WLC ARCHITECTS CLIENT FOCUSED. PASSION DRIVEN.

January 8, 2016

TO	:	All Bidders
FROM	:	Mark Graham
PROJECT	:	Music Building North Wing Renovation 1311500.41
SUBJECT	:	Addendum 2

The following changes, omissions, and/or additions to the Project Manual and/or Drawings shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

In case of conflict between Drawings, Project Manual, and this Addendum, this Addendum shall govern.

1. GENERAL ITEMS

General

2.1 Clarification: Contractor to provide roller shades at the aluminum storefront windows adjacent to door 104A. See sheet A2.3 of the bid documents for location and sizing. Shade to be Mechoshade Mecho /5 with fascia panels, manual operated shade, or equal.

2.2 Seating indicated on plans will be Owner furnish, Owner install. Eliminate all references within the project documents indicating seating is to be reinstalled and refurbished as a part of the contract.

2.3 Engineer's estimate was originally priced at $850,000 at the time of document review.

2. PROJECT MANUAL

General

2.4 Add the attached specification 09644 – Wood Athletic Flooring to the project manual. Performance specification covers new wood floating floor system at the platform area. Wood floating floor system thickness shall not exceed 2-1/8".

2.5 Replace existing specification 08710 with the attached specification 08710 – Door Hardware. Contractor to coordinate final keying requirements with Owner.

2.6 Add the attached specification 09672 – Epoxy-Chip Flooring to the project manual. Performance specification covers new epoxy concrete floor at men's and women's restroom entry areas identified in addendum 1 drawings.

2.7 Add the attached specification 01010 – Scope of Work to the project manual.

2.8 Add the attached specification 01210 – Allowance to the project manual.

2.9 Add the attached specification 01230 – Alternates to the project manual.

2.10 Add the attached specification 01438 – Work Plan and Milestone Schedule to the project manual.

2.11 Replace existing specification 15400 with the attached specification 15400 – Plumbing.

2.12 Section 11005: Add (3) new reverse rolled, tab tensioned, motorized, wall mounted with offset bracket projection screens at the platform area as indicated on attached sheet A4.2. Projection screens to be Draper model silhouette V or equal. See electrical for motor power requirements. Provide blocking at soffit per 16/A8.4

3. DRAWINGS

2.13 Acoustic Absorber wall paneling to be abuse resistant fabric wrapped fiberglass panels mounted to the wall with Z-clips per the attached detail A02- A1. Panel thickness at curved wall to be minimum 2" at 100% surface area coverage. Panels to be 2' wide. 3 Fabric colors to be selected by architect from manufacturers standard acoustic fabric options. See 16/A8.4 for typical blocking details.

2.14 Acoustic Absorber wall paneling to be fabric wrapped fiberglass panels mounted to the wall with Z-clips per the attached detail A02- A1. Panel thickness indicated in add alternate 3 for east and south wall panels to be minimum 1" thick. Contractor to provide (24) 4'x4' panels, (12) to be placed on the south wall, and (12) to be placed on the east wall. 3 Fabric colors to be selected by architect from manufacturer's standard acoustic fabric options. See 16/A8.4 for typical blocking details.

2.15 Add Alternate #4: Replace (6) 4'x4' Adhesive applied bonded acoustic cotton panels with suspended acoustic absorber ceiling paneling. Panels to be fabric wrapped fiberglass panels mounted to the ceiling with splay wire per manufacturer's requirements. See sheet A8.3 for attachment details. Panel thickness indicated in add alternates to be minimum 1" thick with location of panels as indicated on plans. Panels to be 4'x4' square. 1 Fabric color to be selected by architect from manufacturer's standard acoustic fabric options.

2.16 Add Alternate #4: Suspended Acoustic ceiling diffuser paneling to be convex fabric wrapped thermo-molded plastic panels, 1/8" min thickness, mounted to the ceiling with splay wire per manufacturer's requirements. See 20/A8.3 for attachment details. Panel to be located as indicated on plans. Panels to be 4'x4' square. 1 Fabric color to be selected by architect from manufacturer's standard acoustic fabric options.

2.17 See attached AD2-A2 for revised door hardware groups for coordination with the attached specification 08710.

2.18 See attached AD2-A3 for interior wood handrail attachment and blocking details at east and south walls. Provide new blocking for new handrail per 16/A8.4, typical.

2.19 See attached AD2-A4 and AD2-A5 for relocation and reinstallation of existing site light post.

2.20 See attached AD2-A6 for typical platform edge detail. Contractor to provide new floating wood floor above new platform framing at area. See 25/A6.1 of DSA approved set for platform

flooring area. See structural addendum drawings ADD-2-(1) and ADD-2-(2)for platform framing requirements.

2.21 Note 9.02: Change note 9.02 on all architectural sheets to read as follows:

"See Add Alternate #3 and Add Alternate #4 on sheet A9.1 for acoustic finish package alternates in theater and platform areas."

2.22 Note 12.01: Change note 12.01 on all architectural sheets to read as follows:

"Theater fixed seating – Owner Furnish, Owner Install, Typical."

2.23 See attached narrative from A&F engineering and associated plans for changes to the electrical and low voltage scope of work.

END OF ADDENDUM 2

Submitted by,

MARK GRAHAM
Architect, AIA
LEED GA, NOMA
Principal

Attachments: Sheet AD2-A1, Sheet AD2-A2, Sheet AD2-A3, Sheet AD2-A4, Sheet AD2-A5, Sheet A4.2, ADD-2-(1), ADD-2-(2), Specification Section 10100, Specification Section 01210, Specification Section 01230, Specification Section 01438, Specification Section 08710, Specification 09644, Specification 15400, Narrative and Drawing sheets from A&F Engineering

A&F ENGINEERING GROUP, INC.

CONSULTING ELECTRICAL ENGINEERS

January 8, 2016

Mr. Billy Maurer
WLC Architects, Inc.
8163 Rochester Ave., Suite 100
Rancho Cucamonga, CA 91730

Re: **Music Building North Wing Renovation**
Compton Community College
1111 East Artesia Blvd. Compton, CA 90221

Mr. Maurer,

Please issue the following addendum items:

Reference – Sheet E1.1:

1. Route (1) 4" conduit only from the Music Building Storage room to the existing communications vault.
2. Relocate the IDF in the existing Electrical room to the Storage room indicated on plan. Route (4) 2" conduits only from the old IDF location in the Electrical room to the new IDF location in the Storage room. Cabling and cable terminations shall be by the College IT Department.

Reference – Sheet E2.1:

3. Stage Dimming Rack:
   A. Provide and install (1) control electronics module "CEM 3" with upgrade kit and (48) D20 dimming modules in the existing Stage Dimming Rack (SDR).
   B. Replace the Unison R4 architectural control unit with a Unison Paradigm architectural controller. Locate the new controller adjacent to the "SDR" and make required connections.
   C. Provide an "SDR" control station, ETC #UH10105, in the control room adjacent to low voltage switch "LV-5". Connect the control station to the architectural control unit located adjacent to the "SDR".
   D. Provide an "SDR" control station, ETC #UH10105, on the Stage adjacent to low voltage switch "LV-2". Connect the control station to the architectural control unit located adjacent to the "SDR".
   E. Control Room - Provide an "Element 250" control console with EC-PB-DMX1/DMX2/net plug-in station and DMX driver unit. Provide a dedicated 120V circuit for the DMX driver unit from panel "D". Connect the plug-in station to the architectural control unit.
   F. Refer to the plan for the "SDR" wiring/block diagram.
   G. The existing "SDR" and its ancillary components are manufactured by Electronic Theatre Controls (ETC). Contact the manufacturer's representative MPA Lighting, Mr. Derick Sheehan (323) 461-7285, for pricing and compatible components. The dimming system shall be commissioned/programmed, as directed by the College/Owner, by the manufacturer's representative.

Reference – Sheet E2.2:

4. Provide a dedicated 120V. circuit (D-16) to the relocated IDF in the Storage room.
5. Provide power to the ceiling mounted projectors on the north and south side of the theatre seating area as indicated on plan.
6. Provide power to the motorized screens on the north and south sides of the stage area as indicated on plan. Locate the screen control station on the north wall of the room.
7. Stage – All work at the stage shall be per the DSA approved plans.

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Addendum #2
Music Building
Compton CC

Reference – Sheet E2.3:

8. Route (1) 4" conduit only from the relocated IDF in the Storage room to the Music Building Storage room. Terminate the 4" conduit as indicated on AD2-E1.
9. Terminate the (4) 2" conduits from the removed IDF in the Electrical room at the new IDF location in the Storage room.
10. Provide flush ceiling mounted data outlets at each projector as indicated on plan.
11. Provide flush ceiling mounted data outlets at each wireless access point as indicated on plan.
12. Provide wall and ceiling mounted data outlets as indicated on plan.
13. Provide wall mounted phone outlets indicated on plan.
14. Stage – All work at the stage shall be per the DSA approved plans.
15. "WA" adjacent to a data outlet indicates a flush ceiling outlet for wireless access.
16. "CR" at entry doors – Provide 4" square back box at +48" to top of box for mounting of card access station.

Reference – Sheet E2.5 Plan #2:

17. Provide a pull box, as indicated on AD2-E1, for the routing of the 4" conduit between the IDF and the vault.

Reference – Sheet FA.1:

18. Plan:
    A. Locate the new FACP in the Storage room adjacent to the relocated IDF.
    B. Replace existing manual pull stations with new addressable pull stations. Pull stations shall be weatherproof, fully compatible with the new FACP, as manufactured by Simplex.
    C. Replace the existing horns/bells with 24V combination horn/strobe. Horn/strobes shall be fully compatible with the new FACP, as manufactured by Simplex.
19. Riser Diagram – The specified phone lines are to be derived from the Cisco network. Connection to the telephone backboard is not required.
20. Refer to plan for the revised "Riser Note".

Reference – Section 16721:

21. Part 1, Item 1.2 First Paragraph to read – "Provide and install a new control panel, replace existing manual pull stations and horn/bells with new pull stations and exterior horn/strobes, remove existing control panel interior and keep the enclosure/box for use as a pull box for new fire alarm wiring."

Please contact our office if you have any questions or require additional information.

Sincerely,

Luis E. Flores
Principal

LEF:ms

CCCD_Music Building-3.doc

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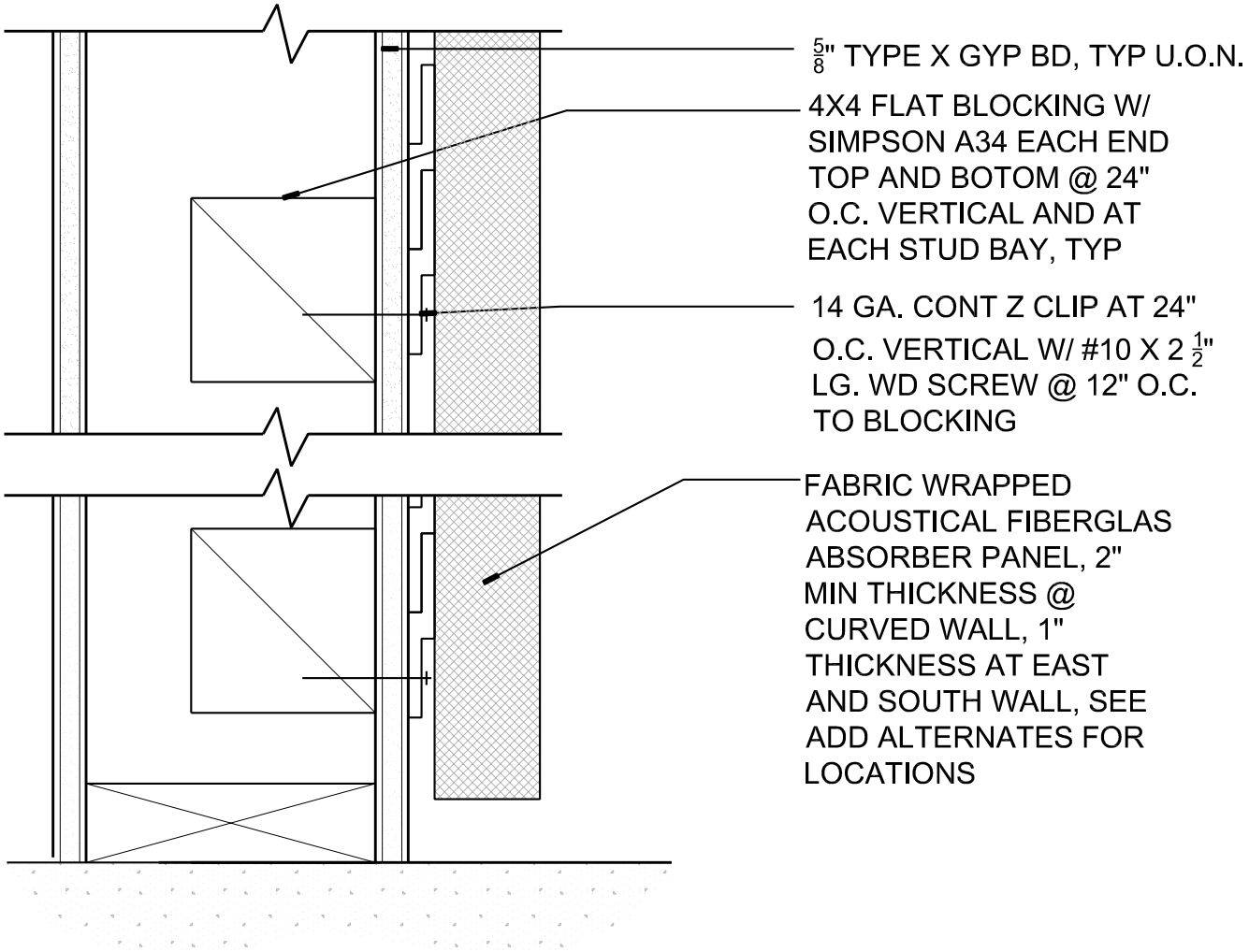
MARK GRAHAM
C-26046
03-31-16
STATE OF CALIFORNIA



ACOUSTICAL WALL PANELING, TYP

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DRAWN	BM
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DATE	1/8/16
SCALE	N.T.S.
JOB NO.	1410900

ADDENDUM 2

AD2- A1

DOOR SCHEDULE

DOOR NUMBER	TYPE	SIZE			DOOR			FRAME		DETAILS			HARDWARE			FIRE ASSEMBLY / U.L. LIST	REMARKS
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	MATERIAL	FINISH	HEAD	JAMB	SILL	PANIC	HARDWARE SET	CLOSER		
102A	B	(PR.) 3'-0"	7'-0"	1-3/4"	STEEL	PAINT	H.M.	PAINT			18/A8.5	YES	1	YES	60 MIN.	REPLACE (E) DOORS & FRAME
102B	B	(PR.) 3'-0"	7'-0"	1-3/4"	STEEL	PAINT	H.M.	PAINT			18/A8.5	YES	1	YES	60 MIN.	REPLACE (E) DOORS & FRAME
102C	B	(PR.) 3'-6"	7'-0"	1-3/4"	STEEL	PAINT	H.M.	PAINT			18/A8.5	NO	2	YES	60 MIN.	REPLACE (E) DOORS & FRAME
103A	B	3'-0"	7'-0"	1-3/4"	SCW	PLAM	H.M.	PAINT			3/A8.4	NO	3	NO	--	
103B	D	3'-0"	7'-0"	1-3/4"	SCW	PLAM	H.M.	PAINT			-	NO	4	YES	--	
103C	D	PR. 1'-10"	7'-0"	1-3/4"	SCW	PLAM	H.M.	PAINT			-	NO	5	NO	--	
104A	A	(PR.) 3'-0"	8'-0"	1-3/4"	AL/GL	ANOD	ALUM	ANOD.			18/A8.5	YES	6	YES	--	
104C	D	(PR.) 3'-0"	7'-0"	1-3/4"	SCW	PLAM	H.M.	PAINT			-	YES	7	YES	--	
105A	C	3'-0"	7'-0"	1-3/4"	H.M.	PAINT	HM	PAINT			18/A8.5	NO	8	YES	--	
105B	E	8'-0"	9'-0"	2"	STEEL	PAINT	STEEL	PAINT			-	NO	9	NO	--	OVERHEAD COILING DOOR
107A	D	PR 3'-0"	7'-0"	1-3/4"	H.M.	PLAM	H.M.	PAINT			-	NO	10	YES	--	
108A	B	PR 3'-0"	7'-0"	1-3/4"	STEEL	PAINT	STEEL	PAINT			18/A8.5	NO	11	YES	--	VERIFY EXISTING DIMENSION
109A	B	PR 3'-0"	7'-0"	1-3/4"	STEEL	PAINT	STEEL	PAINT			18/A8.5	NO	11	YES	--	VERIFY EXISTING DIMENSION

PARTIAL 9.1

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ADDENDUM 2

AD2- A2

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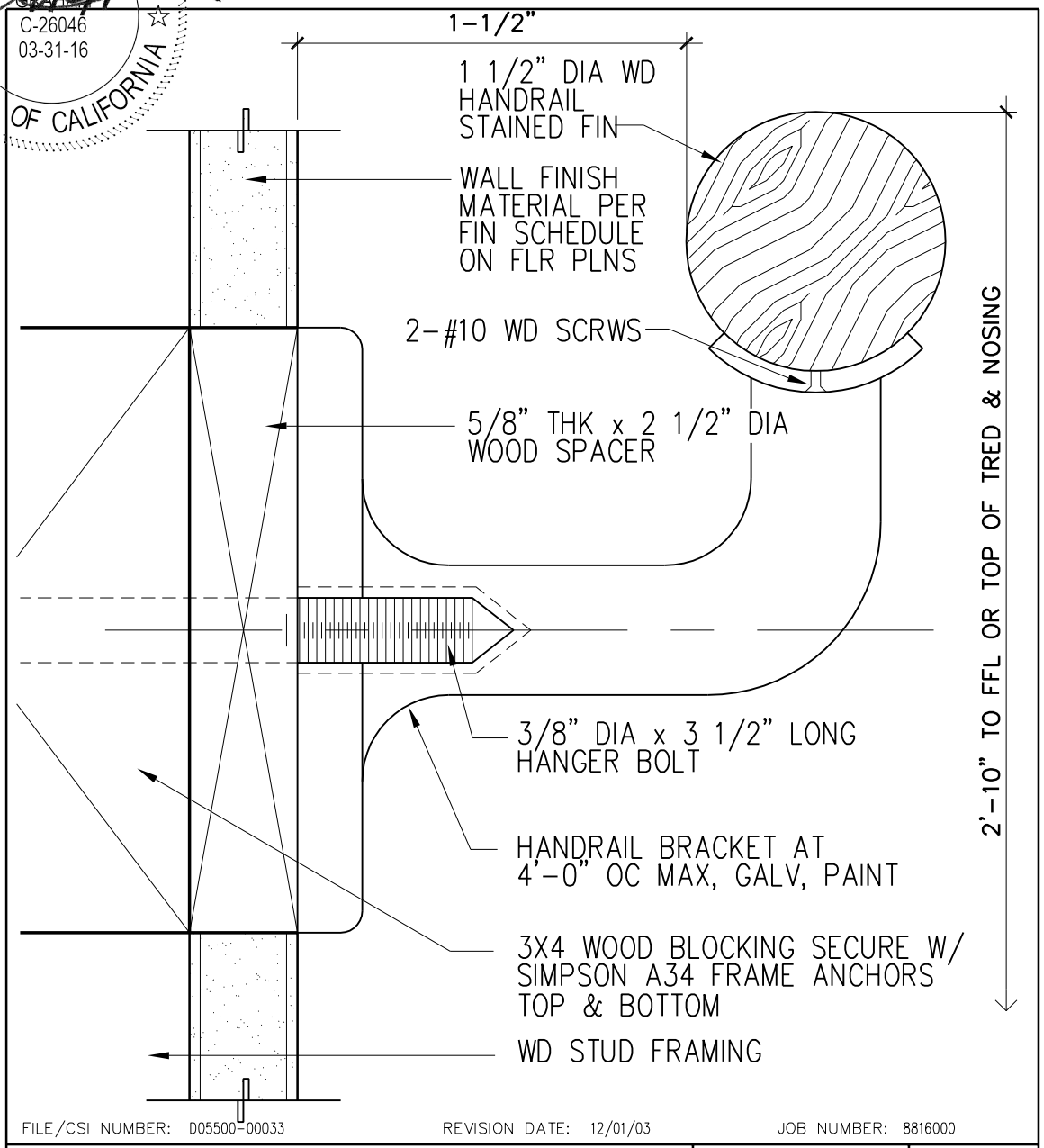

FILE/CSI NUMBER: D05500-00033 REVISION DATE: 12/01/03 JOB NUMBER: 8816000

HANDRAIL DETAIL

1'-0"=1'-0"

TYPICAL HANDRAIL DETAIL @ EAST AND SOUTH SEATING AREA

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ADDENDUM 2

AD2- A3

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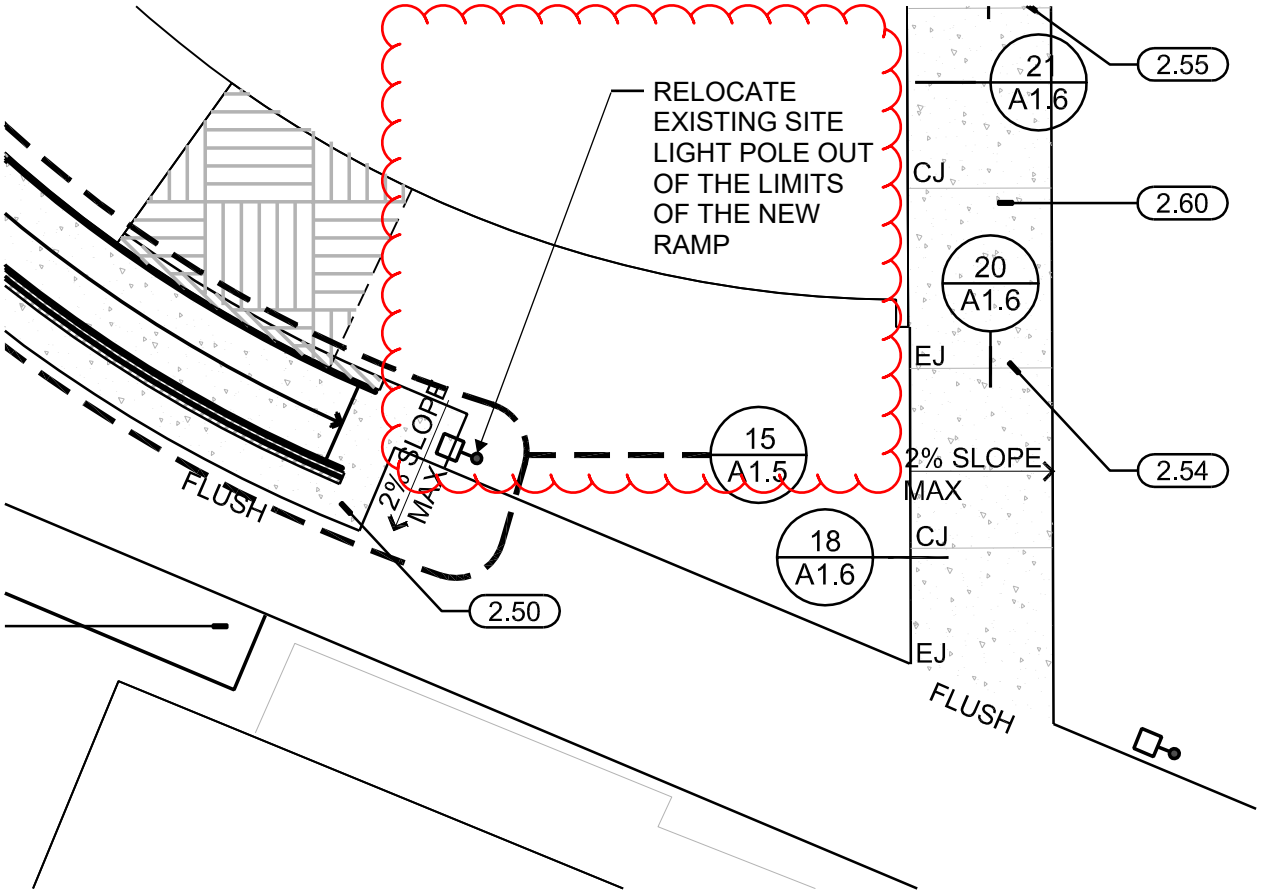

PARTIAL 10/A1.4

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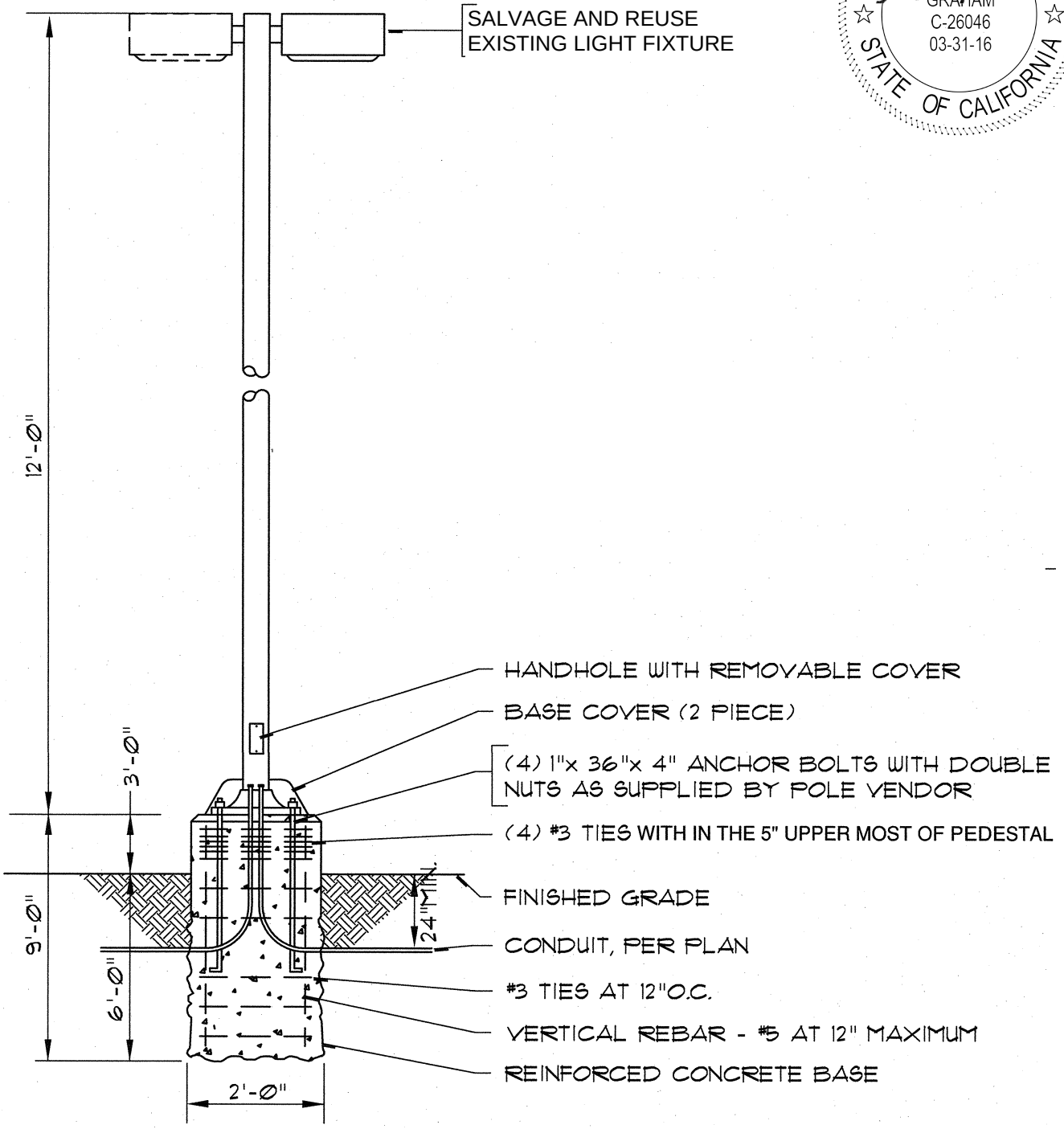
ADDENDUM 2

AD2- A4



NOTE: FIELD VERIFY ANCHOR BOLT SPACING AND SIZE WITH EXISTING CONDITIONS

TYP LIGHT POST BASE

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ADDENDUM 2

AD2- A5

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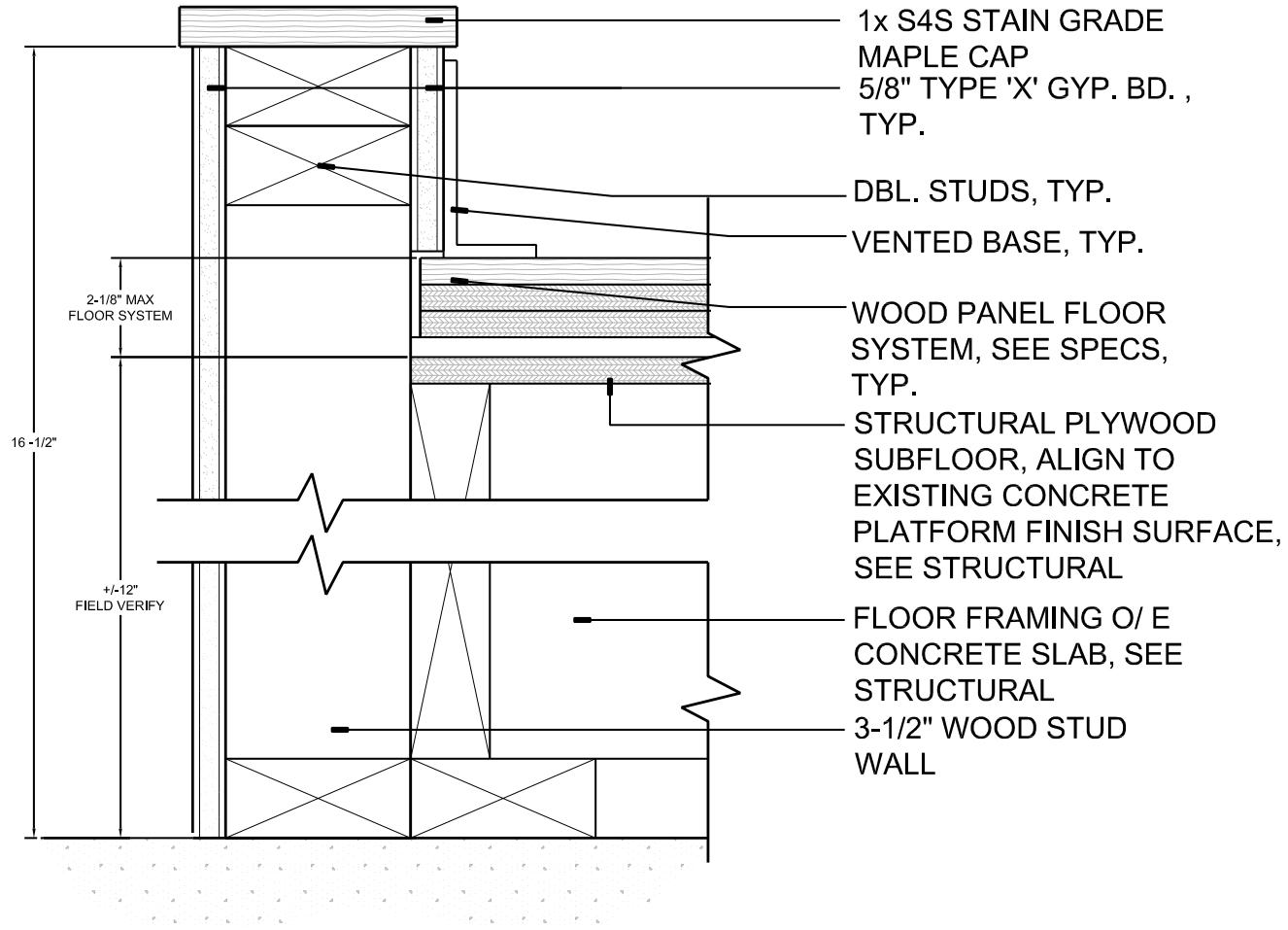

NEW PLATFORM EDGE CONDITION, TYP

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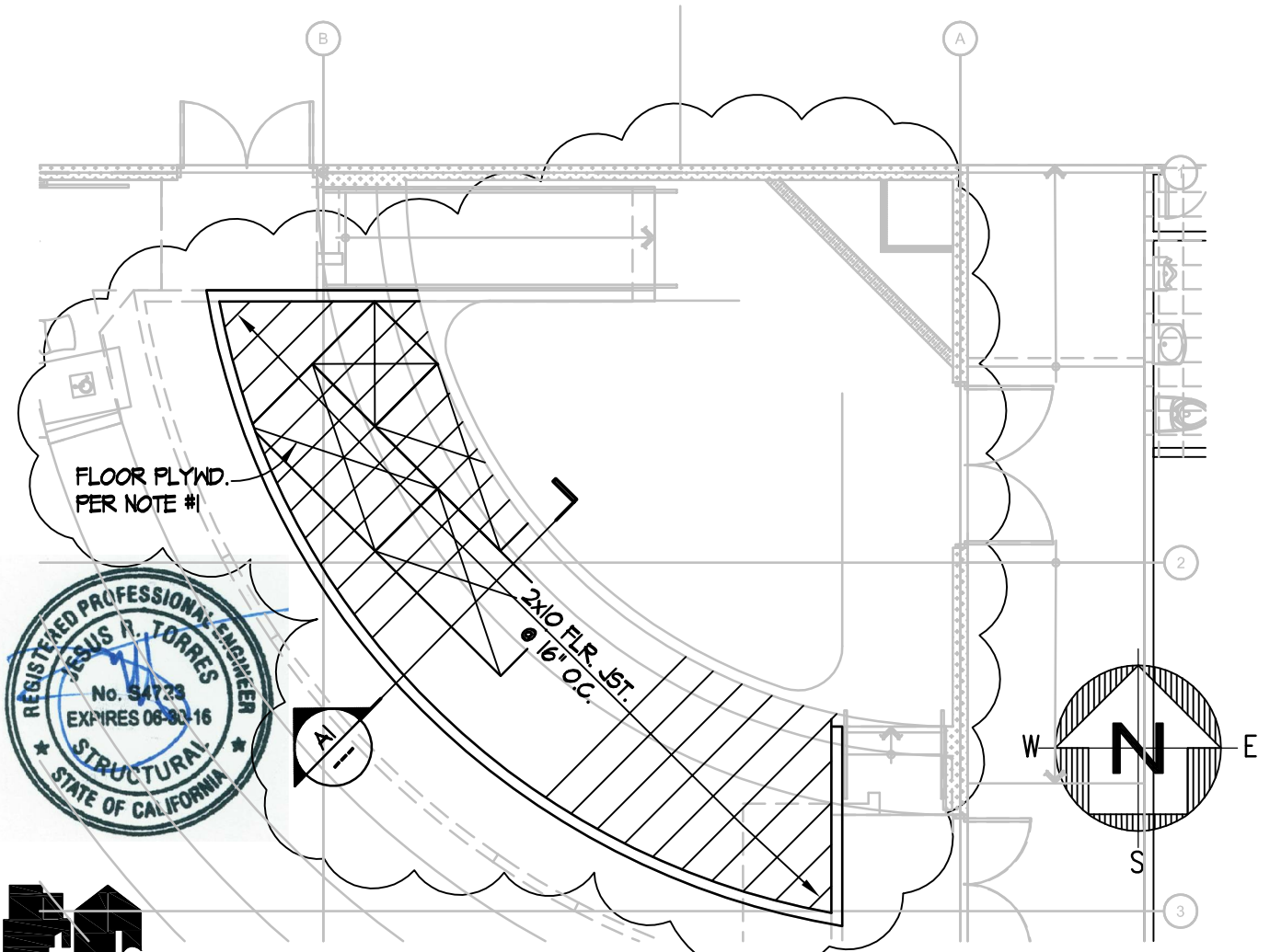
ADDENDUM 2

AD2- A6

FLOOR PLAN NOTES

1. ▭ 3/4" STRUCT. I-PLYWOOD W/
10d @ 6" O.C. B.N.
10d @ 6" O.C. E.N.
10d @ 12" O.C. F.N.
BLOCK ALL EDGES

2. ALL TOP OF PLYWOOD HEIGHTS ARE FROM (REF. 0'-0").



REGISTERED PROFESSIONAL ENGINEER
JESUS R. TORRES
No. S4733
EXPIRES 06-30-16
STRUCTURAL
STATE OF CALIFORNIA

t&b ENGINEERING, INC.
CONSULTING STRUCTURAL ENGINEERS
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RIVERSIDE, CA. 92501-1773
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JOB NO. 20-13-02.1

PARTIAL FOUNDATION PLAN

SCALE: 1/8"=1'-0"

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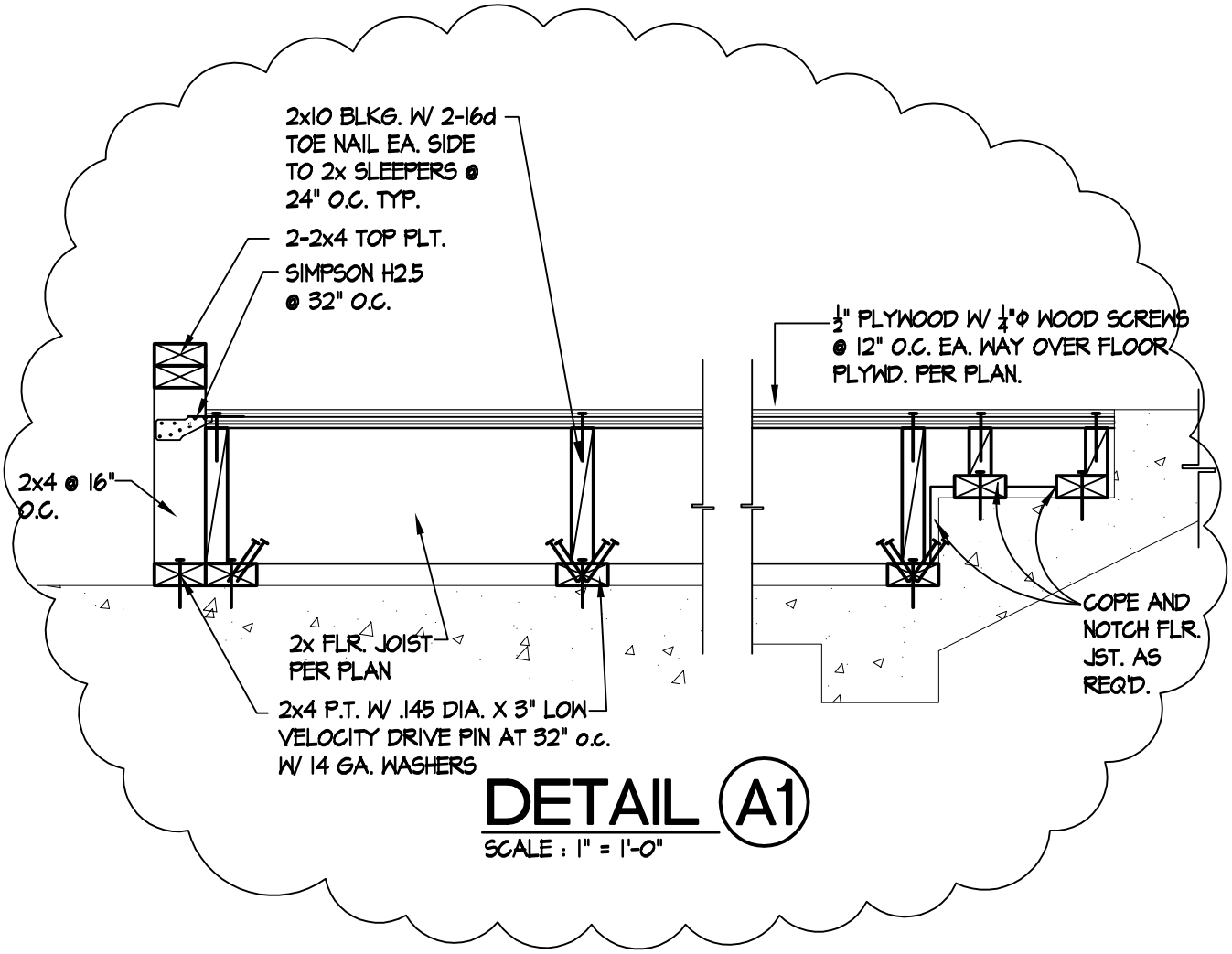
ADDENDUM 2

ADD-2-(1)



DETAIL A1

SCALE : 1" = 1'-0"

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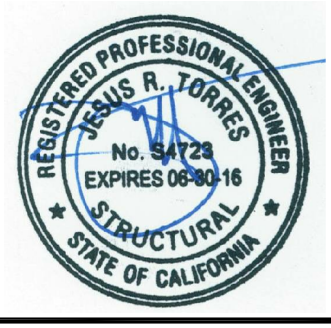

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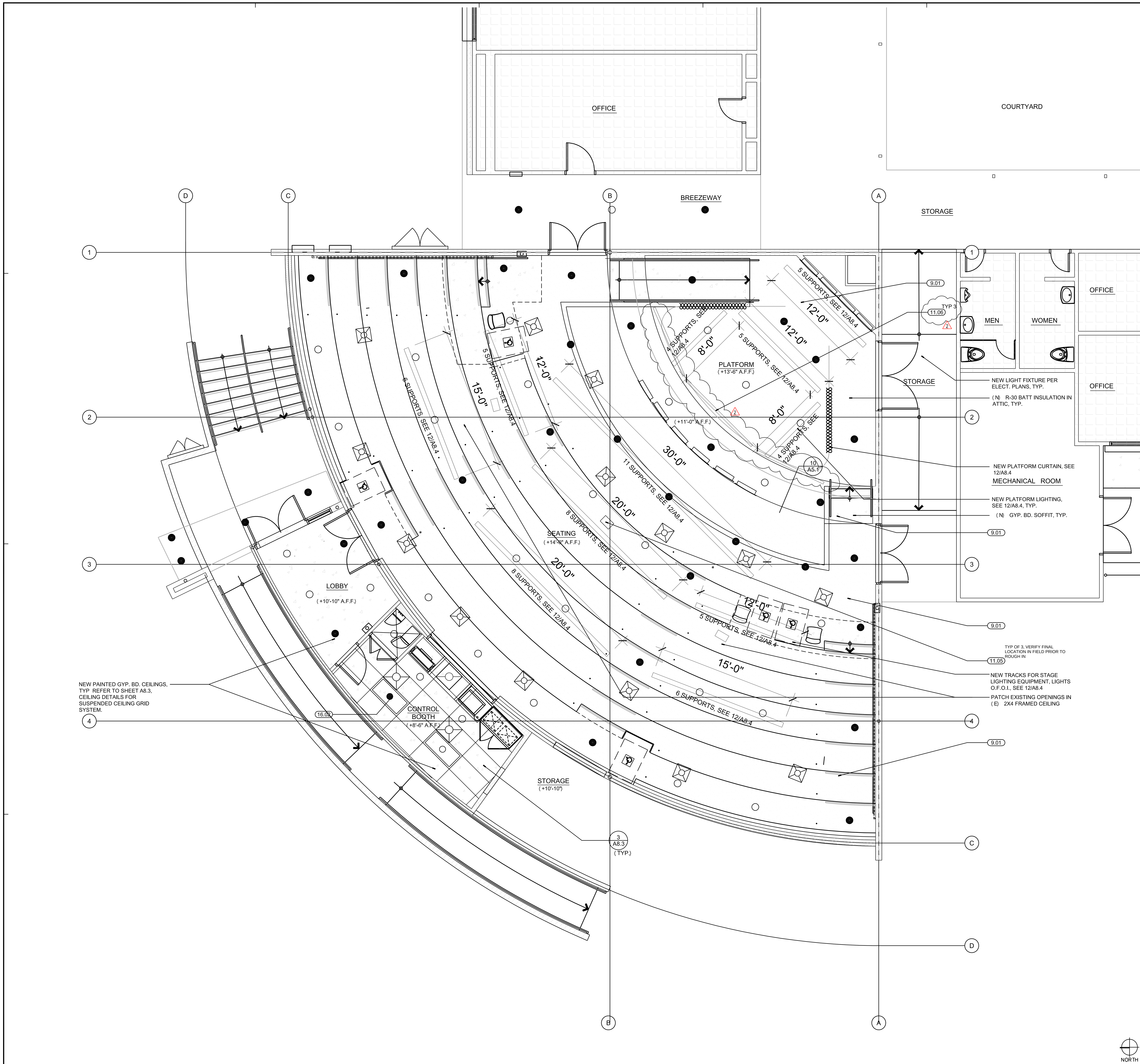
ADDENDUM 2

ADD-2-(2)



NEW CONSTRUCTION REFLECTED CEILING PLAN 1/4"=1'-0" 10

ARCHITECTURAL KEYNOTES

DIVISION ONE: GENERAL CONDITIONS AND DEMOLITION
(SEE GENERAL NOTES - SHEET A0.1 DEMOLITION PLANS & SPECIFICATIONS)

- 1.01 DEMO. WATER CLOSETS AND URINALS COMPLETE, SEE PLUMBING PLANS
- 1.02 DEMO. EXIST. SINKS COMPLETE, SEE PLUMBING PLANS
- 1.03 DEMO. EXIST. DRINKING FOUNTAIN COMPLETE.
- 1.04 DEMO ALL TOILET PARTITIONS AND ALL ACCESSORIES.
- 1.05 NOT USED.
- 1.06 NOT USED.

DIVISION TWO: SITEWORK
(SEE PARTIAL SITE PLAN, SHEET A1.4)

DIVISION THREE: CONCRETE

- 3.01 NEW CONC. SLAB PER STRUCTURAL PLANS OVER .15 MIL. VAPOR BARRIER OVER 2" SAND OVER COMPACTED GRADE, TYP.
- 3.02 PATCH AND REPAIR EXISTING CONCRETE SLAB AS INDICATED, TYP.

DIVISION FOUR: MASONRY

- 4.01 NEW 8" CAST IN PLACE CONCRETE RETAINING WALL WITH GALVANIZED PIPE GUARDRAIL, SEE 14/A1.6

DIVISION FIVE: METALS

- 5.01 NEW STEEL CANOPY STRUCTURE, SHOP PRIME / FIELD PAINT, SEE SHEET S0.5, TYP.
- 5.02 NEW 1.66" DIA. GALV STEEL HANDRAILS AT EXTERIOR CONDITIONS, TYP.
- 5.03 NEW PREFINISHED METAL DECKING AT NEW CANOPY, TYP.
- 5.04 NEW 1-1/2" DIA. PAINTED STEEL HANDRAILS AT INTERIOR CONDITIONS, TYP.
- 5.05 NEW FACTORY FINISHED STEEL GUARDRAIL. SEE 14/A1.6

DIVISION SIX: WOOD & PLASTICS

- 6.01 NEW EXTERIOR WALL FRAMING. SEE PARTITION TYPES.
- 6.02 NEW ROOF FRAMING: 2 x WOOD RAFTERS PER STRUCTURAL PLANS, TYP.
- 6.03 NEW MILLWORK COUNTERTOPS AND CABINETS WITH PLASTIC LAMINATE FINISH, TYP. SEE DETAIL 19 / A8.4.
- 6.04 NEW STAINED WOOD HANDRAILS AT INTERIOR, TYP.

DIVISION SEVEN: THERMAL & MOISTURE PROTECTION

- 7.01 PATCH AND REPAIR EXIST. BUILT - UP ROOFING AT NEW MECHANICAL UNITS AND PENETRATIONS, TYP.
- 7.02 NEW R - 19 THERMAL BATT INSULATION AT ALL EXIST. / NEW EXTERIOR WALLS, TYP.
- 7.03 NEW R-30 THERMAL BATT INSULATION AT UNDERSIDE OF ROOF FRAMING, TYP.
- 7.04 NEW ACOUSTIC BATT INSULATION AT ALL NEW INTERIOR PARTITIONS, TYP. THICKNESS OF INSULATION TO MATCH STUD WALL THICKNESS, TYP.
- 7.05 NEW BUILT - UP ROOFING AT ALL NEW ROOF AREAS, TYP.
- 7.06 NEW 7/8" EXT. PLASTER O/ EXPANDED METAL LATH W / ELASTOMERIC PAINTED FINISH, SEE SPECS
- 7.07 NEW EXTERIOR PLASTER WEEP SCREED, TYP.
- 7.08 NEW FACTORY FINISHED METAL WALL PANELS, TYP.
- 7.09 NEW 1/2" CLEAR ANODIZED ALUMINUM PLASTER REVEAL

DIVISION EIGHT: DOORS & WINDOWS
(SEE DOOR SCHEDULE, SHEET A9.1, TYP.)

- 8.01 NEW DOORS & FRAMES PER SCHEDULE, TYP.
- 8.02 NEW ROLL - UP DOOR, TYP.
- 8.03 NEW ALUM. STOREFRONT FRAMES WITH A CLEAR ANODIZED FINISH WITH DUAL INSULATED TINTED, TEMPERED GLAZING, TYP.
- 8.04 NEW ALUM. STOREFRONT FRAMES WITH A CLEAR ANODIZED FINISH WITH SINGLE PANE TINTED, TEMPERED GLAZING, ANGLE GLASS DOWNAWRD IN FRAMETYP.
- 8.04 NEW RATED

DIVISION NINE: FINISHES
(SEE FINISH SCHEDULE AND LEGEND, SHEET A9.1, TYP.), FOR ALL OTHER DIV. 9 KEYNOTES.

- 9.01 INSTALL (1) LAYER 1/2" GYP BD AT UNDERSIDE OF EXISTING CEILING FRAMING, SCREW TO (E) WD STUDS @ 12" O.C. TYP
- 9.02 SEE ADD ALTERNAT #3 ON SHEET A6.1 FOR ACOUSTIC FINISH PACKAGES IN THEATER AND PLATFORM AREAS, TYP

DIVISION TEN: SPECIALTIES

- 10.01 NEW SEMI - RECESSED MOUNTED FIRE EXTINGUISHERS AND CABINETS, TYP., SEE 1/A8.4

DIVISION ELEVEN: EQUIPMENT

- 11.01 NEW MOTORIZED STAGE CURTAIN AND TRACK PER 12/A8.4
- 11.02 LIGHTING MAIN DIMMING RACK, O.F.C.I., SEE ELECTRICAL PLANS
- 11.03 LIGHTING CONTROL BOARD, O.F.C.I., SEE ELECTRICAL PLANS
- 11.04 NEW SOUND CONTROL EQUIPMENT BOARD, O.F.O.I, SEE ELECTRICAL PLANS
- 11.05 NEW CEILING MOUNTED PROJECTOR MOUNT PER 15/A8.4
- 11.06 (3) NEW CEILING MOUNTED PROJECTION SCREEN, REVERSE ROLLED, 8' WIDE TAB TENSIONED MOTORIZED SCREEN, ATTACH TO SOFFIT WITH MANUFACTURERS OFFSET WALL MOUNT BRACKETS, PROVIDE BLOCKING PER 16/A8.4

DIVISION TWELVE: FURNISHINGS

- 12.01 THEATER FIXED SEATING - O.F.C.I., TYP.

DIVISION THIRTEEN: SPECIAL CONSTRUCTION
(NOT APPLICABLE)

DIVISION FOURTEEN: CONVEYING SYSTEMS
(NOT APPLICABLE)

DIVISION FIFTEEN: MECHANICAL & PLUMBING

- 15.01 NEW HVAC UNITS PER MECHANICAL PLANS, TYP.
- 15.02 NEW SPLIT SYSTEM HVAC CONDENSOR UNITS MOUNTED ON SLAB, TYP.
- 15.03 NEW SPLIT SYSTEM HVAC FAN COIL UNIT MOUNTED TO WALL.
- 15.04 NOT USED

DIVISION SIXTEEN: ELECTRICAL

- 16.01 NEW ELECTRICAL SWITCHGEAR PER ELECTRICAL PLANS.
- 16.02 NEW LIGHT FIXTURE, SEE ELECTRICAL PLANS.

NOTE:

(1) SEE STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING & FIRE ALARM PLANS FOR ADDITIONAL INFORMATION.
(2) SEE FINISH SCHEDULE, SHEET A9.1 FOR SPECIFIC FINISH MATERIAL INFO.
(3) SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NOTE:
ALL ARCHITECTURAL KEYNOTES APPLY ONLY TO SHEETS A1.5 THRU A6.2.

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LICENSED ARCHITECT C-20046 STATE OF CALIFORNIA

CONSULTANT

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
APPL 03-115541
FILE: 19-C1
AC ___ FLS ___ SS ___ DATE ___

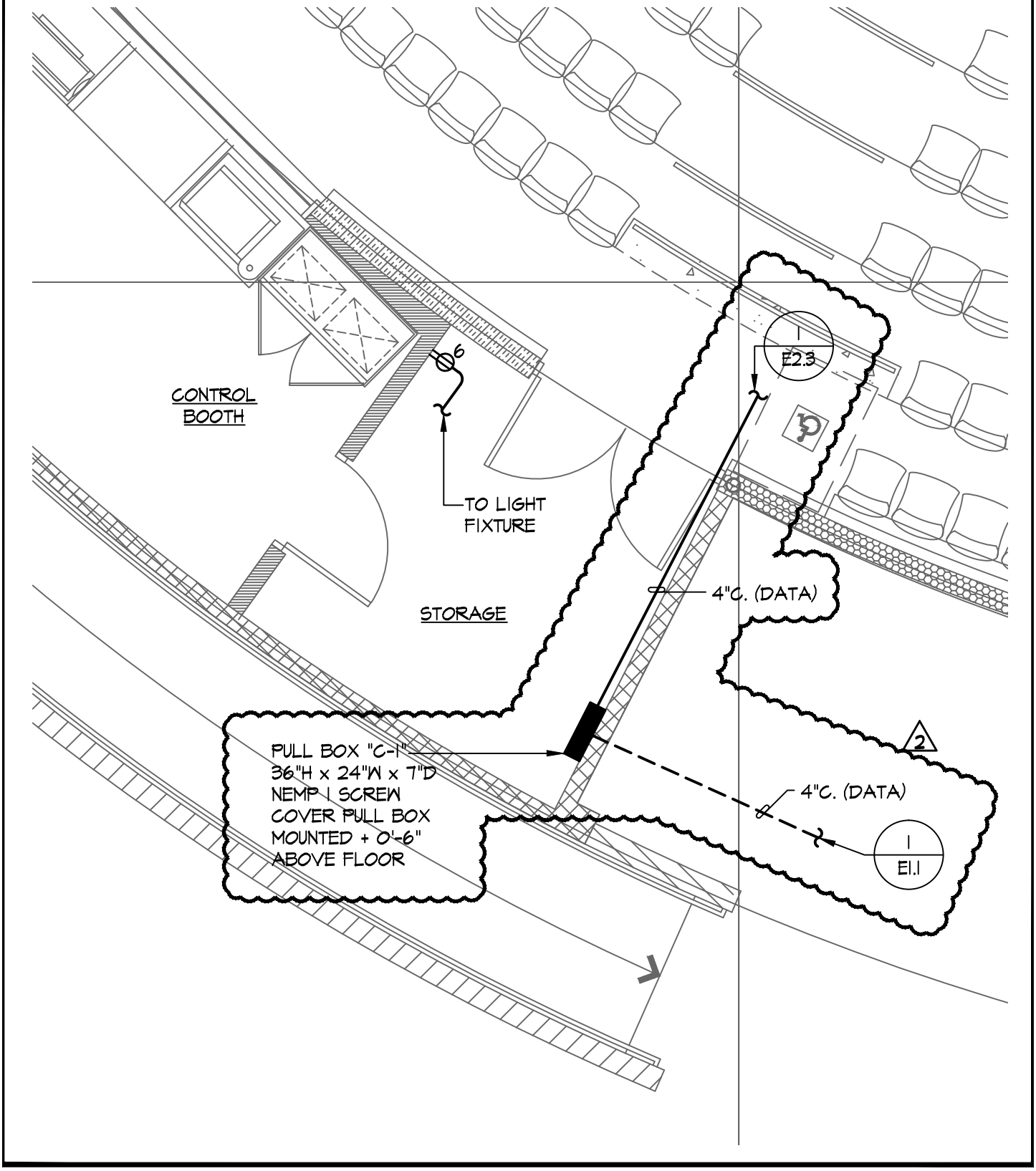
NO	DATE	BY	DESCRIPTION
2	1/8/16	BM	ADDENDUM 2

REVISIONS

DRAWN: BM	CHECKED: VT
DATE: 10/28/15	SCALE:
PROJECT NUMBER: 1311500	

NEW CONSTRUCTION REFLECTED CEILING PLAN

DRAWING NUMBER: A4.2



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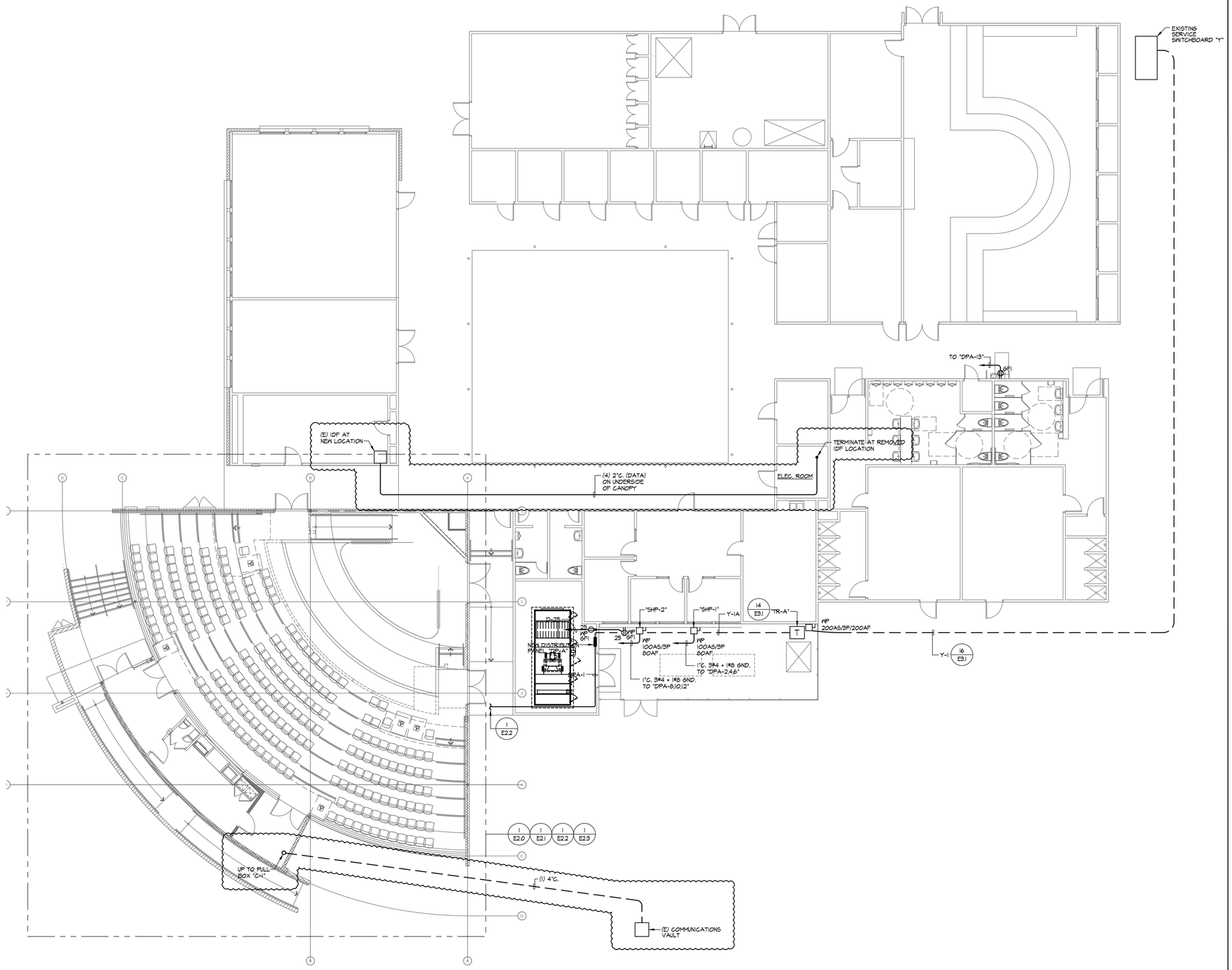
CHECKED	RES
DATE	1/8/16
SCALE	AS NOTED
JOB NO.	1311500

ADDENDUM 2
REF. E2.5

AE2-E1



PLAN NOTES

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWING IS DIAGRAMMATIC. EXACT ROUTING OF NEW CONDUITS AND LOCATION OF JUNCTION BOXES AND PULL BOXES SHALL BE COORDINATED AND DETERMINED IN THE FIELD. NEW CONDUIT, JUNCTION BOXES AND PULL BOXES SHALL BE ROUTED CONCEALED IN THE CEILING SPACE AND IN SUCH A MANNER AS TO AVOID INTERFERENCE WITH EXISTING BUILDING STRUCTURES, UTILITIES AND THE WORK BEING PERFORMED BY OTHER TRADES.
2. REFER TO THE SINGLE LINE DIAGRAM, SHEET E0.2, FOR FEEDER CONDUIT SIZE AND CONDUCTOR SIZE AND QUANTITIES REQUIRED FOR ELECTRICAL EQUIPMENT INDICATED ON THE SINGLE LINE DIAGRAM.
3. CONDUIT AND WIRE INDICATED ON THE SINGLE LINE DIAGRAM, OF THIS CONTRACT AND THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE REQUIRED ROUTING TO MEET THE INTENT OF THESE PLANS AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTION REQUIREMENTS. HE SHALL PROVIDE ALL POWER AND CONTROL CONNECTIONS AS INDICATED ON THE MECHANICAL AND PLUMBING DRAWINGS.
5. EXTERIOR MOUNTED RECEPTACLES SHALL BE PROVIDED COMPLETE WITH LOCKING TYPE WEATHERPROOF COVERS. COVERS SHALL BE U.L. LISTED FOR WET LOCATIONS WHEN IN USE.
6. REFER TO GENERAL NOTES, SHEET E0.1 FOR ADDITIONAL REQUIREMENTS.

OVERALL PLAN | 1/8" = 1'-0" | 1

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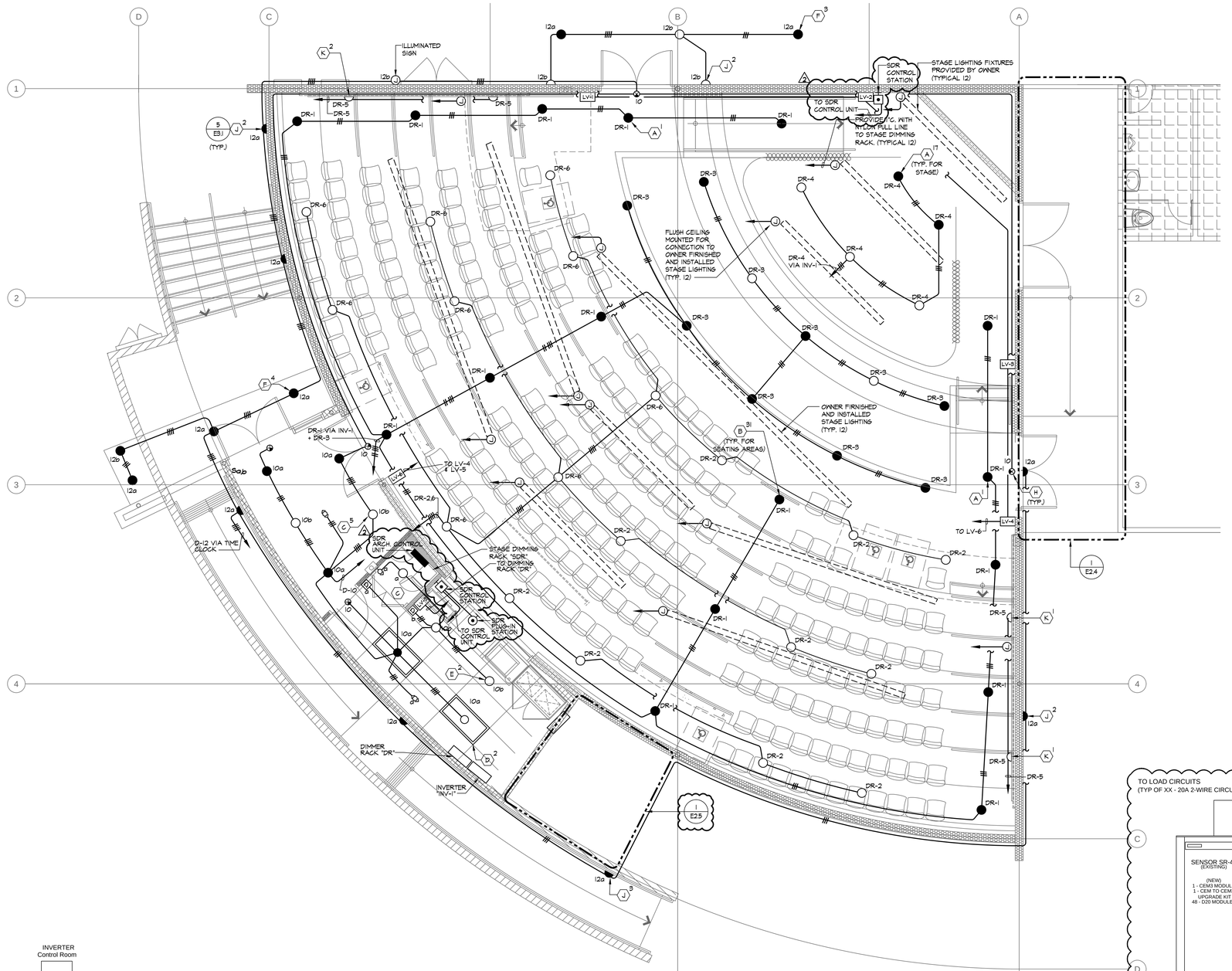
			REVISIONS

DRAWN: KMC	CHECKED: RES
DATE: DECEMBER 2013	SCALE:
PROJECT NUMBER: 1311500	

OVERALL PLAN

DRAWING NUMBER: **E1.1**



PLAN NOTES

1. EXISTING FIXTURE TO BE CLEANED, RELAMPED AND PROVIDED WITH NEW BALLASTS. LAMPS SHALL BE 3,100 LUMEN ELECTRONIC T8 TYPE WITH 4100K COLOR TEMPERATURE. ELECTRONIC BALLASTS SHALL HAVE 0.78 POWER FACTOR. PROVIDE EMERGENCY EMERGENCY BATTERY PACK WHERE INDICATED ON PLAN.
2. EXISTING CONDUIT AND CIRCUIT CONDUCTORS TO REMAIN ARE TO BE SUPPORTED TO THE ROOF STRUCTURE WITH PIPE HANGERS FOR SINGLE CONDUIT OR CONDUIT RACK FOR MULTIPLE CONDUITS. CONDUITS WILL NOT BE ALLOWED TO LAY ON SUSPENDED CEILINGS.
3. REFER TO LIGHTING FIXTURE SCHEDULE, DRAWING E0.1, FOR TYPE OF FIXTURE TO BE PROVIDED AND INSTALLED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED FIXTURES AND DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
5. EXACT LOCATION OF OCCUPANT SENSORS AND DAYLIGHT SENSORS SHALL BE COORDINATED WITH THE SENSOR MANUFACTURER PRIOR TO ROUGH-IN TO ENSURE PROPER OPERATION AND COVERAGE OF THE SENSORS.
6. EXACT LOCATION OF LIGHT FIXTURES INDICATED ON PLAN SHALL BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ROUGH-IN. PROVIDE MOUNTING HARDWARE FOR TYPE OF CEILING BEING PROVIDED.
7. EXISTING LIGHT FIXTURES TO REMAIN ARE TO BE RE-WIRED TO ENSURE THE OCCUPANT SENSORS INDICTAED ON PLAN PROVIDE AUTOMATIC ON-OFF CONTROL OF THE EXISTING LIGHT FIXTURES.
8. REFER TO DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
9. REFER TO GENERAL NOTES, SHEET E0.1, FOR ADDITIONAL REQUIREMENTS.
10. ONE 3/4"C. FOR POWER, ONE 3/4"C. FOR 2/C#22 LOW VOLTAGE CONTROL WIRING. ROUTE ONE 3/4"C. 4/C#22 DAYLIGHT DIMMER SWITCH.

DIMMER RACK NOTE:

UPON COMPLETION OF THE DIMMER RACK INSTALLATION THE CONTRACTOR SHALL SCHEDULE A MEETING WITH THE OWNER TO OBTAIN FINAL PROGRAMMING REQUIREMENTS. THE CONTRACTOR SHALL PROGRAM THE SYSTEM BASED ON THE OWNERS' REQUIREMENTS AND TEST THE SYSTEM IN THE PRESENCE OF THE OWNER, HE SHALL MAKE REQUIRED ADJUSTMENTS TO THE SYSTEM PROGRAMMING AS REQUIRED/REQUESTED BY THE OWNER AT NO ADDITIONAL COST TO THE CONTRACT.

Cables

○	CAN	Use Cooper Controls LCCNP non-plenum cable or LCCP plenum cable.
◇	N12	#12 AWG Line Voltage Wire
△	LV5	DMX Cable

LIGHTING PLAN

1/4" = 1'-0"

1

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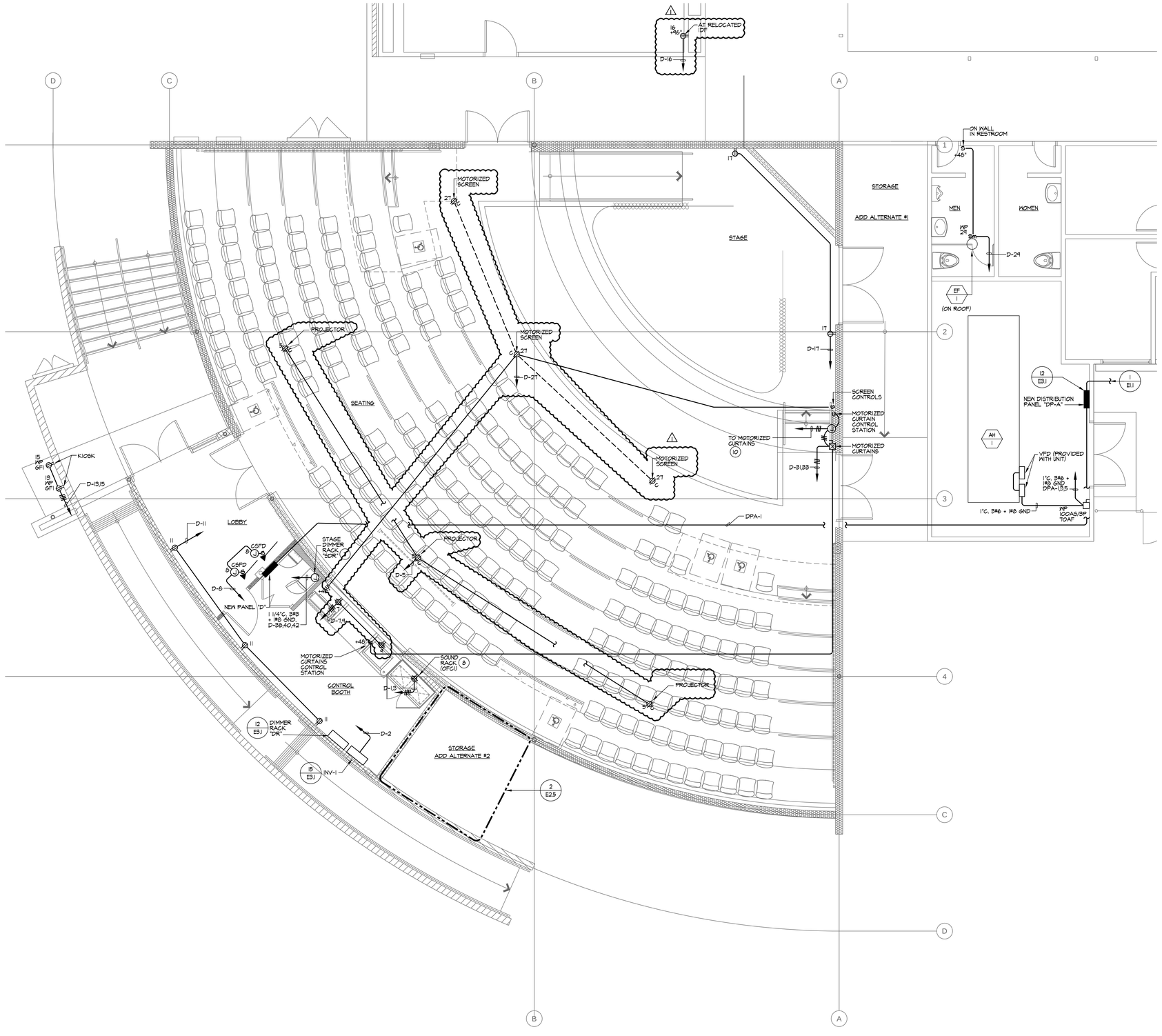
LIGHTING PLAN

DRAWING NUMBER: **E2.1**



PLAN NOTES

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2. THE CONTRACTOR SHALL COORDINATE ALL OUTLET LOCATIONS SHOWN ON THIS DRAWING WITH THE ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND MAKE ANY ADJUSTMENTS REQUIRED TO AVOID INTERFERENCE WITH OTHER OUTLETS AND/OR CASEWORK.
3. REFER TO THE SINGLE LINE DIAGRAM, SHEET E0.2, FOR FEEDER CONDUIT SIZE AND CONDUCTOR SIZE AND QUANTITIES REQUIRED FOR ELECTRICAL EQUIPMENT INDICATED ON THE SINGLE LINE DIAGRAM.
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6. EXTERIOR MOUNTED RECEPTACLES SHALL BE PROVIDED COMPLETE WITH LOCKING TYPE WEATHERPROOF COVERS. COVERS SHALL BE U.L. LISTED FOR WET LOCATIONS WHEN IN USE.
7. THE CONTRACTOR SHALL DISCONNECT, RELOCATE AND REINSTALL THE EXISTING STAGE DIMMING RACK "SDR" AT THE NEW LOCATION INDICATED ON PLAN.
8. THE SOUND SYSTEM, INCLUDING EQUIPMENT RACKS, SPEAKERS AND INTERCONNECTING WIRE/CABLE SHALL BE OWNER FURNISHED AND INSTALLED. 120V. CIRCUITS, RECEPTACLES, JUNCTION BOXES AND CONDUIT/RACEWAYS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
9. REFER TO GENERAL NOTES, SHEET E0.1 FOR ADDITIONAL REQUIREMENTS.
10. COORDINATE EXACT LOCATION OF MOTORIZED CURTAINS WITH ARCHITECT PRIOR TO ROUGH-IN.

POWER PLAN | 1/4" = 1'-0" | 1

ENLARGED ROOF PLAN | 1/4" = 1'-0" | 2

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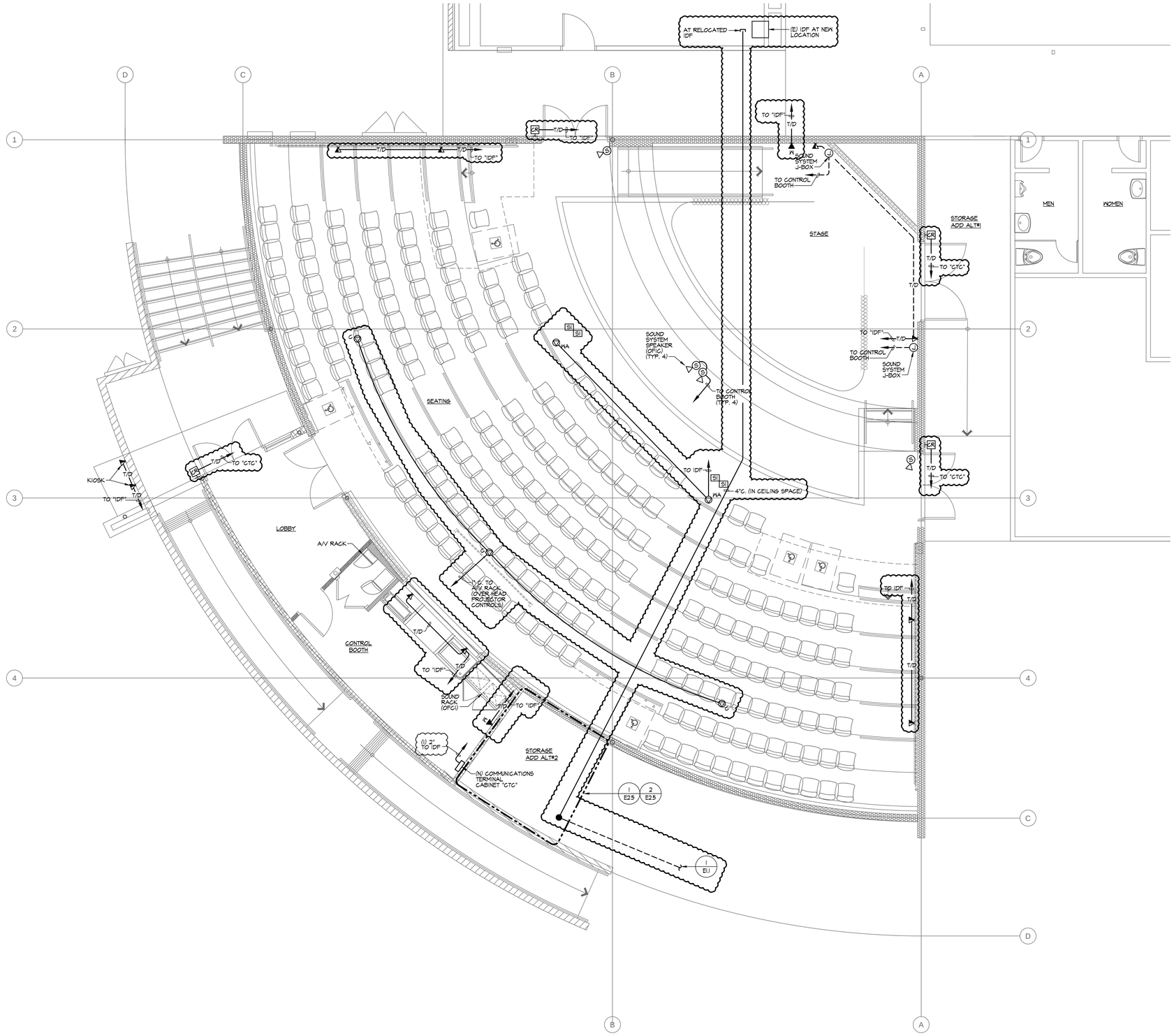
POWER PLAN

DRAWING NUMBER: **E2.2**



PLAN NOTES

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2. THE CONTRACTOR SHALL COORDINATE ALL OUTLET LOCATIONS SHOWN ON THIS DRAWING WITH THE ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND MAKE ANY ADJUSTMENTS REQUIRED TO AVOID INTERFERENCE WITH OTHER OUTLETS AND/OR CASEWORK.
3. THE CONTRACTOR SHALL REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND ELECTRICAL CONNECTION REQUIREMENTS. HE SHALL PROVIDE ALL POWER AND CONTROL CONNECTIONS AS INDICATED ON THE MECHANICAL AND PLUMBING DRAWINGS.
4. REFER TO GENERAL NOTES, SHEET E0.1 FOR ADDITIONAL REQUIREMENTS.
5. COORDINATE EXACT LOCATION OF MOTORIZED CURTAINS WITH ARCHITECT PRIOR TO ROUGH-IN.

TO MEET THE ADA REQUIREMENTS FOR THE ASSISTIVE LISTING SYSTEMS, FURNISH THE FOLLOWING EQUIPMENT/DEVICES FOR THE POOL AREA: A COMPLETE WIDE-BAND FM SYSTEM SHALL BE FURNISHED AND INSTALLED IN COMPLETE WORKING ORDER WITH RECEIVERS IN QUANTITIES EQUAL TO 4% OF THE SEATING CAPACITY, BUT IN NO CASE LESS THEN TWO RECEIVERS ARE TO BE PROVIDED. THE SYSTEM SHALL BE INTEGRATED INTO THE SOUND REINFORCEMENT SYSTEM AND THE TRANSMITTER MOUNTED AND ADJUSTED AS REQUIRED TO PROVIDE TOTAL COVERAGE OF THE SEATING AREA. SYSTEM SHALL BE AS MANUFACTURED BY WILLIAMS SOUND #PPA-375 (TRANSMITTER), #PPA-R35 (RECIEVERS) OR APPROVED EQUAL BY SENNHEISER.

SIGNAL PLAN | 1/4" = 1'-0" | 1

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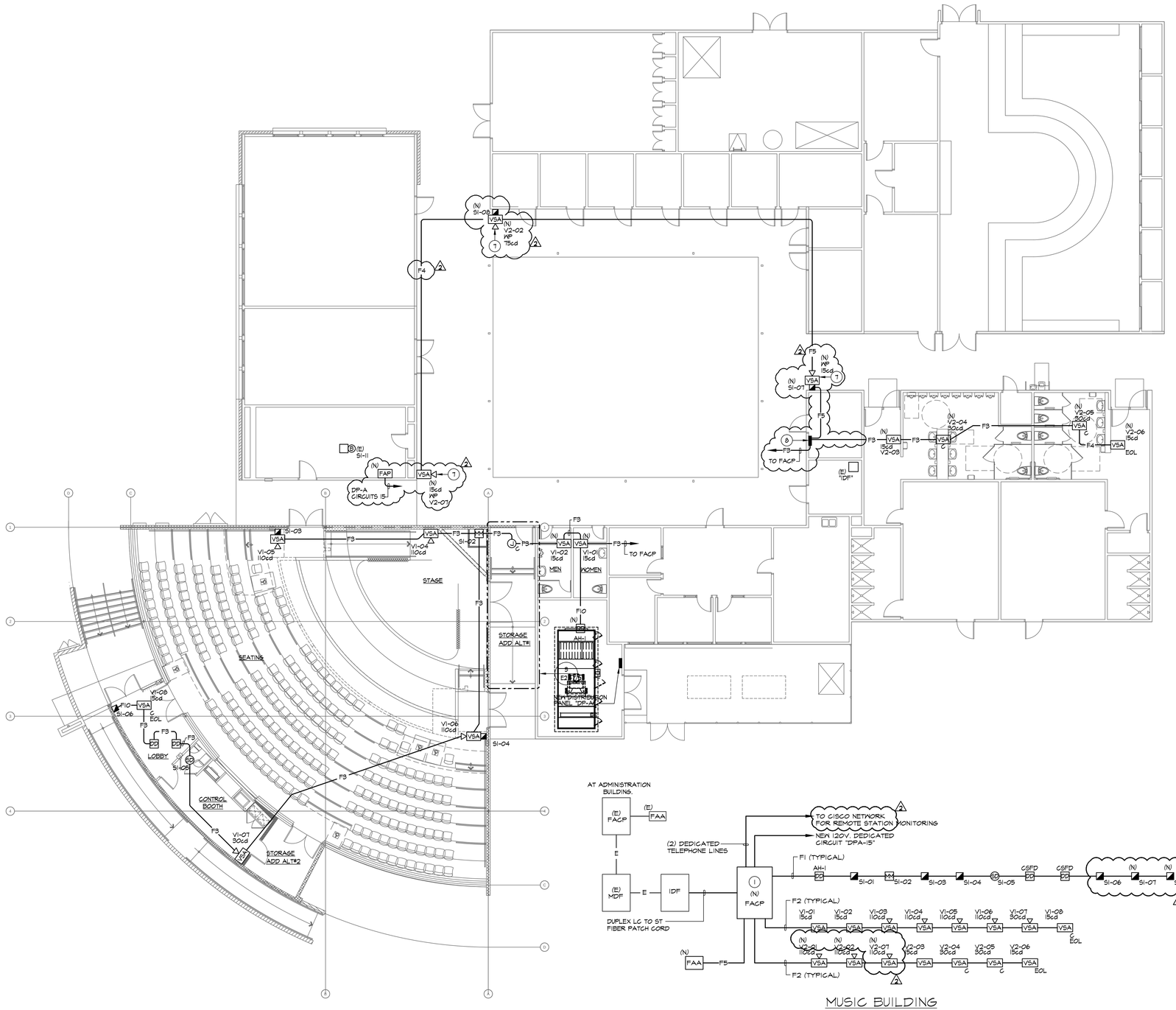
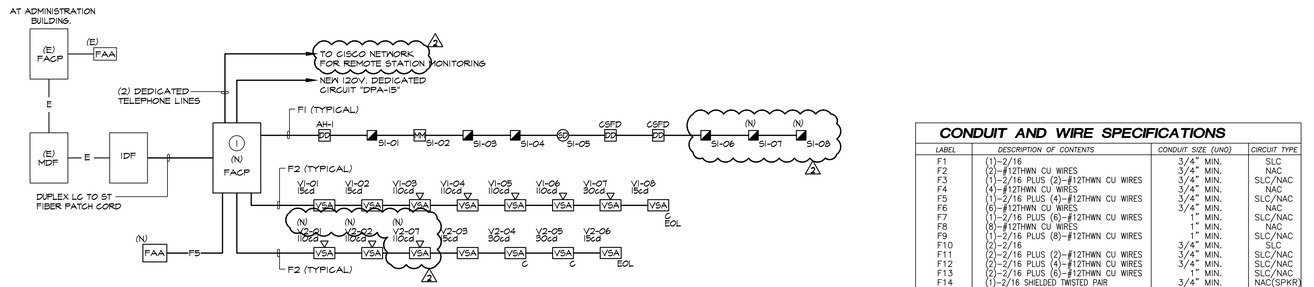
SIGNAL PLAN

DRAWING NUMBER: **E2.3**

PLAN NOTES

1. THE SYSTEM SHALL CONFORM TO CALIFORNIA CODE OF REGULATIONS (CCR) TITLES 19 & 24 AS APPLICABLE TO THIS PROJECT.
2. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO DSA/IOR. CONTRACTOR TO SUPPLY NECESSARY TESTING EQUIPMENT INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE NOISE LEVELS OF AUDIBLE DEVICES. PROVIDE TEST RESULTS PER NFPA 72 TO ARCHITECT, DSA, IOR, OWNER, AND ELECTRICAL ENGINEER.
3. THE "END OF LINE RESISTANCE" FOR EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE IOR AND SHALL NOT EXCEED A MAXIMUM OF 10% VOLTAGE DROP OR LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGES.
4. PENERTRATIONS OF ALL FIRE-RATED WALLS SHALL BE PROTECTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, PART 2. PROVIDE DETAILS AND DESIGN NUMBERS.
5. ALL JOURNEYMAN MUST BE STATE CERTIFIED AS FIRE/LIFE SAFETY TECHNICIANS BY DSA.
6. THE FIRE ALARM CONTRACTOR SHALL SUBMIT THE COMPLETED NFPA 72 FIRE ALARM CERTIFICATE OF COMPLETION TO DSA-IOR UPON COMPLETION OF THE OPERATIONAL ACCEPTANCE TESTS.
7. NEW FIRE ALARM DEVICE IN PLACE OF REMOVED DEVICE.
8. DISCONNECT AND REMOVE THE EXISTING CONTROL PANEL INTERIOR EQUIPMENT AND ELECTRONICS. USE THE ENCLOSURE/ BOX AS A FULL BOX FOR ROUTING NEW FIRE ALARM WIRING.





MUSIC BUILDING

RISER NOTE

1. NEW FIRE ALARM CONTROL PANEL "FACP" TO REPLACE THE REMOVED CONTROL PANEL. DISCONNECT AND REMOVE THE EXISTING CONTROL PANEL INTERIOR EQUIPMENT AND ELECTRONICS AND USE THE ENCLOSURE/BOX AS A PULL BOX FOR ROUTING NEW FIRE ALARM WIRING BETWEEN THE OLD CONTROL PANEL BOX IN THE ELECTRICAL ROOM TO THE NEW FACP IN THE STORAGE ROOM.

MANUAL FIRE ALARM SYSTEM SUBMITTAL

CONDUIT AND WIRE SPECIFICATIONS

LABEL	DESCRIPTION OF CONTENTS	CONDUIT SIZE (UNO)	CIRCUIT TYPE
F1	(1)-2/16	3/4" MIN.	SLC
F2	(2)-#12THWN CU WIRES	3/4" MIN.	NAC
F3	(1)-2/16 PLUS (2)-#12THWN CU WIRES	3/4" MIN.	SLC/NAC
F4	(4)-#12THWN CU WIRES	3/4" MIN.	NAC
F5	(1)-2/16 PLUS (4)-#12THWN CU WIRES	3/4" MIN.	SLC/NAC
F6	(6)-#12THWN CU WIRES	3/4" MIN.	NAC
F7	(1)-2/16 PLUS (6)-#12THWN CU WIRES	1" MIN.	SLC/NAC
F8	(8)-#12THWN CU WIRES	1" MIN.	NAC
F9	(1)-2/16 PLUS (8)-#12THWN CU WIRES	1" MIN.	SLC/NAC
F10	(2)-2/16	3/4" MIN.	SLC
F11	(2)-#12THWN CU WIRES PLUS (2)-#12THWN CU WIRES	3/4" MIN.	SLC/NAC
F12	(2)-#12THWN CU WIRES PLUS (4)-#12THWN CU WIRES	3/4" MIN.	SLC/NAC
F13	(2)-#12THWN CU WIRES PLUS (6)-#12THWN CU WIRES	1" MIN.	SLC/NAC
F14	(1)-2/16 SHIELDED TWISTED PAIR	3/4" MIN.	NAC(SPKR)

NOTES:
1. 2/16 = ATLAS WIRE 222-16-1-17P; INSIDE ONLY.
2. 2/16 = ATLAS WIRE 213-16-19-2J; UNDERGROUND.
3. ALL WIRING TO BE LISTED FOR USE AS REQUIRED BY TITLE 24/CEC, ART. 760.
4. "THWN", "AQUASEAL," OR EQUAL TO BE USED IN WET LOCATIONS.

FIRE ALARM - PARTIAL SITE PLAN | 1/8" = 1'-0" | 1

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PROJECT NUMBER: 1311500

PARTIAL FIRE ALARM SITE PLAN & RISER DIAGRAM

DRAWING NUMBER: **FA.1**

SECTION 01010

SCOPE OF WORK

Bid Package

LITTLE THEATER RENOVATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Work Covered by Contract Documents

B. Contract Method

C. Contractor Use of Premises

1.02 WORK COVERED BY CONTRACT DOCUMENTS:

A. **Work Included: The work to be performed by this Contractor shall conform to the requirements of all of Division 00 and Division 01 as well as the Special Conditions, Project Performance Specifications (Division 02 through 16), all sheets in Drawings and the areas on sheets and other related documents (soils reports, addenda), and includes the furnishing of all supervision, labor, materials, tools, equipment, transportation, plan and services necessary therefore and incidental thereto to complete the project. If Reference is not made to a specific specification section, this does not relieve this Contractor of his material obligation for specification sections that pertain to his work and are not mentioned herein. The work shall consist of, but not be limited to, the following project procedures/scope:**

1. **Provide a $100,000 Allowance for scope of work to be used at the District's discretion.** This allowance is to be included within the Base Bid. All work pertaining to the allowance must be approved by the Construction Manager. If work authorized is less than the Allowance, then a Deductive Change Order will be issued. Work to be directed by the Construction Manager. The allowance shall be listed as a separate line item on the contractor's schedule of values. See specification section 01210 Allowance.

2. Any and All work associated with any reference on the plans and specifications to Add Alternate #1 and Add Alternate #2 is to be

included in the base bid. There is no Add Alternate #1 or Add Alternate #2 on this project.

3. See Specification section 01230 Alternates, Addendum #2 narrative, plans and specifications for scope of work to be included as Add Alternate #3 and Add Alternate #4.

4. **This Contractor will be responsible for coordinating with the Hazardous Material Contractor for all locations of penetrations and demolition is order to facilitate timely removal of any hazardous material per the Contract Documents and the Contract Schedule. The Hazardous Material reports are available for review in the PCM3 office.**

5. This contractor will work with and coordinate with other contractors on site during the project, if applicable.

6. This Contractor shall protect in place all existing utilities.

7. This contractor is responsible for all cutting, patching, and painting.

8. This Contractor will pay for all coring and investigation required to complete the work: Coring of existing concrete and CMU structures (including Walls, Floors, and Exterior Concrete Canopies) shall be anticipated in the contractor's bid as would be required to complete the contractor's scope of work. In performing scope related to the routing of conduit, the contractor shall obtain and document means of verifying existence and location of embedded steel reinforcing materials within said concrete and CMU assemblies as a part of contractor's scope. Contractor shall locate reinforcement by means of non-invasive technology such as X-ray photography for the purposes of protecting said reinforcement in place and shall not damage any reinforcement materials (rebar, etc.) A minimum of 1" shall be maintained between existing embedded reinforcing bar and cored penetrations. All penetrations through concrete or CMU walls shall be marked for review and acceptance by PI and architect/engineer prior to contractor commencing work.

9. The Contractor shall provide maximum protection to all existing and/or finished construction throughout the course of the work. The District <u>will not</u> accept any claim for repair or replacement of this bid packages material or installed work due to vandalism, malicious mischief, construction traffic, theft, etc. inflicted by unidentifiable parties. Any such replacement or repairs shall be at this bid packages cost

10. Furnish and install all scope of work to include but not be limited to: Contractor shall provide and install, for the project, all scope of work

as detailed on the Plans and/or Specifications for DSA Approved Application Number 03-115541.

11. If this Contractor finds dissimilarities or conflict between the plans, plan notes, Specifications, Plan Schedule, Contract Documents, and/or governing Agency requirements, this Contractor will include in his base bid the most stringent and most costly solution(s).
12. Continuous housekeeping and daily cleanup of litter and excess building materials is mandatory. This Contractor shall obtain a trash dumpster on site at all times while his scope of work is in progress. The Contractor shall put daily accrued debris in their own dumpster containers or as directed by the Construction Manager. All trash dumpsters and containers shall be disposed of in a timely manner as to prevent damage in existing concrete or asphalt area. If the Contractor fails to perform daily cleanup and disposal, the Construction Manager reserve the right to provide this cleanup at the Contractors cost.
13. Provide for all White Glove Clean Up scope of work for all exterior of the constructed building and surrounding site for the entire Little Theater Renovation Project, including but not necessarily limited to Cleaning, Mopping, Dusting, Window Cleaning, removal of all residual trash after all other Sub-contractors have completed their final clean up and power washing with hot water all sidewalks and pavement. All final White Glove Clean Up must have the Districts final approval through the Construction Manager.
14. This contractor is responsible to secure and protect the construction and staging area during all hours throughout the project schedule. This contractor will be responsible for securing their own area and the building every day.
15. Provide all labor, material and equipment for Demolition scope of work per plans and/or Division 01 as related to this Contractors scope of work.
30. This Contractor has reviewed the drawings and understands that the scope of work indicated in the plans and specifications.
31. Provide all shop drawings and submittals so as to not cause any delays to any portion of the construction schedule for this Contractor any other Contractor included in this project.
32. Record Drawings – This Contractor shall maintain and update all changes in the work on the Construction Manager's record drawing set or a set otherwise designed by the District. Payments to the contractor shall be withheld until drawings are updated.
33. Contractor Personnel – The district has complete authority to review and approve selection of this Contractor's field and office personnel for this project. The district has authority to request

replacement of any Contractor personnel for reasons determined by the District. This Contractor shall maintain the same approved personnel throughout the entire duration of the project at the District's discretion. This Contractor will, at the time of award of work, furnish a list of persons assigned to the project showing their titles and telephone numbers. Emergency telephone numbers shall also be provided for after hour use by the District and/or the construction manager.

Failure to provide adequate a Project Manager or Superintendent shall result in an assessment of Construction Management costs levied to have the Construction Manager coordinate and manage Contractors / subcontractor's work. In no event shall Construction Manager be liable for any costs associated with this Contractors lack of supervision. This Contractor agrees to use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work.

34. Provide all temporary access as required for the Contractor's entire scope of work. This includes, but is not limited to, trench plates, and temporary access locations that do not disrupt the scope of work nor the occupied site requirements.

35 Schedule shall be in accordance with District approved construction milestone schedule and all subsequent revisions per section 01438.

36. Provide punch list, punch list repairs/corrections, final clean up, and closeout for this bid package per contract construction schedule. Parties agree that delays to punch list, final clean up, and closeout would constitute a delay in project completion and, therefore, entitles the District to withhold and retain potential liquidated damages per the Contract Documents from this Contractor's progress payments.

37. This Contractor realizes the schedule of this project and has included all overtime if necessary to complete this project per the completion date.

B. **Existing Site Conditions: This Contractor will certify that a site visit has been made by a representative of its company prior to submitting a bid for this project.** This Contractor shall make a thorough examination of the site to determine all existing conditions affecting the work prior to beginning any work under this bid package. All conflicts within the contract documents and existing conditions are to be brought to the attention of the Construction Manager during the bidding process by way of the pre-bid clarification form issued at the job walk. Any claims for changes in scope or claims for additional compensation will not be considered for this contractor's failure to notify the Construction Manager of such a conflict/discrepancy.

C. **Location of Site:** The site is located at:

1111 E. Artesia Blvd.

Compton, CA 90221

1.03.1 CONTRACT METHOD:

A. Construct the Work under a single Lump Sum Contract with a Schedule of Values.

1.03.2 CONTRACTOR USE OF PREMISES:

A. Contractor shall have use of the premises for the execution of the work as outlined in Specification Number 01438.

B. Work Week and Job Hours – Activities at the Project Site shall be conducted between the hours of 7:00 am and 7:00 pm Monday through Friday, unless otherwise authorized by the District.

C. Coordinate use of the premises under the direction of the Construction Manager.

D. Assume full responsibility for the protection and safekeeping of products & Work under this Prime Contract that are stored & installed on the site.

E. This Contractor shall enforce that all persons working on the site use only non-permanent markers, tapes and tags to indicate construction techniques and instructions, on construction in progress, and on existing construction. This includes markings on exterior and interior of building and on walks, curbs, walls and other site surfaces. Where work is damaged or defaced by use of permanent marking devices, such work will be subject to cleaning, repair or replacement, as the Architect may require.

F. Move any stored products under This Contractor's control that interferes with the operations of the Owner and/or any other Contractor that is on a separate contract.

G. Theft: If any person working on the contract should engage in theft of money, property, supplies, equipment, food, or any other item, whether from the District's personnel, students, facilities, employees, visitors, or from another of the Contractor's personnel or subcontractors, will be immediately and permanently dismissed from the site.

H. All District property is drug free, alcohol free, weapons free, radio free, and graffiti free. This Contractor shall enforce these rules to his crew, subcontractors and suppliers.

I. All contractors shall be required to provide badges from their firm indicating employee identification while in District property. Contractor shall provide Dept. of Justice background checks with the state for all full-time Superintendents and Foremen for the project, and coordinate /

provide all documentation necessary to the District through the Construction Manager. The Superintendent or Foreman shall be responsible for signing in all personnel under his/her authority every day and providing the sign-in sheet to the Construction Manager at the close of every business day. This cost shall be included in the Contractor's bid.

J. This Contractor understands that this is an occupied site and will follow Occupied Protocol. This contractor will adjust to the campus educational requirements of the school for Summer School activities.

END OF SECTION

COMPTON COMMUNITY COLLEGE DISTRICT

ALLOWANCES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Allowances which the Contractor shall provide for designated construction activities in the Work and in this bid.

B. The provisions in this Section only apply if the Owner includes Allowances in the Contract.

1.2 RELATED DOCUMENTS

A. The Conditions of the Contract and other section of Division 01 apply to this section as fully as if repeated herein, including Section 1010 – Scope of Work.

1.3 DESCRIPTION OF REQUIREMENTS

A. Definitions and Explanations: Certain requirements of the construction related to each allowance are indicated and specified. The Allowance has been established by the Owner and represents selection by the Owner of selected Sub-Contractors for designated portions of the work specified and shown.

B. Types of allowance scheduled herein for the Work include lump sum cash allowances. Include all allowances in Contract sum, and identify all allowances in Schedule of Values as separate line items.

C. Selection and Purchase: At earliest feasible date after award of contract, advise the Architect/Engineer of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the Work.

1. Establish date by which Prime Contractor must enter into contract and coordinate with sub-contractor responsible for work defined by allowance.

2. Establish date by which final list of products must be established for purchase of products and systems as specifically selected by the District.

1.4 DEFINITIONS AND DESCRIPTION OF REQUIREMENTS

A. Cash Allowance Criteria

1. The Allowance is used only as directed by the Owner.

2. The Allowance is used exclusively for the Owner's purposes and for scope(s) of work as directed by Owner.

3. The sub-contractor will prepare detailed breakdown of all costs associated with the work defined for the Allowance. These amounts will be charged against the Allowance by Change Order, based on final detailed payment receipts and back-up as required by Architect/Engineer, and will include all costs of work performed under the defined work scope.

    a. If required by Owner, Contractor shall obtain quotes for equipment from three separate vendors and present to District for consideration and selection.

4. Contractor shall include in the base bid contract amount all cost of coordination, supervision, bond costs, overhead and profit, supervision, installation and all indirect project costs associated with performing the work of each Allowance. Contractor shall be permitted to charge only its direct costs to perform the work, as indicated through documentation approved by the District.

    a. At project closeout, any unused Cash Allowance amounts shall be credited to the Owner by Change Order. Contractor shall not deduct costs such as bond costs, overhead and profit or other indirect costs when returning any unused Cash Allowance amounts.

b. Changes that exceed the scope of work or amount of each Allowance covered by each allowance will be processed as a Change Order per Contract Documents.

PART 2 – PRODUCTS - (Not Applicable)

PART 3 – EXECUTION

3.1 SCHEDULE OF CASH ALLOWANCES

1. The Bid Package Contractor will provide a $100,000.00 Allowance for scope of work to be used at the District's discretion. This allowance is to be included in the base bid.

COMPTON COMMUNITY COLLEGE DISTRICT
LITTLE THEATER RENOVATION

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements for Alternates.

B. Definition: An Alternate or Alternate Bid is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the School District decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.

C. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated into the project.

D. Notification: Immediately following the award of the Contract, prepare and distribute to each party involved, notification of the status of each Alternate. Indicate whether Alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternates.

E. A "Schedule of Alternates" is included as an attachment at the end of this section.

1. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

B. Bid Form

PART 2 – PRODUCTS - (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

1. **Add Alternate #3:**
   Additional acoustic treatment shown on drawing sheet A4.3, described on sheet A9.1, in specifications and listed on Addendum #2.

2. **Add Alternate #4:**
   Additional acoustic treatment shown on drawing sheet A4.4, described on sheet A9.1, in specifications and listed on Addendum #2

END OF SECTION

COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. Artesia Blvd
Compton, California 90221
(310) 900-1600

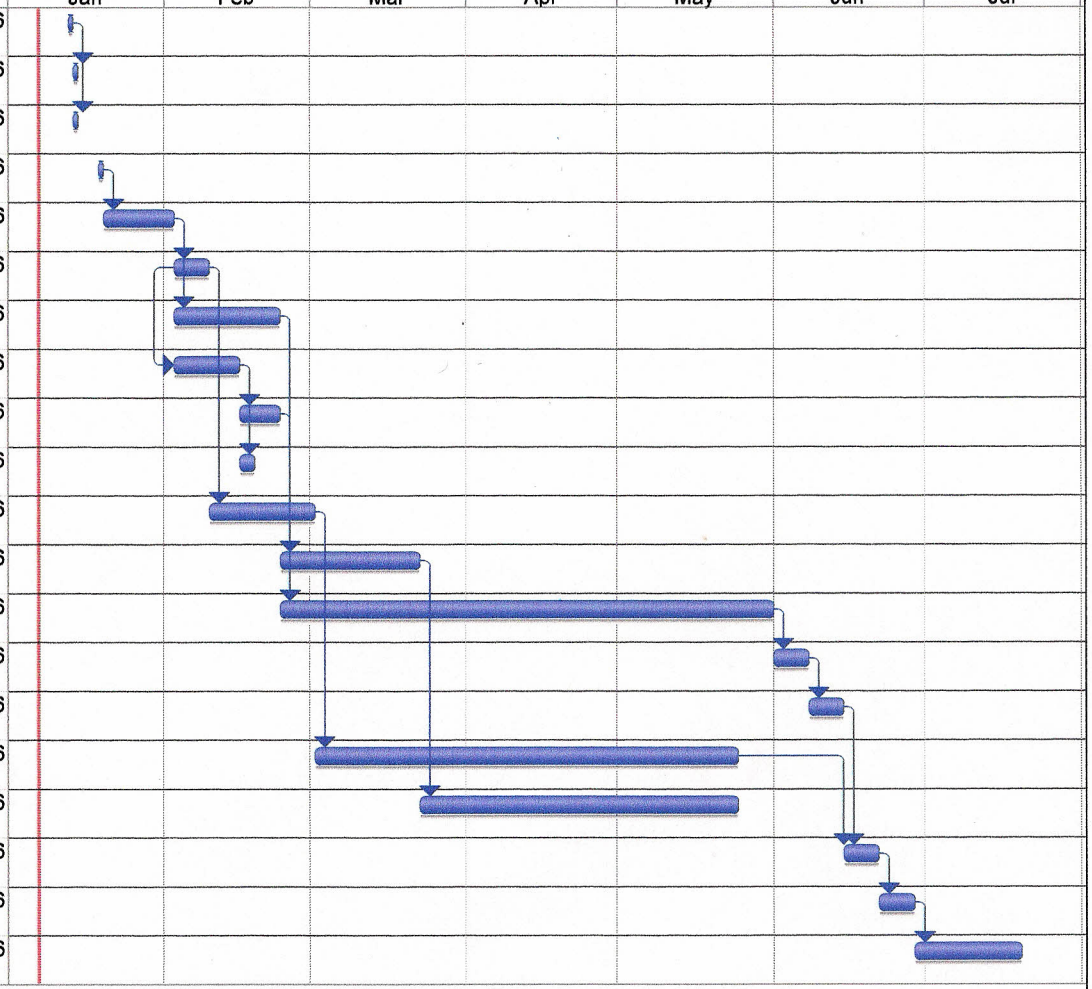
Little Theater Renovation Project

Work Plan and Milestone Schedule

Task Name	Finish Date
Pre-bid Conference:	01-04-16
Bid Opening:	01-13-16
Award:	01-19-16
Notice to Proceed:	01-20-16
Start Construction Phase:	02-03-16
Construction Completion:	06-28-16
Punchlist/Closeout completion:	07-19-16

COMPTON COMMUNTIY COLLEGE DISTRICT
LITTLE THEATER
PROJECT SCHEDULE

ID	Task Name	Duration	Start	Finish
1	Bid Opening	1 day	Wed 1/13/16	Wed 1/13/16
2	Post Bid Interviews	1 day	Thu 1/14/16	Thu 1/14/16
3	Board Recommendation	1 day	Thu 1/14/16	Thu 1/14/16
4	Board Approval	1 day	Tue 1/19/16	Tue 1/19/16
5	Execute Contract	10 days	Wed 1/20/16	Tue 2/2/16
6	Contractor Mobilize	5 days	Wed 2/3/16	Tue 2/9/16
7	Submittals	15 days	Wed 2/3/16	Tue 2/23/16
8	Demolition Interior	9 days	Wed 2/3/16	Mon 2/15/16
9	Environmental Contractor	6 days	Tue 2/16/16	Tue 2/23/16
10	District Review	3 days	Tue 2/16/16	Thu 2/18/16
11	Demolition Exterior	15 days	Wed 2/10/16	Tue 3/1/16
12	Rough MEPs	20 days	Wed 2/24/16	Tue 3/22/16
13	HVAC Manufacturing	70 days	Wed 2/24/16	Tue 5/31/16
14	HVAC Delivery	5 days	Wed 6/1/16	Tue 6/7/16
15	HVAC Equip. Install	5 days	Wed 6/8/16	Tue 6/14/16
16	New Addition Construction	60 days	Wed 3/2/16	Tue 5/24/16
17	Interior Finishes	45 days	Wed 3/23/16	Tue 5/24/16
18	Air Balancing	5 days	Wed 6/15/16	Tue 6/21/16
19	Clean Up, Warranties	5 days	Wed 6/22/16	Tue 6/28/16
20	Close Out & Testing Systems	15 days	Wed 6/29/16	Tue 7/19/16



SECTION 08 71 00

DOOR HARDWARE

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Hardware for doors.

B. Thresholds.

C. Gasketting.

D. Keying.

1.2 REFERENCES

A. ADA - Americans with Disabilities Act Standards for Accessible Design.

B. BHMA - Builders' Hardware Manufacturers Association.

C. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.

D. DSA - Division of the State Architect.

E. NFPA 80 - Fire Doors and Windows.

F. UL - Underwriters Laboratories.

1.3 COORDINATION

A. Coordinate work of this Section with other directly affected Sections involving manufacturer of any internal reinforcement for door hardware.

1.4 QUALITY ASSURANCE

A. Manufacturers: Companies specializing in manufacturing door hardware with minimum five years experience. Obtain each kind of hardware from only one manufacturer.

B. Hardware Supplier: Company specializing in supplying commercial door hardware with five years documented experience.

C. Hardware Installer: Company specializing in the installation of commercial door hardware with five years documented experience.

D. Hardware Supplier Personnel: Employ an Architectural Hardware Consultant (AHC) to assist in the work of this Section.

1.5 REGULATORY REQUIREMENTS

A. Fire-Rated Openings: Comply with CBC Section 716 and NFPA Standard No. 80. Provide only hardware tested and listed by UL for the type and size of each door required, which complies with the requirements of the door and frame labels.

1. Where exit devices are required on fire-rated doors, provide supplementary marking on door UL label indicating "Fire Door to be Equipped with Fire Exit Hardware", and provide UL Label on exit device indicating "Fire Exit Hardware".

B. Conform to applicable requirements of the Americans with Disabilities Act Standards for Accessible Design regarding accessibility requirements for door and entrance hardware.

C. Doors and doorways that are part of an accessible route shall comply with CBC Sections 11B-404.

D. The clear opening width for a door shall be 32 inches minimum. For a swinging door it shall be measured between the face of the door and the stop, with the door open 90 degrees. There shall be no projections into the opening below 34 inches and 4 inches maximum projections into the opening between 34 inches and 80 inches above the finish floor or ground. Door closers and stops shall be permitted to be 78 inches minimum above the finish floor or ground. CBC Section 11B-404.2.3.

E. Handles, pulls, latches, locks, and other operable parts on accessible doors shall comply with CBC Section 11B-309.4 and shall be operable with one hand and not require tight grasping, pinching, or twisting of the wrist. Operable parts of such hardware shall be 34 inches minimum and 44 inches maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides. CBC Section 11B-404.2.7.

F. The force for pushing or pulling open a door shall be as follows: CBC Section 11B-404.2.9.

1. Interior hinged doors, sliding or folding doors, and exterior hinged doors: 5 lbs. (22.2N) maximum.
2. Required fire doors: the minimum opening force allowable by the DSA Authority, not to exceed 15 lbs. (67N) maximum.
3. The force required to activate any operable parts, such as retracting latch bolts or disengaging other devices shall be 5 lbs. (22.2N) maximum to comply with CBC Section 11B-309.4.

G. Door closing speeds shall be as follows: CBC Section 11B-404.2.8.

1. Closer shall be adjusted so that the required time to move a door from an open position of 90 degrees to a position of 12 degrees from the latch is 5 seconds minimum.
2. Spring hinges shall be adjusted so that the required time to move a door from an open position of 70 degrees to the closed position is 1.5 seconds minimum.

H. Thresholds shall comply with CBC Section 11B-404.2.5.

I. Floor stops shall not be located in the path of travel and 4 inches maximum from wall, per DSA Policy 99-08.

J. Hardware (including exit devices) shall not be provided with ANight Latch@ (NL) function for any accessible doors or gates unless the following conditions are met per DSA Interpretation 10-08 DSA / AC (External), revised 4/28/09. Such conditions must be clearly demonstrated and indicated in the specifications:

1. Such hardware has a >dogging= feature.
2. It is dogged during the time the facility is open.
3. Such >dogging= operation is performed only by employees as their job function (non-public use).

K. Pair of doors: Limit swing of one leaf to 90 degrees so that a clear floor space is provided beyond the arc of the swing for the wall-mounted tactile sign. CBC Section 11B-703.4.2.1.

L. Exit device touchpad shall be compliant with State Fire Marshall Standard 12-10-3, Section 12-10-302.

1.6 SUBMITTALS

A. Submit schedule under provisions of Section 01 33 00.

B. Submit schedule at earliest possible date along with essential product data where acceptance of hardware schedule must precede fabrication of other work.

C. Organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following:

1. Type, style, function, size and finish of each hardware item.

2. Name and manufacturer of each item.

3. Fastenings and other pertinent information.

4. Location of hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.

5. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.

6. Mounting locations for hardware.

7. Door and frame sizes and materials.

D. Provide product data on specified hardware.

E. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.

F. Furnish hardware templates to each fabricator of doors, frames, and other work to be factory-prepared for the installation of hardware.

1.7 OPERATION AND MAINTENANCE DATA

A. Submit operation and maintenance data under provisions of Section 01 77 00.

B. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site and to other Sections under provisions of Section 01 61 00.

B. Store and protect products under provisions of Section 01 61 00.

C. Package hardware items individually; label and identify package with door opening code to match hardware schedule.

D. Deliver keys to Owner by security shipment direct from hardware supplier.

1.9 WARRANTY

A. Provide five year warranty for closers, two year warranty for all other hardware under provisions of Section 01 77 00.

1.10 MAINTENANCE MATERIALS

A. Provide special wrenches and tools applicable to each different or special hardware component.

B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

Item		Manufacturer	Acceptable Substitute	
A.	Butt Hinges	Stanley	McKinney	Bommer
B.	Continuous Hinges	Stanley	McKinney	Select
C.	Locksets	Best	Owners standard	
D.	Cylinders	Best	Owners standard	

Item		Manufacturer	Acceptable Substitute	
E.	Armor Collars	Keedex	Or equal	
F.	Exit Devices	Von Duprin	Owners standard	
G.	Surface Closers	LCN	Owners standard	
H.	Anti Vandal Pulls	Trimco	Rockwood	Ives
I.	Push/Pulls	Trimco	Rockwood	Ives
J.	Auto Flush Bolts	Trimco	Rockwood	Ives
K.	Coordinators	Trimco	Rockwood	Ives
L.	Silencers	Trimco	Rockwood	Ives
M.	Protection Plates	Trimco	Rockwood	Ives
N.	Stops and Holders	Trimco	Rockwood	Ives
O.	Overhead Stops	Glynn Johnson	Rixson	ABH
P.	Thresholds/Sweeps/Seals	Pemko	Reese	NGP

2.2 MATERIALS

A. Locksets: Mortise type. 16 gage curved steel, bronze or brass strikes with 2 inch deep box construction, with curved lips of sufficient length to clear trim and protect clothing.

1. Comply with requirements of local security ordinances.

2. Locks shall be of such construction that when locked, the door may be opened from within by using lever and without the use of a key or special knowledge.

3. Lock series and design: Best 45H series 15H lever.

B. Butt Hinges: Outswinging exterior doors shall have non-removable (NRP) pin. Hinge open widths shall be minimum, but of sufficient size to permit door to swing 180 degrees. Furnish hinges with stainless steel pins and ball bearings.

1. Furnish 3 hinges per leaf to 7'-5" height. Add one for each additional 2 foot height.

2. Provide 5 inch heavy weight hinges on doors over 3'-4" width.

C. Continuous Hinges: Hinge open widths shall be minimum, but of sufficient size to permit door to swing 180 degrees. Where necessary to maintain door clearance at jamb trim, frame conditions, door reveals and similar conditions, furnish wide throw hinges as approved by the Architect. Where door is indicated as having fire resistance rating, provide UL listed and labeled hardware.

D. Panic Hardware: Furnish exit devices with sex bolts at wood doors. Lever handle trim shall match locksets. Device shall bear UL label for fire and or panic as may be required.

1. Provide glass bead kits of proper thickness where the rail assembly of the exit device crosses a lite.

E. Surface Door Closers: Full rack and pinion type with removable non-ferrous case. Provide closers with sex bolts and grommets at wood doors. Place closers inside building, stairs, rooms, etc. Closers shall be non-handed, non-sized and adjustable. Closers shall be installed to permit door to swing 180 degrees.

1. Flush transom offset brackets shall be used where parallel arm closers are listed for doors with fixed panels over.

2. Provide drop brackets, shoe supports, and blade stop spacers as required at narrow top rails.

F. Protection Plates: Fabricate either kick, armor, or mop plates with four beveled edges, height called for in schedule by width of door less 2 inches. Furnish with machine or wood screws of bronze or stainless steel to match other hardware.

G. Floor Stops: Floor mounted door stops are prohibited where located in the path of travel. Where provided, install maximum 4 inches from wall surface.

H. Seals: Solid neoprene to be MIL Spec. R6855-CL III, Grade 40. Sponge neoprene to be MIL Spec. R6130, Type II, Group C. UL label shall be applied on all rated doors.

I. Silencers: Furnish silencers for interior hollow metal frames, 3 for single doors, 2 for pairs of doors. Omit where sound or light seals occure, or for fire-resistive-rated door assemblies.

J. Thresholds: Change in level between 1/4 inch and 1/2 inch shall be beveled with a slope no greater that 1 unit vertical to 2 units horizontal (50 percent slope). The floor or landing shall not be more that 1/2 inch lower than the threshold of the doorway.

2.3 KEYING

A. Contact the Facilities Department with Compton Community College District for keying requirements. Key into existing system as directed by the Owner. Keying system shall be approved by Owner=s representative in writing. Furnish construction key system in accordance with lock manufacturers= standard. Where interchangeable core systems are used, provide temporary cores for construction keying. Stamp keys ADO NOT DUPLICATE@.

B. Key system shall be Best I/C core cylinder.

C. For protection of the Owner, cylinders shall be keyed at the factory of the cylinder manufacturer where permanent records are maintained.

D. Permanent keys and cylinder cores shall be delivered only to Owner=s representative.

2.4 LOCK BOX

A. Model No. 3200 lock box manufactured by the Knox Company, www.knoxbox.com..

B. Surface or recess mounted as required.

C. Polyester powder coated finish in black color.

D. UL listed tamper switch.

2.5 FINISHES

A. Generally to be BHMA 626 Satin Chromium.

B. Areas using BHMA 626 shall have push, pulls and kick plates of BHMA 630, Satin Stainless Steel, unless otherwise noted.

C. Factory paint door closers to match other hardware, unless otherwise noted.

D. Aluminum items to be finished AL unless otherwise noted.

2.6 FASTENERS

A. Screws for strikes, face plates and similar items shall be flathead, countersunk type; provide machine screws for metal and standard wood screws for wood.

B. Screws for butt hinges shall be flathead, countersunk, full-thread type.

C. Fastening of closer bases or closer shoes to doors shall be by means of sex bolts and spray painted to match closer finish.

D. Provide expansion anchors for attaching hardware items to concrete or masonry.

E. All exposed fasteners shall have a phillips head.

F. Finish of exposed screws to match surface finish of hardware or other adjacent work.

2.7 OTHER MATERIAL

A. All other materials not specifically described, but required for a complete and proper finish hardware installation shall be selected by Architect as required at no additional cost.

3. PART 3 EXECUTION

3.1 INSPECTION

A. Verify that doors and frames are ready to receive work and dimensions are as instructed by the manufacturer.

B. Verify that power supply is available to power operated devices.

C. Beginning of installation means acceptance of existing conditions.

3.2 INSTALLATION

A. Pre-Installation Meetings: Initiate and conduct with supplier, installer, and related trades, coordinate materials and techniques, and sequence complex hardware items and systems installation. Include manufacturers= representatives of locks, panic hardware, and door closers in the meetings. Convene at least one week prior to commencement of related work.

B. Install hardware in accordance with manufacturer's instructions and requirements of DHI.

C. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protection with finishing work specified in Division 9. Do not install surface-mounted items until finishes have been completed on the substrate.

D. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

F. Set thresholds for exterior doors in full bed of butyl-rubber sealant.

G. If handle of door is changed during construction, make necessary changes in hardware at no additional cost.

H. Mount lock box in accordance with manufacturers instructions. Connect to building security system. Mount at 4'-0" from finished grade to center of box.

3.3 ADJUST AND CLEAN

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware finishes, during the final adjustment of hardware.

E. Continued Maintenance Service: Approximately six months after the completion of the project, the Contractor, accompanied by the Finish Hardware Installer, shall return to the project and re-adjust every item of hardware to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

3.4 HARDWARE LOCATIONS

A. Lockset: 34 to 44 inches above finished floor. Verify manufacturers= template with door design.

B. Door Pull: 40 inches from bottom of door to center of pull.

C. Push Plate: 42 inches from bottom of door to center of plate.

D. Pull Plate: 42 inches from bottom of door to center of pull.

E. Panic Device: above 36 to 44 inches above finished floor. Verify manufacturers= template with door design.

F. Floor Stop: 4 inches maximum distance from any adjacent wall surface.

G. Conform to CCR, Title 24, Part 2, and ADA regarding positioning requirements for accessibility.

3.5 FIELD QUALITY CONTROL

A. Architectural Hardware Consultant (AHC) to inspect installation and certify that hardware and its installation have been furnished and installed in accordance with manufacturer's instructions and as specified herein.

3.6 SCHEDULE

A. Legend of listed manufacturers. The last column in the Schedule of Door Hardware refers to the manufacturer listed in the following schedule:

BES	Best
GLY	Glynn Johnson
KEE	Keedex
LCN	LCN
PEM	Pemko
STA	Stanley
TRM	Trimco
VON	Von Duprin

B. The items listed in the following schedule shall conform to the requirements of the foregoing specification.

C. The Door Schedule on the Drawings indicates which hardware set is used with each door.

D. Schedule of Door Hardware:

HW-1
Each pair to have

2	CONTINUOUS HINGE	FM-HD1	628	PEM
1	REMOVABLE MULLION	KR9954 x MT54	689	VON
1	EXIT DEVICE	99L-F-2 x PA x 996L-06 x 499F STK	626	VON
1	EXIT DEVICE	99EO-F x PA x 499F STK	626	VON
1	MORTISE CYLINDER	1E74	626	BES
2	RIM CYLINDER	12E72	626	BES
3	PERMANENT CORE	1C-7	626	BES
1	ARMOR COLLAR	K-24	626	KEE
2	SURFACE CLOSER	4040XP-SCUSH x ST1595	689	LCN
2	KICK PLATE	KO050 - 10 x 2 LDW B4E	630	TRM
1	MULLION SEAL	5110	BLK	PEM
1 SET	SOUND SEALS	S773 HEAD & JAMBS	BLK	PEM
1 SET	DOOR SEALS	2893V HEAD & JAMBS	628	PEM
2	DOOR SWEEP	57V	628	PEM
1	THRESHOLD	PER SILL DETAIL	628	PEM
	Install door seals before closer			

HW-2
Each pair to have

6	HINGE	FBB168 - 5.0 x 4.5	652	STA
1 SET	AUTO FLUSH BOLT	3820 x 3850	626	TRM
1	LOCKSET	45H7R x 15H x 7/8 STK	626	BES
1	PERMANENT CORE	1C-7	626	BES
1	COORDINATOR	3094 x 3095/3096	600	TRM
1	SURFACE CLOSER	4040XP-EDA	689	LCN
1	SURFACE CLOSER	4040XP-SCUSH (LH LEAF)	689	LCN
2	KICK PLATE	KO050 - 10 x 1 LDW B4E	630	TRM
1	WALL BUMPER	1270CVPV	626	TRM
1	ASTRAGAL	355S	628	PEM
1 SET	SMOKE SEALS	S88 HEAD & JAMBS	BLK	PEM
1	THRESHOLD	PER SILL DETAIL	628	PEM

HW-3
Each door to have

3	HINGE	FBB179 - 4.5 x 4.5	652	STA
1	LOCKSET	45H7R x 15H	626	BES
1	PERMANENT CORE	1C-7	626	BES
1	KICK PLATE	KO050 - 10 x 2 LDW B4E	630	TRM
1	OVERHEAD STOP	410S	630	GLY
3	SILENCERS	1229A	GRY	TRM

HW-4
Each door to have

3	HINGE	FBB179 - 4.5 x 4.5	652	STA
1	LOCKSET	45H7INL x 15H	626	BES
2	PERMANENT CORE	1C-7	626	BES
1	SURFACE CLOSER	4040XP-H	689	LCN
1	KICK PLATE	KO050 - 10 x 2 LDW B4E	630	TRM
1	FLOOR STOP	1214	626	TRM
3	SILENCERS	1229A	GRY	TRM

HW-5
Each pair to have

6	HINGE	FBB179 - 4.5 x 4.5	652	STA

1	FLUSH BOLT	3913 (TOP BOLT ONLY)	626	TRM
1	LOCKSET	45H7R x 15H x 7/8 STK	626	BES
1	PERMANENT CORE	1C-7	626	BES
2	KICK PLATE	KO050 - 10 x 1 LDW B4E	630	TRM
2	OVERHEAD STOP	450S	630	GLY
1	ASTRAGAL	355S	628	PEM
2	SILENCERS	1229A	GRY	TRM

HW-6
Each pair to have

2	CONTINUOUS HINGE	FM-HD1	628	PEM
1	REMOVABLE MULLION	KR4954 x MT54	689	VON
1	EXIT DEVICE	CD99NL-OP x PA x 110NL	626	VON
1	EXIT DEVICE	CD99EO x PA	626	VON
3	MORTISE CYLINDER	1E74	626	BES
1	RIM CYLINDER	12E72	626	BES
4	PERMANENT CORE	1C-7	626	BES
1	ARMOR COLLAR	K-24	626	KEE
1	ANTI VANDAL PULL	1097IR-HA	630	TRM
1	ANTI VANDAL PULL	1097IR-HA-NC	630	TRM
2	SURFACE CLOSER	4040XP-SHCUSH x 4040XP-30	689	LCN
2	DROP PLATE	4040XP-18PA	689	LCN
1	MULLION SEAL	5110	BLK	PEM
1 SET	DOOR SEALS	BY FRAME MFR	---	---
2	DOOR SWEEP	57V	628	PEM
1	THRESHOLD	PER SILL DETAIL	628	PEM

HW-7
Each pair to have

6	HINGE	FBB168 - 4.5 x 4.5	652	HAG
2	PUSH PLATE	1001-3 - 4 x 16	630	TRM
2	PULL PLATE	1014-3 - 4 x 16	630	TRM
2	SURFACE CLOSER	4040XP-SHCUSH	689	LCN
2	KICK PLATE	KO050 - 10 x 1 LDW B4E	630	TRM
1 SET	SOUND SEALS	S773 HEAD & JAMBS	BLK	PEM

HW-8
Each door to have

1	CONTINUOUS HINGE	FM-HD1	628	PEM
1	LOCKSET	45H7R x 15H	626	BES
1	PERMANENT CORE	1C-7	626	BES
1	ARMOR COLLAR	K-24	626	KEE
1	SURFACE CLOSER	4040XP-H	689	LCN
1	FLOOR STOP	1214	626	TRM
1 SET	DOOR SEALS	2893V HEAD & JAMBS	628	PEM
1	DOOR BOTTOM	217PK	628	PEM
1	THRESHOLD	PER SILL DETAIL	628	PEM

HW-9
Each opening to have

1	MORTISE CYLINDER	1E74	626	BES
1	PERMANENT CORE	1C-7	626	BES
1	ARMOR COLLAR	K-24	626	KEE

Balance of hardware by Overhead Coiling Door Manufacturer

HW-10
Each pair to have

6	HINGE	FBB179 - 4.5 x 4.5	652	STA
1	FLUSH BOLT	3917 (TOP BOLT ONLY)	626	TRM
1	LOCKSET	45H7R x 15H x 7/8 STK	626	BES
1	PERMANENT CORE	1C-7	626	BES
2	KICK PLATE	KO050 - 10 x 1 LDW B4E	630	TRM
1	FLOOR STOP	1214	626	TRM
1	OVERHEAD STOP	410S (RH LEAF)	630	GLY
1	ASTRAGAL	355S	628	PEM
2	SILENCERS	1229A	GRY	TRM

HW-11
Each pair to have

2	CONTINUOUS HINGE	FM-HD1	628	PEM
1	REMOVABLE MULLION	KR4954 x MT54	689	VON
1	EXIT DEVICE	CD99NL-OP x PA x 110NL	626	VON
1	EXIT DEVICE	CD99EO x PA	626	VON
3	MORTISE CYLINDER	1E74	626	BES
1	RIM CYLINDER	12E72	626	BES
4	PERMANENT CORE	1C-7	626	BES
1	ARMOR COLLAR	K-24	626	KEE
1	ANTI VANDAL PULL	1097IR-HA	630	TRM
1	ANTI VANDAL PULL	1097IR-HA-NC	630	TRM
2	SURFACE CLOSER	4040XP-HEDA x ST1944	689	LCN
2	KICK PLATE	KO050 - 10 x 2 LDW B4E	630	TRM
2	FLOOR STOP	1209	626	TRM
1	MULLION SEAL	5110	BLK	PEM
1 SET	DOOR SEALS	2893V HEAD & JAMBS	628	PEM
2	DOOR SWEEP	57V	628	PEM
1	THRESHOLD	PER SILL DETAIL	628	PEM
	Install door seals before closer			

END OF SECTION

SECTION 09644

WOOD ATHLETIC FLOORING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sheet vapor retardant on substrate surface.

B. Cushion blocks.

C. Plywood sheathing

D. Hardwood strip flooring.

E. Ventilating base.

F. Thresholds.

G. Surface sanding and finish coating.

H. Maintenance service.

1.2 REFERENCES

A. ALSC - American Lumber Standards Committee.

B. APA - The Engineered Wood Association

C. FSC - Forest Stewardship Council.

D. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

E. ASTM F2170 - Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probe.

F. MFMA - Maple Flooring Manufacturers Association.

1.3 SUBMITTALS

A. Submit shop drawings under provisions of Section 01330.

B. Submit shop drawings indicating floor joint pattern, grain direction, and termination details. Indicate provisions for expansion and contraction, base, base corner details and game insert or socket devices.

C. Submit product data under provisions of Section 01330.

D. Submit product data for resilient blocks, floor materials, floor coating.

E. Submit samples under provisions of Section 01330.

F. Submit two samples 12 x 12 inch in size illustrating floor finish, color, and sheen.

G. Submit copies of MFMA Inspection Service Reports.

1.4 MAINTENANCE DATA

A. Submit maintenance data under provisions of Section 01770.

B. Include recommended cleaning and stain removal methods, materials, and waxes.

1.5 MAINTENANCE SERVICE

A. Perform repainting and refinishing of floor after twelve months after date of final completion.

B. Repainting and refinishing to be performed in compliance with requirements for new floor.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with the following:

1. Lumber Grading Agency: Certified by ALSC.

2. Plywood Grading Agency: Certified by APA.

3. Maple Grading: According to MFMA.

B. Conform to MFMA - Cushioned Subfloor Flooring.

C. Provide MFMA Flooring Inspection Service. Provide an inspection prior to and after installation of the wood floor. MFMA fees charged for the inspections are the responsibility of the flooring installer.

1.7 QUALIFICATIONS

A. Manufacturer: Member company of the MFMA specializing in manufacturing the products specified in this Section with minimum fifteen years documented experience.

B. Installer: Company specializing in applying the work of this Section with minimum ten years documented experience and approved by the flooring products manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and protect products to site under provisions of Section 01600.

B. Deliver materials in time to permit moisture content to stabilize to ambient conditions.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not install wood flooring until wet construction work is completed.

B. Moisture Testing: Perform tests as recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.

1. Subfloor Moisture Conditions: Moisture emission rate of no more than 3 lb/1000 sq. ft./24 hours when tested by the Quantitive Anhydrous Calcium Chloride Test, ASTM F1869, with subfloor temperature not less than 65 degrees F.

2. Subfloor Humidity Conditions: Relative humidity level of no more than 75 percent when tested by in situ drilled probes according to ASTM F2170.

3. Subfloor Alkalinity Conditions: pH range of between 5 to 9 when subfloor is wetted with potable water and pHdrion paper is applied.

C. Provide permanent heat, light, and ventilation prior to installation.

D. Maintain minimum room temperature 65 degrees F and a maximum humidity level of 50 percent for a period of ten days prior to delivery of materials and during installation.

E. Maintain minimum room temperature and maximum humidity level after flooring is installed for duration of project construction period.

2. PART 2 PRODUCTS

2.1 MULTI SPORT WOOD FLOOR MANUFACTURERS/SYSTEMS

A. Connor Sports Flooring, Inc., SportBond Plus, www.connorfloor.com.

B. Horner Flooring Co., Multisport Cushion, www.hornerflooring.com.

C. Substitutions: Under provisions of Section 01630.

2.2 WOOD MATERIALS

A. Strip Flooring: Species and grade stamped on underside of each piece, conforming to the following:

Species:	White Hard Maple (Acer Saccharum).
Grade:	Second and Better
Cut:	Plain Sawn.
Moisture Content:	6 to 9 percent.
Actual Thickness:	25/32 inch.
Actual Width:	2-1/4 inches.
Edge:	Tongue and Groove.
End:	Tongue and Groove.
Length:	Random.

B. Multi Sport Wood Flooring: 5/16 inch thick x 7/8 inch wide x 9 inch long panels comprised of single directional slats of edge-grain MFMA hard maple, Second and Better grade, held together by edge bonding, with elastic joint material between each row of slats.

C. Plywood Sheathing: APA rated, Structural I, Grade C-D Exposure I, 1/2 inch thick.

D. Wood Sleepers: 2 inch x 3 inch x 4 foot Fir, Hemlock or Pine, KD, 10 to 15 percent moisture content, treated with Woodlife F preservative.

2.3 BASE MATERIALS

A. Ventilating Base: Molded rubber, 4 inch high with a 3 inch toe, ventilating type, with premolded outside and inside corners. Adhesives and accessories required. Color as selected.

2.4 ACCESSORIES

A. Cushion Blocks: 3/8 inch x 2-1/4 inch x 3 inch resilient pads, rubber or PVC material, unsealed air slots for resiliency, compressible to 1/16 inch under a 40 psi load with full and immediate recovery.

B. Threshold: Extruded, mill finished aluminum, 1/4 inch thick x width and length required; beveled edge.

C. Sheet Vapor Retardant: 6 mil thick, black polyethylene, with 2 inch wide self adhesive, reinforced tape for lap joint sealing.

D. Crosslinked closed-cell polyethylene foam, 1/4 inch thick.

E. Nails: Type recommended by flooring manufacturer.

F. Adhesive for Multi Sport Flooring: As recommended by flooring manufacturer.

2.5 FINISHES

A. Sealer: Water based acrylic latex, equivalent to "Hydroline Sealer", manufactured by Basic Coatings, www.basiccoatings.com.

B. Finish: Water based urethane, equivalent to "Hydroline Wood Floor Finish", gloss, as manufactured by Basic Coatings.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive work.

B. Verify that subfloor surface is smooth and flat to a tolerance of 1/8 inch per 10 feet maximum.

C. Verify that concrete substrate moisture and humidity level content are within limits specified.

D. Beginning of installation means installer accepts existing surfaces.

3.2 PREPARATION

A. Broom clean substrate.

3.3 INSTALLATION - GYMNASIUM WOOD FLOORING SYSTEMS

A. Place vapor retardant, lap edges and ends 6 inches, tape seal joints. Spot glue in place. Turn edges up onto adjacent walls.

B. Panel System:

1. Install first layer of 1/2 inch sheathing with cushion blocks 12 inches on center and 6 inches from edges of plywood. Install perpendicular to finish flooring.

2. Install second layer of 1/2 inch sheathing at 45 degree angle over first layer and nail securely at 12 inches on center in both directions.

3. All sheathing joints shall be staggered and spaced 1/4 inch apart.

4. Install continuous strips of nominal 1 x 3 wood blocking at 12 inches on center between cushion blocks beneath all wheeled assemblies of bleachers. Extend blocking the full length of bleacher travel. Top of blocking to be 1/8 inch below bottom of first layer of sheathing for areas beneath extended position of bleachers and full height for areas beneath bleacher assembly in closed position.

C. Provide 2 inch expansion space at walls and other interruptions.

D. Lay flooring strips parallel to length of room areas with joints set flush and tight.

E. Predrill and blind nail flooring with a power driver in accordance with manufacturer's instructions.

3.4 INSTALLATION - MULTI SPORT WOOD FLOORING

A. Place vapor retardant, lap edges and ends 6 inches, tape and seal joints. Spot glue in place.

B. Install closed cell polyethylene foam sheet. Adhere to vapor retardant material with compatible adhesive recommended by manufacturer.

C. Install first layer of 1/2 inch plywood sheathing with long dimension perpendicular to finish flooring length.

D. Install second layer of 1/2 inch plywood sheathing at a 45 degree angle over the first layer and nail securely in place at 12 inches on center in both directions.

E. All sheathing joints shall be spaced 1/4 inch apart.

F. Lay finished flooring panels with adhesive. Install flooring parallel to length of room with joints set flush and tight.

3.5 INSTALLATION - ACCESSORIES

A. Provide threshold at centerline of door openings and where flooring terminates with other floor areas.

B. Install base at floor perimeter to cover expansion space in accordance with manufacturer's instructions.

C. Install floor sockets, inserts and cover plates to a depth sufficient to ensure flush top surface with sanded floor surface.

3.6 FINISHING

A. Sand flooring to smooth even finish with no evidence of sander marks. Take precautions to contain dust. Remove dust by vacuum. Sand flooring with drum sander, edger, buffer, and hand scraper.

1. Use coarse, medium and fine sandpaper.

2. After sanding with drum sander, buff entire floor using 100 grit screen back or equal grit sandpaper with a heavy-duty buffing machine.

3. Vacuum floor before first coat of finish.

4. Floor shall present a smooth surface without drum stop marks, gouges, streaks or shiners.

B. Mask off adjacent surfaces.

C. Apply two coats of sealer in accordance with manufacturer's instructions. Buff and clean floor between each coat.

D. Apply three coats of urethane floor finish over paint in accordance with manufacturer's instructions.

END OF SECTION

SECTION 09672

EPOXY-CHIP FLOORING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fluid applied epoxy flooring and base with epoxy top coat.

B. Quartz chip aggregate.

C. Base cap edging.

1.2 REFERENCES

A. ASTM C307 - Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings.

B. ASTM C580 - Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

C. ASTM D413 - Standard Test Method for Rubber Property - Adhesion to Flexible Substrate.

D. ASTM D579 - Standard Specification for Greige Woven Glass Fabrics.

E. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

F. ASTM D648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

G. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

H. ASTM D1004 - Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting.

I. ASTM D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.

J. ASTM D2240 - Standard Test Method for Rubber Property - Durometer Hardness.

K. ACI Committee No. 503.1PP - Bond Strength.

L. MIL - D - 3134F - Indentation.

M. UL - Underwriters' Laboratories.

1.3 QUALIFICATIONS

A. Applicator: Company specializing in epoxy matrix floor applications with five years documented experience.

B. Supervisor: Trained by product manufacturer.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable codes for flooring flame/fuel/smoke ratings in accordance with UL.

1.5 SUBMITTALS

A. Submit product data under provisions of Section 01330.

B. Submit product data for base cap.

C. Submit samples under provisions of Section 01330.

D. Submit two samples 4 x 4 inch in size illustrating color, chip size and variation, and matrix color.

1.6 OPERATION AND MAINTENANCE DATA

A. Submit cleaning and maintenance data under provisions of Section 01770.

B. Include procedures for stain removal, repairing surface, and cleaning.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and protect products under provisions of Section 01600.

B. Store materials in a dry, secure area.

C. Maintain temperature of 55 degrees F.

D. Keep products away from fire or open flame.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not install flooring when temperature is below 60 degrees F or above 90 degrees F.

B. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of flooring.

C. Ventilate area where flooring is being installed. Post and enforce NO SMOKING or OPEN FLAME signs until flooring has cured.

D. Provide uniform lighting of 50 fc in area of installation.

E. Restrict traffic from area where flooring is being installed or is curing.

1.9 WARRANTY

A. Provide one year warranty under provisions of Section 01770.

B. Warranty: Include coverage for delamination of floor and base materials from substrate, degradation of surface finish.

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

A. General Polymers Corporation, TPM No. 115 Upgraded, www.generalpolymers.com.

B. Crossfield Products Corp., (Dex-O-Tex) Cheminert CFS, K-D, www.dexotex.com.

C. Dur-A-Flex, Inc., Dura-A-Quartz, www.dur-a-flex.com.

D. RBC Industries, Inc., HE1484, www.rbcepoxy.com.

E. Sunbelt Flooring, Inc., Flooring No. 1100, www.sunbeltflooring.com.

F. Stonhard Inc., Stoneshield HRI, www.stonhard.com.

G. Tenemec, Series 201-223-284, www.stratashield.com.

H. Substitutions: Under provisions of Section 01630.

2.2 PERFORMANCE REQUIREMENTS

A. Conform to the following:

Property	Test	Result
Tensile Strength	ASTM C307	2,000 psi
Compressive Strength (7 days)	ASTM D579	18,500 psi
Flexural Strength	ASTM C580	6,150 psi
Flexural Modulus of Elasticity	ASTM D790	2.2×10^5 psi
Hardness	ASTM D2240	85-90 Shore Durometer
Indentation	MIL-D3134F	11 mil/kpsi (no visible indentation)
Coefficient of Friction	ASTM D2047	>0.9
Heat Deflection Temperature	ASTM D648	100 degrees F/ 38 degrees C
Water Absorption	ASTM D413	0.01 percent
Fire Resistance	ASTM D635	Self Extinguishing, Burning time 104 seconds. Extent of Burning, .6.5 mm
Bond Strength	ASTM D 454	600 psi
Abrasion Resistance	ASTM C501	597.4
Thermal Coefficient of Linear Expansion	ASTM E831	25° to 65° C 2.6×10^5 in/in °C 65° to 135° C 5.7×10^5 in/in °C 135° to 220 C 2.3×10^5 in/in °C
Heat Resistance Limit	ASTM N/A	DRY - 250° Continuous/275 ° Intermittent WET - 140° Continuous/200 ° Intermittent
Impact Resistance/ Indention	Mil D3124	5x10-4 inches/ (No visible indentation)
Weather Resistance Weather-O-Meter 200 Hr Exposure		No visible cracking or deterioration.

Resistance to Elevated Temperatures

A sample of the flooring was warmed to 158 degrees. There was no discernable softening. After cooling sample showed no measurable slip or flow.

U.S.D.A — Approved

Fungus/Bacteria Resistance

Will not support growth of fungus or bacteria when subject to mildew and bacteria test specified in TT-P-34.

Electrical Conductivity — Electrically non-conductive.

2.3 MATERIALS

A. Primer: A two-component, penetrating, moisture tolerant, epoxy primer.

B. Base: A three-component, integral troweled mortar base consisting of epoxy resin, curing agent and finely graded silica aggregate, 6 inch height.

C. Undercoat: A two-component, thixotropic epoxy undercoat sealer.

D. Aggregate: Brightly colored, quartz aggregate broadcast onto the surface.

E. Sealer: A high performance, two-component, clear epoxy sealer.

2.4 ACCESSORIES

A. Base Cap: 0.0478 inch thick zinc L shaped strip with perforated flange as manufactured by the Manhattan American Strip Company, www.ntma.com.

2.5 COLORS

A. Resin and Aggregate: Color as selected by Architect from manufacturers standard color range.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate is ready to receive work, and that subfloor surface is clean, dry, and free of substances which could affect bond.

B. Do not begin work until concrete substrate has cured 30 days minimum, and measured moisture content is not greater than 16 percent.

C. Beginning of installation means acceptance of substrate.

3.2 PROTECTION

A. Protect elements surrounding the work of this Section from damage or disfiguration.

3.3 PREPARATION

A. Clean substrate surface free of foreign matter and scrub with manufacturer supplied detergent.

B. Control, expansion joints and cracks in concrete floor substrate shall be routed out and filled with resilient sealant and reinforced with 20 x 20 fiberglass mesh.

3.4 INSTALLATION - ACCESSORIES

A. Install terminating cap strip at top of base; attach securely to wall substrate.

3.5 INSTALLATION - FLOORING

A. Apply flooring in accordance with manufacturer's instructions.

B. Apply to a minimum thickness of 1/4 inch.

C. Finish to smooth level surface sloped to drains.

D. Provide cove fillet and cove at vertical surfaces.

E. Apply final sealer in two coats.

3.6 TOLERANCES

A. Maximum Variation from Flat Surface: 1/8 inch in 10 feet.

3.7 PROTECTION

A. Protect finished installation under provisions of Section 01600.

B. Do not permit traffic over finished floor surfaces.

END OF SECTION

SECTION 15400

PLUMBING

1. PART 1 - GENERAL

1.1 WORK INCLUDED

A. Furnish all labor, materials, services, testing, transportation and equipment necessary for the completion of all plumbing work as indicated on drawings and specified herein. Work materials and equipment not indicated or specified which is necessary for the complete and proper operation of the work of this Section in accordance with the true intent and meaning of the contract documents shall be provided and incorporated at no additional cost to the Owner.

1.2 QUALITY ASSURANCE

A. Code Requirements: All work covered by this Section shall conform to the latest requirements of the following regulations:

1. C.C.R., Title 24, Part 5 (2010 CPC).
2. 2010 California Plumbing Code.
3. SMACNA Seismic Restraint Manual Guidelines for Mechanical Systems.
4. National Fire Protection Association.
5. California Division of the State Architect.
6. California State Division of Industrial Safety.
7. County Health Department.
8. Any other legally constituted body-having jurisdiction thereof.

B. Nothing in the specifications or drawings shall be construed to permit deviation from the requirements of governing codes unless approval for said deviation has been obtained from the legally constituted authorities having jurisdiction and from the Owner's representative.

1.3 DRAWINGS

A. Because of the small-scale drawings, it is not possible to indicate all offsets, fittings and accessories which may be required. The Contractor shall carefully investigate the conditions surrounding installation of his work, furnishing the necessary piping, fittings, valves, traps, and other devices which may be required to complete the installation.

B. The general arrangement indicated on the drawings shall be followed as closely as possible. Coordinate with the Architectural, Structural, Mechanical and Electrical Drawings and the work of other trades prior to installation of piping fixtures and equipment to verify adequate space available for installation of the work shown. In the event a field condition arises which makes it impossible to install the work as indicated, submit, in writing, the proposed departures to the Architect for his approval. Only when Architect's approval is given, in writing, shall Contractor proceed with installation of the work.

C. Special Note: Should the Contractor make changes in the installation differing from what is indicated on the contract drawings and not necessitated due to field conditions as indicated hereinabove, the Contractor shall be required to re-install the work to comply with what has been indicated on the contract drawings. Should it be impossible to re-install the work and the installation is in accordance with all governing authorities, the architect may permit the installation to remain. However, all costs incurred to revise the contract drawings by the engineer for resubmittal to the building department indicating the as-installed condition shall become the responsibility of the Contractor.

D. In case of a difference in the specifications or between the specifications and the drawings, the Contractor shall figure the most expensive alternate and after award of contract, shall secure direction from the Architect.

1.4 PERMITS, INSPECTIONS AND LICENSES

A. All permits, inspections and licenses required by the legally constituted authorities for installation of the work according to the plans and specifications shall be obtained and paid as a part of the work of this

section.

1.5 UTILITIES

A. See Drawings for Points of Connection.

B. Certain site utilities are to be connected to and extended. Before laying of any pipe or digging of any trenches, Contractor shall determine by actual excavation and measurement exact location and depth of lines to which he is to connect. In event depth of lines is not sufficient to permit connection in manner indicated, Contractor shall obtain direction from the Owner's representative before proceeding with this work.

C. Verify that utility companies size their services and meters to suit ultimate demand indicated on the drawings.

D. Storm Drain: The Contractor shall be responsible for the storm drain service outside of the building within five feet (5') of the foundation, and within the building itself. See Civil Engineer's plans for onsite storm drain system.

1.6 EXAMINATION OF PREMISES

A. Before bidding on this work, Contractors shall make a careful examination of the premises and shall thoroughly familiarize themselves with the requirements of the contract. By the act of submitting a proposal for the work included in this contract, the Contractor shall be deemed to have made such study and examination, and that he is familiar with and accepts all conditions of the site.

1.7 PROTECTION

A. All work, equipment and materials shall be protected at all times. Contractor shall make good all damage caused either directly or indirectly by his own workmen. Contractor shall also protect his own work from damage. He shall close all pipe openings with caps or plugs during installation. He shall protect all his equipment and materials against dirt, water, chemical and mechanical injury. Upon completion, all work shall be thoroughly cleaned and delivered in a new condition.

B. Contractor shall be held responsible for all damage to equipment and materials until he has received written notice from the Architect or Engineer that his work has been accepted.

1.8 LOCATIONS

A. The locations of apparatus, piping and equipment indicated on the drawings are approximate. Piping and equipment shall be installed in such a manner as to avoid all obstruction, preserve headroom, and keep openings and passages clear. The locations of and mounting heights of all fixtures shall be coordinated with the architectural plans and room elevations.

B. Clearances and Openings: Contractor shall cooperate and coordinate his work with all other trades to avoid conflict and permit for a neat and orderly appearance of the entire installation. The Contractor shall, in advance of the work, furnish instructions to the General Contractor as to his requirements for equipment and material installation of any kind, whether or not specifically mentioned on drawings or in the specifications, and shall include recesses, chases in walls, and all required openings in the structure. Should furnishing this information be neglected, delayed or incorrect and additional cuttings are found to be required, the cost of the same shall be charged to this Contractor.

C. Contractor shall verify and coordinate pipe routing with location of all electrical rooms, elevator equipment rooms, telecom/data rooms, and other rooms dedicated to the housing of switchgear, panels, or other electrical equipment. In no case shall piping be installed within or above the ceiling of such rooms.

1.9 SUBMITTAL DATA (Also see General Conditions)

A. Submittal Requirements:

1. Furnish, all at one time, prior to any installation, within the time noted below, six (6) copies of valid submittal data on all fixtures, material, equipment and devices. Each submitted item shall be indexed and referenced to these specifications and to identification numbers on fixtures and equipment schedules.

2. Manufacturers' submittal literature and shop drawings are required on all items to ensure the latest and most complete manufacturer's data is available for review. Requirements of the submittals and

Engineer's submittal notes are a part of the work of this Division except that Engineer's notes may not be used as a means of increasing the scope of work of this Division.

3. Submittals will be checked for general conformance with the design concept of the project but the review does not guarantee quantities shown and does not supersede requirements of this Division to properly install work.

4. To be valid, all submittals must:

   a. Be delivered to the Architect's office within thirty-five (35) days of award of the contract. Contractor shall make time allowance for Engineer's review, return of comments, if any, and resubmittal if required. Corrections or changes in submittals returned as inadequate or incomplete shall be accomplished within this time limit.

   b. Clearly indicate and label as such any items proposed as substitution for that specified or shown on plans.

   c. Include all pertinent construction, installation, performance and technical data.

   d. Have all product data sheets clearly labeled to indicate the individual items being submitted. In addition, all required options and accessories shall be clearly marked.

      i. Product data sheets corresponding to items indicated on plans shall be clearly labeled with the corresponding fixture or equipment tag number.

      ii. Product data sheets corresponding to items indicated in specifications shall be clearly labeled with the specification section, page and item numbers.

   e. Include, for every item which differs in size, configuration, connections, service, accessibility or any other significant way, a drawing to the same (or larger) scale as to the pertinent portions of the contract drawings. In this drawing show a complete layout of the system except that which is identical to the contract drawings, unless the unchanged portions must be shown to indicate such things as clearances. This drawing, together with the contract design drawings must show the complete system as revised to accommodate the proposed alternate.

B. Substitution Requirements:

1. Any items included in submittals and proposed by the Contractor as substitution for that specified or shown on plans shall be submitted within thirty five (35) days of award of the contract. After such time, proposed substitutions shall not be accepted for review, and the Contractor shall submit all items as specified or shown on plans.

   a. For each item proposed as substitution for that specified or shown on plans, copies of product data sheets for the specified item shall be placed side by side with product data sheets for the proposed substitution item within the submittal.

      i. In addition to the Submittal Requirements for labeling listed above, product data sheets for the specified item shall be clearly labeled "SPECIFIED ITEM, NOT SUBMITTED". Product data sheets for the corresponding proposed substitution item shall be clearly labeled "PROPOSED SUBSTITUTION".

   b. Provide calculations and other detailed data justifying how any items proposed as substitution were selected for proposal. Data must be complete enough to permit detailed comparison of every significant characteristic for which the specified item was analyzed during design.

2. It shall be the Contractor's responsibility to provide sufficient information to allow the Engineer to analyze any proposed alternate. If inadequate information is provided, the proposal will not be approved and resubmittal will not be allowed.

3. The Contractor shall provide or perform tests required by Engineer for purpose of judging acceptability of proposed substitutions.

4. The Contractor assumes full responsibility that alternate items and procedures will meet the job requirements and is responsible for cost of redesign and of modifications to this and other parts of work caused by alternate items furnished under work in this Section. In view of these responsibilities, it is the purpose of these specifications to establish procedures to ensure that the Contractor has considered all the ramifications of proposed alternates before submitting them for review. Submittals

which do not comply with the requirements of these specifications or which indicate proposed alternates that were selected without proper regard to the requirements of the job will not be approved. No more than one proposed alternate will be considered for each item.

5. Alternate items installed without Engineer's approval will be replaced with specified items at Contractor's expense.

6. The Architect or his authorized representative shall be the sole judge as to the quality and suitability of proposed alternate equipment, fixtures or materials. Decisions of the Architect or that of his representative shall be final and conclusive.

1.10 UNINSPECTED WORK

A. The Contractor shall not allow or cause any of his work to be covered up or closed in until it has been inspected, tested, approved by all authorities have jurisdiction, and until Project Record drawings have been properly annotated.

B. Should any of his work be covered up or closed in before such inspection, he shall, at his own expense, uncover the work to the satisfaction of the inspection party. All related repair work cost shall be borne by the Contractor.

1.11 RECORD DRAWINGS (Also see General Conditions)

A. Contractor shall provide and keep up-to-date a complete "as-built" record set of blueline prints which shall show every change from the original drawings and the exact "as-built" locations and sizes of the work provided under this Section of the specifications. This set shall include locations, dimensions, depth of buried piping, cleanouts, shut-off valves, sewer invert locations, plugged wyes, tees, etc. On completion of the work, the Contractor shall incorporate all as-built information on a set of reproducible tracings provided by the Architect and this set of reproducibles shall be delivered to the Architect.

1.12 GUARANTEES (Also see General Conditions)

A. Contractor shall guarantee the entire plumbing and piping systems unconditionally for a period of one (1) year after final acceptance. If, during this period, any materials, equipment, or any part of the systems fail to function properly, the Contractor shall make good the defects promptly and without any expense to the Owner.

B. Contractor shall be responsible for all damage to any part of the premises caused by leaks in pipelines or equipment furnished and installed under this Section for a period of one (1) year after date of acceptance of his work.

C. All equipment and fixtures shall carry manufacturer's warranty against defective parts or poor workmanship for not less than one (1) year. See specific equipment specifications for extended warranty requirements.

2. PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT (See Schedules on Drawings)

A. General: All materials, as specified or required in the work, shall be new, free from defects and imperfections. All manufactured shall comply with California Assembly Bill 1953.

B. Pipe and Fittings:

1. Soil and Waste Piping:

a. Soil and waste piping within the building itself and outside within five feet (5') of the foundation, shall be no-hub cast iron pipe and fittings, asphaltum coated, free from defects, and shall comply with CISPI. Standard 301, ASTM A-888 or ASTM A-74. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute. Fittings shall be made up with "Husky" SD 4000 series or “Clamp All” HI-TORQ 125 series stainless steel type 304 couplings and shall conform to ASTM C1540 & ASTM C564 except all above ground vent pipe fittings may be made with "Anaco" or "Tyler" stainless steel two band couplings conforming to CISPI Standard 310.

2. Vent Piping:

a. Concealed or underground vent piping shall be cast iron pipe and fittings as specified for soil and waste piping.

b. Exposed vent piping shall be Schedule 40 galvanized steel pipe, ASTM A53, with black cast iron recessed drainage fittings.

i. All vents through roof shall terminate with vandal proof caps (Refer to “Roof Flashing” herein).

3. Domestic Water Piping:

a. Piping within the building and above grade shall be Type "L" ASTM B88, hard drawn copper tubing with wrought copper sweat fittings ANSI B16.18 and B16.22, or mechanically formed tee connections as described herein.

b. Outdoor underground piping in sizes 2-1/2" and 3" shall be Type "L" ASTM B88, hard drawn copper as specified for water piping within the building. Piping 2" and smaller shall be Type "K" ASTM B88, hard drawn copper with wrought copper sweat fittings ANSI B16.18 and B16.22.

c. Piping below the building floor shall be Type "K" soft annealed copper tubing with no fittings below the slab.

4. Storm Drain Piping:

a. Concealed storm drain piping within the building itself and outside within five feet (5') of the foundation, shall be no-hub cast iron pipe and fittings, asphaltum coated, free from defects, and shall comply with CISPI. Standard 301, ASTM A-888 or ASTM A-74. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute. Fittings shall be made up with "Husky" SD 4000 series or “Clamp All” HI-TORQ 125 series stainless steel type 304 couplings and shall conform to ASTM C 1540 & ASTM C564.

5. Air Conditioning Condensate Drain Piping.

a. Shall be Type "M" copper as specified for water piping.

6. Unions or flanges shall be furnished and installed at each threaded connection to all equipment or valves. The unions or flanges shall be located so that the piping can be easily disconnected for removal of the equipment, tank, or valve, and shall be of the type specified in the following schedule.

a. Unions:

i. Black Steel Pipe: 250 pound screwed black malleable iron, ground joint, brass to iron seat.

ii. Galvanized Steel Pipe: 250 pound screwed galvanized malleable iron, ground joint, brass to iron seat.

iii. Copper or Brass Tubing: 150 pound cast bronze or copper, ground joint, nonferrous seat with ends, by Walseal, Nibco or Mueller.

b. Flanges: Tube Turn or approved equal, raised face 150 pound class forged steel, weld, neck or slip-on type conforming to ASA B16.5 and ASTM A181. For copper piping systems, provide flanges conforming to ANSI B16.24. The faces of the flanges being connected to be alike in all cases. Locate flanges so that the piping can be easily disconnected for removal of the equipment or valve. Gasket material shall be of material suiting the service of the opening system in which installed and which conforms to its respective ANSI Standard (A21.11. B16.21). Provide materials that will not be detrimentally affected by the chemical and thermal conditions of the fluid being carried.

C. Valves:

1. General:

a. Piping systems shall be supplied with valves arranged so as to give complete and regulating control of each building and piping systems throughout the building, and located so all parts are easily accessible and maintained.

i. Valve Design: Rising stem or outside screw and yoke stems. Non-rising stem valves may be used where space conditions prevent full extension of rising stems.

ii. Sizes: Same size as upstream pipe, unless otherwise indicated.

iii. Operators:

1. Hand wheels fastened to valve stem for all valves other than quarter turn.

2. Lever handles on quarter-turn valves, 6 inch and 8 inch and larger gear operated, except for plug valves. Provide plug valves with square heads and operating wrench.

3. Provide gear operator for valves 8 inch or larger.

iv. Extended stems: Where piping insulation is indicated or specified, valves shall be equipped with 2" extended handles of non-thermal conductive material. Also provide a protective sleeve that allows operation of the valve without breaking the vapor seal or disturbing the insulation. Supply with memory stops, which are fully adjustable after insulation is applied.

v. End Connection: 2 inch and under shall be threaded, 2-1/2 inches and larger shall be flanged or full lug style.

b. Valves for Potable Water must comply with California Lead Free Law, effective January 1, 2010.

i. "Lead Free" refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content ≤ 0.25%. Source: California Health & Safety Code (116875).

ii. All valves must be 3rd party certified.

iii. Bronze valves shall be made with dezincification-resistant material.

c. Where possible, valves of one manufacturer shall be used.

d. Provide Class 150 valves meeting the valve specifications where Class 125 valves are specified but are not available.

2. Approved Manufacturers. The following manufacturers (or equal) shall be accepted for submittal review provided that all features and options are equivalent to the corresponding items as specified.

a. General valves.

i. NIBCO

ii. Hammond

iii. Milwaukee

b. Below grade domestic water shut-off valves (gate valves) 2" and larger.

i. NIBCO.

ii. Clow.

iii. Mueller.

c. Butterfly Valves.

i. NIBCO.

ii. Demco.

iii. Dezuric.

3. Valves shall be installed in locations as indicated on plans per the following usage criteria:

a. Below grade domestic water shut-off valves 1-1/2" and smaller.

i. Gate valve.

b. Below grade domestic water shut-off valves 2" and larger.

i. Resilient seated gate valve.

c. Above grade domestic water shut-off valves 2” and smaller.

i. Ball valve.

4. Gate Valves.

a. Gate Valves, 1-1/2-Inch and Smaller.

i. Rising Stem: Valves shall be Class 125 and 200 PSI CWP, rising stem, union bonnet, solid wedge and manufactured in accordance with MSS-SP 80. Body, bonnet and wedge shall be of bronze ASTM B-62. Stems shall be of dezincification-resistant silicon bronze ASTM B-371 or low-zinc alloy B-99, non-asbestos packing and malleable or ductile iron hand wheel. Valve ends shall be threaded.

1. Acceptable Valves: NIBCO T124 (threaded), or approved equal.

ii. Non-Rising Stem: Valves shall be Class 125 and 200 PSI CWP, non-rising stem, screw-in bonnet, solid wedge and manufactured in accordance with MSS-SP-80 and NSF-61-G. Body, bonnet, external stuffing box and wedge shall be of bronze ASTM B-584 C87850. Stems shall be of dezincification-resistant silicon bronze ASTM B-371 C69400 or ASTM B-99 C65100, Aramid Fibers with graphite packing and malleable iron hand wheel. Valve ends shall be threaded.

1. Acceptable Valves: NIBCO T113-LF (threaded), or approved equal.

b. Resilient Seated Gate Valves, 2-Inch and Larger.

i. Valves shall conform to AWWA C-509 and C515, fusion-bonded epoxy coating inside and out, meets or exceeds AWWA C-550, ductile iron body, rubber encapsulated D.I. wedge, rubber bonnet gasket, low torque operation, full diameter waterway, flanged, mechanical joint or ring-tite, UL/FM listed and approved. Provide complete with traffic weight cast iron valve box with cast iron cover and operating wrench.

1. Acceptable Valves: NIBCO F-607-RW OS&Y or F-609-RW NRS or M-609-RW, or approved equal by Clow or Mueller.

5. Ball Valves, 2 Inches and Smaller.

a. Valves shall be rated 250°F: 330 psig600 PSI CWP, shall have 2-piece full port lead free dezincification resistant bronze bodies with TFE seats and seals, stainless steel stem, separate packing nut with blow-out proof adjustable stem packing, and vented stainless steel ball. Valves shall conform to ASTMB371 C69300, or ASTM B-584 C87850and conform to MSS-SP-110 and NSF-61-G.

1. Acceptable Valves: NIBCO T-68580-LF (threaded), or approved equal.

D. Traps, Strainers and Tailpieces: Every sanitary fixture, unless otherwise specified, shall be provided with a seventeen (17) gauge chromium tailpiece, a Los Angeles pattern chrome plated cast-brass trap and galvanized nipple trap arm and wall flanges. Trap arm shall be provided with chromium plated brass casing between the trap and wall flanges at each fixture. All sanitary waste system floor drains and floor sinks shall have cast iron "P" traps.

E. Cleanouts: Shall be Jay R. Smith and Zurn.

1. General: Provide cast-iron ferrule and countersunk brass clean-out plug with round cast iron access frame and heavy duty secured top cover.

2. Wall Cleanouts: Jay R. Smith No. 4472 for steel pipe and Jay R. Smith No. 4532 for cast iron pipe.

3. Floor Cleanouts: Jay R. Smith No. 4023 or 4028, bronze plug and non-skid nickel bronze top.

4. Cleanouts to Grade: Jay R. Smith No. 4258 or Jay R. Smith No. 4253 with X-H bronze plug and X-X-H non-skid cover with lifting device set flush with surface for concrete areas. Asphalt or nonsurfaced areas shall be installed with ring of concrete poured around the bottom flange six inches (6") below surface. Use cast iron soil pipe on cleanout risers. For cleanouts in non-traffic areas, terminate cleanout plug in concrete yard box.

F. Access Panels: Wall access panels shall be minimum 12" x 12" for concealed valves and other equipment

unless otherwise specified or indicated. Ceiling access panels shall be 18" x 18" minimum. Access panels shall be located and positioned for ready access and service of equipment housed within. Where access panels are specified with keyed cylinder locks, all such locks shall be identically keyed.

1. Wall, Non-Fire Rated: Elmdor/Stoneman DW-SS-CL, drywall, stainless steel finish, cylinder lock.
2. Ceiling, Non-fire Rated: Elmdor/Stoneman DW, drywall, prime coated finish, screwdriver latch.
3. Wall, Fire Rated: Elmdor/Stoneman FR-SS-CL, fire rated, stainless steel finish, cylinder lock.
4. Ceiling, Fire rated: Elmdor/Stoneman FRC, Fire rated, prime coated finish, return latch.

G. Yard Boxes & Vaults: For service shut-off valves on gas and domestic water; for pressure regulator assemblies and for cleanouts, shall be Brooks Products or Fraser Cement Products Co., rectangular concrete type with vandal-proof cast iron cover and name of service clearly marked on cover. Box shall be of size to permit full range of valve operation and to permit easy removal of valve assembly. Vaults shall be sectional type.

H. Roof Flashing:

1. Sanitary vents thru roof and grease vents thru roof: Stoneman No. 1100-5, one (1) piece, seamless, four (4) pound, series with reinforcing steel boot counterflashed with cast iron flashing sleeve and equipped with vandal-proof hood for all vent piping. Seal joint between flashing and pipe with waterproofing compound per flashing manufacturer's recommendations.
2. Water, gas, condensate drainage and other metallic piping thru roof: Stoneman No. 1100-4, one (1) piece, seamless, four (4) pound, series with reinforcing steel boot counterflashed with cast iron flashing sleeve. Seal joint between flashing and pipe with waterproofing compound per flashing manufacturer's recommendations

I. Escutcheons: Shall be chrome plated cast brass with setscrew locking device.

J. Water Hammer Arresters: Shall be sized per the manufacturer's recommendations. Install at all quick closing valves, clothes washers and dishwashers behind access panel.

K. Dielectric Union Isolators: Connection between incompatible materials above grade and inside building shall be made with two (2) dielectric unions separated by a twelve inch (12") section of red brass pipe. Dielectric union isolator for connection piping or non-compatible materials shall be of standard commercial design with threaded connections.

L. Pipe Supports: Unless otherwise indicated on the drawings, shall be as follows:

1. The Contractor shall furnish and install all miscellaneous iron work including angles, channels, etc., required to appropriately support the various piping systems. Hanger spacing and location shall conform to 2010 California Plumbing Code Table 3-2.
2. All horizontal runs of piping within the building to be supported from the structural framing with steel rods and split ring hangers, B-Line, Grinnell Company, Tolco, or approved equal. Steel rods shall be secured to overhead framing with side beam connectors. Where necessary, install angle iron between framing to accommodate hanger rods. Where several pipes are running together, Unistrut, B-Line or Powerstrut channels with clamps may be used in lieu of individual pipe hangers, and supported from structure as herein specified. Submit test data for type of hanger supports to be provided. For support conditions other than specified herein, the Contractor shall submit method of support for approval prior to any installation.
3. Horizontal Piping Hangers and Supports:
    a. General: Provide factory fabricated horizontal hangers and supports complying with one of the following MSS types listed to suit horizontal-piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Select size of hangers and supports to exactly fit pipe size for bare piping, and to exactly fit around piping insulation with saddle or shield for insulated piping. Provide copper-plated hangers and supports for copper-piping systems.
        i. Adjustable Steel Clevis Hangers: (MSS Type 1.) B-Line B 3100
        ii. Adjustable Swivel Pipe Rings: (MSS Type 5) B-Line B3690

4. Vertical-Piping Clamps:

   a. General: Provide factory fabricated vertical-piping clamps complying with the following types listed, to suit vertical piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Select size of vertical piping clamps to exactly fit pipe size of bare pipe. Provide copper-plated clamps for copper-piping systems.

   b. Two-Bolt Riser Clamps: (MSS Type 8) B-Line B3373

5. Hanger-Rod Attachments:

   a. General: Provide factory fabricated hanger-rod attachments B-Line, Tolco or approved equal, selected by Installer to suit horizontal-piping hangers and building attachments, in accordance with MSS SP-58 and manufacturer's published product information. Select size of hanger-rod attachment to suit hanger rods. Provide copper-plated hanger-rod attachments for copper-piping systems.

   b. Side beam eye socket, Tolco Fig. #57 for rod sizes 3/8" dia. and Tolco Fig. #25-30-251 for rod sizes 1/2" dia.

6. Building Attachments:

   a. General: Provide factory fabricated building attachments, selected by Installer to suit building structural framing conditions, in accordance with MSS SP-69 and manufacturer's published product information. Select size of building attachments to suit hanger rods. Provide copper-plated building attachments for copper-piping systems.

7. Hanger Rods and Spacing shall conform to the following table:

Pipe Sizes	Spacing	Rods
2 Inch and Smaller	6 Feet	3/8 Inch
2-1/2 Inch to 3 Inch	8 Feet	1/2 Inch
4 Inch and larger	8 Feet	5/8 Inch

8. Hangers and Supports shall be adequate to maintain alignment and prevent sagging and shall be placed within 18 inches of joint. Support shall be provided at each horizontal branch connection.

9. Provide lateral bracing as manufactured by B-Line or approved equal for all piping to prevent swaying or movement in accordance with SMACNA "Guidelines for Seismic Restraints of Piping Systems". Piping smaller than indicated in the guidelines shall be provided with bracing as specified for the smallest size indicated. The entire water distribution system shall be properly braced and will not move due to the action of quick closing of valves.

10. Miscellaneous Supports, Wall Brackets, Etc.: Provide where required in accordance with the best standard practices of the trade. Submit shop drawings for all fabricated supports.

11. Isolators. All piping which is not isolated from contact with the building by its insulation shall be installed with a manufactured type isolator. Isolators shall be B-Line vibra clamp and cushion, Super Strut, Stoneman "Trisolator", or approved equal. Piping shall be installed and supported in a manner to provide for expansion without strains. Guides shall be properly installed to ensure this requirement.

12. Shields:

   a. General: Provide shields at piping hangers and supports, factory-fabricated, for all insulated piping as manufactured by Pipeshields Incorporated or approved equal. Size shields for exact fit to mate with pipe insulation.

   b. Protection Shields: MSS Type 40; provide high density insert of same thickness of insulation or equal 100-psi average compressive strength, waterproofed calcium silicate, encased with a sheet metal shield. Insert and shield shall cover entire circumference of the pipe and shall be of length indicated by manufacturer for pipe size and thickness of insulation.

M. Insulation:

1. Condensate Pipe Insulation: All condensate piping within the building shall be insulated with "Imcoa"

"Imcolock" ¾" nominal wall thickness closed-cell insulation. Insulation shall have a flame spread of not more than 25 and a smoke density not exceeding 50 per 2010 CMC. All joints shall be mitered and secured with black duct tape.

2. All insulation shall be continuous through supports and hangers.

3. All fixtures complying with the provisions of the Americans with Disabilities Act shall be provided with Prowrap insulation for exposed hot water pipe, tailpiece, and trap as manufactured by McGuire, and secured per manufacturers recommendations. No tape wrapping shall be permitted.

N. Equipment and Fixtures:

1. Fixtures:

a. See schedule on drawings.

b. Accessible plumbing fixtures shall comply with all of the requirements of CBC Section 1115B. Heights and location of all fixtures shall be in according to CBC Section 1115B.4 and Table 1115B-1. Fixture controls shall comply with CBC Section 1115B.4.4.4 for showers, 1115B.4.3.1 for lavatories, 1115B.4.1.5 for toilets and 1115B.4.2.3 for urinals. Sinks shall not exceed 6-1/2" in depth, CBC Section 1115B.4.7.1.

2. Acceptable Manufacturers.

a. The following manufacturers (or equal) shall be accepted for submittal review provided that all features and options are equivalent to the corresponding items as specified on plans and in specifications:

i. Vitreous China Plumbing Fixtures.

1. American Standard.

2. Kohler.

ii. Flushometer Valves.

1. Sloan.

iii. Faucets.

1. Chicago.

iv. Lavatory and Sink Drains.

1. McGuire.

2. Elkay.

v. Angle Stops / Supplies.

1. Chicago.

vi. Trap Primers.

1. Mifab.

2. Precision Plumbing Products.

vii. Roof Drains and Overflow Drains.

1. Zurn

2. Jay R. Smith.

viii. Floor Sinks.

1. Zurn.

ix. Drinking Fountains.

1. Haws.

2. Elkay.

x. Hose Bibbs.

1. Acorn.

2. Woodford.

3. Furnish complete with necessary trim, including stops. All trim and fittings shall be chrome-plated brass including handles, supply tailpieces, traps and escutcheons.

4. Connections to fixtures shall be in accordance with code requirements except as exceeded herein or on the drawings and in no case less than the supply stop size.

5. All plumbing fixture faucets submitted for review shall have identification label or certification showing compliance with California TITLE 24, PART 5, ARTICLE I, "Energy Conservation Standards". ARTICLE I, T20-1406; ARTICLE 2, T20-1525 and ARTICLE 4, 1604 and 1606.

6. Minimum waste sizes shall be four-inch (4") for water closets and two inch (2") for lavatories.

3. PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

A. Locations and Accessibility: Install equipment for ease of maintenance and repair. If changes in the indicated locations or arrangements are made by the Contractor, they shall be made without additional charges.

B. Openings: Furnish information to the other trades on size and location of openings which are required in walls, slabs, roof, for piping and equipment at the proper times.

C. Closing-In of Uninspected Work: Do not allow or cause any of the work to be covered up or enclosed until it has been inspected, tested, and approved by the Architect. Any work enclosed or covered prior to such inspection and test shall be uncovered and, after it has been inspected, tested, and approved, make all repairs with such materials as may be necessary to restore all work, including that of other trades, to its original and proper condition.

D. Before laying of any pipe or digging of any trenches, Contractor shall determine by actual excavation and measurement exact locations and depth of existing utility and service lines to which he is going to connect. In event depth of existing sewer main or storm drain is not sufficient to permit installation of piping as detailed on drawings or to make connection in manner indicated, Contractor shall confer with the Architect, Owner's representative and Engineer for Direction.

E. Excavation, Trenching and Backfill: Perform all necessary trench excavation, shoring, backfilling and compaction required for the proper laying of the pipe lines.

1. The Contractor shall coordinate the layout of all below grade piping and components with the General Contractor prior to bid to determine the extent of required sawcutting, excavation, alterations, and subsequent repair/restoration of all affected hardscape and softscape surfaces. All such items shall be included in bid.

2. Backfill shall be clean soil free from rocks and debris. Compact to ninety percent (90%) of surrounding soil. All piping shall be installed in a minimum 6" sand bed and covered with 6" of sand prior to backfill. Continue backfill with materials free of rocks and debris, properly moistened and mechanically tapered and compacted to 90% of surrounding soil.

3. Bottoms of Trenches: Cut to grade and excavate bell holes to ensure the pipes bearing for their entire length upon the outside periphery of the lower third of the pipe.

4. Water piping shall not be run in the same trench with sewer or drainage piping unless separated as required by the CPC.

5. All horizontal soil and waste piping 3” and smaller shall be installed to a uniform grade of not less than one-fourth inch (1/4") per foot. All horizontal soil and waste piping 4” and larger shall be installed to a uniform grade of not less than one-eighth inch (1/8") per foot, unless otherwise indicated or directed.

F. Piping Installation:

1. All piping shall be concealed in finished portion of the building except where otherwise indicated or directed at the time the work is done. All piping shall be installed to clear all framing members and

beams, even if drawings do not indicate same. Contractor shall constantly check the work of other trades so as to prevent any interference with the installation of this work.

2. All piping into stem walls and footings shall be double half lap wrapped with 1/8" thick "Armaflex" insulation. The Contractor shall also provide blocked out areas in stem wall and footing as required for the installation of the piping. All piping shall avoid the lower 9" of the footing and the Contractor shall coordinate and provide dropped footings as required for the installation of the underground piping.

3. Unions shall be installed on one side of all screwed shut-off valves, at both sides of screwed automatic valves and on all by-passes, at all equipment connections and elsewhere as indicated or required for ease of installation and dismantling.

4. Connections between copper tubing and equipment shall be with Mueller Brass Company, or approved equal, brass stream line copper to P.P.S. ground joint unions.

5. Hot and cold water supplies to lavatories and sinks shall be provided with ninety degree (90°) drop-ear copper to pipe thread elbows. Cold water supplies to water closets and urinals shall be provided with ninety degree (90°) drop-ear copper to pipe thread elbows. Bolt securely to backing plates located between wall studs to provide a rigid anchor for exposed supply pipes and stops.

6. Corrosion Protection:

   a. General.

      i. Corrosion protection shall be provided for all below grade cast iron and copper piping and associated valves and fittings. Such piping shall be protected from corrosion by encasement in a polyethylene protective wrapping, referred to hereafter as polywrap. Although not intended to be a completely air and water tight enclosure, the polywrap shall provide a continuous barrier between the pipe and surrounding bedding and backfill.

   b. Materials.

      i. Cast iron piping encasement.

         1. The polywrap shall be minimum 8 mil. in thickness, group 2, linear low density, flat tube, natural (clear) virgin polyethylene film formed into tubes or sheets as required. Material shall meet or exceed the requirements of AWWA C105, ANSI A21.5 and ASTM A674.

         2. The polywrap shall be as manufactured by Northtown Company or approved equal.

      ii. Copper piping encasement.

         1. The polywrap shall be minimum 6 mil. in thickness, group 2, linear low density, flat tube, natural (clear) virgin polyethylene film formed into tubes or sheets as required. Material shall conform to the requirements of ASTM D1248.

         2. The polywrap shall be as manufactured by Northtown Company or approved equal.

      iii. The minimum Polywrap flat tube width for each pipe diameter shall be as follows:

Pipe Size / Type	Polywrap Flat Tube Width
½” to ¾” copper	2”
1” to 1-½ copper	3”
2” copper	4”
2-1/2” copper	5”
3” copper	6”
2” to 3” cast iron	14”
4” cast iron	16”

      iv. The polywrap shall be secured as specified with 2 inch wide pressure sensitive plastic tape not less than 10 mils thick.

         1. Tape shall be Scotchwrap No. 50, Polyken No. 900, Tapecoat CT, Johns-Manville No. V-10 Trantex or approved equal.

c. Installation.

i. The polyethylene tubing shall be cut into lengths approximately 2 feet longer than the pipe sections. Slip the tube around the pipe, centering it to provide a 1-ft overlap on each adjacent pipe section, and bunching it accordion fashion lengthwise until it clears the pipe ends. Lower the pipe into the trench and make up the pipe joint with the preceding section of pipe. . A shallow bell hole must be made at each joint to facilitate installation of the polywrap. The bunched-up polywrap shall be pulled from the preceding length of pipe, slipped over the end of the new length of pipe, and secured in place with one circumferential turn of tape plus enough overlap to assure firm adhesion. The end of the polywrap shall be slipped from the new pipe section over the end of the first wrap until it overlaps the joint at the end of the preceding length of pipe and tape it in place. The loose wrapping on the barrel of the pipe shall be pulled snugly around the barrel of the pipe and excess material folded over the top of the pipe and the folds held in place by means of short strips of adhesive tape, at about 3 foot intervals along the pipe.

ii. Rips, punctures or other damage to the tube shall be repaired with the adhesive tape or pieces of tube material secured with tape. Bends and reducers in the line shall be covered with polyethylene in the same manner as pipe.

iii. Valves, tees, crosses and outlets shall be wrapped with flat sheets of the same material. The sheets shall be passed under valves and brought up around the body to the stem. Edges shall be brought together, folded twice and secured with the adhesive tape.

G. Sleeves: Shall be plastic or galvanized steel where pipes pass through concrete walls or floor slabs.

1. Isolate pipes through ground floor slabs with Kraft paper, plastic tape or similar materials unless conduit is specified or indicated.

2. Sleeves for pipes through exterior walls shall be non-metallic with minimum 2” weep ring as manufactured by Link Seal. Pipe shall be sealed with Link Seal modular seal with EPDM seal elements.

3. Sleeves in or through fire rated walls shall be per U.L. Fire Resistance System No. WL1146 for drywall construction, and U.L. Fire Resistance System No. CAJ1044 for concrete construction. See architectural plans for all locations of rated walls.

H. Contraction and Expansion: Install all work in such a manner that its contraction and expansion will not do any damage to the pipes, the connected equipment, or the building. Install offsets, swing joints, expansion joints, seismic joints, anchors, etc., as required to prevent excessive strains in the pipe work. All supports shall be installed to permit the materials to contract and expand freely without putting any strain or stress on any part of the system. Provide anchors as necessary.

I. Pipe Joints and Connections:

1. Copper Tubing and Brass Pipe with Threadless Fittings:

a. Solder joints for copper shall be made with lead free solder in accordance with manufacturer's recommendations for the service intended.

b. Use threaded adapters on copper tubing where threaded connections are required.

J. All closet bends shall be adequately blocked and secured. Trap arms and similar connections installed below the floor level or under concrete slabs shall be adequately supported and anchored to prevent motion in any direction. All piping installed above grade within buildings shall be secured to structural framing with Unistrut or pipe clamps to provide a rigid installation. Piping utilizing gaskets as a seal shall be given prime consideration to providing adequate stability through proper supports and anchors because of its flexible nature.

K. Each pipe penetration of the roof shall be separated from other piping and any roof equipment by a minimum of 18" to insure a proper pipe flashing installation.

L. Floor, Wall and Ceiling Plates: Where pipes pierce finished surfaces, C.P. brass split flanges with setscrew lock shall be provided.

M. Roof Flashings: Extend pipe a minimum of seven inches (7") above finished roof line, except where a

vandal proof hood is required in which case pipe shall extend to a height required to receive the hood and also where specifically required to exceed this dimension by the local authority due to snow conditions.

N. Installation of Plumbing Fixtures:

1. Install each fixture at the exact height and location shown on the Architectural Drawings.
2. Set fixtures, supplies, trap and trap outlet square with the wall, in line with fixture outlets without any offsets, angles, or bends.
3. Grout joint between the fixtures and the walls or floors with polysulfide or silicone sealant to be smooth, even and watertight.

O. Completion of Installation:

1. Cleaning and Flushing: Clean all equipment and materials thoroughly. Leave surface to be painted smooth and clean, ready for painting.
2. Flush each unit of water supply and distribution system thoroughly with clean water at the highest velocities attainable.
3. Clean all piping, valves, traps, water heaters, fixtures and other devices thoroughly and flush or blow out until free of scale, oil silt, sand, sediment, pipe dope and foreign matter of any kind.

3.2 STERILIZATION OF DOMESTIC WATER LINES

A. Sterilize water lines by filling with a solution containing fifty (50) parts of chlorine per million parts water and holding the solution therein for at least eight (8) hours with a water head of at least five feet (5') above the highest point in the system. Unless otherwise directed, thoroughly flush each line prior to sterilization. Introduction of sterilizing solution or materials into the lines shall be such as to provide thorough and uniform distribution throughout the system.

1. Operate all valves during the retention period. Following retention period, the heavy chlorinated water shall be flushed from the system with clean water.
2. Continue flushing until the residual chlorine at the end of 24 hours is as required by AWWA C651.
3. All work and certification of performance must be done by an approved laboratory utilizing qualified applications and personnel.
    i. Upon completion of the domestic water line sterilization, Contractor shall submit sterilization report directly to the Architect stating that all testing was performed as specified and that testing was performed by an approved laboratory utilizing qualified applications and personnel.

3.3 TESTING

A. No piping work shall be concealed or covered until piping has been tested, inspected and approved by the Inspector. All piping for plumbing systems shall be completely installed and tested as required by the Uniform Plumbing Code. Test pressures and times indicated are a minimum only. All tests shall be as required by the governing authority as well.

Schedule of Test Pressures:

System Tested	Gauge	Test	Duration
Water	100 PSI	Water	4 Hours

Waste, Vent and Storm Drain: Per California Plumbing Code (Minimum 10 Feet of Head)

3.4 OPERATION INSTRUCTION

A. Prior to occupancy or prior to the date of final inspection, whichever may occur first, the Contractor shall prepare two (2) sets of typewritten instructions for the operation of all equipment, valves, etc., specified and furnished as a part of the work under this section, and shall assign a competent person, thoroughly familiar with the job, to demonstrate and instruct a representative of the Owner in the operation of the equipment. The time of said demonstration and instructions shall be arranged with the Owner's representative approximately one (1) week in advance. Verbal instructions shall include shut-off location of gas and water. The Contractor shall assemble all operation and maintenance data supplied by the

manufacturers of the various pieces of equipment, all keys and special wrenches required to operate and service the equipment (including keys for yard boxes, gas stops and fixture stops), and all equipment warranties and deliver same to the representative of the Owner on date of said instructions.

3.5 PIPE AND EQUIPMENT IDENTIFICATION

A. Each operating and service line shut-off valve shall be identified by a 19 ga. brass tag with stamped, engraved type of service identified and area served, complete with hole and brass chain mounted on valve stem or handle. Tag shall be a minimum of one and one-half inch (1-1/2") in diameter.

B. All piping systems shall be readily identifiable by appropriate labeling with the name of the piping contained. Such labeling shall be by means of metal tags, stenciling, stamping, or with adhesive markers, in a manner that is not readily removable. Labeling shall appear on the piping at intervals of not more than 20 ft and at least once in each room and each story traversed by the piping system.

C. All equipment shall be provided with name plate indicating all pertinent information on it.

END OF SECTION