNECTIONS

- A. Connect non-pressure, gravity-flow drainage piping to building's sanitary building drains.
- B. Make connections to existing piping and underground manholes.
 - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch overlap with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 3. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.8 CLOSING ABANDONED SANITARY SEWER SYSTEMS

- A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed.
 - 1. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.
- B. Backfill to grade according to Section 31 20 00 "Earth Moving."

3.9 IDENTIFICATION

- A. Comply with requirements in Section 31 20 00 "Earth Moving" for underground utility identification devices. Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.
 - 1. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.10 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Submit separate report for each system inspection.
 - 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects. Contractor shall perform either the Hydrostatic Test or the Air Test on the pipes.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to requirements of authorities having jurisdiction.
 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 4. Submit separate report for each test.
 5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:
 - a. Fill sewer piping with water. Test with pressure of at least 10-foot head of water, and maintain such pressure without leakage for at least 15 minutes.
 - b. Close openings in system and fill with water.
 - c. Purge air and refill with water.
 - d. Disconnect water supply.
 - e. Test and inspect joints for leaks.
 6. Air Tests: Test sanitary sewerage according to requirements of UNI-B-6.
 7. Manholes: Perform hydraulic test according to ASTM C 969.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.
- 3.11 CLEANING
- A. Clean dirt and superfluous material from interior of piping. Flush with potable water.

END OF SECTION 33 31 00

33 41 00 - STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe and fittings.
 - 2. Non-pressure transition couplings.
 - 3. Cleanouts.
 - 4. Drains.
 - 5. Catch basins.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings:
 - 1. Storm water system. Include plans, elevations, sections, details, frames, covers, and grates.
- C. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between catch basins, piping, and proximate structures.
- D. Field quality-control reports.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic pipe and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.
- C. Handle catch basins according to manufacturer's written rigging instructions.

1.5 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Architect and Owner no fewer than twothree days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

A. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

2.2 NONPRESSURE TRANSITION COUPLINGS

- A.** Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Ring-Type, Flexible Couplings:

1. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

2.3 CLEANOUTS

A. Plastic Cleanouts:

1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.4 DRAINS

A. Cast-Iron Area Drains:

1. Description: ASME A112.6.3 gray-iron round body with anchor flange and round grate. Include bottom outlet with inside calk or spigot connection, of sizes indicated.
2. Top-Loading Classification(s): Medium and Heavy Duty.
3. Grates shall have 1/2 inch max. opening per 2022 CBC path of travel requirements.

2.5 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.**

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.
- C. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

2.6 CATCH BASINS

- A. Standard Precast Concrete Catch Basins:
1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
 2. Riser Sections: 4-inch minimum thickness, 12-inch square, and lengths to provide depth indicated.
 3. Top Section: 4-inch minimum thickness, 12-inch square, and lengths to provide depth indicated.
 4. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
- B. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include flat grate with small square or short-slotted drainage openings.
1. Size: 15 by 15 inches with 1/2 inch max. opening per 2022 CBC path of travel requirements.
 2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Section 31 20 00 "Earth Moving."

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- C. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.
- F. Install gravity-flow, non-pressure drainage piping according to the following:

1. Install piping pitched down in direction of flow.
2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place concrete supports or anchors.
3. Install piping with 36-inch minimum cover.
4. Install ABS sewer piping according to ASTM D 2321 and ASTM F 1668.
5. Install PE corrugated sewer piping according to ASTM D 2321.
6. Install PVC Type PSM sewer piping according to ASTM D 2321 and ASTM F 1668.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, non-pressure drainage piping according to the following:

1. Join ABS sewer piping according to ASTM D 2321 and ASTM D 2751 for elastomeric-seal joints.
2. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
3. Join PVC Type PSM sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasketed joints.
4. Join dissimilar pipe materials with non-pressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from drainage pipes to cleanouts at grade. Install piping so cleanouts open in direction of flow in drainage pipe.

1. Use Medium-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, 24 by 24 by 6 inches deep. Set with tops 1 inch above surrounding earth grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.5 DRAIN INSTALLATION

A. Install type of drains in locations indicated.

1. Use Medium-Duty, top-loading classification drains in earth or unpaved foot-traffic areas.
2. Use Medium-Duty, top-loading classification drains in paved foot-traffic areas.
3. Use Heavy-Duty, top-loading classification drains in vehicle-traffic service areas.

B. Embed drains in 4-inch minimum concrete around bottom and sides.

C. Fasten grates to drains if indicated.

D. Set drain frames and covers with tops flush with pavement surface.

3.6 CATCH BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.7 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.8 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains.
- B. Make connections to existing piping and underground manholes.
 - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
 - 3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.
 - a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
 - b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
 - 4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.
- C. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
 - 1. Use non-pressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.
 - a. Shielded flexible couplings for same or minor difference OD pipes.
 - b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.
 - c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.9 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

- A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:
 - 1. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

- B. Abandoned Manholes and Structures: Excavate around manholes and structures as required and use one procedure below:

1. Remove manhole or structure and close open ends of remaining piping.
2. Remove top of manhole or structure down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

- C. Backfill to grade according to Section 31 20 00 "Earth Moving."

3.10 IDENTIFICATION

- A. Materials and their installation are specified in Section 31 20 00 "Earth Moving." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.11 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
 - a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
 - b. Option: Test plastic piping according to ASTM F 1417.
 - c. Option: Test concrete piping according to ASTM C 924.

- C. Leaks and loss in test pressure constitute defects that must be repaired.

- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.12 CLEANING

- A. Clean interior of piping of dirt and superfluous materials. Flush with water.

END OF SECTION 33 41 00