Date: August 26, 2019

ADDENDUM NO. 1
To Project Bidding Documents for:

RFQ CCC-055

A#03-119458
Instructional Building #2
Compton Community College District

tBP Project. No. 20998.00

tBP/ARCHITECTURE
4611 Teller Avenue
Newport Beach, CA 92660
949/673-0300

TO: PROSPECTIVE BIDDERS

This Addendum forms a part of the Contract Documents and modifies the original approved Bidding Drawings. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to acknowledge may subject Bidder to disqualification.

CHANGES TO THE SPECIFICATIONS.

1. Spec 000110- TABLE OF CONTENTS - Remove this section in its entirety and replace by the new section 000110 included in this addendum.

2. Spec 051213- ARCHITECTURALLY EXPOSED STRUCTURAL STEEL FRAMING. New specification issued with this addendum

3. Spec 083473.13- SOUND CONTROL DOOR ASSEMBLIES. New specification issued with this addendum.

4. Spec 083473.16- SOUND CONTROL DOOR ASSEMBLIES. New specification issued with this addendum.

5. Spec 097250 DRY ERASE WALL COVERING. New specification issued with this addendum.

6. Spec 097260- TACKABLE WALL COVERING. New specification issued with this addendum.

7. Spec 098430 SOUND- ABSORBING WALL UNITS. New specification issued with this addendum.

8. Spec 098436 SOUND- ABSORBING CEILING UNITS. New specification issued with this addendum.

9. Spec 101200- DISPLAY CASES. Revised bases of design. Remove this section in its entirety and replace by the new section 101200 issued with this addendum.

10. Spec. 221116- DOMESTIC WATER-
    Article 3.12 Piping Schedule: **Delete** Paragraph C in entirety: "Fitting Option: Extruded-tee connections and brazed joints may be used on aboveground copper tubing." **(this revision does not include a revised specification)**

11. Spec 221413 FACILITY STORM DRAINAGE PIPING- Remove this section in its entirety and replace by new section 221413 included in this addendum.
    Article 1.2 Summary: **Add** A.2: "Encasement for underground metal piping."
    Add Article 2.4:
    2.4 ENCASEMENT FOR UNDERGROUND METAL PIPING
    A. Standard: ASTM A 674 or AWWA C105/A 21.5.
    B. Material: linear low-density polyethylene film of 0.008-inch minimum thickness.
    C. Form: Sheet or tube.
    D. Color: Black or natural.

12. Spec 232300- REFRIGERANT PIPING
    Article 2.1 Copper Tube and Fittings:
    Add paragraph C:
    C: Variable Refrigerant Flow Heat Pump Systems Fittings:
        1. For systems manufacturers requiring engineered, pre-assembled headers and branch fittings, Contractor shall obtain such fittings from system manufacturer. Fittings shall be suitable for system type and configuration.
        2. VRF Systems: Use of manufactured, pre-charged and pre-insulated refrigerant line-set refrigerant piping between outdoor condensing units and indoor distribution headers and tees is not allowed. When system manufacturer's installation instructions allow use of refrigerant line-set piping between distribution headers and tees, and air terminal devices, follow instructions for allowable pipe size range and support to avoid forming traps in the piping.

    Remove this section in its entirety and replace by new section 232300 included in this addendum.

CHANGES TO DRAWINGS
(This addendum revisions includes revised full-size sheets unless noted otherwise below)

1. Revised SHEET A1-1 FLOOR PLAN FIRST FLOOR

a. Remove additional door in Room 145
b. Added phone charging locker station in Corridor 105
c. Added furring wall at teaching wall in room 125
d. Added Marker Board in room 145
e. Added backing in wall for future workstations' shelves
f. Mirrored sink in Lounge room 124
g. Added entry WALK-OFF recessed grill mat.

2. Revised SHEET A1-2 FLOOR PLAN SECOND FLOOR

a. Added phone charging locker station in Corridor 214
b. Added backing in wall for future workstations' shelves
c. Corrected interior elevation reference in each classroom

3. Revised SHEET A2-1 REFLECTED CEILING PLAN, FIRST FLOOR

a. Added missing detail references
b. Identified ceiling alcove at tube skylights
c. Show curtain track in Room 121
d. Show acoustic panel to the underside of upper structure in room 121
e. Projector screen relocation

4. Revised SHEET A4-2 EXTERIOR ELEVATION

a. Added brick veneer school logo pattern details.

5. Revised SHEET A9-1 INTERIOR ELEVATIONS

a. Added missing detail references and information
b. Added finish references
c. Added missing interior Elevations
d. Added phone charging locker equipment information
e. Added recessed and surface mounted display cabinets

6. Revised SHEET A9-2 INTERIOR ELEVATIONS

a. Added missing detail references and information
b. Added finish references

7. Revised SHEET 5.01 CEILING DETAILS INTERIOR CEILINGS

a. Added missing detail.
b. Removed non applicable detail

8. Revised SHEET 5.02 CEILING DETAILS

a. Added missing detail.
b. Deleted repeated detail.

9. Revised SHEET 6.01 TYPICAL CASEWORK DETAILS

a. Added phone charging detail.

10. Revised SHEET 7.02 ROOF DETAILS

a. Added missing detail
b. Revised equipment screen finish material.

11. Revisions to SHEET 8.51 WINDOW SCHEDULE INTERIOR WINDOWS

a. All interior windows' glass must be GL-4 and GL-3 instead of GL-1 and GL-3. **(this revision does not include a revised full-size sheet)**

12. Revised SHEET 9.01 FINISH SCHEDULE

a. Added missing information.
b. Revised non applicable information

13. Revised SHEET 9.02 COLOR SCHEDULE

a. Added missing information.
b. Revised non applicable information

14. Revised SHEET E2-1.1 FIRST FLOOR POWER PLAN

a. Added exterior receptacles.
b. Moved floor boxes at Hum. Lab 125.
c. Moved receptacles at OFC. 123.
d. Moved floor boxes at Audio/Visual 121.
e. Moved wall mounted j-boxes at Hum. Lab Comp1 120.
f. Moved receptacles at OFC. 144.
g. Moved floor boxes at Read/Study 131.
h. Moved floor box at Hum. Lab Comp 2 130.
i. Moved wall mounted j-box at Meeting Room 129.
j. Moved floor box at C.R.3 128 and C.R.2 127.
k. Added note 29, 30 and 31.
l. Added receptacle for Phone Charging Station at Corridor 105.
m. Removed Motor Shades and Controller at Audio/Visual 121.
n. Relocate Projection Screen Controller at Audio/Visual 121.
o. Relocate power outlet at +90" to north wall at Audio/Visual 121.

15. Revised SHEET E2-2.1 SECOND FLOOR POWER PLAN

a. Moved floor box at C.R.4 222 and C.R.5 221.
b. Moved floor box at C.R.6 223, C.R.7 224 and C.R.8 225.
c. Replaced wall mounted j-boxes with floor mounted j-boxes at Study Computer 226.
d. Moved floor box at Study Computer 226.

e. Deleted receptacles and provided wall mounted j-boxes for furniture system at Office 233.
f. Added note 22, 23, 24 and 25.
g. Added receptacle for Phone Charging Station at Hall 214.

16. Revised SHEET E.3-1.1 PANEL SCHEDULES

a. Added circuits 35 and 36 at Panel PP1A.

17. Revised SHEET E3-1.2 PANEL SCHEDULES

a. Revised/added circuits 15-22 and 24 at Panel PP2C.
b. Added circuit 16 at Panel PP2A.

18. Revised SHEET ET-1.1 FIRST FLOOR TELECOM PLAN

a. Moved floor boxes at Hum. Lab 125.
b. Moved data outlet at OFC. 123.
c. Moved floor boxes at Audio/Visual 121.
d. Moved data outlets at OFC. 144.
e. Moved floor boxes at Read/Study 131.
f. Moved floor box at Hum. Lab Comp 2 130.
g. Moved floor box at C.R.3 128 and C.R.2 127.
h. Added note 6.
i. Relocate data outlet at +90” to north wall at Audio/Visual 121.

19. Revised SHEET ET-2.1 SECOND FLOOR TELECOM PLAN

a. Moved floor box at C.R.4 222 and C.R.5 221.
b. Moved floor box at C.R.6 223, C.R.7 224 and C.R.8 225.
c. Replaced wall mounted j-boxes with floor mounted j-boxes at Study Computer 226.
d. Deleted data outlets and provided wall mounted j-boxes for furniture system at Office 233.
e. Added note 5 and 6.

---End of Memorandum---

ATTACHMENTS

1. **Full Size Documents 30” x 42” Drawings: (Total 18)**

A1.1 FLOOR PLAN FIRST FLOOR
A1-2 FLOOR PLAN SECOND FLOOR

A2-1	REFLECTED CEILING PLAN, FIRST FLOOR
A4-2	EXTERIOR ELEVATIONS
A9-1	INTERIOR ELEVATIONS
A9-2	INTERIOR ELEVATIONS
5.01	CEILING DETAILS INTERIOR CEILINGS
5.02	CEILING DETAILS
6.01	TYPICAL CASEWORK DETAILS
7.02	ROOF DETAILS
9.01	FINISH SCHEDULE
9.02	COLOR SCHEDULE
E2-1.1	FIRST FLOOR POWER PLAN
E2-2.1	SECOND FLOOR POWER PLAN
E3-1.1	PANEL SCHEDULE
E3-1.2	PANEL SCHEDULE
ET-1.1	FIRST FLOOR TELECOM PLAN
ET-2.1	SECOND FLOOR TECOM PLAN

3. **Specifications.**

000110- TABLE OF CONTENTS -
051213- ARCHITECTURALLY EXPOSED STRUCTURAL STEEL FRAMING.
083473.13- SOUND CONTROL DOOR ASSEMBLIES.
083473.16- SOUND CONTROL DOOR ASSEMBLIES.
097250 DRY ERASE WALL COVERING.
097260- TACKABLE WALL COVERING.
098433 SOUND ABSORBING WALL UNITS
098436 SOUND ABSORBING CEILING UNITS
101200 DISPLAY CABINETS
221413 FACILITY STORM DRAINAGE PIPING-
232300 REFRIGERANT PIPING-

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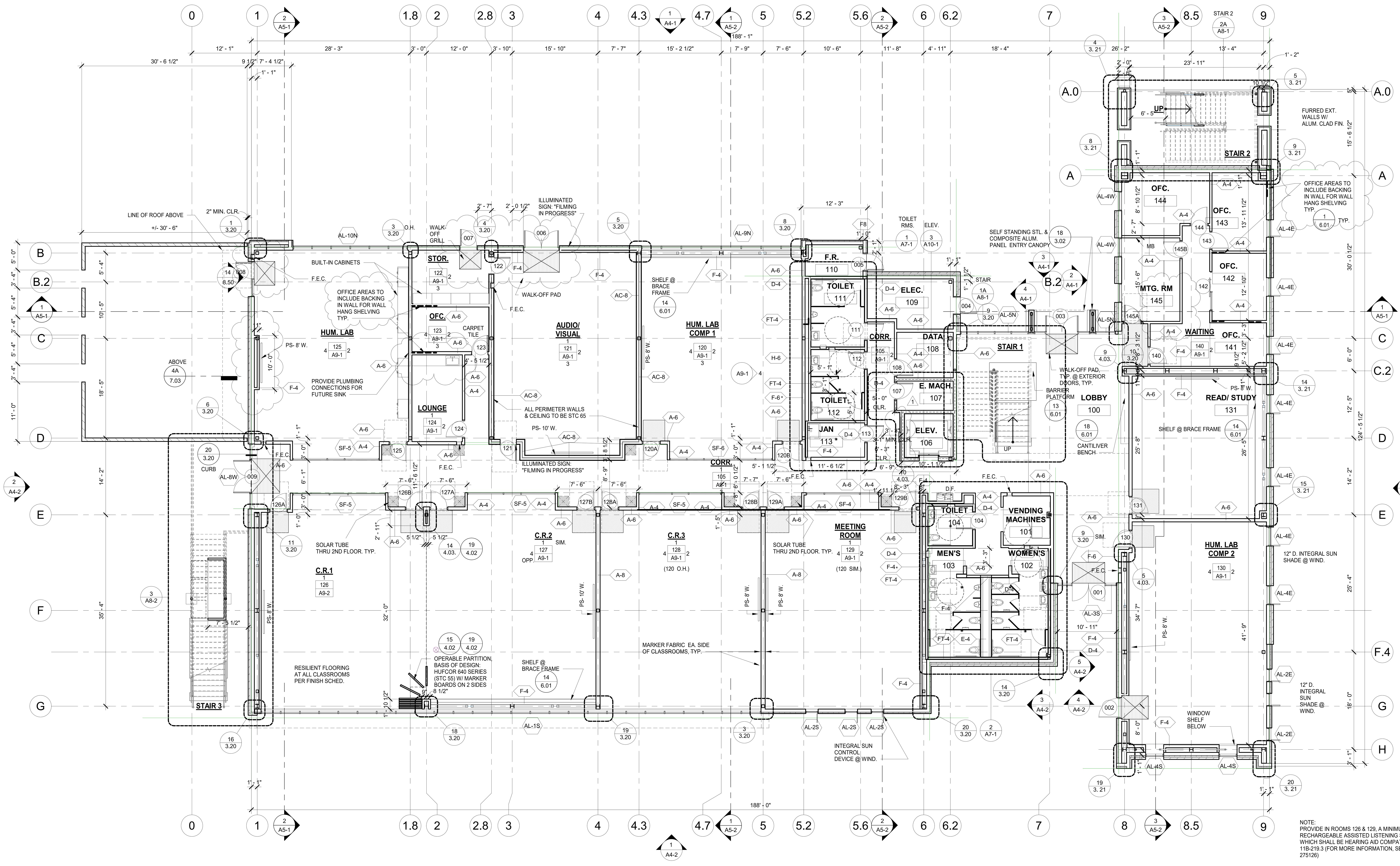

NOTE:
PROVIDE IN ROOMS 126 & 129, A MINIMUM OF (2) WIRELESS RECHARGEABLE ASSISTED LISTENING SYSTEM DEVICES WHICH SHALL BE HEARING AID COMPATIBLE PER CBC 11B-219.3 (FOR MORE INFORMATION, SEE SPEC SECTION 275126)

NORTH

0' 2' 4' 8' 16'

FIRST FLOOR PLAN 9

SCALE 1/8" = 1'-0"

LEGEND

NOTE: REFER TO SHEET T-2 FOR ADDITIONAL SYMBOLS

Room name — **ROOM SYMBOL**

101 — ROOM NUMBER
2 — INTERIOR ELEVATION NUMBER
A10-X — SHEET NUMBER

131 — DOOR TAG, SEE SHEET 8.01

1i — WINDOW TAG, SEE SHEETS 8.50, 8.51 AND CW SHEETS

1A — WALL TYPE, SEE SHEET 4.01

XXX-X — MATERIAL SYMBOL, SEE FINISH & COLOR SCHEDULES, SHEET 9.01

F.E.C — FIRE EXTINGUISHER CABINET LOCATION, TRAVEL DIST. FROM ANYWHERE IN BLDG. TO A FIRE EXTINGUISHER LOCATION SHALL NOT EXCEED 75' PER CFC SECT. 906, TABLE 2 (12/4.02)

F.D. D.D. — FLOOR DRAIN, DECK DRAIN

1 HR RATED WALL (8/4.02) (9/4.02)

MB - 8' W. — MARKER BOARD (MB) OR TACKBOARD (TB) AND SIZE

PS - 6' W. — PROJECTION SCREEN PER (10/5.02)

GEO-1 — GEO TILE AT INTERIOR ENTRY DOORS AS INDICATED

SST-3 — RECESSED STAINLESS STL. ENTRANCE FLOOR GRILLE (16/8.11) (17/8.11)

CONTRACTOR MUST FURNISH AND INSTALL WALL MOUNTED KWIKBOOST 8- BAY PHONE CHARGING LOCKER EQUIPMENT
24"X 48" X 5" DEEP W/ 3 CABLE PER BAY AND EXTRA SECURITY LOCK-KEY SEE INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No.2

COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.

owner

tBP project number: 20998.00
file name:
drawn by: checked by:
date: 04/08/2019

rev:	date:	description:
1	8/06/2019	Addendum 1

drawing title:
FLOOR PLAN - FIRST FLOOR

drawing no.:
A1-1

drawing of

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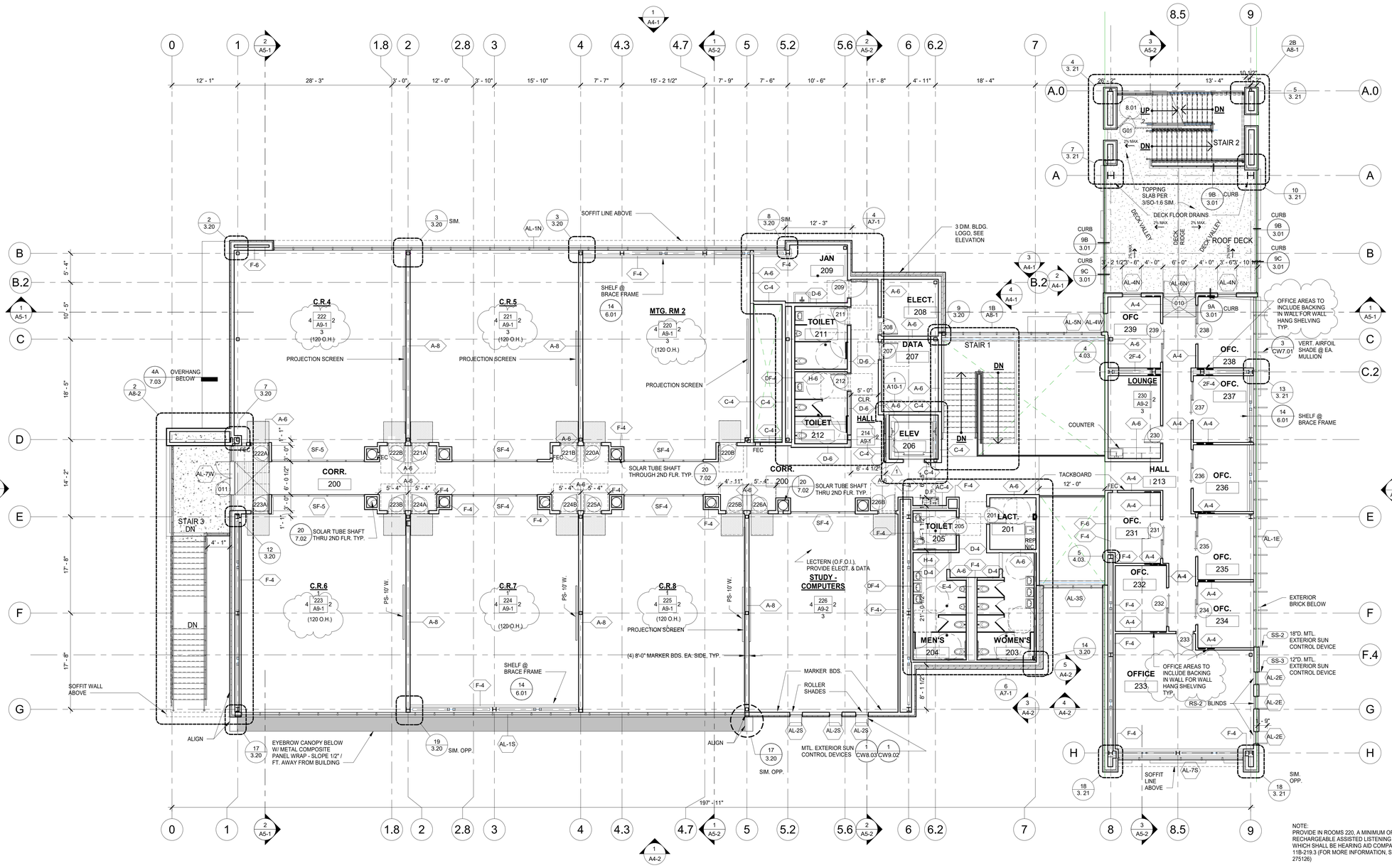

SECOND FLOOR PLAN 1

SCALE 1/8" = 1'-0"

LEGEND

NOTE: REFER TO SHEET T-2 FOR ADDITIONAL SYMBOLS

Room name	ROOM SYMBOL
	ROOM NUMBER
	INTERIOR ELEVATION NUMBER
	SHEET NUMBER
	DOOR TAG, SEE SHEET 8.01
	WINDOW TAG, SEE SHEETS 8.50, 8.51 AND CW SHEETS
	WALL TYPE, SEE SHEET 4.01
	MATERIAL SYMBOL, SEE FINISH & COLOR SCHEDULES, SHEET 9.01
F.E.C	FIRE EXTINGUISHER CABINET LOCATION. TRAVEL DIST. FROM ANYWHERE IN BLDG. TO A FIRE EXTINGUISHER LOCATION SHALL NOT EXCEED 75' PER CFC SECT. 906, TABLE 2
F.D. D.D.	FLOOR DRAIN, DECK DRAIN
	1 HR RATED WALL

MB - 8' W. — MARKER BOARD (MB) OR TACKBOARD (TB) AND SIZE

PS - 6' W. — PROJECTION SCREEN PER

GEO-1 — GEO TILE AT INTERIOR ENTRY DOORS AS INDICATED

SST-3 — RECESSED STAINLESS STL. ENTRANCE FLOOR GRILLE

CONTRACTOR MUST FURNISH AND INSTALL WALL MOUNTED KWIKBOOST 8- BAY PHONE CHARGING LOCKER EQUIPMENT 24"X 48" X 5" DEEP W/ 3 CABLE PER BAY AND EXTRA SECURITY LOCKKEY SEE INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

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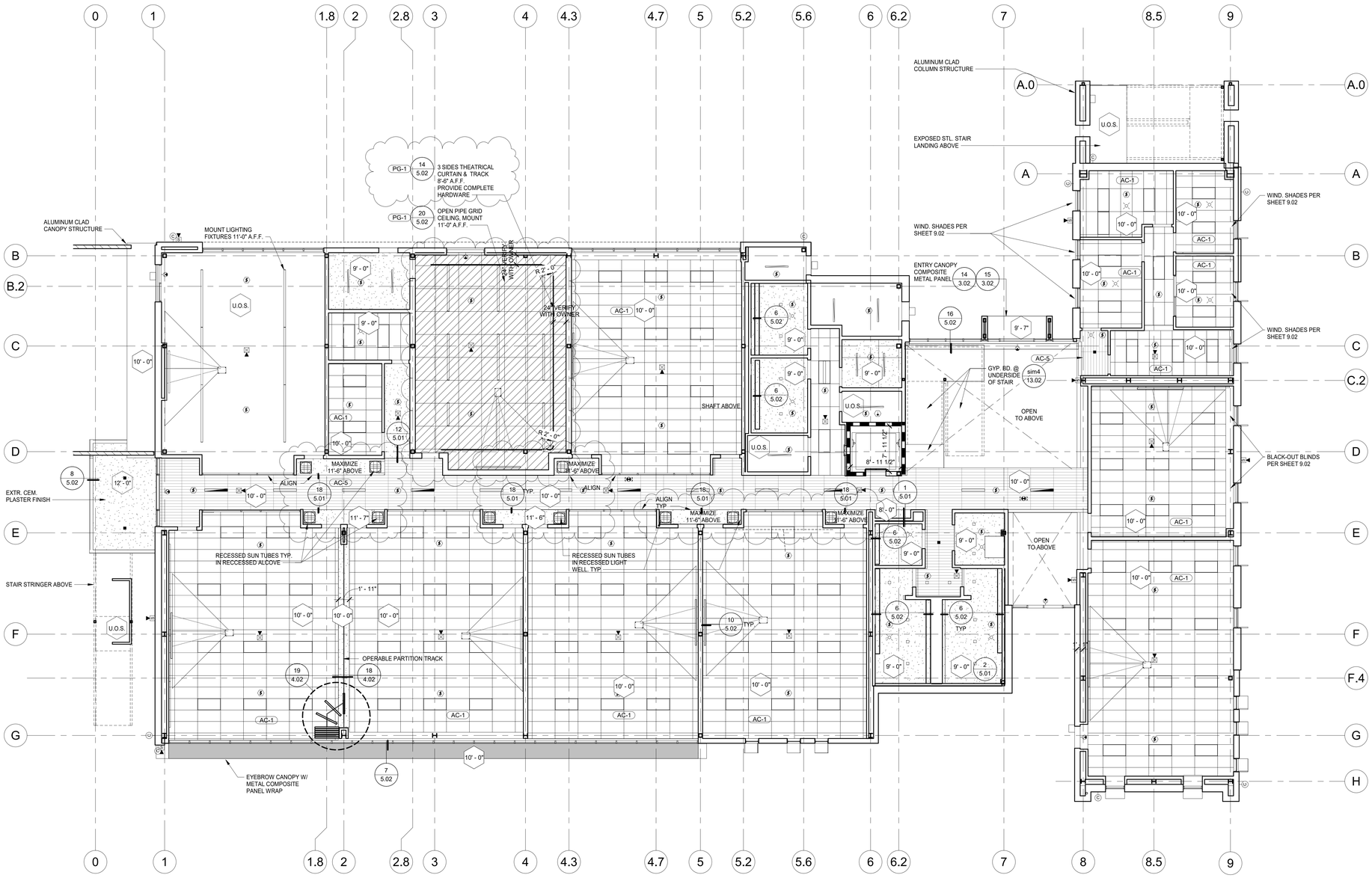
1	8/06/2019	Addendum 1

drawing title:
FLOOR PLAN - SECOND FLOOR

drawing no.:
A1-2

drawing of



1ST FLOOR REFLECTED CEILING PLAN

SCALE 1/8" = 1'-0" (1)

LEGEND

- 12'-0" — CEILING HEIGHT ABOVE FIN. FLOOR SYMBOL
- AC-5 — 2x4 SUSPENDED ACOUSTICAL PANEL CEILING W/ 6" LINEAR PATTERN, BASIS OF DESIGN: ARMSTRONG CIRRUS SECOND LOOK iii-511 (8 5.01)
- AC-1 — 2x4 SUSPENDED ACOUSTICAL PANEL CEILING (8 5.01)
- PG-1 — OPEN SUSPENDED PIPE BATTEN SYSTEM, FABRICATED FROM 2.5" SCHEDULE 50 STEEL PIPE @ 48" O.C. MAX. EA. WAY, W/ STL. SUPPORTS/CLAMPS, PAINT BLACK (20 5.02)
- FRAMED GYPSUM BOARD CEILING (2 5.01)
- FRAMED PLASTER SOFFIT ON METAL STUDS (12 5.02) (13 5.02)
- U.O.S. — EXPOSED UNDERSIDE OF STRUCTURE
- EXIT SIGN PER ELECTRICAL DWGS.
- PENDANT LIGHT FIXTURE
- 2' X 4' LIGHT FIXTURE PER ELECTRICAL DWGS.
- 6" X 8'-0" RECESSED LINEAR LIGHT FIXTURE PER ELECTRICAL DWGS.
- 4" X 4'-0" SUSPENDED LINEAR LIGHT FIXTURE PER ELECTRICAL DWGS.
- CEILING-MOUNT PROJECTOR (5 5.02)
- PS — PROJECTION SCREEN, SEE FLOOR PLAN FOR SIZE (10 5.02)
- RECESSED SUN TUBE TO ROOF (20 7.02)
- AIR SUPPLY DIFFUSER
- AIR RETURN DIFFUSER
- 30X30 ACCESS PANEL TYP. (17 5.02)
- ACOUSTICAL PANELING SYSTEM INSTALLED UNDERSIDE OF STRUCTURE ABOVE

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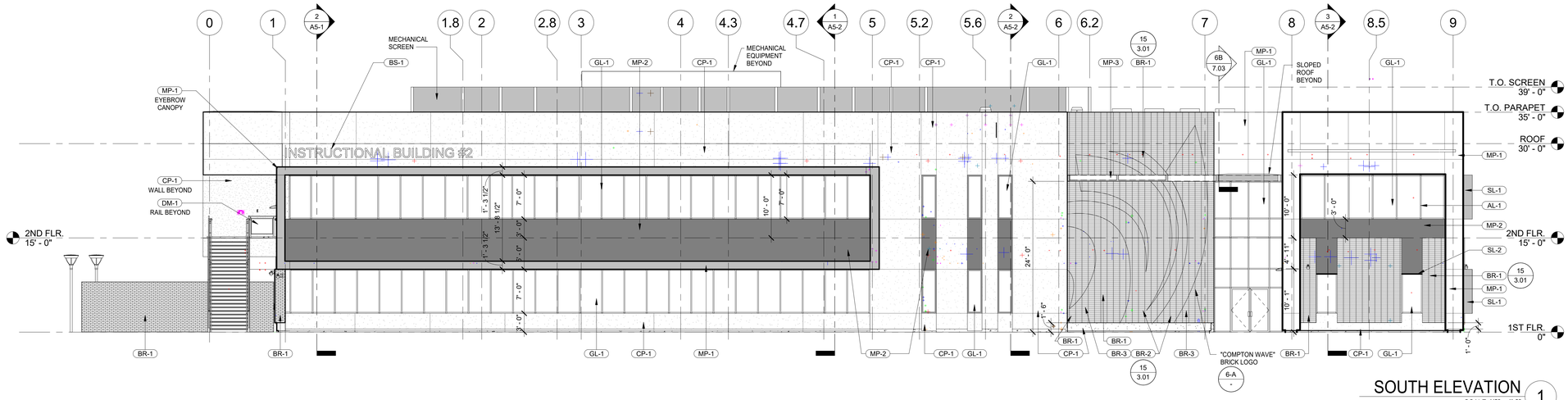
drawn by: checked by:
date: 04/08/2019

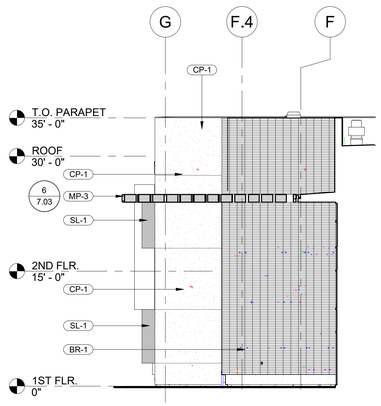
rev:	date:	description:
1	8/06/2019	Addendum 1

drawing title:
REFLECTED CEILING PLAN - FIRST FLOOR

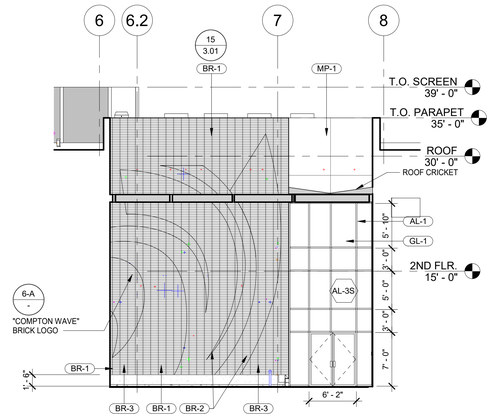
drawing no.:
A2-1
drawing of



SOUTH ELEVATION 1
SCALE 1/8" = 1'-0"



SOUTH ENTRY - WEST 3
SCALE 1/8" = 1'-0"



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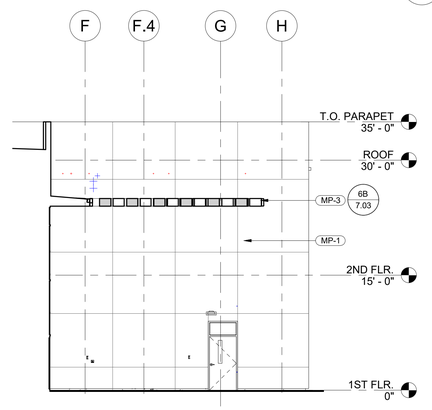
SCALE 1/8" = 1'-0"



SOUTH ENTRY - EAST 5
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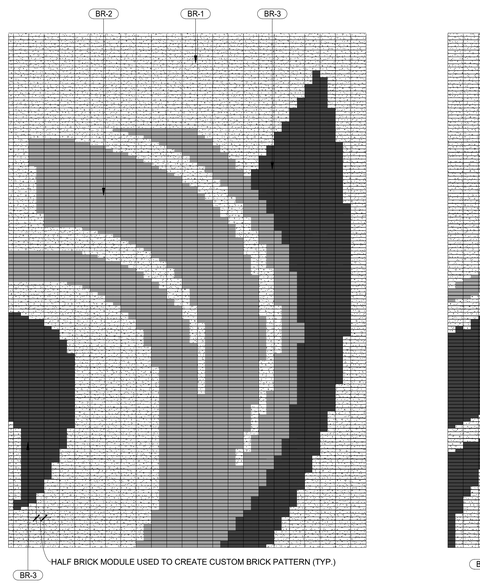
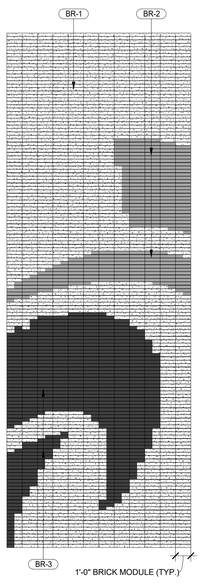
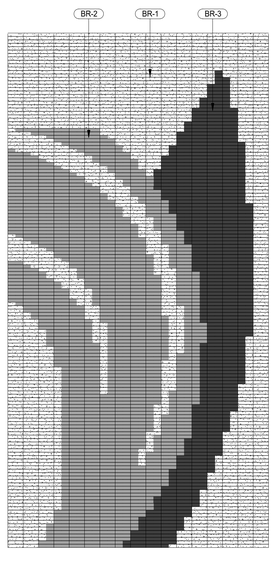


A. SOUTH



B. EAST



C. NORTH

CCCD LOGO ON BRICK WALL 6
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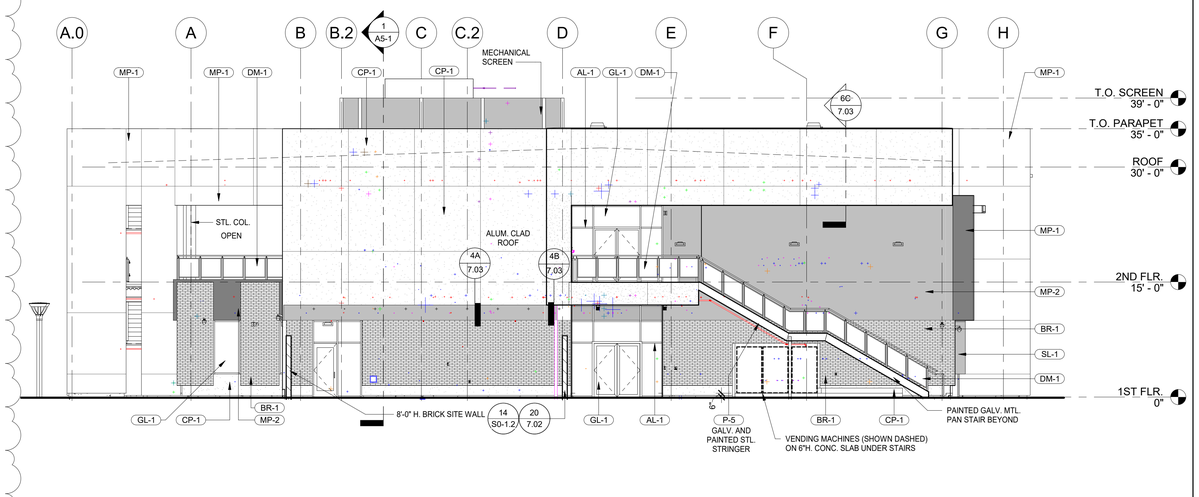

WEST ELEVATION 2
SCALE 1/8" = 1'-0"

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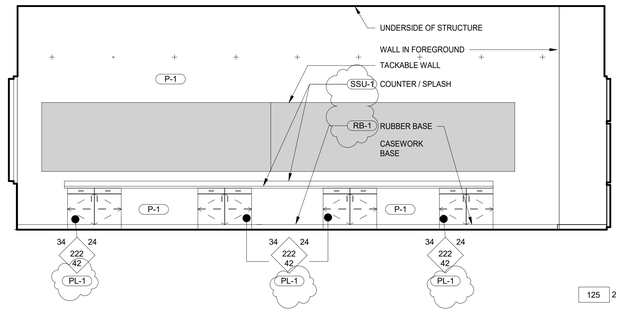
tBP project number:	20998.00
file name:	
drawn by:	checked by:
date:	04/08/2019

rev:	date:	description:
1	8/06/2019	Addendum 1

drawing title:
EXTERIOR ELEVATIONS

drawing no.:
A4-2
drawing of



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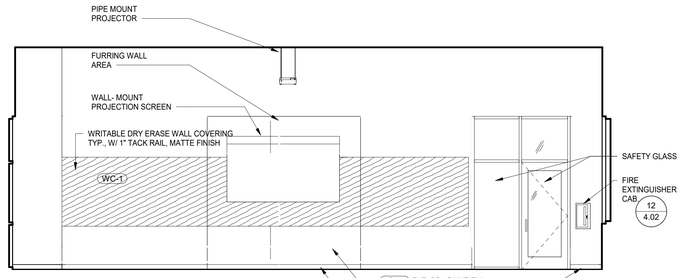
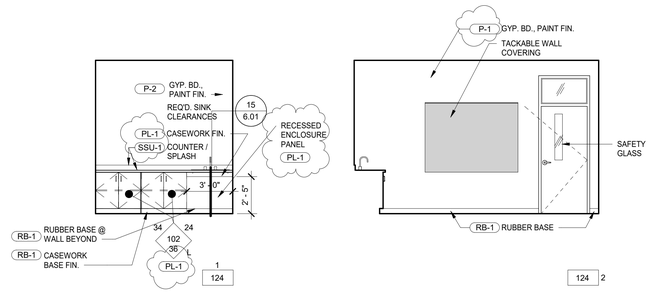


4 125

HUMANITIES LAB
SCALE: 1/4"= 1'-0"

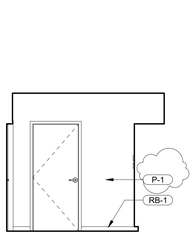
125



124 2

LOUNGE
SCALE: 1/4"= 1'-0"

124



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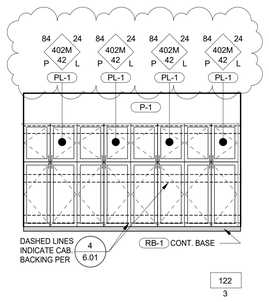
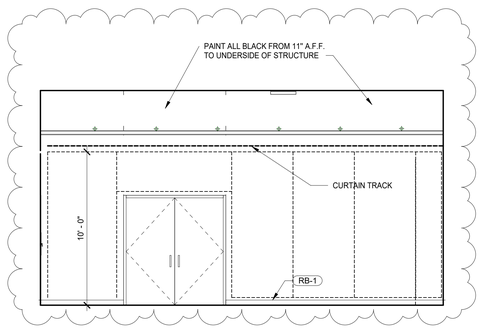


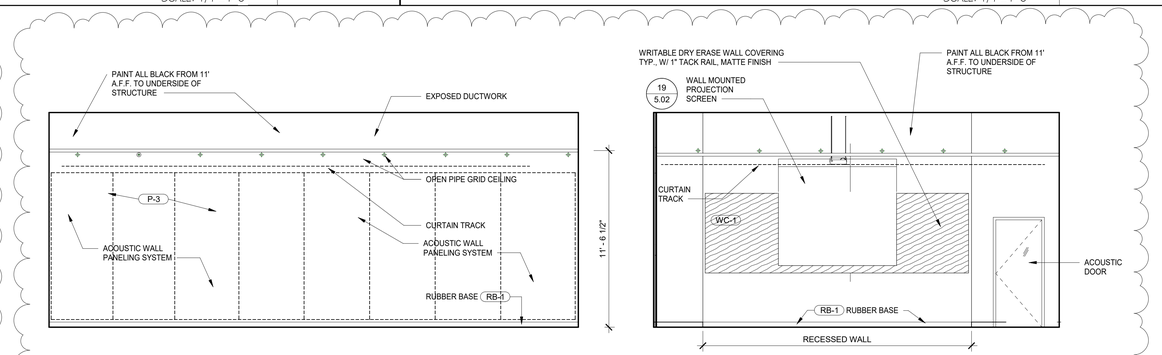
122 3

STORAGE
SCALE: 1/4"= 1'-0"

122



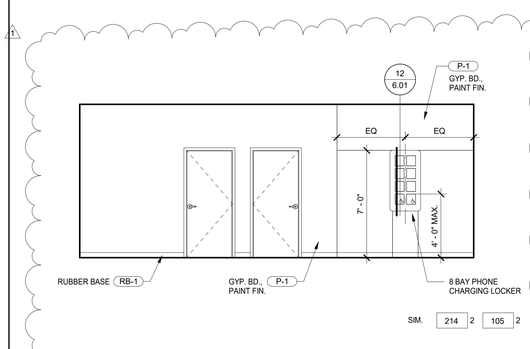
1 121

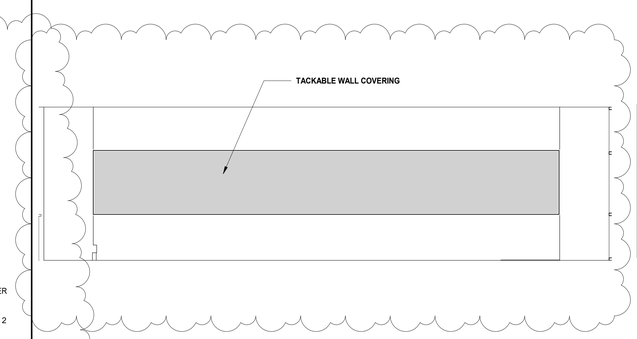


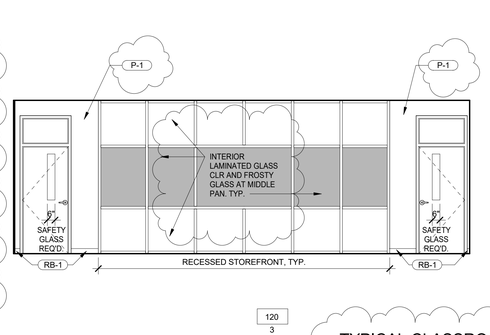
121 2 121 3

TEACHING WALL - AUDIO / VISUAL
SCALE: 1/4"= 1'-0"

121







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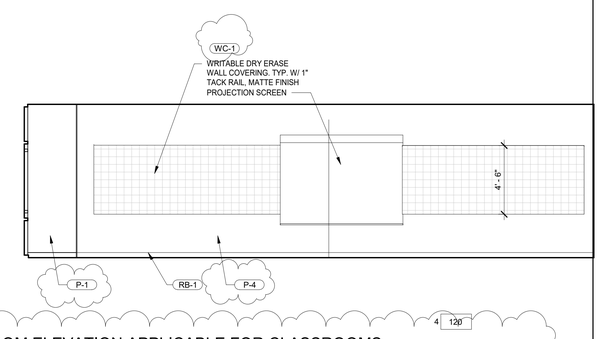


4 120

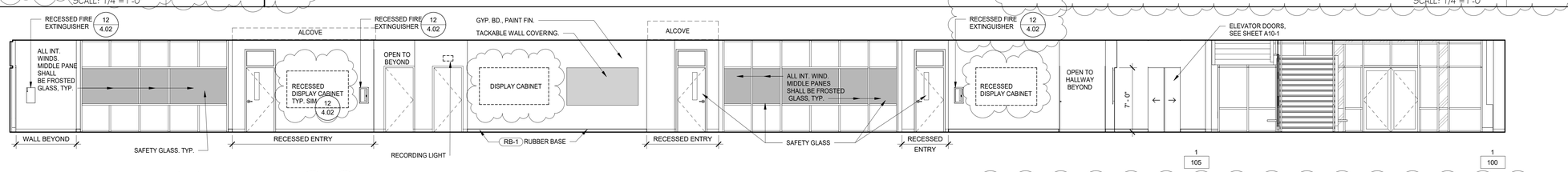
TYPICAL CLASSROOM ELEVATION APPLICABLE FOR CLASSROOMS
ROOMS 128, 129, 221, 222., 223, 224, AND 225 SEE PLAN FOR ORIENTATION

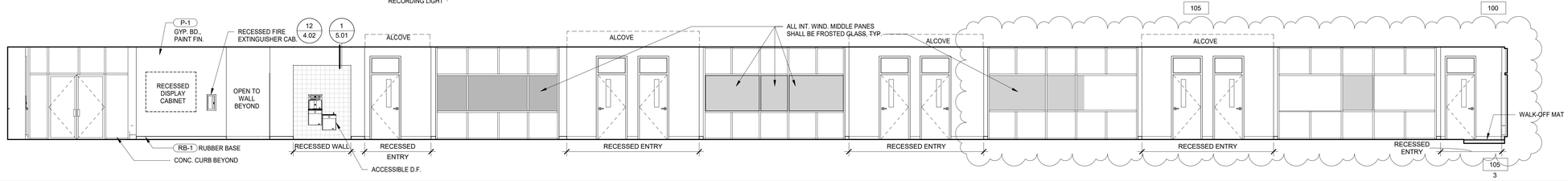
CORRIDOR
SCALE: 1/4"= 1'-0"

105, 214

TYPICAL CLASSROOM ELEVATION HUM. LAB COMP 1
SCALE: 1/4"= 1'-0"

120





CORRIDOR AND LOBBY
SCALE: 3/16"= 1'-0"

105

8/26/2019 10:56:13 AM

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No.2
COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.

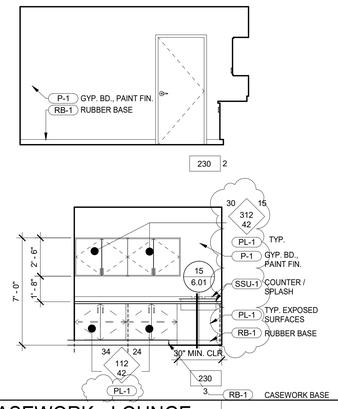
owner

tBP project number: 20998.00
file name:
drawn by: checked by:
date: 04/08/2019

rev:	date:	description:
1	8/06/2019	Addendum 1

drawing title:
INTERIOR ELEVATIONS

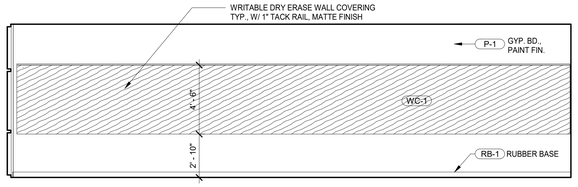
drawing no.:
A9-1
drawing of

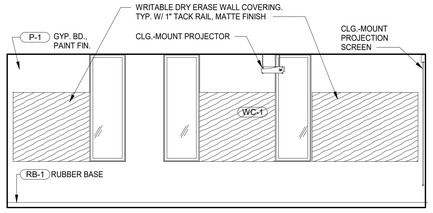


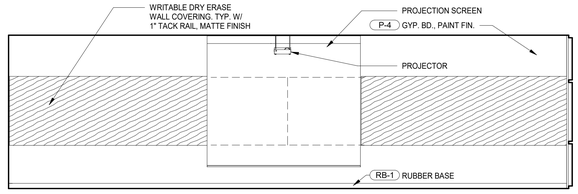
CASEWORK - LOUNGE

SCALE: 1/4"= 1'-0"

230



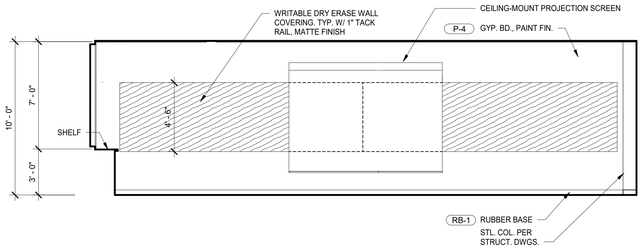




STUDY - COMPUTERS

SCALE: 1/4"= 1'-0"

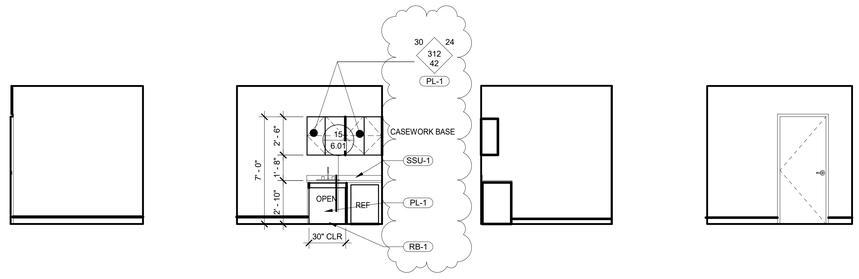
226



TEACHING WALL - MEETING ROOM

SCALE: 1/4"= 1'-0"

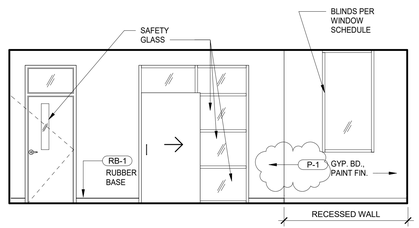
220



LACTATION

SCALE: 1/4"= 1'-0"

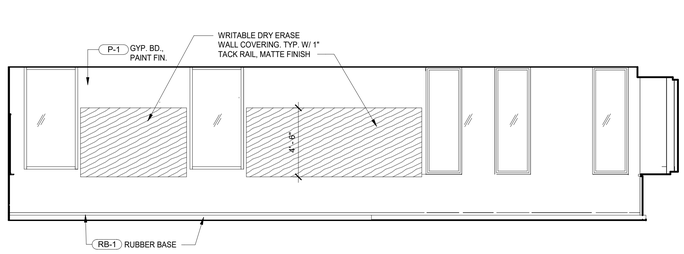
201

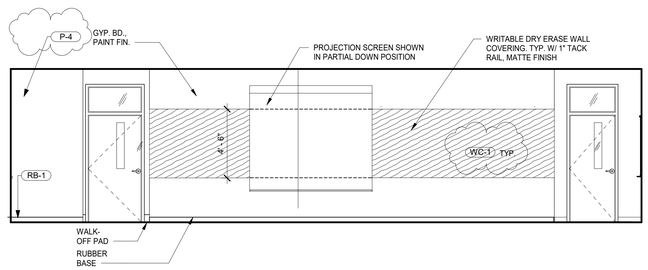


WAITING

SCALE: 1/4"= 1'-0"

140

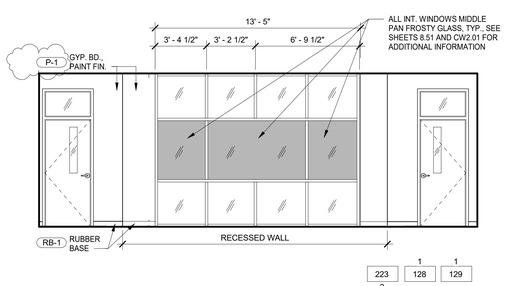




HUM. LAB COMP 2

SCALE: 1/4"= 1'-0"

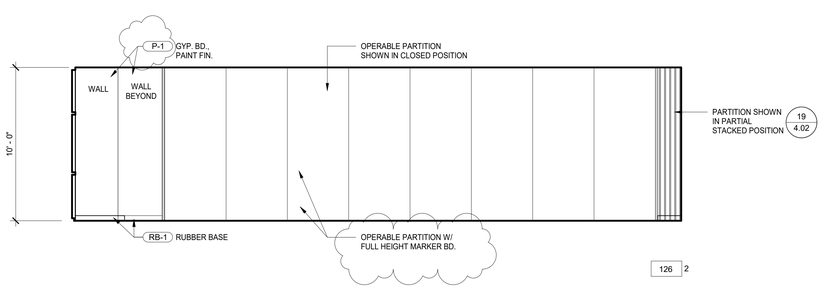
130

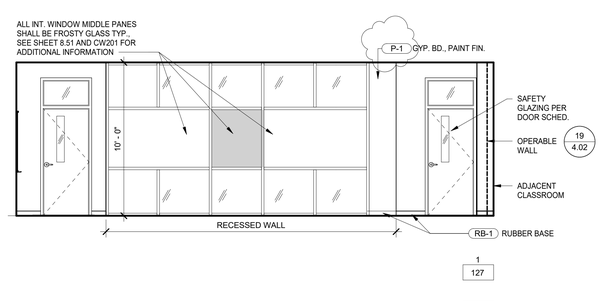


MEETING ROOM 1

SCALE: 1/4"= 1'-0"

129





C.R.1

SCALE: 1/4"= 1'-0"

126

8/26/2019 11:12:57 AM

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INTERIOR ELEVATIONS

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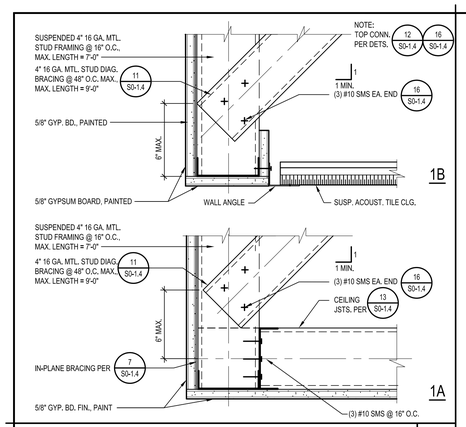
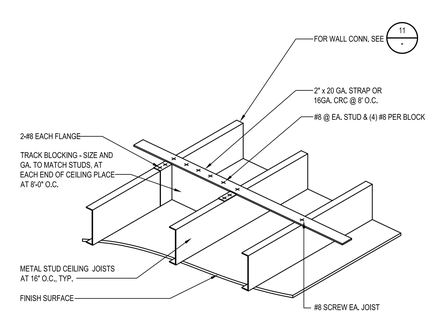
A9-2
drawing of



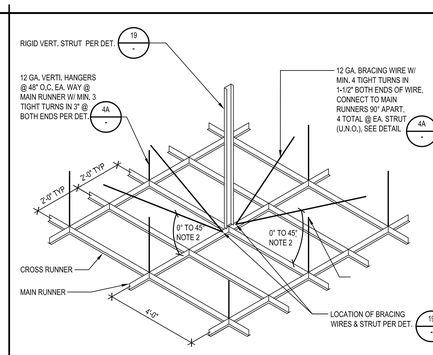
EDGE OF CEILING

SCALE: 3" = 1'-0" | 1



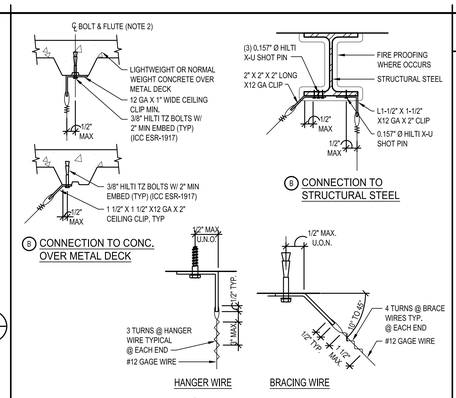
CEILING JOIST BRACING

SCALE: N.T.S. | 2



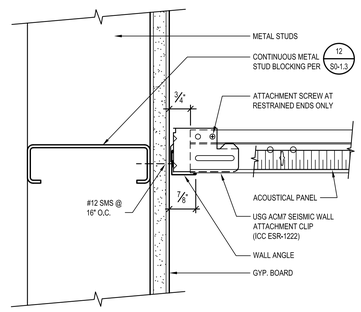
SUSPENSION AND BRACING ASSEMBLY

SCALE: N.T.S. | 3



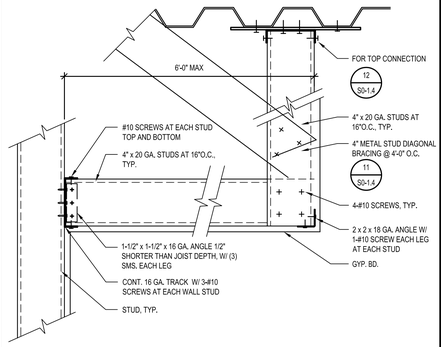
HANGER AND BRACING WIRE

SCALE: N.T.S. | 4



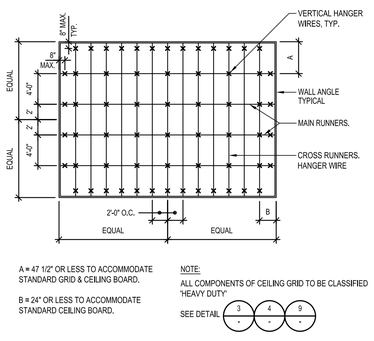
TYPICAL CEILING EDGE W/ ACM7 SEISMIC CLIP

SCALE: HALF | 6



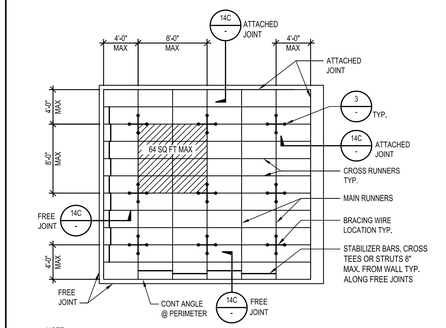
TYPICAL SOFFIT FRAMING

SCALE: N.T.S. | 7



TYPICAL HANGER SUPPORT PLAN

SCALE: N.T.S. | 8



TYPICAL LATERAL BRACING PLAN

SCALE: N.T.S. | 9

SUSPENDED ACOUSTICAL CEILING PANEL SYSTEM NOTES

T-BAR CEILING ASSEMBLY SHALL COMPLY WITH ALL REQUIREMENTS NOTED IN DSA IR 25-2 13

1. CEILING SYSTEM GENERAL NOTES:
1.01 CEILING SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C635-07 AND SECTION 5.1 OF ASTM E580-10A.
1.02 THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY AS DEFINED BY ASTM C635-08.
1.03 CEILING SYSTEMS. THE FOLLOWING CEILING SYSTEM(S) IS/ARE PART OF THE SCOPE OF THIS PROJECT:
MANUFACTURER'S NAME ARMSTRONG
PRODUCT EVALUATION REPORT TYPE AND NUMBER ASTM E580/E580M SECTION 5.1.2;
MANUFACTURER'S MODEL NUMBER - MAIN RUNNER PRELUDE XL 7301
MANUFACTURER'S CATALOG NUMBER - CROSS RUNNER XL7328- ICC-ESR-2631
1.04 SEISMIC WALL CLIP:
MANUFACTURER'S MODEL SJCG (ARMSTRONG)
1.05 CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.
1.06 FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE 3/4" CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND HTE WALL ON THE SIDES OF THE CEILING WHICH ARE FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE 3/4" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP.

2. MATERIALS:
2.01 CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641-09A. WIRE SHALL BE #12 GAGE (0.106" DIAMETER) WITH SOFT TEMPER AND MINIMUM TENSILE STRENGTH = 70 KSI.
2.02 GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS/POST) SHALL CONFORM TO ASTM A653-11, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A2.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2016 (AISI S100-16). MATERIAL 43 MIL (18 GAGE) AND LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI. MATERIAL 54 MIL (16 GAGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
2.03 ELECTRICAL METALLIC TUBE (EMT) SHALL BE ANSI C80.3/UL 797 CARBON STEEL WITH G90 GALVANIZING. EMT SHALL HAVE MINIMUM YIELD STRENGTH (FY) OF 30 KSI AND MINIMUM ULTIMATE STRENGTH (FU) OF 48 KSI.

3. ATTACHMENT OF HANGER AND BRACING WIRES:
3.01 SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.
3.02 HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.
3.03 HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.
3.04 SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.
3.05 HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE. (E.G. BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE. SCREW EYES IN WOOD MUST BE INSTALLED SO THEY ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, ETC.)

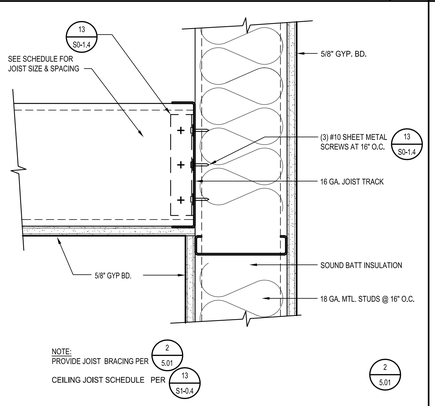
4. FASTENERS AND WELDING:
4.01 SHEET METAL SCREWS SHALL COMPLY WITH ASTM C1513-10, ASME B18.6.4-89 (R2005). PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.
4.02 EXPANSION ANCHORS SHALL BE: HILTI KB-TZ, ESR-1917
4.03 POWER-ACTUATED FASTENERS SHALL BE: HILTI X-C, ESR-1663
4.04 IF NOT OTHERWISE SPECIFIED IN THE EVALUATION REPORT, POWER-ACTUATED FASTENERS INSTALLED IN STEEL SHALL BE INSTALLED SO THE ENTIRE POINTED END OF THE FASTENER IS DRIVEN THROUGH THE STEEL MEMBER.
4.05 POWER-ACTUATED FASTENERS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES.
4.06 CONCRETE REINFORCEMENT AND PRESTRESSING TENDONS SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING POST - INSTALLED ANCHOR.
4.07 WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 USING E60XX SERIES ELECTRODES.

5. TESTING: ALL FIELD TESTING MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.
5.01 POST-INSTALLED ANCHORS IN CONCRETE USED TO SUPPORT HANGER WIRES SHALL BE TESTED AT A FREQUENCY OF 10 PERCENT. POWER ACTUATED FASTENERS IN CONCRETE SHALL BE FIELD TESTED FOR 200 LBS. IN TENSION. ALL OTHER POST-INSTALLED ANCHORS IN CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1705A.3.
5.02 POST-INSTALLED ANCHORS IN CONCRETE USED TO ATTACH BRACING WIRES SHALL BE TESTED AT A FREQUENCY OF 50 PERCENT IN ACCORDANCE WITH CBC SECTION 1910A.5.

6. LIGHT FIXTURES:
6.01 ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.
6.02 SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.
6.03 LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
6.04 LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
6.05 LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE. EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.
6.06 ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

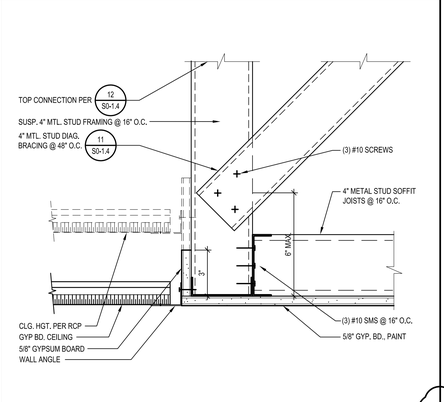
7. SERVICES WITHIN THE CEILING:
7.01 ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRED AT EACH COMPONENT.
7.02 CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 LB. SHALL HAVE ONE (1) #12 GAGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
7.03 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 20 LB. BUT LESS THAN OR EQUAL TO 56 LB. SHALL HAVE TWO (2) #12 GAGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
7.04 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 56 LB. SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

8. OTHER DEVICES WITHIN THE CEILING:
8.01 ALL LIGHTWEIGHT MISCELLANEOUS DEVICES, SUCH AS STROBE LIGHTS, OCCUPANCY SENSORS, SPEAKERS, EXIT SIGNS, ETC., SHALL BE ATTACHED TO THE CEILING GRID. IN ADDITION, DEVICES WEIGHING MORE THAN 10 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE ANCHORED TO THE STRUCTURE ABOVE. DEVICES WEIGHING MORE THAN 20 LB. SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE ABOVE.



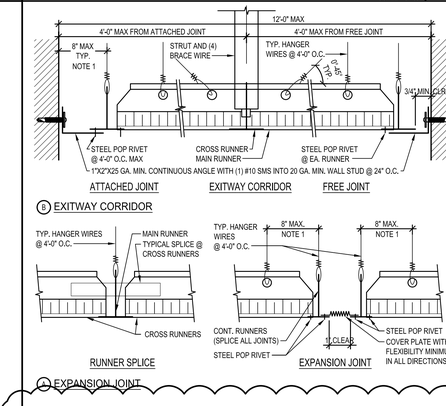
FRAMED GYP. BD. CEILING CONN. AT WALL

SCALE: 3" = 1'-0" | 11



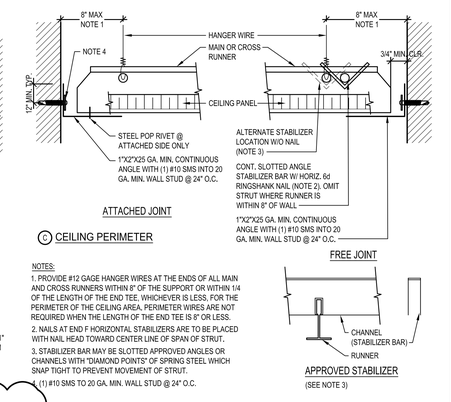
CEILING TRANSITION

SCALE: 3" = 1'-0" | 12



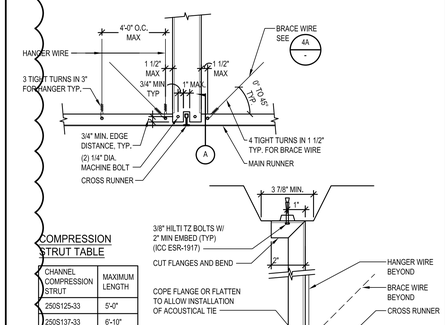
CEILING ALCOVE TRANSITION

SCALE: 3" = 1'-0" | 18



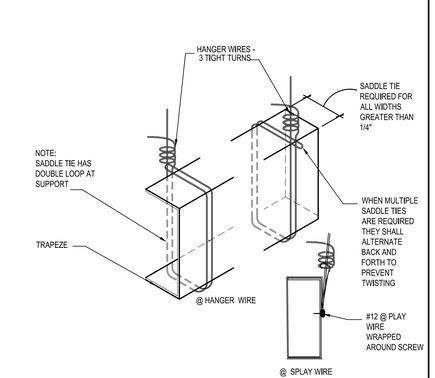
CEILING JOINTS DETAIL

SCALE: N.T.S. | 14



SUSP. ACOUST. CEILING PANEL SYSTEM NOTES

SCALE: N.T.S. | 20



TYPICAL SADDLE TIE

SCALE: N.T.S. | 16

COMPRESSION STRUT

SCALE: N.T.S. | 19

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No. 2

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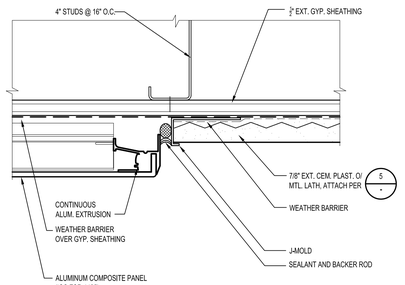
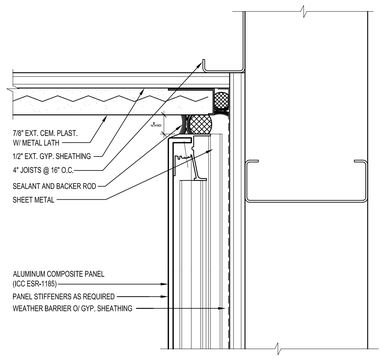
Rev:	date:	description:
1	08/06/19	Addendum #1

drawing title:
CEILING DETAILS - INTERIOR CEILINGS

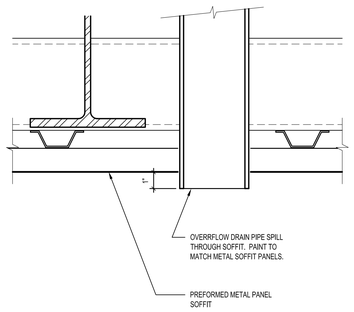
drawing no.:
5.01
drawing of



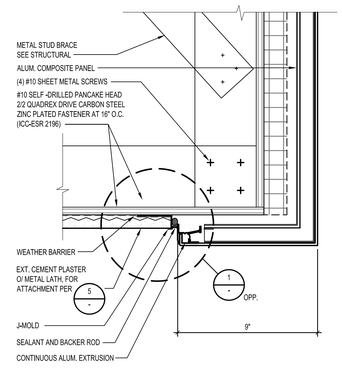
EXTERIOR SOFFIT MATERIAL TRANSISTION — SCALE: HALF — 1



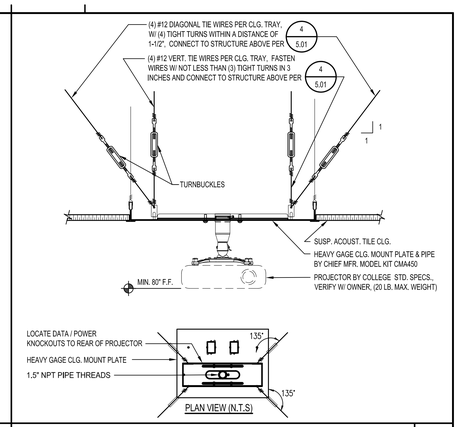
EXTERIOR SOFFIT @ COMP. MTL. PANEL WALL — SCALE: HALF — 2



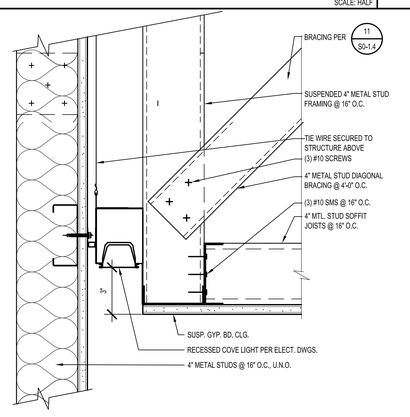
CANOPY OVERFLOW DRAIN — SCALE: 3"=1'-0" — 3



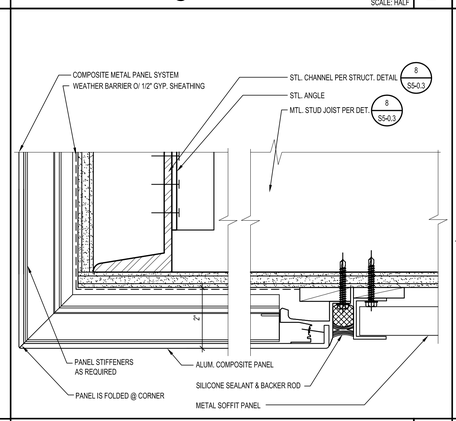
ALUM. COMPOSITE PANEL CORNER @ CANOPY — SCALE: 3"=1'-0" — 4



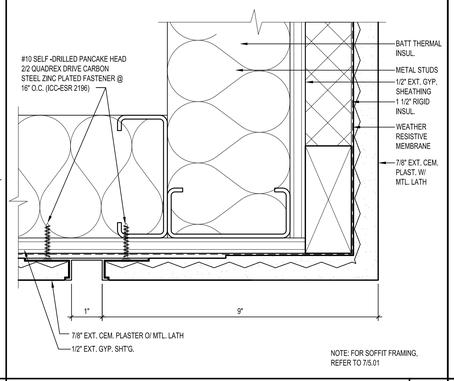
PROJECTOR MOUNT CEILING TRAY — SCALE: 1-1/2" = 1'-0" — 5



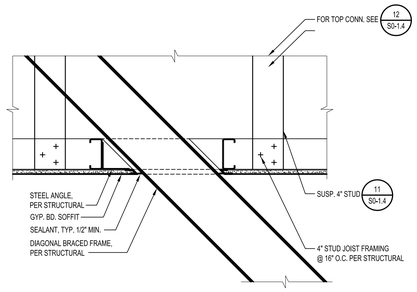
RECESSED COVE LIGHTING — SCALE: 3" = 1'-0" — 6



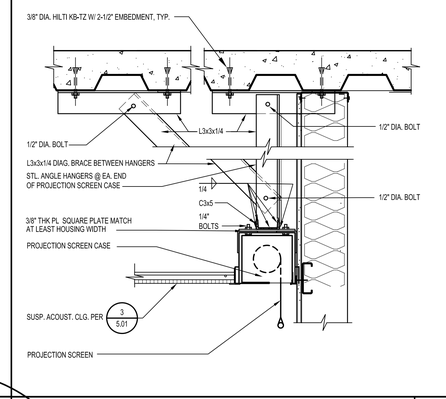
EXTERIOR SOFFIT - MATERIAL TRANSITION — SCALE: HALF — 7



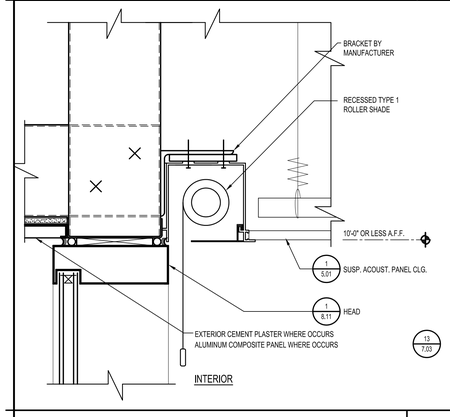
EXTERIOR SOFFIT - CEMENT PLASTER — SCALE: HALF — 8



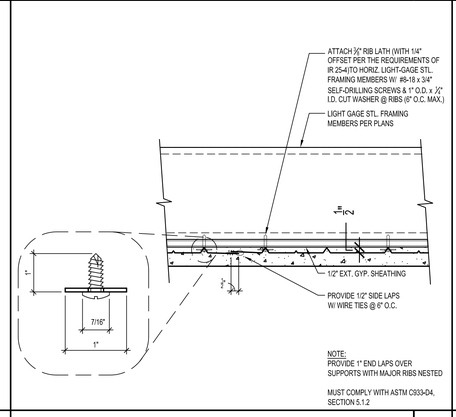
GYP. BD. SOFFIT PENETRATION DETAIL — SCALE: 1-1/2" = 1'-0" — 9



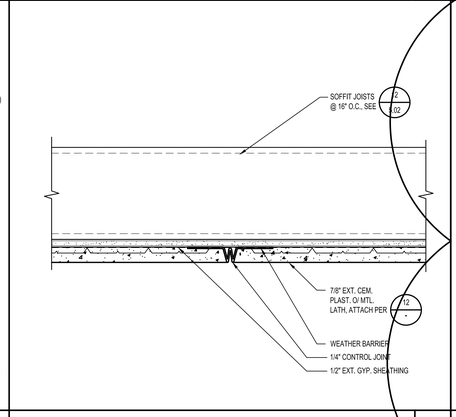
RECESSED PROJECTION SCREEN — SCALE: 1-1/2" = 1'-0" — 10



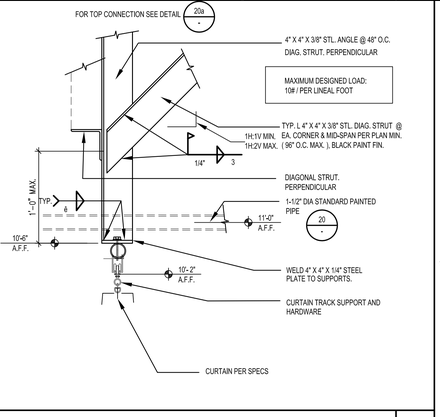
ROLLER SHADE @ ALUM. CURTAIN WALL — SCALE: 3" = 1'-0" — 11



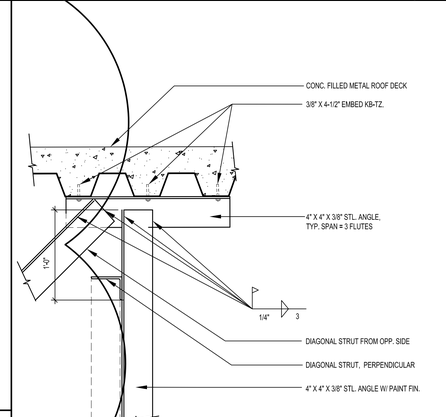
RIB LATH ATTACHMENT TO STEEL JOISTS — SCALE: 3" = 1'-0" — 12



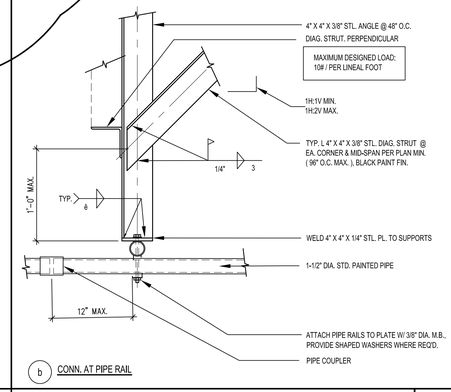
PLASTER SOFFIT CONTROL JOINT — SCALE: 3" = 1'-0" — 13



CURTAIN TRACK SUPPORT — SCALE: 1-1/2" = 1'-0" — 14

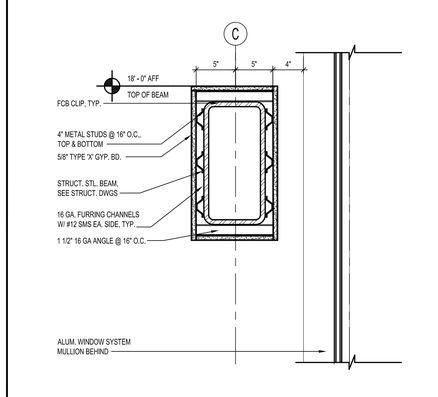


a CONN. AT CONC. FILLED METAL DECK

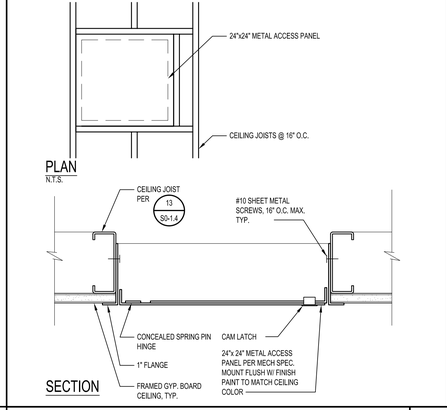


b CONN. AT PIPE RAIL

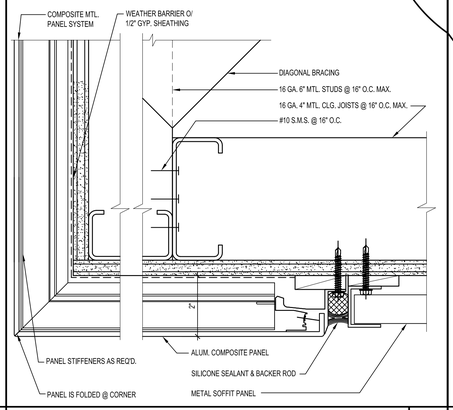
SUSPENDED PIPE GRID DETAILS — SCALE: 1-1/2" = 1'-0" — 20



WRAPPED BEAMS — SCALE: 1-1/2" = 1'-0" — 16



ACCESS PANEL DETAIL @ GYP.BD. — SCALE: 3" = 1'-0" — 17



EXTERIOR SOFFIT - MATERIAL TRANSITION — SCALE: HALF — 18

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drawn by: checked by:

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Rev:	date:	description:
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drawing title:

CEILING DETAILS

drawing no.:

5.02

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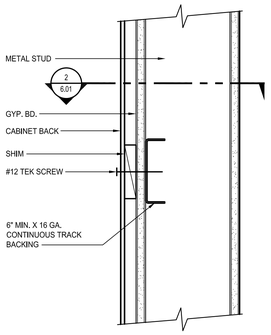
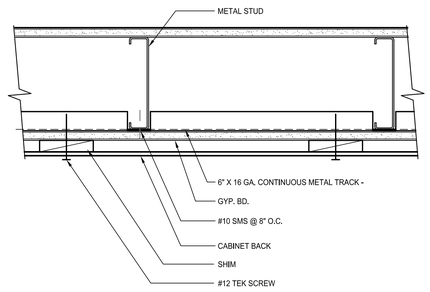


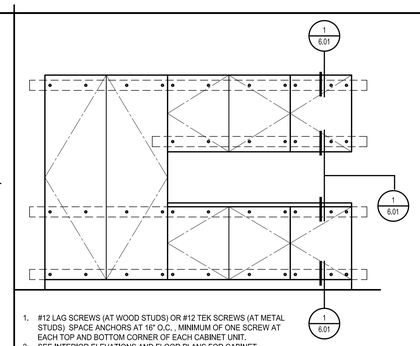
BACKING SECTION - METAL STUDS 1

SCALE: 3" = 1'-0"



BACKING SECTION - METAL STUDS 2

SCALE: 3" = 1'-0"

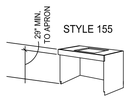


1. #12 LAG SCREWS (AT WOOD STUDS) OR #12 TEK SCREWS (AT METAL STUDS) SPACE ANCHORS AT 16" O.C., MINIMUM OF ONE SCREW AT EACH TOP AND BOTTOM CORNER OF EACH CABINET UNIT.
2. SEE INTERIOR ELEVATIONS AND FLOOR PLANS FOR CABINET CONFIGURATION AND DIMENSIONS.
3. STUDS OF WALLS BACKING CABINETS SHALL RUN FROM SLAB TO STRUCTURE ABOVE.
4. AT C.M.U. PROVIDE 3/8" HILTI KWIK BOLT 3 MASONRY ANCHORS (ICC # 1385) WITH 2-1/2" MIN. EMBEDMENT.
5. SEE DETAIL 1 AND 2 FOR WALL BACKING AT METAL STUDS.

BACKING AND ANCHORAGE DETAIL 4

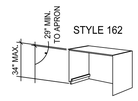
SCALE: 1/2" = 1'-0"

100 SERIES - BASE CABINET DESIGNS



STYLE 155

ADA SINK WITHOUT BASE
5" MAX. EXPOSED APRON
SEE ABOVE DIMENSIONS



STYLE 162

CART STORAGE
HARDWOOD SIDE GUIDES
SEE ABOVE DIMENSIONS

STYLE 170

OPEN

200 SERIES - DRAWER BASE CABINET DESIGNS

STYLE 211

SINGLE DRAWER

STYLE 222

TWO DRAWERS

STYLE 254

STYLE 223

STYLE 243

(HEIGHT = 34")
STYLE 253

(HEIGHT = 34")
STYLE 263

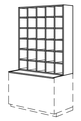
300 SERIES - WALL HUNG CABINET DESIGNS

STYLE 301

STYLE 302

400 SERIES - TALL STORAGE CABINET DESIGNS

STYLE 412



HUTCH W/
OPEN CUBICLES

WOODWORK INSTITUTE CABINET DESIGNS N.T.S. 9

GENERAL NOTES

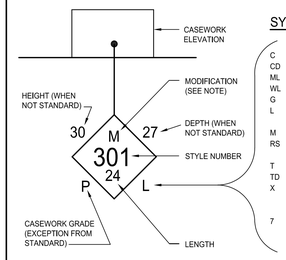
CASEWORK

1. ONLY THOSE CABINETS CALLED OUT ON BUILDING INTERIOR ELEVATIONS AND FLOOR PLANS SHALL BE PROVIDED.
2. DOOR SWINGS SHALL BE AS SHOWN ON INTERIOR ELEVATIONS. IF NOT ELEVATED, SWINGS SHALL BE AS SHOWN ON DETAIL SHEET ILLUSTRATIONS. SYMBOL 'RS' INDICATES REVERSE SWING.
3. ALL CABINET DIMENSIONS INDICATED ARE NOMINAL OUTSIDE DIMENSIONS, AND SHALL NOT BE EXCEEDED; (EXCEPTION - CABINETS ADJACENT TO WALLS MAY BE INCREASED IN LENGTH TO ELIMINATE THE NEED FOR FILLER STRIPS). A 3/4" TOLERANCE IS PERMITTED ON DIMENSIONS OVER 48". FOR 48" AND SMALLER DIMENSIONS, TOLERANCE IS LIMITED TO 1/16". HEIGHT DIMENSION OF BASE CABINETS INCLUDES FINISHED TOP.
4. ALIGN SIDE OF CABINET WITH EDGE OF DOOR FRAME WHERE OCCURS.
5. PAPER AND CHART STORAGE UNITS SHALL BE 27" DEEP UNLESS OTHER WISE NOTED.
6. ALL CASEWORK SHOWN ON SHEETS A9-1, A9-2, A9-3, A9-4 AND A9-5 SHALL HAVE ADJUSTABLE SHELVES.

COUNTERTOPS AND BACKSPLASHES

1. WHERE BACKSPLASH IS INDICATED, IT SHALL BE 4" HIGH AT NON-SINK AREAS & 6" HIGH OR TO UNDERSIDE OF UPPER CABINETS AT WET AREAS (SEE INTERIOR ELEVATIONS), TOP MOUNTED TYPE, HAVING SQUARE TOP WITH SELF EDGE.

SYMBOLS AND NOTATIONS FOR CABINETS



SYMBOL NOTATIONS

C	-	CHALKBOARD ON BACK
CD	-	CHALKBOARD ON DOOR
ML	-	METAL LEGS TO REPLACE CASTERS
WL	-	WOODEN LEGS TO REPLACE CASTERS
G	-	GLIDES TO REPLACE CASTERS
L	-	LOCKS REQUIRED AT ALL DOORS AND/OR DRAWERS IN CABINETS
M	-	MODIFICATION TO STYLE ONLY
RS	-	REVERSE SWING OF DOOR FROM THAT SHOWN ON DETAIL SHEETS
T	-	TACK BOARD ON BACK
TD	-	TACK BOARD ON DOOR
X	-	IN LIEU OF STYLE NO. INDICATES SPECIAL DESIGN NOT ILLUSTRATED ON DETAIL SHEETS
7	-	SUFFIX ON 100 AND 200 SERIES CONVERTS BASE UNITS TO MOVEABLE UNITS

COUNTERTOP NOTATIONS

LAM. PLAS.	-	LAMINATED PLASTIC
HD. BD.	-	HARDBOARD
HDWD.	-	HARDWOOD
CST	-	COMPOSITION STONE
LAB. GRADE	-	ACID-RESISTANT LAMINATED PLASTIC
EP. RES.	-	EPOXY RESIN

CASEWORK GRADES

P	-	PREMIUM
C	-	CUSTOM (TYPICAL GRADE U.N.O.)
E	-	ECONOMY
LAB	-	LABORATORY

SEE DETAIL 9 /6.01 FOR WIC DESIGN REFERENCE

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tBP project number : 20998.00
file name: 0601-MD_casework.DWG
drawn by: PM checked by:
date: 04/08/2019

Rev:	date:	description:
1	08/06/19	Addendum #1

drawing title:

TYPICAL CASEWORK DETAILS

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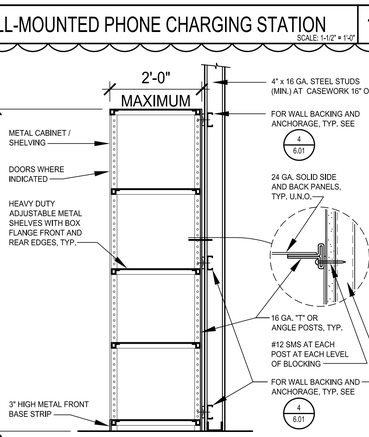
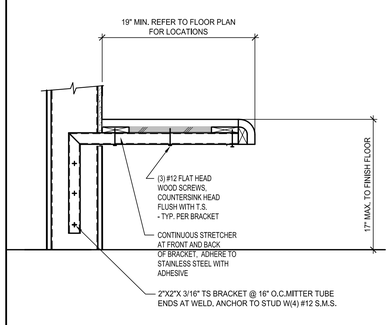


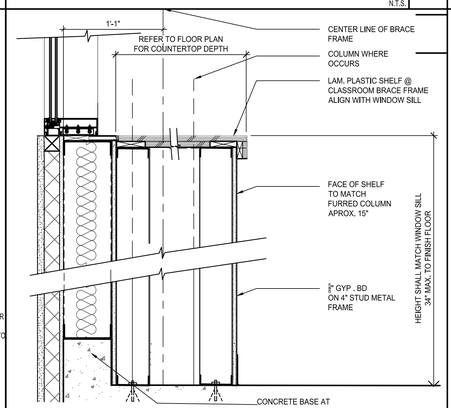
WALL-MOUNTED PHONE CHARGING STATION 12

SCALE: 1-1/2" = 1'-0"



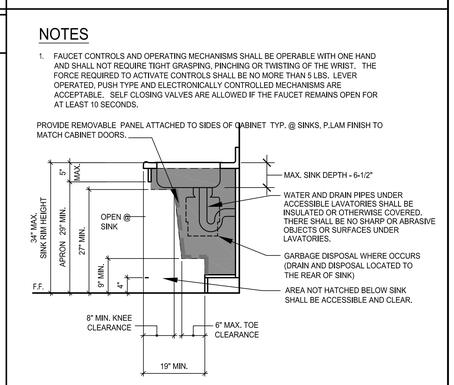
SOLID SURFACE BENCH UNDER LOBBY STAIR 13

SCALE: 1-1/2" = 1'-0"



SHELF DETAIL @ BRACE FRAME

SCALE: 1-1/2" = 1'-0" 14



ACCESSIBLE SINK SECTION

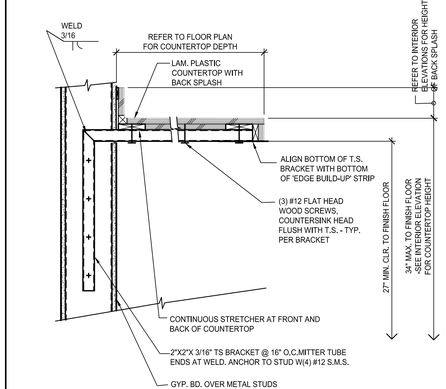
SCALE: 3/4" = 1'-0" 15

METAL CABINET / SHELVING ANCHORAGE

SCALE: 3/4" = 1'-0" 17

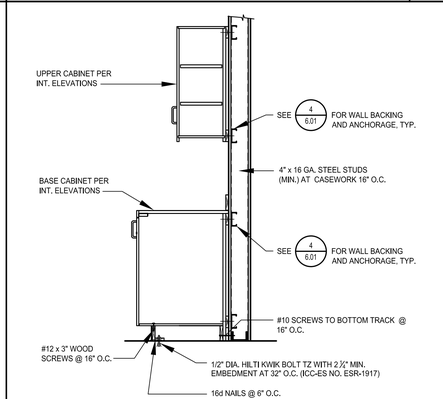
SOLID SURFACE WALLMOUNTED BENCH

SCALE: 1-1/2" = 1'-0" 18



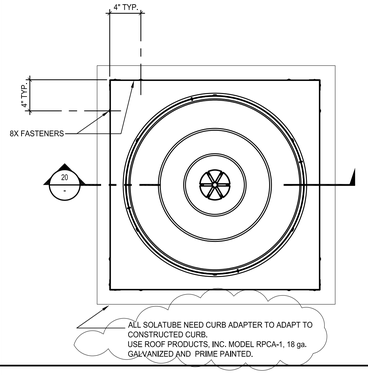
LAM. PLASTIC COUNTERTOP DETAIL

SCALE: 1-1/2" = 1'-0" 19

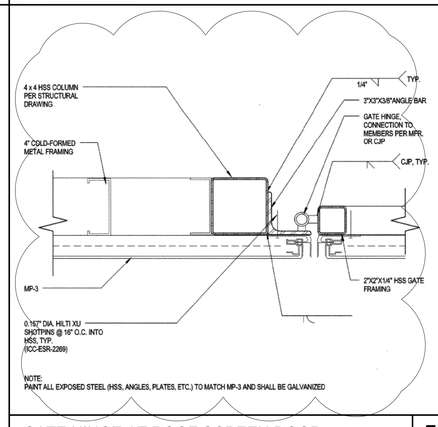


TYPICAL CASEWORK ANCHORAGE

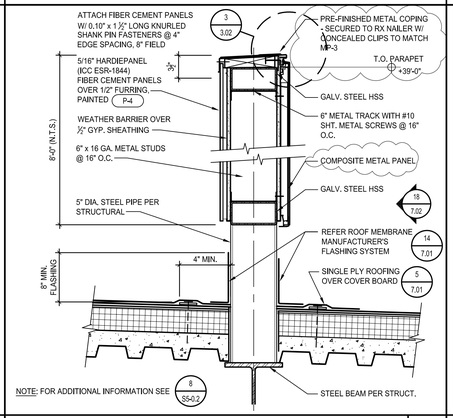
SCALE: 3/4" = 1'-0" 20



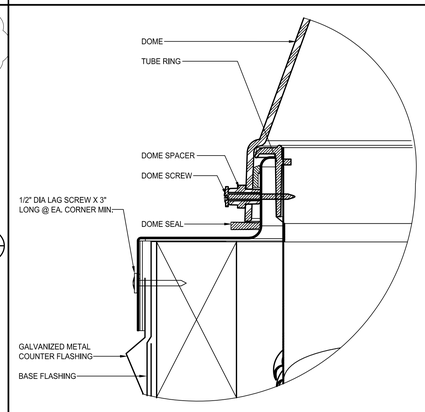
TUBULAR SKYLIGHT- PLAN — SCALE: 1-1/2" = 1'-0" — 5



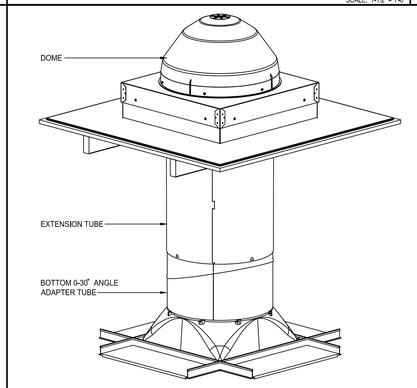
GATE HINGE AT ROOF SCREEN DOOR — SCALE: NOT TO SCALE — 7



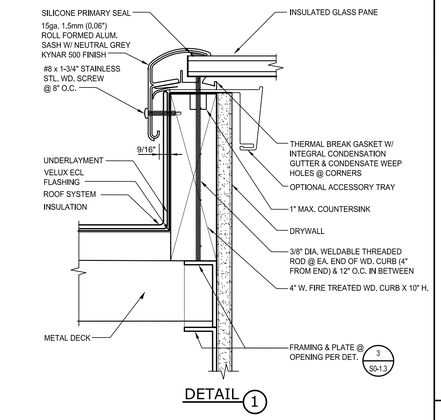
MECHANICAL SCREEN — SCALE: 1-1/2" = 1'-0" — 8



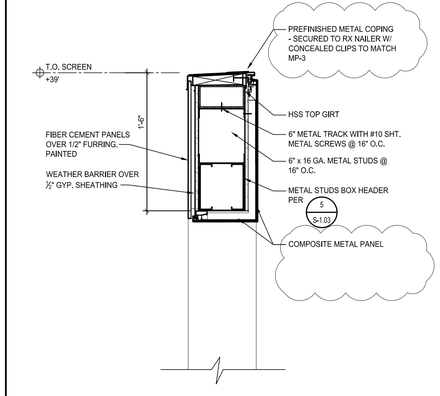
TUBULAR SKYLIGHT - ROOF CURB SECTION — SCALE: NOT TO SCALE — 9



TUBULAR SKYLIGHT — SCALE: NOT TO SCALE — 10

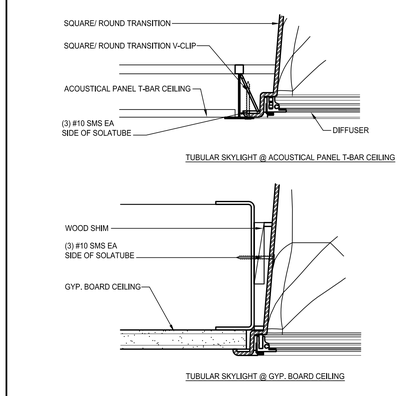


DETAIL 1

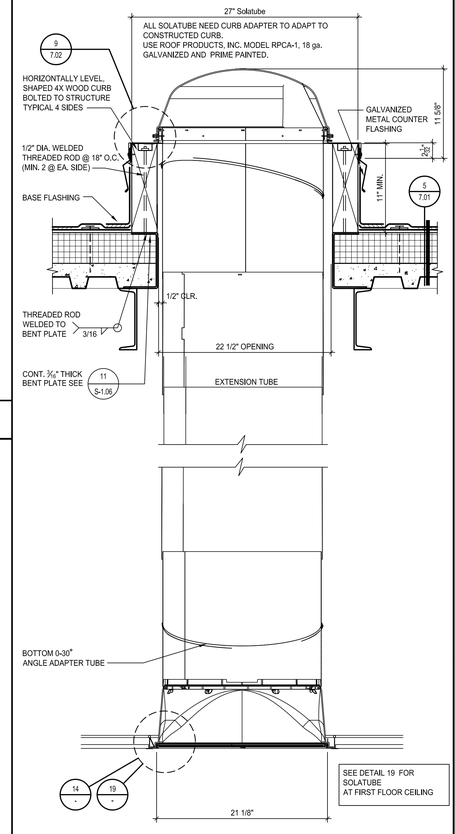


MECHANICAL SCREEN - OPENING JAMB — SCALE: 1-1/2" = 1'-0" — 12

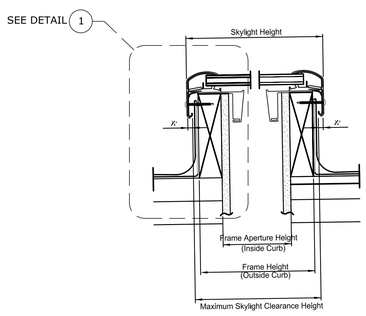
MECHANICAL SCREEN - OPENING HEAD — SCALE: 1-1/2" = 1'-0" — 13



TUBULAR SKYLIGHT- CEILING TRANSITION — SCALE: HALF — 14

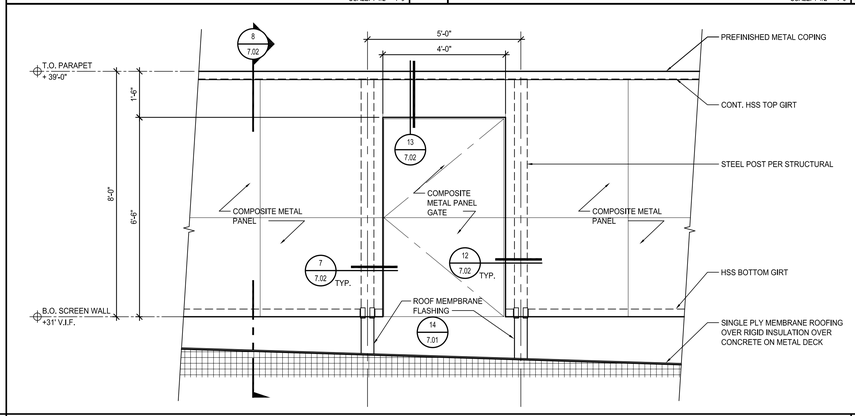


TUBULAR SKYLIGHT- SECTION — SCALE: 1-1/2" = 1'-0" — 20

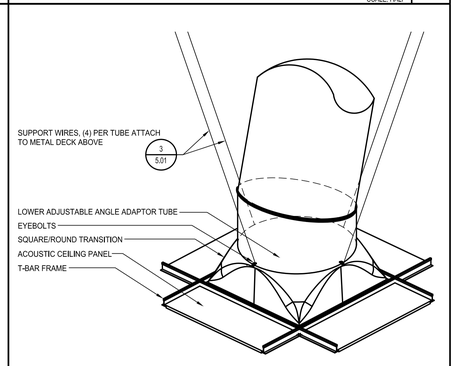


VERTICAL CROSS SECTION

SKYLIGHT - CURB-MOUNT — SCALE: NOT TO SCALE — 16



MECHANICAL SCREEN OPENING — SCALE: 1/2"= 1'-0" — 18



TUBULAR SKYLIGHT — SCALE: 1-1/2" = 1'-0" — 19

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No. 2

COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.

owner

tBP project number : 20998.00
file name: D6-0702.dwg
drawn by: checked by:
date: 04/08/2019

Rev:	date:	description:
1	08/06/19	ADDENDUM 1

drawing title:

ROOF DETAILS

drawing no.:

7.02

drawing of

ROOM FINISH SCHEDULE

Room Style	SPACE #	SPACE NAME	FLOOR MATERIAL	FLOOR FINISH	FLOOR COLOR	BASE MATERIAL	BASE HT.	BASE FINISH	BASE COLOR	WALLS MATERIAL	WALLS FINISH	WALLS COLOR	CEILINGS MATERIAL	CEILINGS TYPE	CEILINGS FINISH	CEILINGS COLOR	REMARKS
1ST FLR.																	
(none)	100	LOBBY	CONCRETE	POLISHED	C-1	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1	A.C.T. / OPEN	LINEAR/OPEN	F/ N/A	AC-5, N/A	EFM-1 AT ENTRIES
(none)	101	VENDING MACHINES	CONCRETE	POLISHED	C-1	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	
RESTROOMS	102	WOMEN'S	PORCELAIN TILE	F	PT-2	COVE BASE TILE	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
RESTROOMS	103	MEN'S	PORCELAIN TILE	F	PT-2	COVE BASE TILE	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
RESTROOMS	104	TOILET	PORCELAIN TILE	F	PT-2	COVE BASE TILE W ALUM TRIM	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
(none)	105	CORR.	CONCRETE	POLISHED	C-1	RUBBER BASE	6"	F	RB-1	GYP. BD.	SATIN	P-1	A.C.T.	2X4 LINEAR	F	AC-5	EFM-1 AT ENTRIES
(none)	106	ELEV	PORCELAIN TILE	F	PT-2	STAINLESS STL	6"	F	SST-1								
SUPPORT	107	E. MACH.	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	PAINT - SATIN FIN.	P-2	U.O.S.	-	PAINT - SATIN FIN.	P-2	
SUPPORT	108	DATA	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	PAINT - SATIN FIN.	P-2	U.O.S.	-	PAINT - SATIN FIN.	P-2	
SUPPORT	109	ELECTRICAL	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	U.O.S.	-	EGGSHELL	P-1	
SUPPORT	110	DATA	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	U.O.S.	-	EGGSHELL	P-1	
RESTROOMS	111	TOILET	PORCELAIN TILE	F	PT-2	ALUMINUM COVE TRIM	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1)
RESTROOMS	112	TOILET	PORCELAIN TILE	F	PT-2	ALUMINUM COVE TRIM	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1)
SUPPORT	113	JANITOR	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	FRP / GYP. BD.	F / PAINT-SEMI-GLOSS	FRP-1 / P-2	U.O.S.	-	PAINT-SEMI-GLOSS	P-1	
CLASSROOM	120	HUM. LAB COMP 1	LINOLEUM & WALK-OFF CPT	F	LF-1, LF-2,LF3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY , REFER TO SHEET 9.03 FLOOR FINISH PLAN
CLASSROOM	121	AUDIO/ VISUAL	CONCRETE & WALK-OFF CPT	POLISHED	C-1	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-3, WC-1,	PIPE GRID / U.O.S.	-	F / PAINT-SATIN FIN.	-	CPT-2 AT INTERIOR & EFM-1 @ EXTERIOR ENTRY
STORAGE2	122	STOR.	CONCRETE	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	GYP. BD.	-	PAINT - SATIN FIN.	-	CASEWORK: CABINETS (PL-1), COUNTERTOP (SSU-1) EFM-1 AT EXTERIOR ENTRY
OFFICE	123	OFC.	CONCRETE	POLISHED	C-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	PAINT - SATIN FIN.	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	124	LOUNGE	CONCRETE	POLISHED	C-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	PAINT - SATIN FIN.	P-1	A.C.T.	2X4	F	AC-1	CASEWORK: CABINETS (PL-1), COUNTERTOP (SSU-1)
CLASSROOM	125	HUM. LAB	CONCRETE & WALK-OFF CPT.	POLISHED	C-1	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	U.O.S.	2X4	PAINT - SATIN FIN.	-	CASEWORK: CABINETS (PL-1), COUNTERTOP (SSU-1). CPT-2 AT INTER. & EFM-1 @ EXT. ENTRY.
CLASSROOM	126	C.R.1	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-3, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FLOOR FINISH PLAN.
CLASSROOM	127	C.R.2	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FLOOR FINISH PLAN.
CLASSROOM	128	C.R.3	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FLOOR FINISH PLAN.
CLASSROOM	129	MEETING ROOM	LINOLEUM & WALK-OFF CPT.		LF-1, LF-2, LF-3	RUBBER BASE	6"				EGGSHELL	P-1, P-4, WC-1					CPT-2 AT ENTRY. REFER TO SHEET 9.03 FLOOR FINISH PLAN.
CLASSROOM	130	HUM. LAB COMP 2	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY, REFER TO SHEET 9.03 FLOOR FINISH PLAN.
CLASSROOM	131	READ/ STUDY	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT INT. ENTRY @ EFM-1 @ EXT. ENTRY. REFER TO 9.03 FLOOR FINISH PLAN.
OFFICE	140	WAITING	WALK-OFF/CARPET TILE	F	CPT-1, CPT-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FLOOR FINISH PLAN.
OFFICE	141	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	142	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	143	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	144	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	145	MTG. RM	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
2ND FLR.																	
(none)	200	CORR.	LINOLEUM FLOOR	F	LF-1, LF-2, LF-3	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	GYP. BD.	2X4 LINEAR	F	AC-5	REFER TO SHEET 9.03 FLOOR FINISH PLAN
(none)	201	LACT.	LIONOLEUM FLOOR	F	LF-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	GYP. BD.	-	F	P-2	CASEWORK: CABINETS (PL-1), COUNTERTOP (SSU-1)
RESTROOMS	203	WOMEN'S	PORCELAIN TILE	F	PT-2	COVE BASE TILE	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
RESTROOMS	204	MEN'S	PORCELAIN TILE	F	PT-2	COVE BASE TILE	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
RESTROOMS	205	TOILET	PORCELAIN TILE	F	PT-2	COVE BASE TILE W/ALUM TRIM	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
(none)	206	ELEV	PORCELAIN TILE	F	PT-2	STAINLESS STL	4"	F						-			
SUPPORT	207	DATA	CONCRETE FLOOR	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	U.O.S.	-	PAINT - SATIN FIN.	P-2	
SUPPORT	208	ELECTRICAL	CONCRETE FLOOR	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	U.O.S.				
SUPPORT	209	JAN	CONCRETE FLOOR	SEALED	C-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	U.O.S.				
RESTROOMS	211	TOILET	PORCELAIN TILE	F	PT-2	COVE BASE TILE	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
RESTROOMS	212	TOILET	PORCELAIN TILE	F	PT-2	COVE BASE TILE W/ALUM TRIM	6"	F	ACT-1	PORCELAIN TILE	F	PT-1/3/4	GYP. BD.	-	PAINT-SEMI-GLOSS	P-1	STONE THRESHHOLD (T-1) REFER TO SHEET 9.05 FOR RESTROOM WALL & TILE PATTERN
(none)	213	HALL	WALK-OFF AND CARPET TILE	F	CPT-1 & CPT-2	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	A.C.T.	2X4	F	AC-1	
(none)	214	HALL	LINOLEUM FLOOR		LF-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	A.C.T.	2X4	F	AC-1	
CLASSROOM	220	MTG. RM 2	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	221	C.R.5	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	222	C.R.4	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	223	C.R.6	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	224	C.R.7	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	225	C.R.8	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
CLASSROOM	226	STUDY - COMPUTERS	LINOLEUM & WALK-OFF CPT.	F	LF-1, LF-2, LF-3	RUBBER BASE	6"	F	RB-1	GYP. BD.	EGGSHELL	P-1, P-4, WC-1	A.C.T.	2X4	F	AC-1	CPT-2 AT ENTRY. REFER TO SHEET 9.03 FOR RESTROOM WALL & TILE PATTERN
OFFICE	230	LOUNGE	LINOLEUM	F	LF-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1	A.C.T.	2X4	F	AC-1	CASEWORK: CABINETS (PL-1), COUNTERTOP (SSU-1)
OFFICE	231	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	232	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	233	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	234	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	235	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	236	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	237	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	238	OFC.	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	
OFFICE	239	OFC	CARPET TILE	F	CPT-1	RUBBER BASE	4"	F	RB-1	GYP. BD.	EGGSHELL	P-1 & P-2	A.C.T.	2X4	F	AC-1	

ABBREVIATIONS

ACP	ACOUSTICAL PANEL CEILING
AGL	AGLOMMERATE TILE
BD	BOARD
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CT	CERAMIC TILE
EPXY	EPOXY
EXPSD	EXPOSED
F	FACTORY FINISH
FRP	FIBER REINFORCED PLASTIC PANEL
GL	GLASS
GYP	GYPSUM
LTF	LINOLEUM TILE FLOORING
MTL	METAL
EP	EPOXY PAINT
PE	PAINT EGGSHELL
PF	PAINT FLAT
PG	PAINT GLOSS
PNL	PANEL
PSG	PAINT-SEMI GLOSS
QT	QUARRY TILE
RESIL	RESILIENT
RTF	RUBBER TILE FLOORING
SF	SATIN FINISH
SLR	SEALER
SV	SHEET VINYL
VCT	VINYL COMPOSITION TILE
VFWC	VINYL FABRIC WALL COVERING

NOTES

INTERIOR WALL AND CEILING FINISH MATERIALS SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM 84 OR UL 723. SUCH INTERIOR FINISH MATERIALS SHALL BE GROUPED IN THE FOLLOWING CLASSES IN ACCORDANCE WITH THEIR FLAME AND SMOKE-DEVELOPED INDEXES, REFER TO 803.1.1 (SEE EXCEPTION 803.1.2) AND CFC 803.1.

1. INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED FOR FIRE PERFORMANCE AND SMOKE DEVELOPMENT PER SECTION 803.
2. INTERIOR WALLS AND CEILING FINISHES SHALL BE CLASSIFIED BY OCCUPANCY PER TABLE 803.11 OR BE TESTED PER SECTION 803.1.2 (NFPA 286 CRITERIA).
3. TEXTILE AND VINYL WALL COVERINGS SHALL BE TESTED PER 803.1.3 ACCEPTANCE CRITERIA OF NFPA 265, OR, PER 803.1.4 ACCEPTANCE CRITERIA TESTED TO ASTM E84 OR UL 723 CLASS A FLAME SPREAD INDEX AND PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM PER 903.1.1 OR 903.1.1.2.

   EXCEPTION: 803.2 MATERIALS LESS THAN 0.036" THICK APPLIED DIRECTLY NEED NOT BE TESTED.
4. INTERIOR FLOOR FINISHES SHALL COMPLY WITH SECTION 804.
5. DECORATIVE TRIM & MATERIALS SHALL COMPLY WITH SECTION 806.
6. THERMAL AND ACOUSTICAL INSULATION SHALL COMPLY WITH SECTION 719.

CALIFORNA REQUIRES ALL FABRIC USED IN PUBLIC PLACES TO BE REGISTERED WITH THE STATE FIRE MARSHAL AND COMPLY WITH TITLE 19 REQUIREMENTS OF THE CALIFORNIA CODE OF REGULATIONS.

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INSTRUCTIONAL BUILDING No. 2

COMPTON COMMUNITY COLLEGE DISTRICT
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owner

tBP project number : 20998.00

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04/08/2019

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1	08/06/19	ADDENDUM 1

drawing title:

FINISH SCHEDULE

drawing no.:

9.01

drawing of

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COLOR SCHEDULE

SPEC. SECTION	MATERIAL	DESIGNATION	MANUFACTURER	COLOR NO.	COLOR NAME	REMARKS
03 10 00 CONCRETE FORMS	ARCHITECTURAL CONCRETE	AC-1	DAVIS COLOR	677	OUTBACK	
03 30 00 CAST-IN-PLACE CONCRETE	CONCRETE FLOORS - POLISHED	C-1				CONCRETE FLOORS W/ ABRASIVE FINISH
	CONCRETE FLOORS - EXPOSED/NATL.	C-2				CONCRETE TREADS/LANDINGS W/ ABRASIVE FINISH & BROOM FINISH. SEE WRITTEN SPECS.
04 21 13.13 BRICK VENEER MASONRY	BRICK VENEER	BR-1	ENDICOTT CLAY PRODUCTS CO. NORMAN	77	MEDIUM IRON SPOT	VELOUR FINISH W/ GRAFFITI-RESISTANT COATING SEE WRITTEN SPECIFICATIONS
	BRICK VENEER	BR-2	ENDICOTT CLAY PRODUCTS CO. NORMAN		GOLDEN BUFF	SMOOTH FINISH W/ GRAFFITI-RESISTANT COATING SEE WRITTEN SPECIFICATIONS
	BRICK VENEER	BR-3	ENDICOTT CLAY PRODUCTS CO. NORMAN		MANGANESE BROWN	VELOUR FINISH W/ GRAFFITI-RESISTANT COATING SEE WRITTEN SPECIFICATIONS
04 22 00 CONCRETE UNIT MASONRY	CMU	CMU-1				TO MATCH VENEER FIELD SEE WRITTEN SPECIFICATIONS
05 73 00 DECORATIVE RAILINGS	STAINLESS STEEL PIPE	SST-1				SATIN FINISH
	STAINLESS STEEL DECORATIVE MESH	DM-1	GKD METAL MESH	OMEGA 1500		
06 41 16 ARCHITECTURAL CASEWORK	PLASTIC LAMINATE	PL-1	WILSONART	4941L-18	COSMIC STRANDZ	CASEWORK, UPPER & LOWER CABINETS VERTICAL SURFACES
	PLASTIC LAMINATE	PL-2	WILSONART	4939K-18	VAPOR STRANDZ	INTERIOR WINDOW SHELVES
	QUARTZSTONE	QS-1	SILESTONE		EROS STELLAR (STELLAR FIRE)	INTERIOR BENCH (SEAT) 2CM THICKNESS, POLISHED W/ MITERED EDGE
	QUARTZSTONE	QS-2	PENTAL QUARTZ	BS124P	COASTAL GREY	INTERIOR BENCH (BASE) POLISHED FINISH
	SOLID SURFACE	SSU-1	FORMICA SOLID SURFACING FORMICA CLASSICS	775	LUNA STORM	CASEWORK COUNTERTOPS
06 64 00 PLASTIC PANELING	FIBERGLASS REINFORCED PLASTIC PANELS	FRP-1	MARLITE P100			SEE WRITTEN SPECIFICATIONS
07 42 13 METAL WALL PANEL	PREFORMED METAL WALL PANEL MECHANICAL SCREEN	MS-1	ALUCONOND	SEE MP-3	SEE MP-3	W/ GALV. STL FRAME / SUPPORT SEE WRITTEN SPECIFICATIONS
07 42 13.23 COMPOSITE METAL PANELS	ALUMINUM CLADDING	MP-1	ALUCOBOND		ANODIC CLEAR	SEE WRITTEN SPECIFICATIONS EXTERIOR ELEVATIONS
	ALUMINUM CLADDING	MP-2	ALUCOBOND		PEWTER	SEE WRITTEN SPECIFICATIONS AND EXTERIOR ELEVATIONS
	ALUMINUM CLADDING	MP-3	ALUCOBOND		BONE WHITE	SEE WRITTEN SPECIFICATIONS AND EXTERIOR ELEVATIONS
08 11 13 STEEL DOORS & FRAMES	METAL DOOR	MD-1	-	-	-	PAINT DOOR, P-5 -
	METAL FRAME	MF-1	-	-	-	PAINT FRAME, P-6 -
08 14 16 FLUSH WOOD DOORS	WOOD VENEER	WD-1	SHERMIN WILLIAMS	SW3127-P	CULINARY CREAM	- -
08 41 13 ALUM. FRAMED ENTRANCES & STOREFRONTS	ALUMINUM FRAME	AL-1			FACTORY PAINTED	SEE WRITTEN SPECIFICATIONS
	INSULATED GLASS - STOREFRONT	GL-1	SOLARBAN 70XL		(2) SOLARGRAY + CLEAR	SEE WRITTEN SPECIFICATIONS
	INSULATED GLASS - STOREFRONT SPANDREL	GL-2	SOLARBAN 70XL		GREY- SPANDREL	SEE WRITTEN SPECIFICATIONS
	LAMINATED GLAZING	GL-3			FROSTY DOUBLE GLASS	SEE WRITTEN SPECIFICATIONS INTERIOR AT CLASSROOMS
	LAMINATED GLAZING	GL-4			CLEAR DOUBLE GLASS	SEE WRITTEN SPECIFICATIONS INTERIOR AT CLASSROOMS & OFFICE'S DOOR
09 24 00 CEMENT PLASTERING	EXTERIOR CEMENT PLASTER SYSTEM	CP-1	LAHABRA, PAREX USA	10400L (X-18052)	SNOWBALL	SEE WRITTEN SPECIFICATIONS
09 30 13 TILE	PORCELAIN TILE	PT-1	DALTILE FABRIQUE	P682	BLANC LINEN (12"X24")	RESTROOM WALL TILE, FIELD SEE FINISH PLAN FOR TILE PATTERN
	PORCELAIN TILE	PT-2	DALTILE FABRIQUE	P689	NOIR LINEN (12"x24")	RESTROOM FLOOR TILE, FIELD UNPOLISHED, SEE FINISH PLAN FOR TILE PATTERN
	PORCELAIN TILE	PT-3	DALTILE YACHT CLUB	YCO3	COCKPIT (6"x24")	RESTROOM WALL TILE, ACCENT SEE FINISH PLAN FOR TILE PATTERN
	PORCELAIN TILE	PT-4	DALTILE FABRIQUE	P689	NOIR LINEN (6"x24")	RESTROOM WALL TILE, ACCENT SEE SHEET 9.-- FOR TILE PATTERN
	ALUMINUM COVE TRIM	ACT-1	SCHLUTER SYSTEMS DILEX AHK	-	SATIN ANODIZED ALUMINUM	
	GROUT	G-1	MAPEI	103	COBBLESTONE	RESTROOM WALL TILE GROUT
	GROUT	G-2	MAPEI	19	PEARL GRAY	RESTROOM FLOOR TILE GROUT
	STONE THRESHOLD	T-1	MARBLE SYSTEMS		SILVER SHADOW	
09 51 13 ACOUSTICAL CEILING PANELS	ACOUSTICAL CEILING PANELS	-	ARMSTRONG CIRRUS SECOND LOOK	-	WHITE	SEE WRITTEN SPECIFICATIONS
	ACOUSTICAL CEILING PANELS	-	ARMSTRONG CIRRUS SECOND LOOK	-	WHITE	2X4 W/ 6" LINEAR PATTERN SEE WRITTEN SPECIFICATIONS
09 65 13 RESILIENT BASE	RUBBER BASE	RB-1	JOHNSONITE TRADITIONAL WALL BASE	20	CHARCOAL	
09 65 43 LINOLEUM FLOORING	LINOLEUM SHEET FLOORING	LF-1	JOHNSONITE, HARMONIUM VENETO	A00204	ICED SLATE	SEE FLOOR FINISH PLAN FOR FLOOR PATTERNS/LOCATIONS
	LINOLEUM SHEET FLOORING	LF-2	JOHNSONITE, HARMONIUM VENETO	686	DEEP SPACE	SEE FLOOR FINISH PLAN FOR FLOOR PATTERNS/LOCATIONS
	LINOLEUM SHEET FLOORING	LF-3	JOHNSONITE, HARMONIUM VENETO	740	BLAZE	SEE FLOOR FINISH PLAN FOR FLOOR PATTERNS/LOCATIONS
	STATIC DISSIPATIVE TILE	VCT-1	ARMSTRONG STATIC DISSIPATIVE EXCELON	51956	FOSSIL GRAY	
09 68 13 TILE CARPETING	CARPET TILE	CPT-1	TANDUS ISO 04536	48201	WIRED	OFFICE CARPET VERTICAL ASHLAR INSTALLATION
	CARPET TILE	CPT-2	TANDUS GEO TILE 00979	00154	CHARCOAL	INTERIOR WALK-OFF MATS MODULAR INSTALLATION
09 72 00 WALL COVERINGS	PROJECTION DRY ERASE WALL COVERING	WC-1	KOROSEAL WALLTALKERS PROJECTABLE MAG-RITE	JR60	WHITE	CLASSROOM INTERIOR WALL SEE INTERIOR ELEVATIONS FOR LOCATIONS
	TACK WALL	WC-2	KOROSEAL- TAC-WALL		PER ACHITECT	
09 90 00 PAINT	PAINT	P-1	DUNN EDWARDS	DE6232	ABSTRACT WHITE	WALLS (FIELD)
	PAINT	P-2	DUNN EDWARDS	ED6367	COVERED IN PLATINUM	WALLS (ACCENT)
	PAINT	P-3	DUNN EDWARDS	DE6370	CHARCOAL SMUDGE	WALLS (ACCENT)
	PAINT	P-4	DUNN EDWARDS	DEA150	SCARLET PAST	WALLS (ACCENT)
	PAINT	P-5	-	-	-	METAL DOORS
	PAINT	P-6	-	-	-	METAL DOOR FRAMES
	PAINT	P-7	-	-	-	EXPOSED CEILING
	PAINT	P-8	-	-	-	EXPOSED INTERIOR STEEL

COLOR SCHEDULE

SPEC. SECTION	MATERIAL	DESIGNATION	MANUFACTURER	COLOR NO.	COLOR NAME	REMARKS
09 96 00 HIGH PERFORMANCE COATINGS	EXTER. HIGH PERFORMANCE COATING STEEL SUBSTRATES	HP-1	TNEMEC	41 MT	SILVER	SEE WRITTEN SPECIFICATIONS
	EXTER. HIGH PERFORMANCE COATING GALVANIZED METAL SUBSTRATES	HP-2	TNEMEC			SEE WRITTEN SPECIFICATIONS
	INTER. HIGH PERFORMANCE COATING STEEL SUBSTRATES	HP-3	TNEMEC			SEE WRITTEN SPECIFICATIONS
	INTER. HIGH PERFORMANCE COATING GALVANIZED METAL SUBSTRATES	HP-4	TNEMEC			SEE WRITTEN SPECIFICATIONS
10 11 00 VISUAL DISPLAY UNITS	MARKER BOARD	MB-1	CLARIDGE CONCEPT	No. 100	LCS WHITE	AT OFFICE AREAS ONLY
	TACKBOARDS	TB-1	CLARIDGE CONCEPT	1113	STEEL GRAY	AT OFFICE AREAS ONLY
10 12 00 DISPLAY CASES	ALUMINUM SURFACE MOUNTED DISPLAY CASE	DC-1	WADDELL FURNITURE		CHAMPAGNE	SEE WRITTEN SPECIFICATIONS
10 14 00 SIGN	EXTERIOR SIGN	BS-1			BRUSHED ALUMINUM	SEE WRITTEN SPECIFICATIONS
10 14 19 DIMENSIONAL LETTER SIGNAGE	DIMENSIONAL CHARACTERS STAINLESS STEEL	-			STAINLESS STEEL, NO. 4	SEE WRITTEN SPECIFICATIONS
	DIMENSIONAL LETTER SIGNAGE	-				SEE WRITTEN SPECIFICATIONS
10 21 13.17 PHENOLIC CORE TOILET COMPARTMENTS	TOILET COMPARTMENTS	TC-1	BOBRICK SIERRA SERIES 1090	SC04	FOREST GREEN	
10 22 39 FOLDING PANEL PARTITIONS	VINYL FABRIC	FP-1	HUFCOR CAIRN PATTERN	44-557	PEBBLE	
	METAL TRIM & SEAL	FP-2	HUFCOR -			
	MARKERBOARD (INSET)	FP-3	HUFCOR		WHITE	
10 71 10 EXTERIOR SUN CONTROL DEVICES	SUN CONTROL LOUVER	SL-1	ARCADIA BSD001, VERTICAL			SEE WRITTEN SPECIFICATIONS
	SUN CONTROL LOUVER	SL-2	ARCADIA BSD009, HORIZONTAL			SEE WRITTEN SPECIFICATIONS
	AIRFOIL LOUVER	LV-1	C-S GROUP AIRFOIL LOUVER		SILVER METALLIC (LIGHT GREY)	SEE WRITTEN SPECIFICATIONS
11 52 13 PROJECTION SCREENS	PROJECTION SCREENS	PS-1				-
11 61 43 STAGE CURTAINS	STAGE CURTAIN VELOUR	-			BLACK	SEE WRITTEN SPECIFICATIONS
	STAGE CURTAIN NEW OXFORD	-	- -	-	CHROMA KEY GREEN	SEE WRITTEN SPECIFICATIONS
	STAGE CURTAIN LENO	-	- -	-	60% GREY	SEE WRITTEN SPECIFICATIONS
12 24 00 WINDOW SHADES	ROLLER SHADES	RS-1	SKYCO SHEERWEAVE, STYLE 2390 , 5%	P14	OYSTER PEARL GREY	INTERIOR ROLLER SHADES
	ROLLER SHADES	RS-2	SKYCO AVILA TWILIGHT	0015	KHAKI	INTERIOR BLACK-OUT ROLLER SHADES
12 48 13 ENTRANCE FLR MATS & FRAMES	ENTRANCE FLOOR MATS	EFM-1	MATS INC GRATE MAT XT FOOT GRILLE		CHARCOAL	
12 48 16 ENTRANCE FLOOR GRILLES	ENTRANCE FLOOR GRILLES	-	C/S GROUP			SEE WRITTEN SPECIFICATIONS
14 24 23 HYDRAULIC ELEVATOR	ELEVATOR WALL PANEL	EWP-1	- -	-	-	SIDE AND REAR WALL PANELS (LAMINATE)
	ELEVATOR WALL REVEALS	-		-	SATIN STAINLESS STEEL, NO. 4	SEE WRITTEN SPECIFICATIONS
	ELEVATOR FLOOR	PT-2	DAL TILE FABRIQUE	P689	NOIR LINEN (12"X24")	PORCELAIN FLOOR TILE SEE WRITTEN SPECIFICATIONS
	ELEVATOR CEILING	-	-	-	STAINLESS STEEL, NO. 8	SEE WRITTEN SPECIFICATIONS
	HANDRAILS	-	-	-	STAINLESS STEEL, NO. 4	

TYPICAL FINISH NOTES

1. SUBMIT MANUFACTURER'S STANDARD COLORS FOR COLOR SELECTION
2. ALL INTERIOR FINISHES SHALL COMPLY W/ THE FLAME SPREAD AND SANITATION REQUIREMENTS OF CHAPTER 8, C.B.C.

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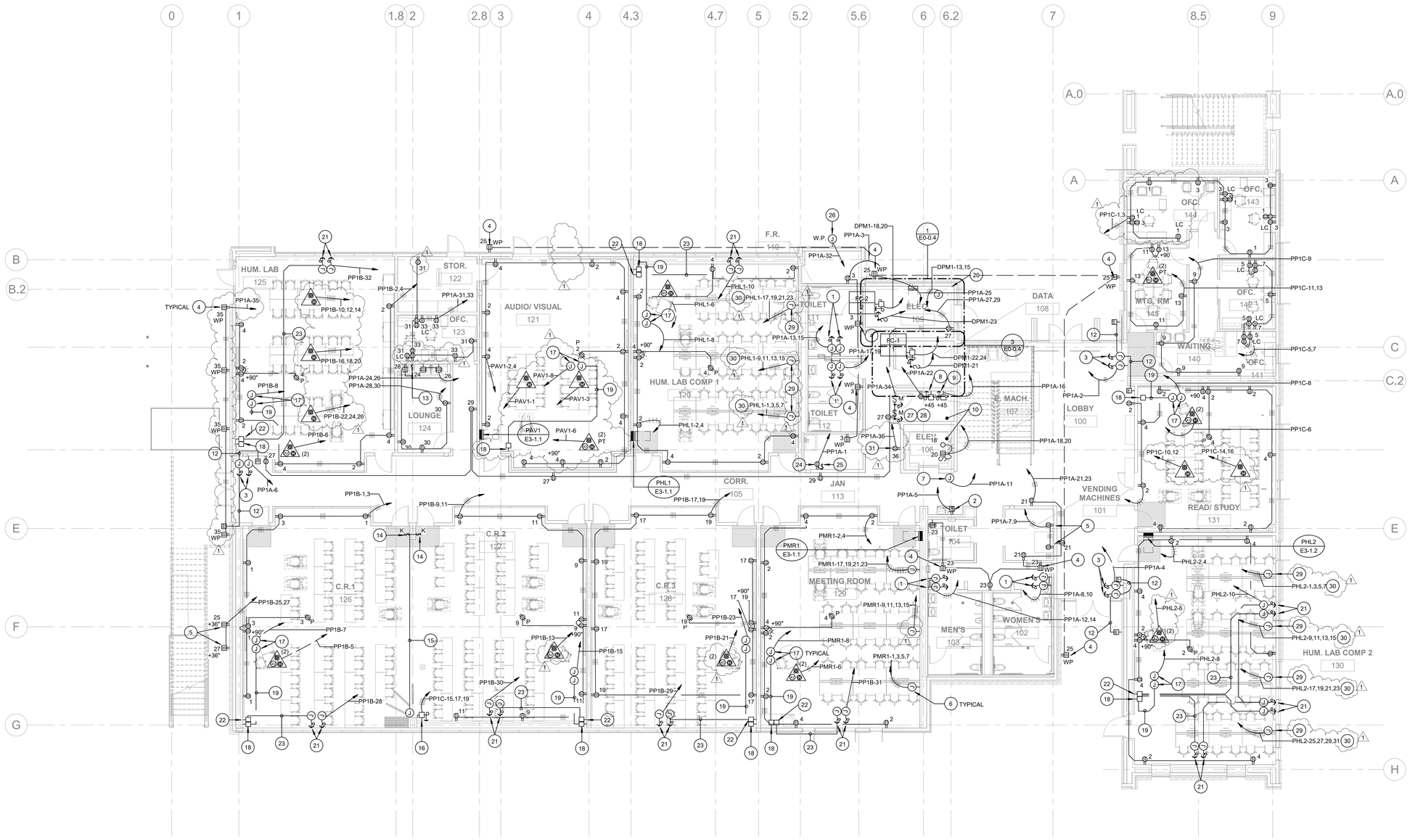

FIRST FLOOR POWER PLAN

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

KEY NOTES

1. CONNECT TO ELECTRIC HAND DRYERS IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENT.
2. CONNECT TO ELECTRIC WATER COOLER IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENTS.
3. CONNECT TO POWER ASSISTED DOOR IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENTS.
4. INSTALL GFCI TYPE RECEPTACLE IN FLUSH IN WALL LOCKING BOX, PASS AND SEYMOUR #4600 SERIES OR EQUAL BY COLE, +18" .
5. FOR CONNECTION TO VENDING MACHINES.
6. FOR CONNECTION TO POWERED COMPUTER FURNITURE SYSTEM.
7. CONNECT TO ELEVATOR SMOKE GUARD SYSTEM IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.
8. CONNECT TO ELEVATOR CONTROLLER IN ACCORDANCE WITH THE ELEVATOR MANUFACTURER'S REQUIREMENTS.
9. CONNECT TO ELEVATOR CAB LIGHTS, FANS, ETC. IN ACCORDANCE WITH THE ELEVATOR MANUFACTURER'S REQUIREMENTS.
10. LOCATE ALL ELECTRICAL ITEMS IN THE ELEVATOR MACHINE ROOM AND PIT IN ACCORDANCE WITH THE ELEVATOR MANUFACTURER'S SHOP DRAWINGS.
11. SEE SINGLE LINE DIAGRAM SHEET E0-0.2 FOR FEEDER REQUIREMENTS.
12. PROVIDE 3/4"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE DOOR MANUFACTURERS REQUIREMENTS.
13. ENGRAVE SWITCH COVERPLATE TO READ; "DISPOSAL"
14. ENGRAVE SWITCH COVERPLATE TO READ; "PARTITION"
15. PROVIDE 3/4"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE PARTITION MANUFACTUERES REQUIREMENTS.
16. CONNECT TO MOTOR OPERATED PARTITION IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIREMENTS.
17. CONNECT TO MOTORIZED PROJECTION SCREEN IN ACCORDANCE WITH THE SCREEN MANUFACTURERS REQUIREMENTS.
18. PROVIDE PROJECTION SCREEN CONTROLLER IN FLUSH IN WALL OUTLET BOX, +45".
19. PROVIDE 3/4"C WITH CONTROL WIRING IN ACCORDANCE WITH THE SCREEN MANUFACTURERS REQUIREMENTS.
20. PROVIDE 20"W X 30"H X 6"D TERMINAL CABINET, SURFACE MOUNTED, FOR HVAC CONTROL TRANSFORMERS. COORDINATE WITH HVAC CONTROLS CONTRACTOR.
21. CONNECT TO MOTOR OPERATED SHADES IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIREMENTS.
22. PROVIDE SHADE CONTROLLER IN FLUSH IN WALL OUTLET BOX, +45".
23. PROVIDE 3/4"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE SHADE MANUFACTURERS REQUIREMENTS.
24. FOR CONNECTION TO GHW-1.
25. CONNECT TO CP-1 ON ACCORDANCE TO MANUFACTURERS REQUIREMENTS.
26. CONNECT TO FIRE ALARM SPRINKLER BELL IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS. COORDINATE EXACT LOCATION AND HEIGHT PRIOR TO ROUGH-IN.
27. PROVIDE 120V POWER CONNECTION TO FIRE SMOKE DAMPERS. INSTALL IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS REQUIREMENTS.
28. ROUTE FIRE SMOKE DAMPER POWER THRU FIRE ALARM CONTROL MODULE.

1
29. PROVIDE SEAL-TITE FLEX CONNECTION TO ELECTRIFIED FURNITURE SYSTEM WIRING HARNESS. THE FURNITURE SYSTEM IS A "2 GENERAL PURPOSE + 2 ISOLATED CIRCUIT" SYSTEM. VERIFY EXACT POINT OF CONNECTION LOCATION WITH THE FURNITURE SYSTEM DRAWINGS. INSTALL IN ACCORDANCE WITH THE FURNITURE SYSTEM MANUFACTURER'S WIRING REQUIREMENTS.
30. PROVIDE 4#10 (H.), 1#10 (COMMON NEUTRAL), 1#10 (ISOLATED NEUTRAL), 1# 10 (COMMON GROUND) AND 1#10 (ISOLATED GROUND) IN 1¼" CONDUIT.
31. CONNECT TO PHONE CHARGING STATION. INSTALL IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS.

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owner

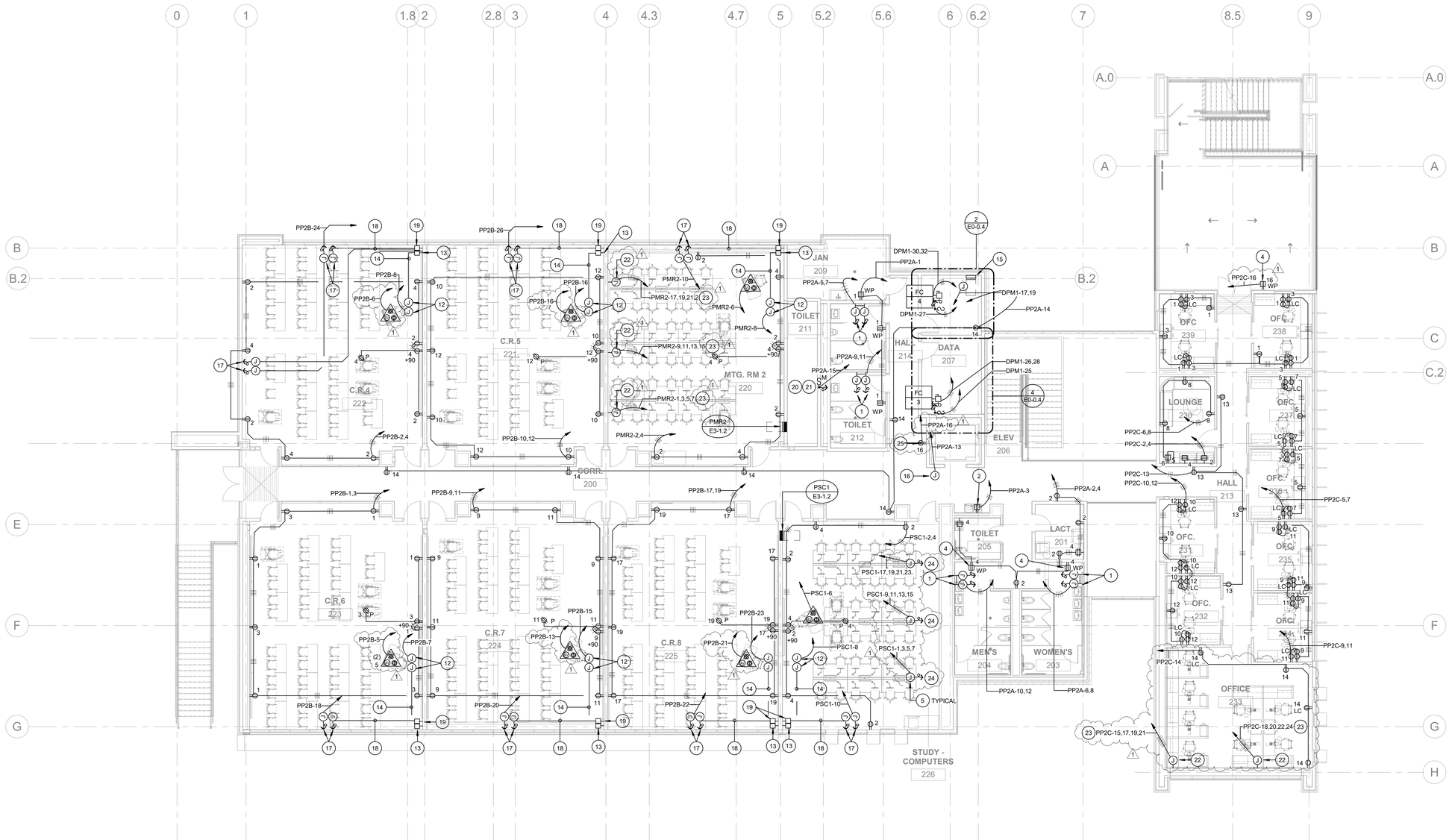
tBP project number: 20998.00
file name:
drawn by: checked by:
date: 04 / 08 / 2019

rev:	date:	description:
1	08/02/19	Addendum 1

drawing title: FIRST FLOOR POWER PLAN

drawing E2-1.1

drawing of



SECOND FLOOR POWER PLAN

SCALE 1/8" = 1'-0"

1

KEY NOTES

16 CONNECT AREA OF REFUGE TWO WAY COMMUNICATION DEVICE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIREMENTS.

17 CONNECT TO MOTOR OPERATED SHADES IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIREMENTS.

18 PROVIDE ¾"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE SHADE MANUFACTURERS REQUIREMENTS.

19 PROVIDE SHADE CONTROLLER IN FLUSH IN WALL OUTLET BOX, +45".

20 PROVIDE 120V POWER CONNECTION TO FIRE SMOKE DAMPER. INSTALL IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS REQUIREMENTS.

21 ROUTE FIRE SMOKE DAMPER POWER THRU FIRE ALARM CONTROL MODULE.

1 22 PROVIDE SEAL-TITE FLEX CONNECTION TO ELECTRIFIED FURNITURE SYSTEM WIRING HARNESS. THE FURNITURE SYSTEM IS A "2 GENERAL PURPOSE + 2 ISOLATED CIRCUIT" SYSTEM. VERIFY EXACT POINT OF CONNECTION LOCATION WITH THE FURNITURE SYSTEM DRAWINGS. INSTALL IN ACCORDANCE WITH THE FURNITURE SYSTEM MANUFACTURER'S WIRING REQUIREMENTS.

23 PROVIDE 4#10 (H.), 1#10 (COMMON NEUTRAL), 1#10 (ISOLATED NEUTRAL), 1# 10 (COMMON GROUND) AND 1#10 (ISOLATED GROUND) IN 1¼" CONDUIT.

24 PROVIDE FLUSH IN FLOOR COMBINATION POWER/DATA FLOOR POKE THROUGH DEVICE WITH FURNITURE FEED COVER. FURNITURE FEED COVER SHALL HAVE MINIMUM 1½" CONNECTION FOR COMPUTER/DATA/VOICE NETWORK CABLING AND 1" CONDUIT FOR POWER FEED CONNECTION. INSTALL POKE-THROUGH IN LOCATION PER THE FURNITURE SYSTEM DRAWINGS.

25 CONNECT TO PHONE CHARGING STATION. INSTALL IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS.

1 CONNECT TO ELECTRIC HAND DRYERS IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENT.

2 CONNECT TO ELECTRIC WATER COOLER IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENTS.

3 CONNECT TO POWER ASSISTED DOOR IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIRMENTS.

4 INSTALL GFCI TYPE RECEPTACLE IN FLUSH IN WALL LOCKING BOX, PASS AND SEYMOUR #4600 SERIES OR EQUAL BY COLE, +18".

5 FOR CONNECTION TO POWERED COMPUTER FURNITURE SYSTEM.

6 SEE SINGLE LINE DIAGRAM SHEET E0-0.2 FOR FEEDER REQUIREMENTS.

7 PROVIDE 3/4"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE DOOR MANUFACTURERS REQUIREMENTS.

8 ENGRAVE SWITCH COVERPLATE TO READ: "DISPOSAL"

9 ENGRAVE SWITCH COVERPLATE TO READ; "PARTITION"

10 PROVIDE 3/4"C. WITH CONTROL WIRING IN ACCORDANCE WITH THE PARTITION MANUFACTUERES REQUIREMENTS.

11 CONNECT TO MOTOR OPERATED PARTITION IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS REQUIREMENTS.

12 CONNECT TO MOTORIZED PROJECTION SCREEN IN ACCORDANCE WITH THE SCREEN MANUFACTURERS REQUIREMENTS.

13 PROVIDE PROJECTION SCREEN CONTROLLER IN FLUSH IN WALL OUTLET BOX, +45".

14 PROVIDE 3/4"C WITH CONTROL WIRING IN ACCORDANCE WITH THE SCREEN MANUFACTUERERES REQUIREMENTS.

15 PROVIDE 20"W X 30"H X 6"D TERMINAL CABINET, SURFACE MOUNTED, FOR HVAC CONTROL TRANSFORMERS. COORDINATE WITH HVAC CONTROLS CONTRACTOR.

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consultant

COMPTON COLLEGE
INSTRUCTIONAL BUILDING No.2
COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.

owner

tBP project number: 20998.00
file name:
drawn by: checked by:
date: 04 / 08 / 2019

rev:	date:	description:
1	08/02/19	Addendum 1

drawing title:
SECOND FLOOR POWER PLAN

drawing
E2-2.1
drawing of

8/26/2019 4:24:51 PM

Branch Panel: PMR1

INSTRUCTIONAL BUILDING NO. 2

Location: MEETING ROOM-1 129-1 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: FLUSH | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	MEETING ROOM COMPUTERS	1	20 A	1	1600... 900 VA			1	20 A	5	MEETING ROOM RECEPTACLES	2
3	MEETING ROOM COMPUTERS	1	20 A	1		1600... 720 VA		1	20 A	4	MEETING ROOM RECEPTACLES	4
5	MEETING ROOM COMPUTERS	1	20 A	1			1600... 500 VA	1	20 A	1	MEETING ROOM LECTERN	6
7	MEETING ROOM COMPUTERS	1	20 A	1	1600... 800 VA			1	20 A	1	MEETING ROOM PROJ. SCREEN	8
9	MEETING ROOM COMPUTERS	1	20 A	1		1600... 0 VA		1	20 A	--	Spare	10
11	MEETING ROOM COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	12
13	MEETING ROOM COMPUTERS	1	20 A	1	1600... 0 VA			1	20 A	--	Spare	14
15	MEETING ROOM COMPUTERS	1	20 A	1		1600... 0 VA		1	20 A	--	Spare	16
17	MEETING ROOM COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	18
19	MEETING ROOM COMPUTERS	1	20 A	1	1600... 0 VA			1	20 A	--	Spare	20
21	MEETING ROOM COMPUTERS	1	20 A	1		1600... 0 VA		1	20 A	--	Spare	22
23	MEETING ROOM COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	24
25	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	26
27	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	28
29	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	30
31	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	32
33	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	34
35	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	38
39	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	40
41	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	42
					Total Load: 8100 VA	7120 VA	6900 VA					
					Total Amps: 68 A	60 A	58 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	9600 VA	100.00%	9600 VA	
Power	10400 VA	100.00%	10400 VA	**Total Conn. Load:** 22120 VA
Receptacle	2120 VA	100.00%	2120 VA	**Total Est. Demand:** 22120 VA
				Total Conn.: 61 A
				Total Est. Demand: 61 A

Notes:

Branch Panel: PAV1

INSTRUCTIONAL BUILDING NO. 2

Location: AUDIO/ VISUAL 121 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: FLUSH | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	AV FLOOR BOXES	1	20 A	1	720 VA 1080...			1	20 A	6	AV CONV. RECEPTACLES	2
3	AV FLOOR BOXES	1	20 A	1		720 VA 1080...		1	20 A	6	AV CONV. RECEPTACLES	4
5	Spare	--	20 A	1			0 VA 540 VA	1	20 A	1	AV LECTERN	6
7	Spare	--	20 A	1	0 VA 800 VA			1	20 A	1	AV PROJ. SCREEN	8
9	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	10
11	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	12
13	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	14
15	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	16
17	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	18
19	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	20
21	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	22
23	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	24
25	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	26
27	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	28
29	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	30
31	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	32
33	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	34
35	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	38
39	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	40
41	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	42
					Total Load: 2600 VA	1800 VA	540 VA					
					Total Amps: 23 A	17 A	5 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	800 VA	100.00%	800 VA	
Receptacle	4140 VA	100.00%	4140 VA	**Total Conn. Load:** 4940 VA
				Total Est. Demand: 4940 VA
				Total Conn.: 14 A
				Total Est. Demand: 14 A

Notes:

Branch Panel: HL1

INSTRUCTIONAL BUILDING NO. 2

Location: Space 397 | **Volts:** 480/277 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	Lighting 1st Floor	43	20 A	1	2752... 2176...			1	20 A	34	Lighting 1st Floor	2
3	Lighting 1st Floor	32	20 A	1		2253... 921 VA		1	20 A	37	Lighting 1st Floor	4
5	Lighting Site	11	20 A	1			1815... 1320...	1	20 A	8	Lighting Site	6
7	Lighting Site	10	20 A	1	1650... 1320...			1	20 A	8	Lighting Site	8
9	Spare	--	20 A	1		0 VA 2244...		1	30 A	1	INVERTER EMH	10
11	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	12
13	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	14
15	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	16
17	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	18
19	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	20
21	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	22
23	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA 4608...			3	60 A	1	HL2	26
27	Spare	--	20 A	1		0 VA 2990...		--	--	--	--	28
29	Spare	--	20 A	1			0 VA 219 VA	--	--	--	--	30
31	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	32
33	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	34
35	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	38
39	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	40
41	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	42
					Total Load: 9988 VA	8168 VA	3143 VA					
					Total Amps: 39 A	32 A	11 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	17967 VA	100.00%	17967 VA	
Other	1585 VA	100.00%	1585 VA	**Total Conn. Load:** 19403 VA
				Total Est. Demand: 19403 VA
				Total Conn.: 23 A
				Total Est. Demand: 23 A

Notes:

Branch Panel: PP1A

INSTRUCTIONAL BUILDING NO. 2

Location: Space 397 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: Recessed | **Wires:** 4 | **Mains Rating:** 150 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	GWH-1 JAN 113	1	20 A	1	180 VA 1000...			1	20 A	1	POWER ASSISTED DOOR	2
3	RECEPTACLES CONV.	4	20 A	1		720 VA 1000...		1	20 A	1	POWER ASSISTED DOOR	4
5	EDF	1	20 A	1			800 VA 1000...	1	20 A	1	POWER ASSISTED DOOR	6
7	VENDING MACHINE	1	20 A	1	1500... 1500...			1	20 A	1	WOMENS 102 HAND DRYER	8
9	VENDING MACHINE	1	20 A	1	1500... 1500...			1	20 A	1	WOMENS 102 HAND DRYER	10
11	ELEV. SMOKE GUARD	1	20 A	1			1000... 1500...	1	20 A	1	MENS 103 HAND DRYER	12
13	TOILET 111 HAND DRYER	1	20 A	1	1500... 1500...			1	20 A	1	MENS 103 HAND DRYER	14
15	TOILET 111 HAND DRYER	1	20 A	1		1500... 500 VA		1	20 A	1	ELEV. CAB LTS FAN, ETC.	16
17	TOILET 112 HAND DRYER	1	20 A	1			1500... 100 VA	1	20 A	1	ELEV. PIT LIGHT	18
19	TOILET 112 HAND DRYER	1	20 A	1	1500... 180 VA			1	20 A	1	ELEV. PIT RECEPTACLE	20
21	RECEPTACLES CONV.	3	20 A	1		540 VA 180 VA		1	20 A	1	ELEV. MACH RM. RECEPTACLE	22
23	RECEPTACLES CONV.	4	20 A	1			720 VA 1200...	1	20 A	1	RECEPTACLES LOUNGE COUNTER	24
25	RECEPTACLE EXTERIOR	4	20 A	1	720 VA 1200...			1	20 A	1	RECEPTACLES LOUNGE COUNTER	26
27	RECEPTACLES CONVIENENCE	4	20 A	1		720 VA 800 VA		1	20 A	1	LOUNGE DISPOSAL	28
29	RECEPTACLES CONVIENENCE	2	20 A	1			360 VA 540 VA	1	20 A	3	RECEPTACLES LOUNGE RECEPTS	30
31	RECEPTACLES OFFICE	4	20 A	1	940 VA 180 VA			1	20 A	1	Fire Sprinkler Bell F.R. 110	32
33	RECEPTACLES OFFICE	4	20 A	1		940 VA 100 VA		1	20 A	2	Fire Smoke Damper MACH 107	34
35	Receptacle EXTERIOR /1	4	20 A	1			720 VA 1500...	1	20 A	1	Phone Charging Station CORR-1 105-1 /1	36
37	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	38
39	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	40
41	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	42
					Total Load: 11900 VA	9980 VA	10940 VA					
					Total Amps: 100 A	83 A	92 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	100 VA	100.00%	100 VA	
Motor	100 VA	100.00%	100 VA	**Total Conn. Load:** 32820 VA
Power	16680 VA	100.00%	16680 VA	**Total Est. Demand:** 29840 VA
Receptacle	15960 VA	81.33%	12980 VA	**Total Conn.:** 91 A
				Total Est. Demand: 83 A

Notes:

Branch Panel: PHL1

INSTRUCTIONAL BUILDING NO. 2

Location: HUM. LAB COMP 1-1 120-1 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: FLUSH | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	HUM LAB COMPUTERS	1	20 A	1	1600... 900 VA			1	20 A	5	HUM LAB COMP. RECEPTS	2
3	HUM LAB COMPUTERS	1	20 A	1		1600... 900 VA		1	20 A	5	HUM LAB COMP. RECEPTS	4
5	HUM LAB COMPUTERS	1	20 A	1			1600... 540 VA	1	20 A	1	HUM LAB COMP. LECTERN	6
7	HUM LAB COMPUTERS	1	20 A	1	1600... 0 VA			1	20 A	1	HUM LAB COMP. PROJ. SCREEN	8
9	HUM LAB COMPUTERS	1	20 A	1		1600... 500 VA		1	20 A	1	Motor Operated Shade HUM. LAB COMP 1-1...	10
11	HUM LAB COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	12
13	HUM LAB COMPUTERS	1	20 A	1	1600... 0 VA			1	20 A	--	Spare	14
15	HUM LAB COMPUTERS	1	20 A	1		1600... 0 VA		1	20 A	--	Spare	16
17	HUM LAB COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	18
19	HUM LAB COMPUTERS	1	20 A	1	1600... 0 VA			1	20 A	--	Spare	20
21	HUM LAB COMPUTERS	1	20 A	1		1600... 0 VA		1	20 A	--	Spare	22
23	HUM LAB COMPUTERS	1	20 A	1			1600... 0 VA	1	20 A	--	Spare	24
25	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	26
27	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	28
29	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	30
31	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	32
33	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	34
35	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	38
39	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	40
41	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	42
					Total Load: 7300 VA	7800 VA	6940 VA					
					Total Amps: 61 A	65 A	58 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	9600 VA	100.00%	9600 VA	
Power	10100 VA	100.00%	10100 VA	**Total Conn. Load:** 22040 VA
Receptacle	2340 VA	100.00%	2340 VA	**Total Est. Demand:** 22040 VA
				Total Conn.: 61 A
				Total Est. Demand: 61 A

Notes:

INVERTER PANEL SCHEDULE: EMH

Project: INSTRUCTIONAL BUILDING NO. 2 | **Mains:**
Location: Space 397
Supply From: HL1
Volts: 480/277 Wye

CKT	Circuit Description	Voltage	Quantity	Rating	Number of Poles	Load	Control
1	1ST & 2ND FLOOR ELECTRICAL/TELECOM ROOMS	277 V	8	20 A	1	184 VA	
2	1ST FLOOR CORRIDOR	277 V	9	20 A	1	151 VA	
3	1ST FLOOR EXIT SIGNS	277 V	14	20 A	1	828 VA	
4	2ND FLOOR CORRIDOR	277 V	4	20 A	1	12 VA	
5	2ND FLOOR EXIT SIGN	277 V	3	20 A	1	674 VA	
6	EXTERIOR LIGHTING	277 V	15	20 A	1	588 VA	
7	Spare	--	--	20 A	1	0 VA	
8	Spare	--	--	20 A	1	0 VA	
9	Spare	--	--	20 A	1	0 VA	
10	Spare	--	--	20 A	1	0 VA	
11	Spare	--	--	20 A	1	0 VA	
12	Spare	--	--	20 A	1	0 VA	
13	Spare	--	--	20 A	1	0 VA	
14	Spare	--	--	20 A	1	0 VA	
15	Spare	--	--	20 A	1	0 VA	
16	Spare	--	--	20 A	1	0 VA	
17	Spare	--	--	20 A	1	0 VA	
18	Spare	--	--	20 A	1	0 VA	
19	Spare	--	--	20 A	1	0 VA	
20	Spare	--	--	20 A	1	0 VA	
					Total Conn. Load:		2244 VA
					Total Amps:		3 A

Notes:
PT/TC - PHOTOCELL ON / TIMECLOCK OFF FUNCTION OF LIGHTING CONTROL PANEL
PC/PC - PHOTOCELL ON / PHOTOCELL OFF FUNCTION OF LIGHTING CONTROL PANEL
LC - LIGHTING CONTROL SYSTEM

Branch Panel: PP1C

INSTRUCTIONAL BUILDING NO. 2

Location: Space 397 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	Receptacle Office	6	20 A	1	1080... 1080...			1	20 A	6	READ/STUDY 131 Receptacles	2
3	Receptacle Office	6	20 A	1		1080... 900 VA		1	20 A	5	READ/ STUDY 131 Receptacle	4
5	Receptacle Office	4	20 A	1			720 VA 500 VA	1	20 A	1	READ/ STUDY 131 Lectern	6
7	Receptacle Office	3	20 A	1	540 VA 800 VA			1	20 A	1	READ/ STUDY 131 Proj. Screen	8
9	Receptacle Office	4	20 A	1		720 VA 720 VA		1	20 A	1	READ/STUDY 131 FLOOR BOX	10
11	Receptacle Office	2	20 A	1			360 VA 720 VA	1	20 A	1	READ/STUDY 131 FLOOR BOX	12
13	Receptacle Office	3	20 A	1	540 VA 720 VA			1	20 A	1	READ/STUDY 131 FLOOR BOX	14
15	PARTITION	1	20 A	3		500 VA 720 VA		1	20 A	1	READ/STUDY 131 FLOOR BOX	16
17	--	--	--	--			500 VA 0 VA	1	20 A	--	Spare	18
19	--	--	--	--	500 VA 0 VA			1	20 A	--	Spare	20
21	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	22
23	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	26
27	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	28
29	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	30
31	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	32
33	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	34
35	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA 0 VA			--	--	--	Provision	38
39	Provision	--	--	--		0 VA 0 VA		--	--	--	Provision	40
41	Provision	--	--	--			0 VA 0 VA	--	--	--	Provision	42
					Total Load: 5260 VA	4640 VA	2800 VA					
					Total Amps: 46 A	41 A	23 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	2300 VA	100.00%	2300 VA	
Receptacle	10400 VA	98.08%	10200 VA	**Total Conn. Load:** 12700 VA
				Total Est. Demand: 12500 VA
				Total Conn.: 35 A
				Total Est. Demand: 35 A

Notes:

Branch Panel: PP1B

INSTRUCTIONAL BUILDING NO. 2

Location: Space 397 | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: Recessed | **Wires:** 4 | **Mains Rating:** 100 A
Isolated Ground Bus: | **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A	B	C	Pole	Trip	Quan	Circuit Description	CKT
1	CR1 RECEPTACLES	4	20 A	1	720 VA 720 VA			1	20 A	4	HUM LAB RECEPTACLES	2
3	CR1 RECEPTACLES	3	20 A	1		540 VA 900 VA		1	20 A	5	HUM LAB RECEPTACLES	4
5	CR1 LECTERN	1	20 A	1			500 VA 500 VA	1	20 A	1	HUM LAB LECTERN	6
7	CR1 PROJ. SCREEN	1	20 A	1	800 VA 800 VA			1	20 A	1	HUM LAB PROJ. SCREEN	8
9	CR2 RECEPTACLES	5	20 A	1		900 VA 720 VA		1	20 A	1	HUM LAB FLOOR BOX	10
11	CR2 RECEPTACLES	4	20 A	1			720 VA 720 VA	1	20 A	1	HUM LAB FLOOR BOX	12
13	CR2 LECTERN	1	20 A	1	500 VA 720 VA			1	20 A	1	HUM LAB FLOOR BOX	14
15	CR2 PROJ. SCREEN	1	20 A	1		800 VA 720 VA		1	20 A	1	HUM LAB FLOOR BOX	16
17	CR3 RECEPTACLES	5	20 A	1			900 VA 720 VA	1	20 A	1	HUM LAB FLOOR BOX	18
19	CR3 RECEPTACLES	5	20 A	1	900 VA 720 VA			1	20 A	1	HUM LAB FLOOR BOX	20
21	CR3 LECTERN	1	20 A	1		500 VA 720 VA		1	20 A	1	HUM LAB FLOOR BOX	22
23	CR3 PROJ. SCREEN	1	20 A	1			800 VA 720 VA	1	20 A	1	HUM LAB FLOOR BOX	24
25	Vending Machine OUTDOOR	1	20 A	1	500 VA 720 VA			1	20 A	1	HUM LAB FLOOR BOX	26
27	Vending Machine OUTDOOR	1	20 A	1		500 VA 500 VA		1	20 A	1	Motor Operated Shade C.R.1 126	28
29	Motor Operated Shade C.R.3 128	1	20 A	1			500 VA 500 VA	1	20 A	1	Motor Operated Shade C.R.2 127	30
31	Motor Operated Shade MEETING ROOM-1...	1	20 A	1	500 VA 500 VA			1	20 A	1	Motor Operated Shade HUM. LAB-1 125-1	32
33	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	34
35	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA 0 VA			1	20 A	--	Spare	38
39	Spare	--	20 A	1		0 VA 0 VA		1	20 A	--	Spare	40
41	Spare	--	20 A	1			0 VA 0 VA	1	20 A	--	Spare	42
					Total Load: 8100 VA	6800 VA	6580 VA					
					Total Amps: 68 A	57 A	55 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	5700 VA	100.00%	5700 VA	
Receptacle	15780 VA	81.69%	12890 VA	**Total Conn. Load:** 21480 VA
				Total Est. Demand: 18590 VA
				Total Conn.: 60 A
				Total Est. Demand: 52 A

Notes:

8/6/2019 4:25:01 PM

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No.2
COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.
owner

IBP project number: 20998.00
file name:
drawn by: checked by:
date: 04 / 08 / 2019

rev:	date:	description:
1	08/02/19	Addendum 1

drawing title:
PANEL SCHEDULES

drawing
E3-1.1
drawing of

Branch Panel: PMR2

INSTRUCTIONAL BUILDING NO. 2

Location: MTG. RM 2 220 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: FLUSH **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 175 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	MTG. RM 2 COMPUTERS	1	20 A	1	1600...	720 VA					1	20 A	4	MTG. RM 2 RECEPTACLES	2
3	MTG. RM 2 COMPUTERS	1	20 A	1			1600...	720 VA			1	20 A	4	MTG. RM 2 RECEPTACLES	4
5	MTG. RM 2 COMPUTERS	1	20 A	1					1600...	500 VA	1	20 A	1	MTG. RM 2 LECTERN	6
7	MTG. RM 2 COMPUTERS	1	20 A	1	1600...	800 VA					1	20 A	1	MTG. RM 2 PROJ. SCREEN	8
9	MTG. RM 2 COMPUTERS	1	20 A	1			1600...	500 VA			1	20 A	1	Motor Operated Shade MTG. RM 2 220	10
11	MTG. RM 2 COMPUTERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	12
13	MTG. RM 2 COMPUTERS	1	20 A	1	1600...	0 VA					1	20 A	--	Spare	14
15	MTG. RM 2 COMPUTERS	1	20 A	1			1600...	0 VA			1	20 A	--	Spare	16
17	MTG. RM 2 COMPUTERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	18
19	MTG. RM 2 COMPUTERS	1	20 A	1	1600...	0 VA					1	20 A	--	Spare	20
21	MTG. RM 2 COMPUTERS	1	20 A	1			1600...	0 VA			1	20 A	--	Spare	22
23	MTG. RM 2 COMPUTERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	7920 VA		7620 VA		6900 VA						
				Total Amps:	67 A		64 A		58 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	9600 VA	100.00%	9600 VA		
Power	10900 VA	100.00%	10900 VA	Total Conn. Load:	22440 VA
Receptacle	1940 VA	100.00%	1940 VA	Total Est. Demand:	22440 VA
				Total Conn.:	62 A
				Total Est. Demand:	62 A

Notes:

Branch Panel: PHL2

INSTRUCTIONAL BUILDING NO. 2

Location: HUM. LAB COMP 2 130 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: FLUSH **Wires:** 4 **Mains Rating:** 150 A
Isolated Ground Bus: **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	HUM LAB COMPTUERS	1	20 A	1	1600...	900 VA					1	20 A	5	HUM LAB COMP 2 RECEPTACLES	2
3	HUM LAB COMPTUERS	1	20 A	1			1600...	900 VA			1	20 A	5	HUM LAB COMP 2 RECEPTACLES	4
5	HUM LAB COMPTUERS	1	20 A	1					1600...	500 VA	1	20 A	1	HUM LAB COMP 2 LECTERN	6
7	HUM LAB COMPTUERS	1	20 A	1	1600...	800 VA					1	20 A	1	Power HUM. LAB COMP 2 130	8
9	HUM LAB COMPTUERS	1	20 A	1			1600...	1500...			1	20 A	3	Motor Opearated Shade HUM. LAB COMP 2...	10
11	HUM LAB COMPTUERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	12
13	HUM LAB COMPTUERS	1	20 A	1	1600...	0 VA					1	20 A	--	Spare	14
15	HUM LAB COMPTUERS	1	20 A	1			1600...	0 VA			1	20 A	--	Spare	16
17	HUM LAB COMPTUERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	18
19	HUM LAB COMPTUERS	1	20 A	1	1600...	0 VA					1	20 A	--	Spare	20
21	HUM LAB COMPTUERS	1	20 A	1			1600...	0 VA			1	20 A	--	Spare	22
23	HUM LAB COMPTUERS	1	20 A	1					1600...	0 VA	1	20 A	--	Spare	24
25	HUM LAB COMPTUERS	1	20 A	1	1600...	0 VA					--	--	--	Provision	26
27	HUM LAB COMPTUERS	1	20 A	1			1600...	0 VA			--	--	--	Provision	28
29	HUM LAB COMPTUERS	1	20 A	1					1600...	0 VA	--	--	--	Provision	30
31	HUM LAB COMPTUERS	1	20 A	1	1600...	0 VA					--	--	--	Provision	32
33	Provision	--	--	--			0 VA	0 VA			--	--	--	Provision	34
35	Provision	--	--	--					0 VA	0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA	0 VA					--	--	--	Provision	38
39	Provision	--	--	--			0 VA	0 VA			--	--	--	Provision	40
41	Provision	--	--	--					0 VA	0 VA	--	--	--	Provision	42
				Total Load:	11300 VA		10400 VA		8500 VA						
				Total Amps:	97 A		89 A		71 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	12800 VA	100.00%	12800 VA		
Power	15100 VA	100.00%	15100 VA	Total Conn. Load:	30200 VA
Receptacle	2300 VA	100.00%	2300 VA	Total Est. Demand:	30200 VA
				Total Conn.:	84 A
				Total Est. Demand:	84 A

Notes:

Branch Panel: HL2

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 480/277 Wye **A.I.C. Rating:**
Supply From: HL1 **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 60 A
Isolated Ground Bus: **MCB Rating:** 100 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	Lighting 2nd Floor	45	20 A	1	2880...	1728...					1	20 A	27	Lighting 2nd Floor	2
3	Lighting 2nd Floor	33	20 A	1			2112...	1021...			1	20 A	42	Lighting 2nd Floor	4
5	Spare	--	20 A	1					0 VA	219 VA	1	20 A	3	Lighting 2nd Floor Corridor	6
7	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	8
9	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	10
11	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	12
13	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	14
15	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	16
17	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	18
19	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	20
21	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	22
23	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Provision	--	--	--	0 VA	0 VA					--	--	--	Provision	32
33	Provision	--	--	--			0 VA	0 VA			--	--	--	Provision	34
35	Provision	--	--	--					0 VA	0 VA	--	--	--	Provision	36
37	Provision	--	--	--	0 VA	0 VA					--	--	--	Provision	38
39	Provision	--	--	--			0 VA	0 VA			--	--	--	Provision	40
41	Provision	--	--	--					0 VA	0 VA	--	--	--	Provision	42
				Total Load:	4608 VA		2990 VA		219 VA						
				Total Amps:	18 A		12 A		1 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	7558 VA	100.00%	7558 VA		
Other	219 VA	100.00%	219 VA	Total Conn. Load:	7777 VA
				Total Est. Demand:	7777 VA
				Total Conn.:	9 A
				Total Est. Demand:	9 A

Notes:

Branch Panel: PP2C

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 175 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	Receptacle OFC 239/238	6	20 A	1	1080...	1200...					1	20 A	1	Receptacle LOUNGE 230	2
3	Receptacle OFC 239/238	5	20 A	1			900 VA	1200...			1	20 A	1	Receptacle LOUNGE 230	4
5	Receptacle OFC 237/236	6	20 A	1					1080...	800 VA	1	20 A	1	Garbage Disposal LOUNGE 230	6
7	Receptacle OFC 237/236	4	20 A	1	720 VA	540 VA					1	20 A	3	Receptacle LOUNGE 230	8
9	Recpetacle OFC 235/234	5	20 A	1			900 VA	900 VA			1	20 A	5	Receptacle OFC 231/232	10
11	Receptacle OFC 235/234	5	20 A	1					900 VA	900 VA	1	20 A	5	Receptacle OFC 231/232	12
13	Receptacle HALL 213 △1	4	20 A	1	720 VA	720 VA					1	20 A	4	Recpetacle OFC 233 △1	14
15	Furniture System OFC 233	1	20 A	1			1600...	180 VA			1	20 A	1	Receptacle STAIR	16
17	Furniture System OFC 233	1	20 A	1					1600...	1600...	1	20 A	1	Furniture System OFC 233	18
19	Furniture System OFC 233	1	20 A	1	1600...	1600...					1	20 A	1	Furniture System OFC 233	20
21	Furniture System OFC 233	1	20 A	1			1600...	1600...			1	20 A	1	Furniture System OFC 233	22
23	Spare	--	20 A	1					0 VA	1600...	1	20 A	1	Furniture System OFC 233	24
25	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	8180 VA		8880 VA		8480 VA						
				Total Amps:	68 A		74 A		71 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	6400 VA	100.00%	6400 VA		
Power	6400 VA	100.00%	6400 VA	Total Conn. Load:	25540 VA
Receptacle	12740 VA	89.25%	11370 VA	Total Est. Demand:	24170 VA
				Total Conn.:	71 A
				Total Est. Demand:	67 A

Notes:

Branch Panel: PP2B

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 175 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	CR6 RECEPTACLES	5	20 A	1	900 VA	900 VA					1	20 A	5	CR4 RECEPTACLES	2
3	CR6 RECEPTACLES	5	20 A	1			900 VA	900 VA			1	20 A	5	CR4 RECEPTACLES	4
5	CR6 LECTERN	1	20 A	1					500 VA	500 VA	1	20 A	1	CR4 LECTERN	6
7	CR6 PROJ. SCREEN	1	20 A	1	800 VA	800 VA					1	20 A	1	CR4 PROJ. SCREEN	8
9	CR7 RECEPTACLES	5	20 A	1			900 VA	900 VA			1	20 A	5	CR5 RECEPTACLES	10
11	CR7 RECEPTACLES	5	20 A	1					900 VA	900 VA	1	20 A	5	CR5 RECEPTACLES	12
13	CR7 LECTERN	1	20 A	1	500 VA	500 VA					1	20 A	1	CR5 LECTERN	14
15	CR7 PROJ. SCREEN	1	20 A	1			800 VA	800 VA			1	20 A	1	CR5 PROJ. SCREEN	16
17	CR8 RECEPTACLES	5	20 A	1					900 VA	500 VA	1	20 A	1	Motor Operated Shade C.R.6 223	18
19	CR8 RECEPTACLES	5	20 A	1	900 VA	500 VA					1	20 A	1	Motor Operated Shade C.R.7 224	20
21	CR8 LECTERN	1	20 A	1			500 VA	500 VA			1	20 A	1	Motor Operated Shade C.R.8 225	22
23	CR8 PROJ. SCREEN	1	20 A	1					800 VA	1000...	1	20 A	2	Motor Operated Shade C.R.4 222	24
25	Spare	--	20 A	1	0 VA	500 VA					1	20 A	1	Motor Operated Shade C.R.5 221	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	6300 VA		6200 VA		6000 VA						
				Total Amps:	53 A		52 A		50 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	7000 VA	100.00%	7000 VA		
Receptacle	11500 VA	93.48%	10750 VA	Total Conn. Load:	18500 VA
				Total Est. Demand:	17750 VA
				Total Conn.:	51 A
				Total Est. Demand:	49 A

Notes:

Branch Panel: PP2A

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 175 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	RECEPTACLES CONV.	3	20 A	1	540 VA	720 VA					1	20 A	4	RECEPTACLES CONV.	2
3	EDF	1	20 A	1			800 VA	720 VA			1	20 A	4	RECEPTACLES CONV.	4
5	TOILET 211 HAND DRYER	1	20 A	1					1500...	1500...	1	20 A	1	WOMENS 203 HAND DRYER	6
7	TOILET 211 HAND DRYER	1	20 A	1	1500...	1500...					1	20 A	1	WOMENS 203 HAND DRYER	8
9	TOILET 212 HAND DRYER	1	20 A	1			1500...	1500...			1	20 A	1	MENS 204 HAND DRYER	10
11	TOILET 212 HAND DRYER	1	20 A	1					1500...	1500...	1	20 A	1	MENS 204 HAND DRYER	12
13	Area of Refuge Receptacle CORR.-1 200-1	1	20 A	1	500 VA	1080...					1	20 A	6	RECEPTACLES CONV.	14
15	Fire Smoke Damper	1	20 A	1			50 VA	1500...			1	20 A	1	Phone Charging Station HALL-1 214-1 △1	16
17	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	18
19	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	20
21	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	22
23	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	5840 VA		6060 VA		6000 VA						
				Total Amps:	49 A		51 A		50 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	50 VA	100.00%	50 VA		
Power	12500 VA	100.00%	12500 VA	Total Conn. Load:	17900 VA
Receptacle	5360 VA	100.00%	5360 VA	Total Est. Demand:	17900 VA
				Total Conn.:	50 A
				Total Est. Demand:	50 A

Notes:

Branch Panel: DPM1

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: TM1 **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 175 A
Isolated Ground Bus: **MCB Rating:** 225 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	AHU-1 LTS	1	20 A	1	400 VA	2600...					2	30 A	1	CU-1	2
3	AHU-1 RECEOTS	1	20 A	1			360 VA	2600...			--	--	--	--	4
5	ROOF RECEPTACLES	5	20 A	1					900 VA	2600...	2	30 A	1	CU-2	6
7	Spare	--	20 A	1	0 VA	2600...					--	--	--	--	8
9	B-1	1	20 A	1			1000...	2600...			2	30 A	1	CU-3	10
11	B-2	1	20 A	1					1000...	2600...	--	--	--	--	12
13	1ST FLOOR HVAC PANEL	1	20 A	1	1000...	2600...					2	30 A	1	CU-4	14
15	1ST FLOOR HVAC PANEL	1	20 A	1			1000...	2600...			--	--	--	--	16
17	2ND FLOOR HVAC PANEL	1	20 A	1					1000...	312 VA	2	15 A	1	FC-1	18
19	2ND FLOOR HVAC PANEL	1	20 A	1	1000...	312 VA					--	--	--	--	20
21	CP-1	1	20 A	1			100 VA	312 VA			2	20 A	1	FC-2	22
23	CP-2	1	20 A	1					100 VA	312 VA	--	--	--	--	24
25	CP-3	1	20 A	1	0 VA	2103...					2	20 A	1	FC-3	26
27	CP-4	1	20 A	1			0 VA	2103...			--	--	--	--	28
29	Spare	--	20 A	1					0 VA	2103...	2	20 A	1	FC-4	30
31	Spare	--	20 A	1	0 VA	2103...					--	--	--	--	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	14718 VA		12472 VA		10727 VA						
				Total Amps:	125 A		106 A		89 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	2200 VA	100.00%	2200 VA		
Other	4760 VA	100.00%	4760 VA	Total Conn. Load:	37903 VA
Power	30460 VA	100.00%	30460 VA	Total Est. Demand:	37903 VA
Receptacle	900 VA	100.00%	900 VA	Total Conn.:	105 A
				Total Est. Demand:	105 A

Notes:

Branch Panel: DHM1

INSTRUCTIONAL BUILDING NO. 2

Location: Space 124 **Volts:** 480/277 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: Surface **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 100 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	P-1 - 1.5 HP	1	20 A	3	500 VA	500 VA					3	20 A	1	P-2 - 1.5 HP	2
3	--	--	--	--			500 VA	500 VA			--	--	--	--	4
5	--	--	--	--					500 VA	500 VA	--	--	--	--	6
7	EF-1 - 1.5 HP	1	20 A	3	500 VA	500 VA					3	20 A	1	P-3 - 1.5 HP	8
9	--	--	--	--			500 VA	500 VA			--	--	--	--	10
11	--	--	--	--					500 VA	500 VA	--	--	--	--	12
13	EF-2 - 1.5 HP	1	20 A	3	500 VA	0 VA					1	20 A	--	Spare	14
15	--	--	--	--			500 VA	0 VA			1	20 A	--	Spare	16
17	--	--	--	--					500 VA	0 VA	1	20 A	--	Spare	18
19	Provision	--	--	--	0 VA	0 VA					1	20 A	--	Spare	20
21	Provision	--	--	--			0 VA	0 VA			1	20 A	--	Spare	22
23	Provision	--	--	--					0 VA	0 VA	1	20 A	--	Spare	24
25	Provision	--	--	--	0 VA	0 VA					1	20 A	--	Spare	26
27	Provision	--	--	--			0 VA	0 VA			1	20 A	--	Spare	28
29	Provision	--	--	--					0 VA	0 VA	1	20 A	--	Spare	30
31	Provision	--	--	--	0 VA	0 VA					1	20 A	--	Spare	32
33	Provision	--	--	--			0 VA	0 VA			1	20 A	--	Spare	34
35	Provision	--	--	--					0 VA	0 VA	1	20 A	--	Spare	36
37	Provision	--	--	--	0 VA	14718...					3	70 A	1	PANEL DPM1 VIA TRANSFORMER TM1	38
39	Provision	--	--	--			0 VA	12472...			--	--	--	--	40
41	Provision	--	--	--					0 VA	10727 VA	--	--	--	--	42
				Total...	16785 VA		14615 VA		12889 VA						
				Total...	62 A		54 A		47 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	7500 VA	100.00%	7500 VA		
Motor	2200 VA	100.00%	2200 VA	Total Conn. Load:	44264 VA
Other	4760 VA	100.00%	4760 VA	Total Est. Demand:	44264 VA
Power	30460 VA	100.00%	30460 VA	Total Conn.:	53 A
Receptacle	900 VA	100.00%	900 VA	Total Est. Demand:	53 A

Notes:

Branch Panel: PSC1

INSTRUCTIONAL BUILDING NO. 2

Location: STUDY - COMPUTERS-1 226-1 **Volts:** 120/208 Wye **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:**
Mounting: FLUSH **Wires:** 4 **Mains Rating:** 100 A
Isolated Ground Bus: **MCB Rating:** 175 A

CKT	Circuit Description	Quan	Trip	Pole	A		B		C		Pole	Trip	Quan	Circuit Description	CKT
1	Power STUDY - COMPUTERS-1 226-1	1	20 A	1	1200...	720 VA					1	20 A	4	STUDY/COMPUTERS RECEPTACLES	2
3	Power STUDY - COMPUTERS-1 226-1	1	20 A	1			1200...	720 VA			1	20 A	4	STUDY/COMPUTERS RECEPTACLES	4
5	Power STUDY - COMPUTERS-1 226-1	1	20 A	1					1200...	500 VA	1	20 A	1	STUDY/COMPUTERS LECTERN	6
7	Power STUDY - COMPUTERS-1 226-1	1	20 A	1	1200...	800 VA					1	20 A	1	STUDY/COMPUTERS PROJ. SCREEN	8
9	Power STUDY - COMPUTERS-1 226-1	1	20 A	1			1200...	500 VA			1	20 A	1	Motor Operated Shade STUDY -...	10
11	Power STUDY - COMPUTERS-1 226-1	1	20 A	1					1200...	0 VA	1	20 A	--	Spare	12
13	Power STUDY - COMPUTERS-1 226-1	1	20 A	1	1200...	0 VA					1	20 A	--	Spare	14
15	Power STUDY - COMPUTERS-1 226-1	1	20 A	1			1200...	0 VA			1	20 A	--	Spare	16
17	Power STUDY - COMPUTERS-1 226-1	1	20 A	1					1200...	0 VA	1	20 A	--	Spare	18
19	Power STUDY - COMPUTERS-1 226-1	1	20 A	1	1200...	0 VA					1	20 A	--	Spare	20
21	Power STUDY - COMPUTERS-1 226-1	1	20 A	1			1200...	0 VA			1	20 A	--	Spare	22
23	Power STUDY - COMPUTERS-1 226-1	1	20 A	1					1200...	0 VA	1	20 A	--	Spare	24
25	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	26
27	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	28
29	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	30
31	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	32
33	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	34
35	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	36
37	Spare	--	20 A	1	0 VA	0 VA					1	20 A	--	Spare	38
39	Spare	--	20 A	1			0 VA	0 VA			1	20 A	--	Spare	40
41	Spare	--	20 A	1					0 VA	0 VA	1	20 A	--	Spare	42
				Total Load:	6320 VA		6020 VA		5300 VA						
				Total Amps:	54 A		51 A		44 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	15700 VA	100.00%	15700 VA		
Receptacle	1940 VA	100.00%	1940 VA	Total Conn. Load:	17640 VA
				Total Est. Demand:	17640 VA
				Total Conn.:	49 A
				Total Est. Demand:	49 A

Notes:

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COMPTON COLLEGE
INSTRUCTIONAL BUILDING No.2

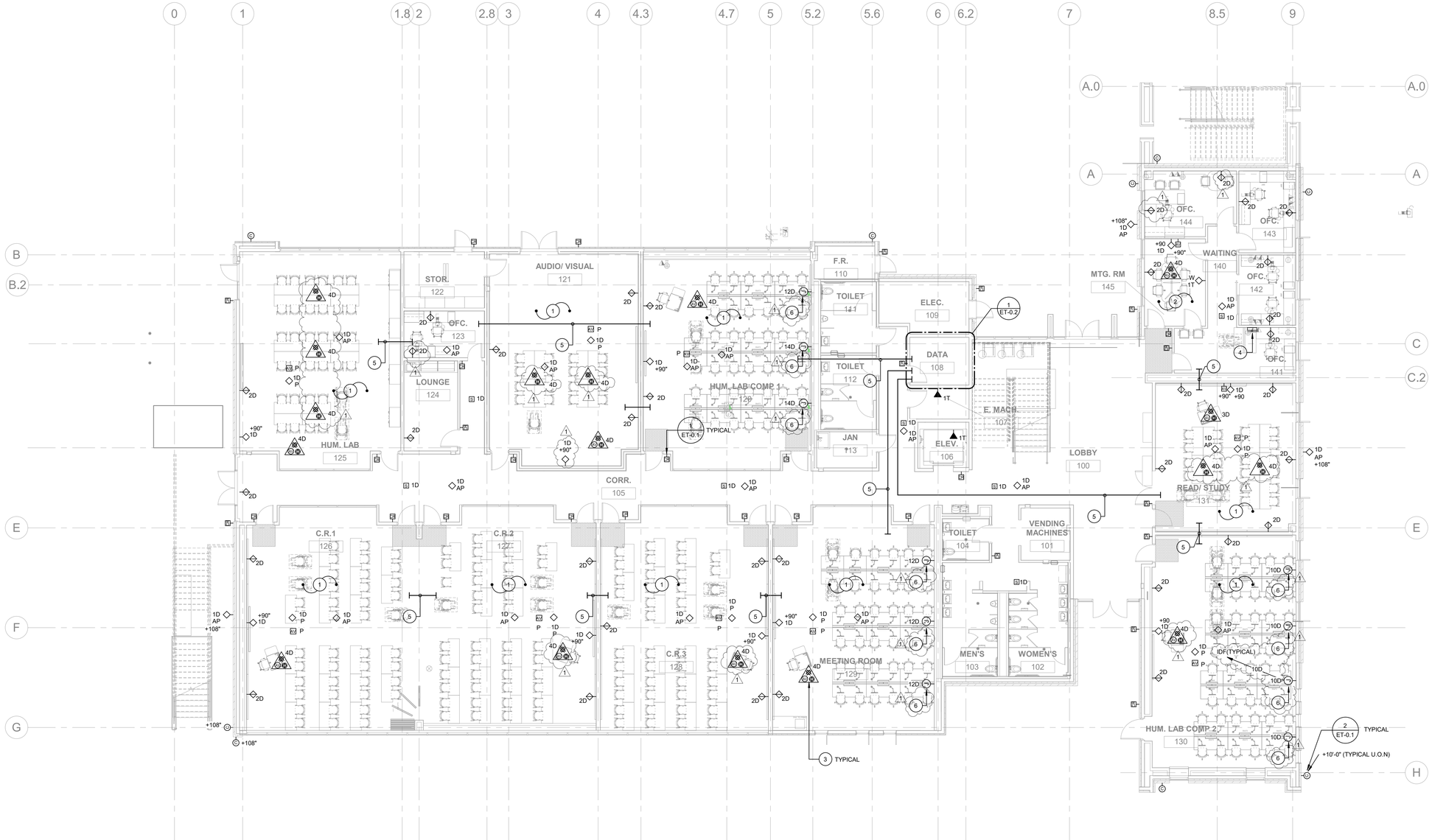
COMPTON COMMUNITY COLLEGE DISTRICT
1111 E. ARTESIA BLVD. COMPTON, CA.
owner

tBP project number: 20998.00
file name:
drawn by: checked by:
date: 04 / 08 / 2019

rev:	date:	description:
△1	08/02/19	Addendum 1

drawing title:
PANEL SCHEDULES

drawing
E3-1.2
drawing of



FIRST FLOOR TELECOM PLAN

SCALE 1/8" = 1'-0"

1

KEY NOTES

1. PROVIDE COMPLETE CLASSROOM AUDIO/VISUAL SYSTEM INCLUDING SHORT THROW PROJECTOR, PROJECTOR MOUNT, CONNECTOR PLATES, CONTROLLER, SPEAKERS, SOUND ENHANCEMENT AND ASSISTIVE LISTENING .
2. PROVIDE COMPLETE CONFERENCE ROOM AUDIO/VISUAL SYSTEM INCLUDING LCD DISPLAY, SHORT THROW PROJECTOR, PROJECTOR MOUNT, CONNECTOR PLATES, CONTROLLER, SPEAKERS, SOUND ENTERTAINMENT AND ASSISTIVE LISTENING.
3. INSTALL VOIP TELEPHONE, ONE (1) AT EACH LECTERN. PROGRAMMING SHALL BE PROVIDED BY COLLEGE.
4. PROVIDE AREA OF REFUGE TWO-WAY COMMUNICATION COMMAND CENTER RATH 2500 SERIES OR EQUAL. PROVIDE ALL CONDUIT AND WIRING FOR A COMPLETE INSTALLATION. REFER TO SPECIFICATION SECTION 273000 FOR ADDITIONAL REQUIREMENTS.
5. PROVIDE TWO (2) 3"C. THROUGH WALL ABOVE CEILING FOR COMPUTER/DATA/VOICE/PA SYSTEM CABLING. PROVIDE INSULATED THROAT BUSHINGS ON CONDUIT ENDS.
6. PROVIDE VOICE AND DATA CONNECTIONS TO THE FURNITURE SYSTEMS IN ACCORDANCE WITH THE FURNITURE SYSTEM MANUFACTURER'S REQUIREMENTS. PROVIDE QUANTITY OF DATA/VOICE CABLES AS INDICATED. ROUTE CABLING THROUGH FURNITURE SYSTEM RACEWAYS. PROVIDE DATA/VOICE TERMINATION DEVICES AT EACH WORKSTATION (TYPICALLY 2D) AND AT EACH PRINTER (TYPICALLY 1D) AS SPECIFIED AND IN ACCORDANCE WITH THE FURNITURE SYSTEM DRAWINGS. PROVIDE ALL CABLING, TERMINATION DEVICES, CABLE HARNESS, ETC. FOR A COMPLETE INSTALLATION. (1)

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1111 E. ARTESIA BLVD. COMPTON, CA.
owner

tBP project number: 20998.00
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drawn by: checked by:
date: 04 / 08 / 2019

rev:	date:	description:
1	08/02/19	Addendum 1

drawing title:
FIRST FLOOR TELECOM PLAN

drawing
ET-1.1
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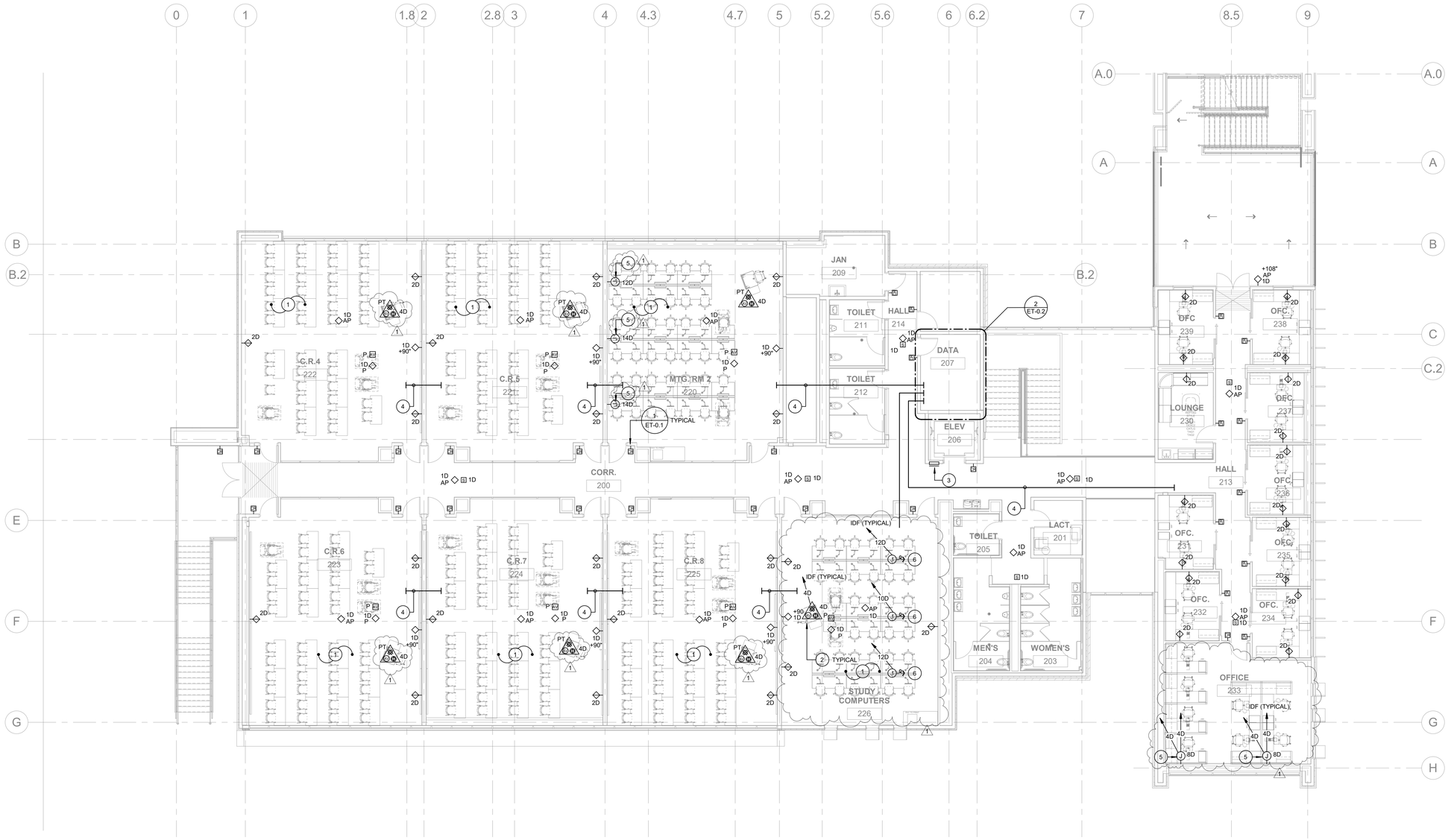

SECOND FLOOR TELECOM PLAN 1

SCALE 1/8" = 1'-0"

KEY NOTES

1. PROVIDE COMPLETE CLASSROOM AUDIO/VISUAL SYSTEM INCLUDING SHORT THROW PROJECTOR, PROJECTOR MOUNT, CONNECTOR PLATES, CONTROLLER, SPEAKERS, SOUND ENHANCEMENT AND ASSISTIVE LISTENING .
2. INSTALL VOIP TELEPHONE, ONE (1) AT EACH LECTERN, TELEPHONE AND PROGRAMING TO BE PROVIDED BY COLLEGE.
3. PROVIDE AREA OF REFUGE TWO-WAY COMMUNICATION SYSTEM COMPLETE WITH HANDS FREE ID CALL BOX AND SIGNAGE, RATH 2100 SERIES OR EQUAL. REFER TO SPECIFICATIONS SECTION 273000 FOR ADDITIONAL REQUIREMENTS.
4. PROVIDE TWO (2) 3"C. THROUGH WALL ABOVE CEILING FOR COMPUTER/DATA/VOICE/PA SYSTEMS CABLING. PROVIDE INSULATED THROAT BUSHINGS ON CONDUIT ENDS.
5. PROVIDE VOICE AND DATA CONNECTIONS TO THE FURNITURE SYSTEMS IN ACCORDANCE WITH THE FURNITURE SYSTEM MANUFACTURER'S REQUIREMENTS. PROVIDE QUANTITY OF DATA/VOICE CABLES AS INDICATED. ROUTE CABLING THROUGH FURNITURE SYSTEM RACEWAYS. PROVIDE DATA/VOICE TERMINATION DEVICES AT EACH WORKSTATION (TYPICALLY 2D) AND AT EACH PRINTER (TYPICALLY 1D) AS SPECIFIED AND IN ACCORDANCE WITH THE FURNITURE SYSTEM DRAWINGS. PROVIDE ALL CABLING, TERMINATION DEVICES, CABLE HARNESS, ETC. FOR A COMPLETE INSTALLATION. 1
6. PROVIDE FLUSH IN FLOOR COMBINATION POWER/DATA FLOOR POKE THROUGH DEVICE WITH FURNITURE FEED COVER. FURNITURE FEED COVER SHALL HAVE MINIMUM 1¼" CONNECTION FOR COMPUTER/DATA/VOICE NETWORK CABLING AND 1" CONDUIT FOR POWER FEED CONNECTION. PROVIDE TELECOM CONNECTION COMPLETE WITH QUANTITY OF COMPUTER/DATA/VOICE CABLES INDICATED AND CONNECT TO THE FURNITURE SYSTEM. INSTALL POKE-THROUGH IN LOCATION PER THE FURNITURE SYSTEM DRAWINGS.

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date: 04 / 08 / 2019

rev:	date:	description:
1	08/02/19	Addendum 1

drawing title:
SECOND FLOOR TELECOM PLAN

drawing
ET-2.1
drawing of

DOCUMENT 000110 - TABLE OF CONTENTS

DIVISION 21 - FIRE SUPPRESSION

DIVISION 22 - PLUMBING

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING

DIVISION 39 - RESERVED

NOT USED

DIVISION 40 - PROCESS INTEGRATION

NOT USED

DIVISION 41 - MATERIAL PROCESSING AND HANDLING EQUIPMENT

NOT USED

DIVISION 42 - PROCESS HEATING, COOLING, AND DRYING EQUIPMENT

NOT USED

DIVISION 43 - PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT

NOT USED

DIVISION 44 - POLLUTION CONTROL EQUIPMENT

NOT USED

DIVISION 45 - INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

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DIVISION 46 - RESERVED

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DIVISION 47 - RESERVED

NOT USED

DIVISION 48 - ELECTRICAL POWER GENERATION

NOT USED

DIVISION 49 - RESERVED

NOT USED

END OF DOCUMENT 000110

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SECTION 051213 - ARCHITECTURALLY EXPOSED STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Architecturally exposed structural steel (AESS).

B. Related Requirements:

1. Section 051200 "Structural Steel Framing" requirements that also apply to AESS.
2. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other metal items not defined as structural steel.
3. Section 099600 "High-Performance Coatings" for surface preparation and priming requirements.

1.3 DEFINITIONS

A. AESS: Architecturally exposed structural steel.

1.4 COORDINATION

A. Coordinate surface preparation requirements for shop-primed items.

B. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

A. Product Data:

1. Tension-control, high-strength, bolt-nut-washer assemblies.
2. Filler.

3. Primer.
4. Galvanized-steel primer.
5. Etching cleaner.
6. Galvanized repair paint.

B. Shop Drawings: Show fabrication of AESS components. Shop Drawings for structural steel may be used for AESS.

1. Identify AESS category for each steel member and connection, including transitions between AESS categories and between AESS and non-AESS.
2. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
3. Include embedment Drawings.
4. Indicate orientation of mill marks and HSS seams.
5. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain. Indicate grinding, finish, and profile of welds.
6. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections. Indicate orientation and location of bolt heads.
7. Indicate exposed surfaces and edges and surface preparation being used.
8. Indicate special tolerances and erection requirements.
9. Indicate weep holes for HSS and vent holes for galvanized HSS.
10. Indicate surface preparation, primer, and coating requirements, including systems specified in other Sections.

C. Samples: Submit Samples to set quality standards for AESS.

1. Two steel plates, 3/8 by 8 by 4 inches (9.5 by 200 by 100 mm), with long edges joined by a groove weld and with weld ground smooth.
2. Steel plate, 3/8 by 8 by 8 inches (9.5 by 200 by 200 mm), with one end of a short length of rectangular steel tube, 4 by 6 by 3/8 inches (100 by 150 by 9.5 mm), welded to plate with a continuous fillet weld and with weld ground smooth and blended.
3. Round steel tube or pipe, not less than 8 inches (200 mm) in diameter, with end of another round steel tube or pipe, approximately 4 inches (100 mm) in diameter, welded to its side at a 45-degree angle with a continuous fillet weld and with weld ground smooth and blended.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, fabricator, and shop-painting applicator.

B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

1.8 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category BU, or is accredited by the IAS Fabricator Inspection Program for Structural Steel (AC 172) and is experienced in fabricating AESS similar to that indicated on this Project.

B. Installer Qualifications: A qualified Installer who participates in the AISC Quality Certification Program, is designated an AISC-Certified Erector, Category ACSE or Category CSE, and is experienced in erecting AESS similar to that indicated on this Project.

C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPC-QP 3.

D. Mockups: Build mockups of AESS to set quality standards for fabrication and installation.

1. Build mockup of typical portion of AESS as shown on Drawings.
2. Coordinate high-performance coatings requirements with Section 099600 "High-Performance Coatings."
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Use special care in handling AESS to prevent twisting, warping, nicking, and other damage during fabrication, delivery, and erection. Store materials to permit easy access for inspection and identification. Keep AESS members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect AESS members and packaged materials from corrosion and deterioration.

1. Do not store AESS materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.10 FIELD CONDITIONS

A. Field Measurements: Where AESS is indicated to fit against other construction, verify actual dimensions by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with requirements of ANSI/AISC 303, Sections 1 through 9 and as modified in Section 10, "Architecturally Exposed Structural Steel."

2.2 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Finish Material Pollutant Control: Finish materials shall comply with CGBC Sections 5.504.4.1 through 5.504.4.6 per CGBC Section 5.504.4.

1. Paints and Coatings: Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in CGBC Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in CGBC Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in CGBC Table 5.504.4.3 shall apply per CGBC Section 5.504.4.3.

C. VOC Content: Paints and coatings applied at Project site, shall comply with the following VOC limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Coatings: 50 g/L.
2. Nonflat Coatings: 100 g/L.
3. Nonflat High Gloss Coatings: 150 g/L.
4. Dry-Fog Coatings: 150 g/L.
5. Faux Finishing Coatings: 350 g/L.
6. Floor Coatings: 100 g/L.
7. Graphic Arts Coatings (Sign Paints): 500 g/L.
8. High Temperature Coatings: 420 g/L.
9. Industrial Maintenance Coatings: 250 g/L.
10. Low Solids Coatings: 120 g/L.
11. Pretreatment Wash Primers: 420 g/L.
12. Metallic Pigmented Coatings: 500 g/L.
13. Multicolor Coatings: 250 g/L.
14. Pretreatment Wash Primers: 420 g/L.
15. Primers, Sealers, and Undercoaters: 100 g/L.
16. Reactive Penetrating Sealers: 350 g/L.
17. Recycled Coatings: 250 g/L.
18. Rust Preventative Coatings: 250 g/L.
19. Shellacs, Clear: 730 g/L.
20. Shellacs, Opaque: 550 g/L.
21. Specialty Primers, Sealers, and Undercoaters: 100 g/L.
22. Wood Coatings: 275 g/L.
23. Zinc-Rich Primers: 340 g/L.

D. Low-Emitting Materials: Paints and coatings shall comply with the requirements of authorities having jurisdiction.

2.3 BOLTS, CONNECTORS, AND ANCHORS

A. Tension-Control, High-Strength, Bolt-Nut-Washer Assemblies: ASTM F3125/F3125M, Grade F1852, Type 1, round-head assemblies consisting of steel structural bolts with splined ends; ASTM A563, Grade DH, (ASTMA563M, Class 10S) heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.

1. Finish: Plain.

2.4 FILLER

A. Polyester filler intended for use in repairing dents in automobile bodies.

2.5 PRIMER

A. Primer, Zinc-Rich, Epoxy:

1. Basis-of-Design Product: Tnemec Company, Inc.; Series 94-H2O Hydro-Zinc: Applied at a dry film thickness between 2.5 and 3.5 mils (0.0635 and 0.0889 mm).

2.6 FABRICATION

A. Shop fabricate and assemble AESS to the maximum extent possible. Locate field joints at concealed locations if possible. Detail assemblies to minimize handling and to expedite erection.

1. Use special care handling and fabricating AESS before and after shop painting to minimize damage to shop finish.

B. Category AESS 3:

1. Comply with overall profile dimensions of AWS D1.1/D1.1M for welded built-up members. Keep appearance and quality of welds consistent. Maintain true alignment of members without warp exceeding specified tolerances.
2. Prepare surfaces according to Part 2 "Shop Priming" Article and SSPC-SP 6 (WAB)/NACE WAB-3.
3. Grind sheared, punched, and flame-cut edges to remove burrs and provide smooth surfaces and eased edges.
4. Make intermittent welds appear continuous, using filler or additional welding.
5. Seal weld open ends of hollow structural sections with 3/8 inch (9.5 mm) closure plates.
6. Limit butt and plug weld projections to 1/16 inch (1.6 mm).
7. Install bolt heads on the same side of each connection and maintain orientation consistently from one connection to another.
8. Remove weld spatter, slivers, and similar surface discontinuities.
9. Remove blemishes and surface irregularities resulting from temporary braces or fixtures by filling or grinding, before cleaning, treating, and shop priming.
10. Grind tack welds smooth unless incorporated into final welds.
11. Remove backing and runoff tabs, and grind welds smooth.
12. Limit as-fabricated straightness tolerance to one-half that permitted for structural-steel materials in ANSI/AISC 303.
13. Limit as-fabricated curved structural steel tolerance to that permitted for structural-steel materials in ANSI/AISC 303.
14. Limit as-fabricated straightness tolerance of welded built-up members to one-half that permitted by AWS D1.1/D1.1M.
15. Conceal fabrication and erection markings from view in the completed structure.
16. Make welds uniform and smooth.
17. Cut out mill marks from mill material or hide these markings from view in the completed structure. Where neither method is possible, remove mill marks by grinding and filling surfaces as approved by Architect.
18. Grind butt and plug welds smooth or fill, removing weld splatter exposed to view.
19. Orient HSS seams as indicated or away from view.

20. Align and match abutting member cross sections.
21. At visible open joints of copes, miters, and cuts, maintain uniform clear gaps of 1/8 inch (3.2 mm). At closed joints, maintain uniform contact within 1/16 inch (1.6 mm).
22. Fabricate with exposed surfaces smooth, square, and of surface quality approved by Architect.

2.7 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

1. Joint Type: As indicated on Drawings.

B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

2.8 SHOP PRIMING

A. Shop prime steel surfaces, except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
2. Surfaces to be field welded.
3. Surfaces to be high-strength bolted with slip-critical connections.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. Field: SSPC-SP 11.
2. Shop: SSPC-SP 6 (WAB)/NACE WAB-3.

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness between 2.5 and 3.5 mils (0.0635 and 0.0889 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and eased edges.
2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments, showing dimensions, locations, angles, and elevations.

B. Examine AESS for twists, kinks, warping, gouges, and other imperfections before erecting.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep AESS secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.3 ERECTION

A. Take special care during erection to avoid marking or distorting the AESS and to minimize damage to shop painting. Set AESS accurately in locations and to elevations indicated and according to ANSI/AISC 303 and ANSI/AISC 360.

1. Remove welded tabs that were used for attaching temporary bracing and safety cabling and that are exposed to view in the completed Work. Take care to avoid any blemishes, holes, or unsightly surfaces resulting from the use or removal of temporary elements.
2. Grind tack welds smooth.
3. Remove backing and runoff tabs, and grind welds smooth.
4. Orient bolt heads on the same side of each connection and maintain orientation consistently from one connection to another.
5. Fill weld access holes in AESS with weld metal or filler and grind, or sand smooth to achieve surface quality as approved by Architect.
6. Conceal fabrication and erection markings from view in the completed structure.

B. In addition to ANSI/AISC 303, Section 10 requirements, comply with the following.

1. Erection of Category AESS 3:

a. Erect AESS to the standard frame tolerances specified in ANSI/AISC 303 for non-AESS.
b. Comply with AWS D1.1/D1.1M. Keep appearance and quality of welds consistent. Maintain true alignment of members without warp exceeding specified tolerances.
c. Remove weld spatter, slivers, and similar surface discontinuities.
d. Grind off butt and plug weld projections larger than 1/16 inch (1.6 mm).
e. Continuous welds shall be of uniform size and profile.
f. Ream holes that must be enlarged. Use of drift pins or burning is not permitted. Replace misaligned connection plates where holes cannot be aligned with acceptable appearance.
g. Splice members only where indicated on Drawings.
h. No torch cutting or field fabrication is permitted.
i. Weld profiles, quality, and finish shall be as approved by Architect.
j. Make joint welds, including tack welds, appear continuous by filling intermittent welds.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

1. Joint Type: As indicated on Drawings.

B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

3.5 REPAIR

A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting, to comply with SSPC-PA 1 for touching up shop-painted surfaces.

a. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to inspect AESS as specified in Section 051200 "Structural Steel Framing." The testing agency is not responsible for enforcing requirements relating to aesthetic effect.

B. Architect will observe AESS in place to determine acceptability relating to aesthetic effect.

END OF SECTION 051213

SECTION 083473.13 - METAL SOUND CONTROL DOOR ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes metal sound control door assemblies.

B. Related Requirements:

1. Section 08473.16 "Wood Sound Control Door Assemblies" for sound control assemblies with wood doors and steel frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate installation of anchorages for sound control door assemblies. Furnish setting drawings, templates, and directions for installing anchorages. Deliver sleeves, inserts, anchor bolts, and items with integral anchors to Project site in time for installation.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review procedures for coordinating frame and anchor installation with wall construction.
2. Review required field quality-control procedures.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product. Include sound ratings, construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.

B. Shop Drawings: For sound control door assemblies.

1. Include elevations of each door design.

2. Include details of sound control seals, door bottoms, and thresholds.
3. Include details of doors, including vertical- and horizontal-edge details and metal thicknesses.
4. Include details of frame for each frame type, including dimensioned profiles and metal thicknesses.
5. Include locations of reinforcements and preparations for hardware.
6. Include details of each different wall opening condition.
7. Include details of anchorages, joints, field splices, and connections.
8. Include details of accessories.
9. Include details of moldings, removable stops, and glazing.
10. Include details of conduits and preparations for power, signal, and control systems.

C. Schedule: Provide a schedule of sound control door assemblies prepared using same reference numbers for details and openings as those on Drawings. Coordinate with the Door Hardware Schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, manufacturer, and acoustical testing agency.

B. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.
2. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
3. Submit copy of DHI Fire and Egress Door Assembly Inspector (FDAI) certificate.

C. Product Certificates: For each type of sound control door assembly.

D. Product Test Reports: For each sound control door assembly, for tests performed by a qualified testing agency.

E. Field quality-control reports.

F. Sample Warranty: For manufacturer's special warranties.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sound control door assemblies to include in maintenance manuals.

1.9 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Acoustical Testing Agency Qualifications: An independent agency accredited as an acoustical laboratory according to the National Voluntary Laboratory Accreditation Program of NIST.

C. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies shall meet the qualifications set forth in NFPA 80, section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

D. Egress Door Inspector Qualifications: Inspector for field quality control inspections of egress door assemblies shall meet the qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames palletized, wrapped, or crated to provide protection during transit and Project-site storage. Avoid the use of nonvented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store doors and frames vertically under cover at Project site with head up. Place on not less than 4 inch (102 mm) high wood blocking. Provide not less than 1/4 inch (6 mm) space between each stacked door to permit air circulation.

1.11 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of sound control door assemblies that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure to meet sound rating requirements.
b. Faulty operation of sound seals.
c. Deterioration of metals, metal finishes, and other materials beyond normal use or weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Ambico Limited.
2. Amweld International, LLC.
3. Ceco Door; ASSA ABLOY.
4. Curries Company; ASSA ABLOY.
5. Firedoor Corporation.
6. Fleming Door Products Ltd.; Assa Abloy Group Company.
7. IAC Acoustics.
8. Krieger Specialty Products Company.
9. Noise Barriers, LLC.
10. Overly Door Company.
11. Pioneer Industries.

12. Security Acoustics.

B. Source Limitations: Obtain steel sound control door assemblies, including doors, frames, sound control seals, hinges, thresholds, and other items essential for sound control, from single source from single manufacturer.

2.2 ACCESSIBILITY REQUIREMENTS

A. Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design.

B. Doors, Doorways, and Gates:

1. General: Doors, doorways, and gates that are part of an accessible route shall comply with CBC Section 11B-404 per CBC Section 11B-404.1.

a. Exceptions:

1) Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with CBC Sections 11B-404.2.7, 11B-404.2.8, 11B-4042.9, 11B-404.3.2, and 11B-404.3.4 through 11B-404.3.7. A sign visible from the approach side complying with CBC Section 11B-703.5 shall be posted stating "ENTRY RESTRICTED AND CONTROLLED BY SECURITY PERSONNEL."
2) At detention and correctional facilities, doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with CBC Sections 11B-404.2.7, 11B-404.2.8, 11B-4042.9, 11B-404.3.2, and 11B-404.3.4 through 11B-404.3.7.

2. Manual Doors, Doorways, and Manual Gates: Manual doors and doorways and manual gates intended for user passage shall comply with CBC Section 11B-404.2 per CBC Section 11B-404.2.

a. Revolving Doors, Gates, and Turnstiles: Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route per CBC Section 11B-404.2.1.
b. Double-Leaf Doors and Gates: At least one of the active leaves of doorways with two leaves shall comply with CBC Sections 11B-404.2.3 and 11B-404.2.4 per CBC Section 11B-404.2.2.
c. Clear Width: Openings shall provide a clear width of 32 inches (813 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (914 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (864 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the finish floor or ground shall not exceed 4 inches (102 mm) per CBC Section 11B-404.2.3 and CBC Figure 11B-404.2.3.

1) Exceptions:

a) In alterations, a projection of 5/8 inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
b) Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

d. Maneuvering Clearances: Minimum maneuvering clearances at doors and gates shall comply with CBC Section 11B-404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance per CBC Section 11B-404.2.4.

1) Swinging Doors and Gates: Swinging doors and gates shall have maneuvering clearances complying with CBC Table 11B-404.2.4.1 per CBC Section 11B-404.2.4.1.
2) Doorways Without Doors or Gates, Sliding Doors, and Folding Doors: Doorways less than 36 inches (914 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with CBC Table 11B-404.2.4.2 per CBC Section 11B-404.2.4.2.
3) Recessed Doors and Gates: Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (457 mm) of the latch side at an interior doorway, or within 24 inches (610 mm) of the latch side of an exterior doorway, projects more than 8 inches (203 mm) beyond the face of the door, measured perpendicular to the face of the door or gate per CBC Section 11B-404.2.4.3.
4) Floor or Ground Surface: Floor or ground surface within required maneuvering clearances shall comply with CBC Section 11B-302. Changes in level are not permitted per CBC Section 11B-404.2.4.4.

a) Exception:

1. Slopes not steeper than 1:48 shall be permitted.
2. Changes in level at thresholds complying with CBC Section 11B-404.2.5 shall be permitted.

e. Thresholds: Thresholds, if provided at doorways, shall be 1/2 inch (12.7 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with CBC Sections 11B-302 and 11B-303 per CBC Section 11B-404.2.5.

f. Doors in a Series and Gates in a Series: The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1219 mm) minimum plus the width of the doors or gates swinging into the space per CBC Section 11B-404.2.6.

g. Door and Gate Hardware: Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with CBC Section 11B-309.4. Operable parts of such hardware shall be 34 inches (864 mm) minimum and 44 inches (1118 mm) 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 per CBC Section 11B-404.2.7.

1) Exceptions:

a) Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.
b) Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release latch on self-latching devices at 54 inches (1372 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

2) Operation: Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum per CBC Section 11B-309.4.

h. Closing Speed: Door and gate closing speed shall comply with CBC Section 11B-404.2.8 per CBC Section 11B-404.2.8.

1) Door Closers and Gate Closers: Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum per CBC Section 11B-404.2.8.1.
2) Spring Hinges: Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum per CBC Section 11B-404.2.8.2.

i. Door and Gate Opening Force: The force for pushing or pulling open a door or gate shall be as follows per CBC Section 11B-404.2.9:

1) Interior Hinged Doors and Gates: 5 pounds (22.2 N) maximum.
2) Sliding or Folding Doors: 5 pounds (22.2 N) maximum.
3) Required Fire Doors: The minimum opening force allowable by the appropriate administrative authority, not to exceed 15 pounds (66.7 N).
4) Exterior Hinged Doors: 5 pounds (22.2 N) maximum.
5) These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.
6) Operation: Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum per CBC Section 11B-309.4.
7) Door Opening Force: The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22.2 N). These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position. For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15 pound (67 N) force. The door shall be set in motion when subjected to a 30 pound (133 N) force. The door shall swing to a full-open position when subjected to a 15 pound (67 N) force per CBC Section 1010.1.3.

a) Location of Applied Forces: Forces shall be applied to the latch side of the door per CBC Section 1010.1.3.1.

j. Door and Gate Surfaces: Swinging door and gate surfaces within 10 inches (254 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped per CBC Section 11B-404.2.10.

1) Exceptions:

a) Sliding doors shall not be required to comply with CBC Section 11B-404.2.10.
b) Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (254 mm) bottom smooth surface height requirement.
c) Doors and gates that do not extend to within 10 inches (254 mm) of the finish floor or ground shall not be required to comply with CBC Section 11B-404.2.10.

k. Vision Lights (Lites): Doors, gates, and side lights (lites) adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1092 mm) maximum above the finish floor per CBC Section 11B-404.2.11.

1) Exception: Glazing panels with the lowest part more than 66 inches (1676 mm) from the finish floor or ground shall not be required to comply with CBC Section 11B-404.2.11.

2.3 PERFORMANCE REQUIREMENTS

A. Sound Rating: Provide sound control door assemblies identical to those of assemblies tested as sound-retardant units by an acoustical testing agency, and have the following minimum rating:

1. STC Rating: Not less than 65 as calculated by ASTM E413 when tested in an operable condition according to ASTM E90.

B. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

2.4 REGULATORY REQUIREMENTS

A. All insulation provided for use on this project shall be identified as required by Section 12-13-1557 of the California Referenced Standards Code (Part 12, Title 24, C.C.R.); Chapter 12-13 "Standards For Insulating Material", (See Part 6, Title 24, C.C.R.); Department Of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation; Article 3: "Standards for Insulating Material".

2.5 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Recycled Content of Steel Products: Recycled content not less than 20 percent.

C. Thermal Insulation, Tier 1: Per CGBC Section A5.504.4.8, comply with the following standards:

1. Chapters 12-13 (Standards for Insulating Material) in Title 24, Part 12, the California Referenced Standards Code.
2. The VOC-emission limits defined in 2009 CHPS criteria and listed in its High Performance Products Database.
3. California Department of Public Health 2010 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350).

D. Thermal Insulation, Tier 2: Thermal insulation, No-added Formaldehyde. Install thermal insulation which complies with Tier 1 plus does not contain any added formaldehyde per CGBC Section A5.504.4.8.1.

E. Provide mineral-wool blanket insulation as follows:

1. Low Emitting: Insulation tested according to ASTM D 5116 and shown to emit less than 0.05 ppm formaldehyde.
2. Recycled Content: Recycled content not less than 20 percent.

2.6 STEEL SOUND CONTROL DOORS

A. Doors: Flush-design sound control doors, thickness as required to provide STC rating, but not less than 1-3/4 inches (44 mm) thick, of seamless construction; with manufacturer's standard sound-retardant core as required to provide STC and fire rating indicated. Construct doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges. Fabricate according to NAAMM-HMMA 865.

1. Exterior Doors: Fabricate from metallic-coated steel sheet, thickness as required to provide STC rating, but not less than 0.053 inch (1.34 mm) thick (16 gage nominal), with not less than G60 or A60 (ZF180) coating.
2. Core: Manufacturer's standard sound control core.
3. Top and Bottom Channels: Closed with continuous channels of same material as face sheets, spot welded to face sheets not more than 6 inches (152 mm) o.c.
4. Hardware Reinforcement: Same material as face sheets.

B. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
2. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
3. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B, with G60 (ZF180) zinc (galvanized) or A60 (ZF180) zinc-iron-alloy (galvannealed) coating designation.

C. Finishes:

1. Prime Finish for Exterior Doors and Frames: Zinc-rich primer.

a. Basis-of-Design Product: Subject to compliance with requirements, provide Tnemec Company, Inc.; Series 94-H2O Hydro-Zinc, or comparable product by another manufacturer.

1) Apply at a dry film thickness of not less than 2.5 to 3.5 mils (0.0635 to 0.0889 mm).

2.7 SOUND CONTROL FRAMES

A. Frames: Fabricate sound control door frames with corners mitered, reinforced, and continuously welded the full depth and width of frame. Fabricate according to NAAMM-HMMA 865.

1. Weld frames according to NAAMM-HMMA 820.
2. Exterior Frames: Fabricate from metallic-coated steel sheet, thickness as required to provide STC rating, but not less than 0.053 inch (1.34 mm) thick (16 gage nominal), with not less than G60 or A60 (ZF180) coating.
3. Hardware Reinforcement: Fabricate according to NAAMM-HMMA 865 of same material as face sheets.

4. Jamb Anchors:

    a. Stud-Wall Type: Designed to engage stud, welded to back of frames, not less than 0.042 inch (1.06 mm) thick (18 gage nominal), uncoated steel unless otherwise indicated.

5. Floor Anchors: Not less than 0.067 inch (1.70 mm) thick (14 gage nominal), metallic-coated steel, and as follows:

    a. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

B. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
2. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
3. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B, with G60 (ZF180) zinc (galvanized) or A60 (ZF180) zinc-iron-alloy (galvannealed) coating designation.
4. Supports and Anchors: After fabricating, galvanize units to be built into exterior walls according to ASTM A153/A153M, Class B.
5. Inserts, Bolts, and Fasteners: Provide items to be built into exterior walls, hot-dip galvanized according to ASTM A153/A153M or ASTM F2329.
6. Mineral-Fiber Insulation: Insulation composed of rock-wool fibers, slag-wool fibers, or glass fibers.

C. Finishes:

1. Prime Finish for Exterior Doors and Frames: Zinc-rich primer.

    a. Basis-of-Design Product: Subject to compliance with requirements, provide Tnemec Company, Inc.; Series 94-H2O Hydro-Zinc, or comparable product by another manufacturer.

        1) Apply at a dry film thickness of not less than 2.5 to 3.5 mils (0.0635 to 0.0889 mm).

2.8 HARDWARE

A. Sound Control Door Hardware: Manufacturer's standard sound control system, including head and jamb seals, door bottoms, and thresholds, as required by testing to achieve STC and fire rating indicated.

1. Head and Jamb Seals: One of the following:

    a. Neoprene Compression Seals: One-piece units consisting of closed-cell sponge neoprene seal held in place by metal retainer, with retainer cover of same material as door frame; attached to door frame with concealed screws.
    b. Silicone Compression Seals: One-piece units consisting of silicone compression bulb and stabilizer flange; attached to door frame adhesively.
    c. Magnetic Seals: One-piece units consisting of closed-cell sponge neoprene seal and resiliently mounted magnet held in place by metal retainer, with retainer cover of same material as door frame; attached to door frame with concealed screws.

2. Automatic Door Bottoms: Neoprene or silicone gasket, held in place by metal housing, that automatically drops to form seal when door is closed; mounted to bottom edge of door with screws.

a. Mounting: Mortised or semimortised into bottom of door as required by testing to achieve STC rating indicated.

3. Thresholds: Flat, smooth, unfluted type as recommended by manufacturer; fabricated from aluminum.

a. Finish: Mill.

B. Other Hardware: Comply with requirements in Section 087100 "Door Hardware."

2.9 FABRICATION

A. Steel Sound Control Door Fabrication: Sound control doors to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal.

1. Comply with requirements in NFPA 80 for fire-rated and smoke control doors.
2. Comply with requirements in NFPA 105 for smoke control doors.
3. Seamless Edge Construction: Fabricate doors with faces joined at vertical edges by welding; welds shall be ground, filled, and dressed to make them invisible and to provide a smooth, flush surface.
4. Exterior Doors: Close top edges flush and seal joints against water penetration. Provide weep-hole openings in bottom of exterior doors to permit moisture to escape.
5. Hardware Preparation: Factory prepare sound control doors to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping.

a. Reinforce doors to receive nontemplated mortised and surface-mounted door hardware.
b. Locate door hardware as indicated, or if not indicated, according to NAAMM-HMMA 831, "Recommended Hardware Locations for Custom Hollow Metal Doors and Frames."

6. Tolerances: Fabricate doors to tolerances indicated in NAAMM-HMMA 865.

B. Sound Control Frame Fabrication: Fabricate sound control frames to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

1. Comply with requirements in NFPA 80 for fire-rated and smoke control doors.
2. Comply with requirements in NFPA 105 for smoke control doors.
3. Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated from same thickness metal as frames.
4. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
5. Floor Anchors: Weld anchors to bottom of jambs and mullions with not less than four spot welds per anchor.
6. Jamb Anchors: Provide number and spacing of anchors as follows:

a. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:

1) Three anchors per jamb up to 60 inches (1524 mm) in height.
2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) in height.
3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) in height.

4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm), or fraction thereof, more than 96 inches (2438 mm) in height.
5) Two anchors per head for frames more than 42 inches (1066 mm) wide and mounted in metal-stud partitions.

7. Hardware Preparation: Factory prepare sound control frames to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping.

a. Reinforce frames to receive nontemplated mortised and surface-mounted door hardware.
b. Locate hardware as indicated, or if not indicated, according to NAAMM-HMMA 831, "Recommended Hardware Locations for Custom Hollow Metal Doors and Frames."

8. Tolerances: Fabricate frames to tolerances indicated in NAAMM-HMMA 865.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations of sound control door frame connections before frame installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace sound control door frames to the following tolerances:

1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated mortised and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install sound control door assemblies plumb, rigid, properly aligned, and securely fastened in place; comply with manufacturer's written instructions.

B. Frames: Install sound control door frames in sizes and profiles indicated.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

    a. At fire-rated openings, install frames according to NFPA 80.
    b. At openings requiring smoke and draft control, install frames according to NFPA 105.
    c. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, and dress; make splice smooth, flush, and invisible on exposed faces.
    d. Remove temporary braces only after frames or bucks have been properly set and secured.
    e. Check squareness, twist, and plumbness of frames as walls are constructed. Shim as necessary to comply with installation tolerances.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
3. Metal-Stud Partitions: Fully fill frames with mineral-fiber insulation.
4. Installation Tolerances: Adjust sound control door frames for squareness, alignment, twist, and plumbness to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Doors: Fit sound control doors accurately in frames, within clearances indicated below. Shim as necessary.

1. Non-Fire-Rated Doors: Fit non-fire-rated doors accurately in frames with the following clearances:

    a. Jambs: 1/8 inch (3 mm).
    b. Head with Butt Hinges: 1/8 inch (3 mm).
    c. Sill: Manufacturer's standard.
    d. Between Edges of Pairs of Doors: 1/8 inch (3 mm).

2. Fire-Rated Doors: Install fire-rated doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors and gaskets according to NFPA 105.

D. Sound Control Seals: Where seals have been factory prefit and preinstalled and subsequently removed for shipping, reinstall seals and adjust according to manufacturer's written instructions.

E. Thresholds: Set thresholds in full bed of sealant complying with requirements in Section 079200 "Joint Sealants."

F. Special Precautions:

1. The seals shall be installed so that they are in contact with the entire length of the jambs and head.

2. Where pairs of doors are specified, astragals shall be installed so that they are in contact with the entire length of the opposing door leaf. If manufacturer's instructions require astragal seals on both the interior and exterior sides of the door, both astragals shall be provided.
3. The threshold seal shall be installed so that it is in contact with a smooth (not ribbed) surface of the threshold for the entire length of the threshold.
4. No gaps shall occur at the joint between the head and jamb seals, nor between jamb and threshold seals.

3.4 FIELD QUALITY CONTROL

A. Upon completion of installation, and prior to acceptance by Owner, secure a visit to the job site by a qualified representative of the manufacturer of the acoustical door system(s) to confirm that installation is in conformance with the manufacturer's recommendations.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Testing Services: Perform testing for verification that assembly complies with STC rating requirements.

1. Acoustical testing and inspecting agency shall test all sound control door assemblies.
2. Field tests shall be conducted according to ASTM E336, with results calculated according to ASTM E413. Acceptable field NIC values shall be within 5 dB of laboratory STC values.
3. Inspection Report: Acoustical testing agency shall submit report in writing to Architect and Contractor within 24 hours after testing.
4. If tested door fails, replace or rework all sound control door assemblies to bring them into compliance at Contractor's expense.

    a. Additional testing and inspecting at Contractor's expense will be performed to determine if replaced or additional work complies with specified requirements.

D. Prepare test and inspection reports.

E. Inspections:

1. Fire-Rated Door Inspections: Inspect each fire-rated door according to NFPA 80, Section 5.2.
2. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements according to NFPA 101, Section 7.2.1.15.
3. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.
4. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.
5. Prepare and submit separate inspection report for each fire-rated door and egress door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.5 ADJUSTING AND CLEANING

A. Adjust operating door hardware to function smoothly as recommended by manufacturer.

1. For doors accessible to people with disabilities, adjust closers so that from an open position of 90 degrees, the time required to move the door to a position 12 degrees from the latch is not less than 5 seconds.
2. For doors accessible to people with disabilities, adjust spring hinges so that from an open position of 70 degrees, the time required to move the door to the closed position is not less than 1.5 seconds.

B. Final Adjustments: Check and adjust seals, door bottoms, and other sound control hardware items right before final inspection. Leave work in complete and proper operating condition.

C. Operation: Rehang or replace doors that do not swing or operate freely.

D. Remove and replace defective work, including defective or damaged sound seals and doors and frames that are warped, bowed, or otherwise unacceptable.

1. Adjust gaskets, gasket retainers, and retainer covers to provide contact required to achieve STC rating.

E. Touchup Painting for Exterior Doors and Frames:

1. Immediately after installation, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

a. Apply by brush or spray to provide a dry film thickness of not less than 2.5 mils (0.0635 mm).

F. Metallic-Coated Surfaces: Clean abraded areas of doors and repair with galvanizing repair paint according to manufacturer's written instructions.

3.6 DEMONSTRATION

A. Instruct the Owner's maintenance personnel regarding operation and maintenance of all acoustic doors.

END OF SECTION 083473.13

SECTION 083473.16 - WOOD SOUND CONTROL DOOR ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes wood sound control door assemblies.

B. Related Requirements:

1. Section 08473.13 "Metal Sound Control Door Assemblies" for sound control assemblies with steel doors and steel frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate installation of anchorages for sound control door assemblies. Furnish setting drawings, templates, and directions for installing anchorages. Deliver sleeves, inserts, anchor bolts, and items with integral anchors to Project site in time for installation.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review procedures for coordinating frame and anchor installation with wall construction.
2. Review required field quality-control procedures.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product. Include sound ratings, construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.

B. Shop Drawings: For sound control door assemblies.

1. Include elevations of each door design.

2. Include details of sound control seals, door bottoms, and thresholds.
3. Include details of doors, including vertical- and horizontal-edge details and metal thicknesses.
4. Include details of frame for each frame type, including dimensioned profiles and metal thicknesses.
5. Include locations of reinforcements and preparations for hardware.
6. Include details of each different wall opening condition.
7. Include details of anchorages, joints, field splices, and connections.
8. Include details of accessories.
9. Include details of moldings, removable stops, and glazing.
10. Include details of conduits and preparations for power, signal, and control systems.

C. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.
2. Corner sections of doors, approximately 8 by 10 inches (200 by 250 mm), with door faces and edges representing actual materials to be used.

    a. Provide Samples for each species of veneer and solid lumber required.
    b. Finish veneer-faced door Samples with same materials proposed for factory-finished doors.

3. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish required.

D. Schedule: Provide a schedule of sound control door assemblies prepared using same reference numbers for details and openings as those on Drawings. Coordinate with the Door Hardware Schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, manufacturer, and acoustical testing agency.

B. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.
2. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
3. Submit copy of DHI's Fire and Egress Door Assembly Inspector (FDAI) certificate.

C. Product Certificates: For each type of sound control door assembly.

D. Product Test Reports: For each sound control door assembly, for tests performed by a qualified testing agency.

E. Field quality-control reports.

F. Sample Warranty: For manufacturer's special warranties.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sound control door assemblies to include in maintenance manuals.

1.9 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Acoustical Testing Agency Qualifications: An independent agency accredited as an acoustical laboratory according to the National Voluntary Laboratory Accreditation Program of NIST.

C. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies shall comply with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

D. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames palletized, wrapped, or crated to provide protection during transit and Project-site storage. Avoid the use of nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store doors and frames vertically under cover at Project site with head up. Place not less than 4 inch (102 mm) high wood blocking. Provide not less than 1/4 inch (6 mm) space between each stacked door to permit air circulation.

1.11 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install wood sound control doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

1.12 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of sound control door assemblies that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure to meet sound rating requirements.
b. Faulty operation of sound seals.
c. Deterioration of metals, metal finishes, and other materials beyond normal use or weathering.

d. Delamination of veneer.
e. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42 by 84 inch (1067 by 2134 mm) section.
f. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3 inch (0.25 mm in a 76.2-mm) span.

2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Ambico Limited.
2. Eggers Industries.
3. Krieger Specialty Products Company.
4. Marshfield DoorSystems, Inc.
5. Overly Door Company.
6. Security Acoustics.
7. Vancouver Door Company.

B. Source Limitations: Obtain wood sound control door assemblies, including doors, frames, sound control seals, hinges, thresholds, and other items essential for sound control, from single source from single manufacturer.

2.2 ACCESSIBILITY REQUIREMENTS

A. Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design.

B. Doors, Doorways, and Gates:

1. General: Doors, doorways, and gates that are part of an accessible route shall comply with CBC Section 11B-404 per CBC Section 11B-404.1.

a. Exceptions:

1) Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with CBC Sections 11B-404.2.7, 11B-404.2.8, 11B-4042.9, 11B-404.3.2, and 11B-404.3.4 through 11B-404.3.7. A sign visible from the approach side complying with CBC Section 11B-703.5 shall be posted stating "ENTRY RESTRICTED AND CONTROLLED BY SECURITY PERSONNEL."
2) At detention and correctional facilities, doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with CBC Sections 11B-404.2.7, 11B-404.2.8, 11B-4042.9, 11B-404.3.2, and 11B-404.3.4 through 11B-404.3.7.

2. Manual Doors, Doorways, and Manual Gates: Manual doors and doorways and manual gates intended for user passage shall comply with CBC Section 11B-404.2 per CBC Section 11B-404.2.

    a. Revolving Doors, Gates, and Turnstiles: Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route per CBC Section 11B-404.2.1.
    b. Double-Leaf Doors and Gates: At least one of the active leaves of doorways with two leaves shall comply with CBC Sections 11B-404.2.3 and 11B-404.2.4 per CBC Section 11B-404.2.2.
    c. Clear Width: Openings shall provide a clear width of 32 inches (813 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (914 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (864 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the finish floor or ground shall not exceed 4 inches (102 mm) per CBC Section 11B-404.2.3 and CBC Figure 11B-404.2.3.

        1) Exceptions:

            a) In alterations, a projection of 5/8 inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
            b) Door closers and door stops shall be permitted to be 78 inches (1981 mm) minimum above the finish floor or ground.

    d. Maneuvering Clearances: Minimum maneuvering clearances at doors and gates shall comply with CBC Section 11B-404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance per CBC Section 11B-404.2.4.

        1) Swinging Doors and Gates: Swinging doors and gates shall have maneuvering clearances complying with CBC Table 11B-404.2.4.1 per CBC Section 11B-404.2.4.1.
        2) Doorways Without Doors or Gates, Sliding Doors, and Folding Doors: Doorways less than 36 inches (914 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with CBC Table 11B-404.2.4.2 per CBC Section 11B-404.2.4.2.
        3) Recessed Doors and Gates: Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (457 mm) of the latch side at an interior doorway, or within 24 inches (610 mm) of the latch side of an exterior doorway, projects more than 8 inches (203 mm) beyond the face of the door, measured perpendicular to the face of the door or gate per CBC Section 11B-404.2.4.3.
        4) Floor or Ground Surface: Floor or ground surface within required maneuvering clearances shall comply with CBC Section 11B-302. Changes in level are not permitted per CBC Section 11B-404.2.4.4.
            a) Exception:

                1. Slopes not steeper than 1:48 shall be permitted.
                2. Changes in level at thresholds complying with CBC Section 11B-404.2.5 shall be permitted.

    e. Thresholds: Thresholds, if provided at doorways, shall be 1/2 inch (12.7 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with CBC Sections 11B-302 and 11B-303 per CBC Section 11B-404.2.5.

f. Doors in a Series and Gates in a Series: The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1219 mm) minimum plus the width of the doors or gates swinging into the space per CBC Section 11B-404.2.6.

g. Door and Gate Hardware: Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with CBC Section 11B-309.4. Operable parts of such hardware shall be 34 inches (864 mm) minimum and 44 inches (1118 mm) 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 per CBC Section 11B-404.2.7.

1) Exceptions:

a) Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.

b) Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release latch on self-latching devices at 54 inches (1372 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

2) Operation: Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum per CBC Section 11B-309.4.

h. Closing Speed: Door and gate closing speed shall comply with CBC Section 11B-404.2.8 per CBC Section 11B-404.2.8.

1) Door Closers and Gate Closers: Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum per CBC Section 11B-404.2.8.1.
2) Spring Hinges: Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum per CBC Section 11B-404.2.8.2.

i. Door and Gate Opening Force: The force for pushing or pulling open a door or gate shall be as follows per CBC Section 11B-404.2.9:

1) Interior Hinged Doors and Gates: 5 pounds (22.2 N) maximum.
2) Sliding or Folding Doors: 5 pounds (22.2 N) maximum.
3) Required Fire Doors: The minimum opening force allowable by the appropriate administrative authority, not to exceed 15 pounds (66.7 N).
4) Exterior Hinged Doors: 5 pounds (22.2 N) maximum.
5) These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.
6) Operation: Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum per CBC Section 11B-309.4.
7) Door Opening Force: The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22.2 N). These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position. For other swinging doors, as well as sliding and folding doors,

the door latch shall release when subjected to a 15 pound (67 N) force. The door shall be set in motion when subjected to a 30 pound (133 N) force. The door shall swing to a full-open position when subjected to a 15 pound (67 N) force per CBC Section 1010.1.3.

a) Location of Applied Forces: Forces shall be applied to the latch side of the door per CBC Section 1010.1.3.1.

j. Door and Gate Surfaces: Swinging door and gate surfaces within 10 inches (254 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped per CBC Section 11B-404.2.10.

1) Exceptions:

a) Sliding doors shall not be required to comply with CBC Section 11B-404.2.10.
b) Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (254 mm) bottom smooth surface height requirement.
c) Doors and gates that do not extend to within 10 inches (254 mm) of the finish floor or ground shall not be required to comply with CBC Section 11B-404.2.10.

k. Vision Lights (Lites): Doors, gates, and side lights (lites) adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1092 mm) maximum above the finish floor per CBC Section 11B-404.2.11.

1) Exception: Glazing panels with the lowest part more than 66 inches (1676 mm) from the finish floor or ground shall not be required to comply with CBC Section 11B-404.2.11.

2.3 PERFORMANCE REQUIREMENTS

A. Sound Rating: Provide sound control door assemblies identical to those of assemblies tested as sound-retardant units by an acoustical testing agency, and have the following minimum rating:

1. STC Rating: Not less than 65 as calculated by ASTM E413 when tested in an operable condition according to ASTM E90.

B. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

2.4 REGULATORY REQUIREMENTS

A. All insulation provided for use on this project shall be identified as required by Section 12-13-1557 of the California Referenced Standards Code (Part 12, Title 24, C.C.R.); Chapter 12-13 "Standards For Insulating Material", (See Part 6, Title 24, C.C.R.); Department Of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation; Article 3: "Standards for Insulating Material".

2.5 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Recycled Content of Steel Products: Recycled content not less than 20 percent.

C. Thermal Insulation, Tier 1: Per CGBC Section A5.504.4.8, comply with the following standards:

1. Chapters 12-13 (Standards for Insulating Material) in Title 24, Part 12, the California Referenced Standards Code.
2. The VOC-emission limits defined in 2009 CHPS criteria and listed in its High Performance Products Database.
3. California Department of Public Health 2010 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350).

D. Thermal Insulation, Tier 2: Thermal insulation, No-added Formaldehyde. Install thermal insulation which complies with Tier 1 plus does not contain any added formaldehyde per CGBC Section A5.504.4.8.1.

E. Provide mineral-wool blanket insulation as follows:

1. Low Emitting: Insulation tested according to ASTM D 5116 and shown to emit less than 0.05 ppm formaldehyde.
2. Recycled Content: Recycled content not less than 20 percent.

F. Finish Material Pollutant Control: Finish materials shall comply with CGBC Sections 5.504.4.1 through 5.504.4.6 per CGBC Section 5.504.4.

1. Adhesives, Sealants, and Caulks: Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards per CGBC Section 5.504.4.1:

a. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in CBC Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products specified in subparagraph below.
b. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

2. Adhesives shall comply with maximum VOC limits listed in CGBC Table 5.504.4.1.

3. Composite Wood Products: Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in CGBC Table 5.504.4.5 per CGBC Section 5.504.4.5.

G. Adhesives: Do not use adhesives that contain urea formaldehyde.

H. Low-Emitting Materials: Composite wood products shall be made without urea formaldehyde.

I. Low-Emitting Materials: Adhesives shall comply with the requirements of authorities having jurisdiction.

J. Low-Emitting Materials: Paints and coatings shall comply with the requirements of authorities having jurisdiction.

2.6 FLUSH WOOD DOORS, GENERAL

A. Quality Standard: In addition to requirements specified, comply with the WI's/AWMAC's "North American Architectural Woodwork Standards 3.0" and ANSI/WDMA I.S. 1A.

1. Provide labels and certificates from WI certification program indicating that doors comply with requirements of grades specified.
2. The Contract Documents contain requirements that are more stringent than the referenced quality standard. Comply with requirements of Contract Documents in addition to those of the referenced quality standard.

2.7 WOOD SOUND CONTROL DOORS

A. Doors: Flush-design wood sound control doors, thickness as required to provide STC rating, but not less than 1-3/4 inches (44 mm) thick; with manufacturer's standard sound-retardant core as required to provide STC and fire rating indicated. Fabricate according to WDMA 1.S.1-A.

B. Materials: Comply with Section 081416 "Flush Wood Doors" for grade, faces, veneer matching, fabrication, finishing, and other requirements unless otherwise indicated.

1. Glazing: As required by wood sound control door assembly manufacturer to comply with sound control and fire-rated-door labeling requirements.

C. Finishes:

1. Factory finish wood sound control doors to match doors specified in Section 081416 "Flush Wood Doors."

2.8 SOUND CONTROL FRAMES

A. Frames: Fabricate sound control door frames with corners mitered, reinforced, and continuously welded the full depth and width of frame. Fabricate according to NAAMM-HMMA 865.

1. Weld frames according to NAAMM-HMMA 820.

2. Interior Frames: Fabricate from metallic-coated steel sheet, thickness as required to provide STC rating, but not less than 0.053 inch (1.34 mm) thick (16 gage nominal), with not less than G40 or A40 (ZF120) coating.
3. Hardware Reinforcement: Fabricate according to NAAMM-HMMA 865 of same material as face sheets.
4. Jamb Anchors:

    a. Stud-Wall Type: Designed to engage stud, welded to back of frames, not less than 0.042 inch (1.06 mm) thick (18 gage nominal), uncoated steel unless otherwise indicated.
    b. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter, metallic-coated steel bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

5. Floor Anchors: Not less than 0.067 inch (1.70 mm) thick (14 gage nominal) metallic-coated steel, and as follows:

    a. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

B. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
2. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
3. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B, with G40 (Z120) zinc (galvanized) or A40 (ZF120) zinc-iron-alloy (galvannealed) coating designation.
4. Supports and Anchors: After fabricating, galvanize units to be built into exterior walls according to ASTM A153/A153M, Class B.
5. Inserts, Bolts, and Fasteners: Provide items to be built into exterior walls, hot-dip galvanized according to ASTM A153/A153M or ASTM F2329.
6. Mineral-Fiber Insulation: Insulation composed of rock-wool fibers, slag-wool fibers, or glass fibers.

C. Finishes:

1. Prime Finish for Interior Frames: Clean, pretreat, and apply manufacturer's standard primer.

    a. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.9 HARDWARE

A. Sound Control Door Hardware: Manufacturer's standard sound control system, including head and jamb seals, door bottoms, and thresholds, as required by testing to achieve STC and fire rating indicated.

1. Head and Jamb Seals: One of the following:

    a. Neoprene Compression Seals: One-piece units consisting of closed-cell sponge neoprene seal held in place by metal retainer, with retainer cover of same material as door frame; attached to door frame with concealed screws.

b. Silicone Compression Seals: One-piece units consisting of silicone compression bulb and stabilizer flange; attached to door frame adhesively.
c. Magnetic Seals: One-piece units consisting of closed-cell sponge neoprene seal and resiliently mounted magnet held in place by metal retainer, with retainer cover of same material as door frame; attached to door frame with concealed screws.

2. Automatic Door Bottoms: Neoprene or silicone gasket, held in place by metal housing, that automatically drops to form seal when door is closed; mounted to bottom edge of door with screws.

a. Mounting: Mortised or semimortised into bottom of door as required by testing to achieve STC rating indicated.

3. Thresholds: Flat, smooth, unfluted type as recommended by manufacturer; fabricated from aluminum.

a. Finish: Mill.

B. Other Hardware: Comply with requirements in Section 087100 "Door Hardware."

2.10 SOUND CONTROL ACCESSORIES

A. Glazing: Manufacturers' standard factory-installed glazing. Comply with requirements in Section 088000 "Glazing."

2.11 FABRICATION

A. Wood Sound Control Door Fabrication: Factory fit doors to suit frame-opening sizes indicated, with uniform clearances and bevels according to WDMA I.S.1-A unless otherwise indicated. Comply with final door hardware schedules and hardware templates.

1. Comply with requirements in NFPA 80 for fire-rated and smoke control doors.
2. Comply with requirements in NFPA 105 for smoke control doors.
3. Glazed Lites: Factory install glazed lites according to requirements of tested assembly to achieve STC rating indicated.
4. Hardware Preparation: Factory machine doors for hardware that is not surface applied

a. Locate door hardware as indicated, or if not indicated, according to DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
b. Coordinate measurements of hardware mortises in steel frames to verify dimensions and alignment before factory machining.

B. Sound Control Frame Fabrication: Fabricate sound control frames to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

1. Comply with requirements in NFPA 80 for fire-rated and smoke control doors.
2. Comply with requirements in NFPA 105 for smoke control doors.

3. Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated from same thickness metal as frames.
4. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
5. Floor Anchors: Weld anchors to bottom of jambs and mullions with not less than four spot welds per anchor.
6. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:

        1) Three anchors per jamb up to 60 inches (1524 mm) in height.
        2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) in height.
        3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) in height.
        4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm), or fraction thereof, more than 96 inches (2438 mm) in height.
        5) Two anchors per head for frames more than 42 inches (1066 mm) wide and mounted in metal-stud partitions.

7. Hardware Preparation: Factory prepare sound control frames to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping.

    a. Reinforce frames to receive nontemplated mortised and surface-mounted door hardware.
    b. Locate door hardware as indicated, or if not indicated, according to DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

8. Tolerances: Fabricate frames to tolerances indicated in NAAMM-HMMA 865.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations of sound control door frame connections before frame installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace sound control door frames to the following tolerances:

1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated mortised and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install sound control door assemblies plumb, rigid, properly aligned, and securely fastened in place; comply with manufacturer's written instructions.

B. Frames: Install sound control door frames in sizes and profiles indicated.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

    a. At fire-rated openings, install frames according to NFPA 80.
    b. At openings requiring smoke and draft control, install frames according to NFPA 105.
    c. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, and dress; make splice smooth, flush, and invisible on exposed faces.
    d. Remove temporary braces only after frames or bucks have been properly set and secured.
    e. Check squareness, twist, and plumbness of frames as walls are constructed. Shim as necessary to comply with installation tolerances.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
3. Metal-Stud Partitions: Fully fill frames with mineral-fiber insulation.
4. Installation Tolerances: Adjust sound control door frames for squareness, alignment, twist, and plumbness to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Doors: Fit sound control doors accurately in frames, within clearances indicated below. Shim as necessary.

1. Non-Fire-Rated Doors: Fit non-fire-rated doors accurately in frames with the following clearances:

    a. Jambs: 1/8 inch (3 mm).

b. Head with Butt Hinges: 1/8 inch (3 mm).
c. Sill: Manufacturer's standard.
d. Between Edges of Pairs of Doors: 1/8 inch (3 mm).

2. Fire-Rated Doors: Install fire-rated doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors and gaskets according to NFPA 105.

D. Sound Control Seals: Where seals have been factory prefit and preinstalled and subsequently removed for shipping, reinstall seals and adjust according to manufacturer's written instructions.

E. Thresholds: Set thresholds in full bed of sealant complying with requirements in Section 079200 "Joint Sealants."

F. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with sound control door assembly manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

G. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

H. Special Precautions:

1. The seals shall be installed so that they are in contact with the entire length of the jambs and head.
2. Where pairs of doors are specified, astragals shall be installed so that they are in contact with the entire length of the opposing door leaf. If manufacturer’s instructions require astragal seals on both the interior and exterior sides of the door, both astragals shall be provided.
3. The threshold seal shall be installed so that it is in contact with a smooth (not ribbed) surface of the threshold for the entire length of the threshold.
4. No gaps shall occur at the joint between the head and jamb seals, nor between jamb and threshold seals.

3.4 FIELD QUALITY CONTROL

A. Upon completion of installation, and prior to acceptance by Owner, secure a visit to the job site by a qualified representative of the manufacturer of the acoustical door system(s) to confirm that installation is in conformance with the manufacturer’s recommendations.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Testing Services: Perform testing for verification that assembly complies with STC rating requirements.

1. Acoustical testing and inspecting agency shall test all sound control door assemblies.
2. Field tests shall be conducted according to ASTM E336, with results calculated according to ASTM E413. Acceptable field NIC values shall be within 5 dB of laboratory STC values.
3. Inspection Report: Acoustical testing agency shall submit report in writing to Architect and Contractor within 24 hours after testing.
4. If tested door fails, replace or rework all sound control door assemblies to bring them into compliance at Contractor's expense.

a. Additional testing and inspecting at Contractor's expense will be performed to determine if replaced or additional work complies with specified requirements.

D. Prepare test and inspection reports.

E. Inspections:

1. Provide inspection of installed Work through WI's Certified Compliance Program, certifying that wood doors and frames, including installation, comply with requirements of AWI/AWMCA/WI's "Architectural Woodwork Standards" for the specified grade.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.
3. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.
4. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.
5. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.
6. Prepare and submit separate inspection report for each fire-rated door and egress door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.5 ADJUSTING AND CLEANING

A. Adjust operating door hardware to function smoothly as recommended by manufacturer.

1. For doors accessible to people with disabilities, adjust closers so that from an open position of 90 degrees, the time required to move the door to a position 12 degrees from the latch is not less than 5 seconds.
2. For doors accessible to people with disabilities, adjust spring hinges so that from an open position of 70 degrees, the time required to move the door to the closed position is not less than 1.5 seconds.

B. Final Adjustments: Check and adjust seals, door bottoms, and other sound control hardware items right before final inspection. Leave work in complete and proper operating condition.

C. Operation: Rehang or replace doors that do not swing or operate freely.

D. Remove and replace defective work, including defective or damaged sound seals and doors and frames that are warped, bowed, or otherwise unacceptable.

1. Adjust gaskets, gasket retainers, and retainer covers to provide contact required to achieve STC rating.

E. Touchup Painting for Interior Frames:

1. Immediately after installation, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

F. Metallic-Coated Surfaces: Clean abraded areas of frames and repair with galvanizing repair paint according to manufacturer's written instructions.

3.6 DEMONSTRATION

A. Instruct the Owner's maintenance personnel regarding operation and maintenance of all acoustic doors.

END OF SECTION 083473.16

SECTION 097250 - DRY ERASE WALL COVERINGS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Dry erase wall coverings.
2. Adhesive backed dry erase wall coverings.
3. Tray, trim, end caps, and presentation rails.
4. Accessories.

B. Related Requirements:

1. Section 092900 "Gypsum Board" for installation of gypsum board substrate for dry erase wallcovering.
2. Section 099123 "Interior Painting" for priming gypsum board substrate for dry erase wallcovering.

1.02 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.03 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.

B. Samples for Verification:

1. For each type of dry erase wall covering and for each color, pattern, texture, and finish specified, full width by not less than 36 inches (914 mm) long in size.
2. For each type of tray, trim, end caps, presentation rail, and accessory not less than 6 inches (152 mm) long in size.

C. Product Schedule: For dry erase wall coverings. Use same designations indicated on Drawings.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Product Test Reports: For each wall covering, for tests performed by a qualified testing agency.

1.05 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wall coverings to include in maintenance manuals.

1.06 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Dry Erase Wall Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for installation of dry erase wallcovering of the types and extent required with not less than three years of documented experience.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for installation.

1. Build mockups for each type of dry erase wall covering, including accessories, on each substrate required where indicated on Drawings or, if not indicated, where directed by Architect.

a. Size: 50 sq. ft. (4.6 sq. m) in surface area.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver dry erase wall coverings to the Project site in unbroken and undamaged original factory packaging and clearly labeled with the manufacturer's identification label, quality or grade, and lot number.

B. Store materials in a clean, dry storage area with temperature maintained above 55 deg F (13 deg C) with normal humidity.

C. Store material within original packaging to prevent damage.

1.09 FIELD CONDITIONS

A. Do not apply dry erase wall coverings when surface and ambient temperatures are outside the temperature ranges required by the dry erase wall covering manufacturer.

B. Provide heating facilities to maintain substrate surface and ambient temperatures above 55 deg F (13 deg C) unless required otherwise by manufacturer's instructions.

C. Apply adhesive when substrate surface temperature and ambient temperature is above 55 deg F (13 deg C) and relative humidity is below forty percent.

D. Maintain recommended temperature and humidity for not less than 72 hours prior to installation, during installation, and for not less than 72 hours after installation.

E. Lighting: Do not install units until a lighting level of not less than 80 fc (861 lx) is provided on surfaces to receive the units.

F. Ventilation: Provide continuous ventilation during installation and for not less than the time recommended by wall-covering manufacturer for full drying or curing.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace dry erase wall coverings and trim accessories that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Source Limitations: Obtain dry erase wall coverings and trim accessories from single manufacturer.

2.02 ACCESSIBILITY REQUIREMENTS

A. Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design.

B. Reach Ranges:

1. General: Reach ranges shall comply with CBC Section 11B-308 per CBC Section 11B-308.1.

2.03 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2. Fire-Growth Contribution: No flashover and heat and smoke release according to NFPA 265 or NFPA 286.

2.04 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Finish Material Pollutant Control: Finish materials shall comply with CGBC Sections 5.504.4.1 through 5.504.4.6 per CGBC Section 5.504.4.

1. Adhesives, Sealants, and Caulks: Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards per CGBC Section 5.504.4.1:

a. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in CBC Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products specified in subparagraph below.
b. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

2. Adhesives shall comply with maximum VOC limits listed in CGBC Table 5.504.4.1.

C. VOC Content: Adhesives shall comply with the following VOC limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Other Adhesive Not Specifically listed: 50 g/L.

D. Low-Emitting Materials: Adhesives shall comply with the requirements of authorities having jurisdiction.

2.05 DRY ERASE WALL COVERING

A. Basis-of-Design Product: Subject to compliance with requirements, provide Koroseal Interior Products, LLC; Walltalkers, Just-Rite, JR60, or comparable product by another manufacturer.

1. Just-Rite: Scrim backed, white pigmented, vinyl capped, with semi-gloss, dry erase film.

a. Product Type: Walltalkers.
b. Brand: Just-Rite.
c. Backing: Woven.
d. Certifications: CA IAQ 01350.
e. Fire Rating: Class A per ASTM E84.
f. Pattern Match: Straight Match, Reverse Hang.
g. Surface Gloss: Semi-Gloss.
h. Type: Type II.
i. Width: 60 inches (1524 mm).

2.06 TRAY, TRIM, END CAPS, AND PRESENTATION RAILS

A. Aluminum Tray: Clear satin anodized aluminum, snap-on marker and eraser tray with clips.

1. Length: As indicated on Drawings or, if not indicated, as selected by Architect from manufacturer's full range.

B. Aluminum Trim: Clear satin anodized aluminum, snap-on trim with clips.

1. Length: As indicated on Drawings or, if not indicated, as selected by Architect from manufacturer's full range.

C. End Caps:

1. 1/2 inch (13 mm) clear satin anodized aluminum, tray end caps for marker and eraser tray.

D. J Cap Wallcovering Trim:

1. Clear satin anodized aluminum, low profile trim.

E. Quantum Tray: Clear satin anodized aluminum, blade style marker and eraser tray with angled, smooth-finished ends and installation hardware kit.

1. Length: As indicated on Drawings or, if not indicated, as selected by Architect from manufacturer's full range.

F. Marker Dispenser:

1. Gray plastic marker dispenser.

G. Tack Rail:

1. 1 inch (25 mm) tack rail with TacWall insert.

2.07 ACCESSORIES

A. Adhesives: Heavy-duty clear or clay based premixed vinyl adhesive.

B. Primer/Sealer: Mildew resistant, complying with requirements in Section 099123 "Interior Painting" and recommended in writing by primer/sealer and dry erase wall covering manufacturers for intended substrate.

C. Metal Primer: Interior ferrous metal primer complying with Section 099123 "Interior Painting" and recommended in writing by primer and dry erase wall covering manufacturers for intended substrate.

D. Presentation Starter Kit: Provide one Walltalkers starter kit containing eight dry erase markers, one eraser, two dry erase cleaning cloths, one empty bottle for water, and one 8 oz (0.23 kg) bottle liquid surface cleaning solution for each room where dry erase wall covering is installed.

1. Regular starter kit with standard dry erase markers.

2.08 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates and installation conditions to ensure surface conditions meet or exceed a Level 4 finish, per GA-214-M-97 "Recommended Levels of Gypsum Board Finish", and permanent lighting is installed and operational.

B. Test substrate with suitable moisture meter and verify that moisture content does not exceed 4 percent.

C. Verify substrate surface is clean, dry, smooth, structurally sound, and free from surface defects and imperfections that would show through the finished surface.

D. Evaluate all painted surfaces for the possibility of pigment bleed-through.

E. Notify the Contractor and Architect in writing of any conditions detrimental to the proper and timely completion of the installation.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

G. Beginning installation means acceptance of surface conditions.

3.02 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, mildew, and incompatible primers.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

1. Moisture Content: Maximum of 4 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.
2. Metals: If not factory primed, clean and apply metal primer recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
3. Gypsum Board: Prime with primer/sealer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
4. Painted Surfaces: Treat areas susceptible to pigment bleeding.

D. Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper.

E. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

F. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.03 INSTALLATION - WALL COVERING BACKING

A. Read and follow the manufacturer's installation instruction sheet contained in each roll of the dry erase wall covering.

B. Examine all materials for pattern, color, quantity and quality, as specified for the correct location prior to cutting.

C. Adhesive: Apply a uniform coat of heavy-duty pre-mixed clay based or extra strength clear wallcovering adhesive.

D. Install each strip horizontally and in the same sequence as cut from the roll.

E. Install dry erase wall covering sheets in exact order as they are cut from bolt. Reverse hang alternate strips (except lined products). Do not crease or bend the dry erase wall covering when handling.

F. Install dry erase wall covering horizontally using a level line.

G. Using a level or straight edge, double cut the seam with a seam-cutting tool. (Ex: Double Seam-Cutter or Swedish Knife). Do not score drywall or plasterboard when cutting material.

H. When covering the entire wall, seam the material out of the main writing and viewing areas of the wall.

I. Apply dry erase wall covering to the substrate using a wall covering smoother, wrapped with a soft cloth, to remove air bubbles. Do not use sharp edged smoothing tools. Smooth material on the wall from the middle to the outside edge.

J. Remove excess adhesive immediately after the dry erase wall covering is applied. Clean entire surface with a warm mild soap solution, and clean soft cloths. Rinse thoroughly with water and let dry before using. Change water often to maintain water clarity.

K. Stop installation of material that is questionable in appearance and notify the manufacturer's representative for an inspection.

L. Dry Erase Wall Covering Mounting Heights: Install dry erase wall covering at mounting heights indicated on Drawings, or if not indicated, at heights indicated below.

1. Mounting Height: 36 inches (914 mm) above finished floor to top of aluminum tray.

3.04 INSTALLATION - ADHESIVE BACKING

A. Apply Walltalkers adhesive backed dry erase wall covering only on surfaces impervious to moisture such as chalkboards, marker boards, glass, high-pressure laminates, or similar.

B. Acclimate dry erase wall covering in the area of installation not less than 24 hours before installation.

C. Examine all materials for color, quantity, and quality as specified for the correct location prior to cutting.

D. Read and follow the instructions in the manufacturer's installation sheet contained in each roll of the dry erase wall covering.

E. Do not crease or bend the dry erase wall covering when handling.

F. Mix dampening solution by using one half to one capful of mild detergent to 1 gal (1.81 kg) clean water. Damping solution is used in positioning the material and allows for the removal of air bubbles.

G. Use a pump spray bottle to apply the dampening solution to the surface.

H. Slowly remove release liner and smooth dry erase wall covering to the hanging surface using a wall covering smoother wrapped with a soft cloth from the middle to the outside edge to remove air bubbles.

I. Stop installation of material that is questionable in appearance and notify the manufacturer's representative for an inspection.

J. Dry Erase Wall Covering Mounting Heights: Install dry erase wall covering at mounting heights indicated on Drawings, or if not indicated, at heights indicated below.

1. Mounting Height: 36 inches (914 mm) above finished floor to top of aluminum tray.

3.05 CLEAN-UP

A. Upon completion of installation, remove all exposed adhesive immediately using a soft cloth and a warm, mild soap solution and rinse thoroughly with water and dry with clean towel prior to using.

B. Upon completion of the work, remove surplus materials, rubbish, and debris resulting from the dry erase wall covering installation. Leave areas in neat, clean, and orderly condition.

C. Replace strips that cannot be cleaned.

D. Reinstall hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

END OF SECTION 097250

SECTION 097260 - TACKABLE WALL COVERINGS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Tackable wall coverings.
2. Accessories.

B. Related Requirements:

1. Section 092900 "Gypsum Board" for installation of gypsum board substrate for tackable wallcovering.
2. Section 099123 "Interior Painting" for priming gypsum board substrate for tackable wallcovering.

1.02 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.03 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.

B. Samples for Verification:

1. For each type of tackable wall covering and for each color, pattern, texture, and finish specified, full width by not less than 36 inches (914 mm) long in size.
2. For each type of accessory not less than 6 inches (152 mm) long in size.

C. Product Schedule: For tackable wall coverings. Use same designations indicated on Drawings.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Product Test Reports: For each wall covering, for tests performed by a qualified testing agency.

1.05 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wall coverings to include in maintenance manuals.

1.06 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tackable Wall Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed.

1.07 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for installation of tackable wallcovering of the types and extent required with not less than three years of documented experience.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for installation.

1. Build mockups for each type of tackable wall covering, including accessories, on each substrate required where indicated on Drawings or, if not indicated, where directed by Architect.

a. Size: 50 sq. ft. (4.6 sq. m) in surface area.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver tackable wall coverings to the Project site in unbroken and undamaged original factory packaging and clearly labeled with the manufacturer's identification label, quality or grade, and lot number.

B. Store materials in a clean, dry storage area with temperature maintained above 68 deg F (20 deg C) with normal humidity.

C. Store material within original packaging to prevent damage.

1.09 FIELD CONDITIONS

A. Do not apply tackable wall coverings when surface and ambient temperatures are outside the temperature ranges required by the tackable wall covering manufacturer.

B. Provide heating facilities to maintain substrate surface and ambient temperatures above 68 deg F (20 deg C) unless required otherwise by manufacturer's instructions.

C. Apply adhesive when substrate surface temperature and ambient temperature is above 68 deg F (20 deg C) and relative humidity is below forty percent.

D. Maintain recommended temperature and humidity for not less than 72 hours prior to installation, during installation, and for not less than 72 hours after installation.

E. Lighting: Do not install units until a lighting level of not less than 80 fc (861 lx) is provided on surfaces to receive the units.

F. Ventilation: Provide continuous ventilation during installation and for not less than the time recommended by wall-covering manufacturer for full drying or curing.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace tackable wall coverings and accessories that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Source Limitations: Obtain tackable wall coverings and accessories from single manufacturer.

2.02 ACCESSIBILITY REQUIREMENTS

A. Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design.

B. Reach Ranges:

1. General: Reach ranges shall comply with CBC Section 11B-308 per CBC Section 11B-308.1.

2.03 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2. Fire-Growth Contribution: No flashover and heat and smoke release according to NFPA 265 or NFPA 286.

2.04 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Finish Material Pollutant Control: Finish materials shall comply with CGBC Sections 5.504.4.1 through 5.504.4.6 per CGBC Section 5.504.4.

1. Adhesives, Sealants, and Caulks: Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards per CGBC Section 5.504.4.1:

a. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in CBC Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products specified in subparagraph below.
b. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

2. Adhesives shall comply with maximum VOC limits listed in CGBC Table 5.504.4.1.

C. VOC Content: Adhesives shall comply with the following VOC limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Other Adhesive Not Specifically listed: 50 g/L.

D. Low-Emitting Materials: Adhesives shall comply with the requirements of authorities having jurisdiction.

2.05 TACKABLE WALL COVERING

A. Basis-of-Design Product: Subject to compliance with requirements, provide Koroseal Interior Products, LLC; Walltalkers, Tac-Wall, or comparable product by another manufacturer.

1. Uni-color resilient homogeneous tackable linoleum surface consisting of linseed oil, granulated cork, rosin binders, and dry pigments calendered onto natural burlap backing. Color shall extend through thickness of material.

a. Product Type: Walltalkers.
b. Brand: Tac-Wall.
c. Certifications: CA IAQ 01350.
d. Fire Rating: Class B per ASTM E84.
e. Pattern Match: Straight Match, Reverse Hang.
f. Surface Gloss: Matte.
g. Width: 48 inches (1219 mm).

2.06 ACCESSORIES

A. Adhesives: Solvent-free, SBR type linoleum adhesive (L-910W) or polyvinyl acetate dispersion type (contact adhesive) when used in a press.

B. Primer/Sealer: Mildew resistant, complying with requirements in Section 099123 "Interior Painting" and recommended in writing by primer/sealer and tackable wall covering manufacturers for intended substrate.

C. Metal Primer: Interior ferrous metal primer complying with Section 099123 "Interior Painting" and recommended in writing by primer and tackable wall covering manufacturers for intended substrate.

D. Color Matched Acrylic Caulk: Manufacturer's standard.

E. J-Trim for Tac-Wall: Clear satin anodized aluminum, 1/4 inch (6 mm) trim

2.07 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates and installation conditions to ensure surface conditions meet or exceed a Level 4 finish, per GA-214-M-97 "Recommended Levels of Gypsum Board Finish", and permanent lighting is installed and operational.

B. Test substrate with suitable moisture meter and verify that moisture content does not exceed 4 percent.

C. Verify substrate surface is clean, dry, smooth, structurally sound, and free from surface defects and imperfections that would show through the finished surface.

D. Evaluate all painted surfaces for the possibility of pigment bleed-through.

E. Notify the Contractor and Architect in writing of any conditions detrimental to the proper and timely completion of the installation.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

G. Beginning installation means acceptance of surface conditions.

3.02 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, mildew, and incompatible primers.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

1. Moisture Content: Maximum of 4 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.
2. Metals: If not factory primed, clean and apply metal primer recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
3. Gypsum Board: Prime with primer/sealer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
4. Painted Surfaces: Treat areas susceptible to pigment bleeding.

D. Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper.

E. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

F. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.03 INSTALLATION

A. Read and follow the manufacturer's installation instruction sheet contained in each roll of the tackable wall covering.

B. Examine all materials for pattern, color, quantity and quality, as specified for the correct location prior to cutting.

C. Cut sheets to size including a few inches of overage. Allow sheets to lay flat for not less than twenty-four hours prior to the application. Mark roll direction and sequence on the backside of each sheet. Hang sheets in sequence as cut from the roll, do not reverse sheets.

D. Back roll each sheet prior to the installation to release curl memory.

E. For seamed applications, using a seam and strip cutter remove the factory edge of one sheet. Using the same tool, overlap and trace cut the mating edge of the second sheet. Repeat this step for as many sheets as required for the job.

F. Scribe, cut, and fit material to butt tightly to adjacent surfaces, built-in casework, permanent fixtures, and pipes.

G. Adhesive: Apply adhesive with a 1/16 inch (1.6 mm) square notch trowel to the area to receiving the sheet (apply enough for one sheet at a time).

H. Work from top to bottom then side to side. Roll sheet firmly into adhesive for positive contact and to remove air bubbles.

I. Remove excess adhesive immediately after the tackable wall covering is applied. Clean entire surface with a warm mild soap solution, and clean soft cloths. Rinse thoroughly with water and let dry before using. Change water often to maintain water clarity.

J. Stop installation of material that is questionable in appearance and notify the manufacturer's representative for an inspection.

K. Tackable Wall Covering Mounting Heights: Install tackable wall covering at mounting heights indicated on Drawings, or if not indicated, at heights indicated below.

1. Mounting Height: 36 inches (914 mm) above finished floor to top of aluminum trim.

3.04 CLEAN-UP

A. Upon completion of installation, remove all exposed adhesive immediately using a soft cloth and a warm, mild soap solution and rinse thoroughly with water and dry with clean towel prior to using.

B. Upon completion of the work, remove surplus materials, rubbish, and debris resulting from the tackable wall covering installation. Leave areas in neat, clean, and orderly condition.

C. Replace strips that cannot be cleaned.

D. Reinstall hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

END OF SECTION 097260

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SECTION 098433 - SOUND-ABSORBING WALL UNITS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Sound-absorbing wall units.

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C423 "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method."
2. ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials."
3. ASTM E1264 "Standard Classification for Acoustical Ceiling Products."

1.04 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:

1. Sound-Absorbing Wall Units: Set of not less than 12 inches (305 mm) square Samples of each type, color, pattern, and texture.

1.06 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Interior elevations, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Sound-absorbing wall units.

2. Substrate to which sound-absorbing wall units will be attached.
3. Items penetrating finished wall and wall-mounted items including, but not limited to, the following:

    a. Lighting fixtures.
    b. Diffusers.
    c. Grilles.
    d. Speakers.
    e. Sprinklers.
    f. Access panels.

4. Show operation of hinged and sliding components covered by or adjacent to sound-absorbing wall units.
5. Minimum Drawing Scale: 1/8 inch = 1 foot (1:96).

B. Product Test Reports: For each sound-absorbing wall unit, for tests performed by a qualified testing agency.

1. For acoustical performance, products shall be tested to the A, D-20, C-20, and C-40 mounting methods.

C. Evaluation Reports: For each sound-absorbing wall unit anchor and fastener type, from ICC-ES.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.08 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sound-Absorbing Wall Units: Full-size panels equal to 5 percent of quantity installed.

1.09 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver sound-absorbing wall units and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

1. Provide labels indicating brand name, style, size, and thickness.

B. Before installing sound-absorbing wall units, permit them to reach room temperature and a stabilized moisture content.

C. Handle sound-absorbing wall units carefully to avoid chipping edges or damaging units in any way.

1.11 FIELD CONDITIONS

A. Environmental Limitations: Do not install sound-absorbing wall units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Locate materials onsite not less than 24 hours before beginning installation to allow materials to reach temperature and moisture content equilibrium.

C. Maintain the following conditions in areas where sound-absorbing wall units are to be installed 24 hours before, during and after installation:

1. Relative Humidity: Not less than 65 or more than 75 percent.
2. Uniform Temperature: not less than 55 deg F (13 deg C) or more than 70 deg F (21 deg C).

1.12 WARRANTY

A. Special Warranty: Manufacturer and Installer agree to repair or replace sound-absorbing wall units that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Source Limitations: Obtain each type of sound-absorbing wall unit from single source from single manufacturer.

2.02 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Class A according to ASTM E 1264.
2. Smoke-Developed Index: 50 or less.

2.03 SOUND-ABSORBING WALL UNITS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc; Tectum Direct-Attached Wall Panels, or a comparable product by another manufacturer.

1. Surface Texture: Coarse.
2. Composition: Aspen wood fibers bonded with inorganic hydraulic cement.
3. Color: As indicated on Drawings.

a. Fully paint panel edges.

4. Size: As indicated on Drawings.
5. Thickness: 1-1/2 inches (38 mm).
6. Edge Profile: Long edge beveled, short edge beveled.
7. Noise Reduction Coefficient (NRC): ASTM C423; Mounting Method A; not less than 0.55.
8. Flame Spread: ASTM E1264; Class A.
9. Dimensional Stability: HumiGuard Plus.

2.04 ACCESSORIES

A. #6 x 1-5/8 inch Painted Head Sharp Point Screws, item 8187L16.

B. #6 x 1-5/8 inch Painted Head Drill Point Screws, item 8188L16.

C. 2-1/4 inch Painted Head CMU Screws, item8189L22.

D. Paint all fasteners to match sound-absorbing wall unit faces.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, including substrate to which sound-absorbing wall units attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect sound-absorbing wall unit installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of sound-absorbing wall units.

B. Examine sound-absorbing wall units before installation. Reject sound-absorbing wall units that are wet, moisture damaged, or mold damaged.

C. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Measure each wall area and establish layout of sound-absorbing wall units to balance border widths at opposite edges of each wall. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on interior elevations.

1. Coordinate panel layout with mechanical and electrical items.

3.03 INSTALLATION

A. Install sound-absorbing wall units in accordance manufacturer's installation instructions.

3.04 ADJUSTING AND CLEANING

A. Replace damaged and broken sound-absorbing wall units.

B. Clean exposed surfaces of sound-absorbing wall units. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove sound-absorbing wall units that cannot be successfully cleaned and or repaired to eliminate evidence of damage.

END OF SECTION 098433

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SECTION 098436 - SOUND-ABSORBING CEILING UNITS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Sound-absorbing ceiling units.

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C423 "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method."
2. ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials."
3. ASTM E1264 "Standard Classification for Acoustical Ceiling Products."

1.04 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:

1. Sound-Absorbing Ceiling Units: Set of not less than 12 inches (305 mm) square Samples of each type, color, pattern, and texture.

1.06 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Sound-absorbing ceiling units.

2. Substrate to which sound-absorbing ceiling units will be attached.
3. Items penetrating finished ceiling and ceiling-mounted items including, but not limited to, the following:

    a. Lighting fixtures.
    b. Diffusers.
    c. Grilles.
    d. Speakers.
    e. Sprinklers.
    f. Access panels.

4. Show operation of hinged and sliding components covered by or adjacent to sound-absorbing ceiling units.
5. Minimum Drawing Scale: 1/8 inch = 1 foot (1:96).

B. Product Test Reports: For each sound-absorbing ceiling unit, for tests performed by a qualified testing agency.

1. For acoustical performance, products shall be tested to the A, D-20, C-20, and C-40 mounting methods.

C. Evaluation Reports: For each sound-absorbing ceiling unit anchor and fastener type, from ICC-ES.

1.07 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.08 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sound-Absorbing Ceiling Units: Full-size panels equal to 5 percent of quantity installed.

1.09 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver sound-absorbing ceiling units and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

1. Provide labels indicating brand name, style, size, and thickness.

B. Before installing sound-absorbing ceiling units, permit them to reach room temperature and a stabilized moisture content.

C. Handle sound-absorbing ceiling units carefully to avoid chipping edges or damaging units in any way.

1.11 FIELD CONDITIONS

A. Environmental Limitations: Do not install sound-absorbing ceiling units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Locate materials onsite not less than 24 hours before beginning installation to allow materials to reach temperature and moisture content equilibrium.

C. Maintain the following conditions in areas where sound-absorbing ceiling units are to be installed 24 hours before, during and after installation:

1. Relative Humidity: Not less than 65 or more than 75 percent.
2. Uniform Temperature: not less than 55 deg F (13 deg C) or more than 70 deg F (21 deg C).

1.12 WARRANTY

A. Special Warranty: Manufacturer and Installer agree to repair or replace sound-absorbing ceiling units that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Source Limitations: Obtain each type of sound-absorbing ceiling unit from single source from single manufacturer.

2.02 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Class A according to ASTM E 1264.
2. Smoke-Developed Index: 50 or less.

2.03 SOUND-ABSORBING CEILING UNITS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc; Tectum Direct-Attached Ceiling Panels, or a comparable product by another manufacturer.

1. Surface Texture: Coarse.
2. Composition: Aspen wood fibers bonded with inorganic hydraulic cement.
3. Color: Black.

a. Fully paint panel edges.

4. Size: As indicated on Drawings.
5. Thickness: 1-1/2 inches (38 mm).
6. Edge Profile: Long edge beveled, short edge beveled.
7. Noise Reduction Coefficient (NRC): ASTM C423; Mounting Method A; not less than 0.55.
8. Flame Spread: ASTM E1264; Class A.
9. Dimensional Stability: HumiGuard Plus.

2.04 ACCESSORIES

A. #6 x 1-5/8 inch Painted Head Sharp Point Screws, item 8187L16.

B. #6 x 1-5/8 inch Painted Head Drill Point Screws, item 8188L16.

C. 2-1/4 inch Painted Head CMU Screws, item8189L22.

D. Paint all fasteners to match sound-absorbing ceiling unit faces.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, including substrate to which sound-absorbing ceiling units attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect sound-absorbing ceiling unit installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of sound-absorbing ceiling units.

B. Examine sound-absorbing ceiling units before installation. Reject sound-absorbing ceiling units that are wet, moisture damaged, or mold damaged.

C. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Measure each ceiling area and establish layout of sound-absorbing ceiling units to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.

1. Coordinate panel layout with mechanical and electrical items.

3.03 INSTALLATION

A. Install sound-absorbing ceiling units in accordance manufacturer's installation instructions.

3.04 ADJUSTING AND CLEANING

A. Replace damaged and broken sound-absorbing ceiling units.

B. Clean exposed surfaces of sound-absorbing ceiling units. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove sound-absorbing ceiling units that cannot be successfully cleaned and or repaired to eliminate evidence of damage.

END OF SECTION 098436

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SECTION 101200 - DISPLAY CASES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Display cases.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for metal backing for anchoring display cases.
2. Section 101100 "Visual Display Units" for tackboards.

1.3 DEFINITIONS

A. Bulletin Board: Glazed cabinet with tackboard panel, without shelves, typically of shallow depth for display of paper documents.

B. Display Case: Glazed cabinet with tackboard panel back surface and adjustable shelves.

C. Tackboard Panel: A material for holding push-pins or tacks, typically consisting of a facing such as fabric, vinyl, or cork; adhered to a substrate such as fiberboard, hardboard, or particleboard.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for display cases. Include furnished specialties and accessories.

B. Shop Drawings: For display cases.

1. Include plans, elevations, sections, and attachment details.
2. Show location of seams and joints in tackboard panels.

3. Include sections of typical trim members.

C. Samples for Verification: For each type of exposed finish for the following.

1. Tackboard Panel: Not less than 8-1/2 by 11 inches (215 by 280 mm), with facing and substrate indicated for final Work. Include one panel for each type, color, and texture required.
2. Trim: 6 inch (150 mm) long sections of each trim profile including corner section.

1.6 INFORMATIONAL SUBMITTALS

A. Seismic Qualification Certificates: For display cases, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

B. Product Test Reports: For fabrics and tackboard panels, for tests performed by a qualified testing agency, for surface-burning characteristics of fabrics and tackboard panels.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For display cases to include in maintenance manuals.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install display cases for indoor installations until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain display cases from single source from single manufacturer.

2.2 ACCESSIBILITY REQUIREMENTS

A. Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design.

B. Protruding Objects:

1. General: Protruding objects shall comply with CBC Section 11B-307 per CBC Section 11B-307.1.

2. Protrusion Limits: Objects with leading edges more than 27 inches (686 mm) and not more than 80 inches (2032 mm) above finish floor or ground shall protrude 4 inches (102 mm) maximum horizontally into the circulation path per CBC Section 11B-307.2 and CBC Figure 11B-307.2.

C. Reach Ranges:

1. General: Reach ranges shall comply with CBC Section 11B-308 per CBC Section 11B-308.1.

D. Operable Parts:

1. General: Operable parts shall comply with CBC Section 11B-309 per CBC Section 11B-309.1.
2. Operation: Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum per CBC Section 11B-309.4.

2.3 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Display Cases shall withstand the effects of earthquake motions according to ASCE/SEI 7.

1. Component Importance Factor is 1.0.

B. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

2.4 SUSTAINABILITY REQUIREMENTS

A. Comply with applicable provisions in the CGBC.

B. Recycled Content of Particleboard: Recycled content not less than 20 percent.

C. Recycled Content of Medium-Density Fiberboard: Recycled content not less than 20 percent.

D. Particleboard:

1. Composite Wood Products: Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in California Air Resources Board's (CARB) Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.) per CGBC Section 5.504.4.5. Those materials not exempted under ATCM must meet the specified emission limits, as shown in CGBC Table 5.504.4.5.
2. Composite Wood Products: Products shall be made without urea formaldehyde.
3. Formaldehyde emissions shall not exceed 0.09 ppm per CGBC Table 5.504.4.5.

E. Medium-Density Fiberboard:

1. Composite Wood Products: Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in California Air Resources Board's (CARB) Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.) per CGBC Section 5.504.4.5. Those materials not exempted under ATCM must meet the specified emission limits, as shown in CGBC Table 5.504.4.5.
2. Composite Wood Products: Products shall be made without urea formaldehyde.
3. Formaldehyde emissions shall not exceed 0.11 ppm per CGBC Table 5.504.4.5.

F. Finish Material Pollutant Control: Finish materials shall comply with CGBC Sections 5.504.4.1 through 5.504.4.6 per CGBC Section 5.504.4.

1. Adhesives, Sealants, and Caulks: Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards per CGBC Section 5.504.4.1:

   a. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in CBC Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products specified in subparagraph below.
   b. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

2. Adhesives shall comply with maximum VOC limits listed in CGBC Table 5.504.4.1.

G. Low-Emitting Materials: Adhesives shall comply with the requirements of authorities having jurisdiction.

2.5 DISPLAY CASES - TYPE 1

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. A-1 Visual Systems.
2. AARCO Products, Inc.
3. ADP Lemco.
4. AJW Architectural Products.
5. Architectural School Products Ltd.
6. Aywon.
7. CIG-JAN Products Ltd.
8. Claridge Products and Equipment, Inc.
9. Ghent Manufacturing, Inc.
10. Nelson-Harkins Industries.
11. Peter Pepper Products, Inc.
12. Platinum Visual Systems.
13. Poblocki Sign Company.
14. Pyramid Presentation Products.
15. Tablet & Ticket Co. (The).

16. Waddell Furniture; a division of Ghent Manufacturing, Inc.

B. Recessed Display Case: Factory-fabricated display case; with finished interior, operable glazed doors at front, and trim on face to cover edge of recessed opening.

1. Display Case Cabinet: Extruded aluminum.

2. Face Frame: Aluminum.
3. Aluminum Finish: Clear anodic.

C. Glazed Sliding Doors: Tempered glass; unframed; with extruded-aluminum top and bottom track; supported on nylon or ball-bearing rollers; with plastic top guide and rubber bumpers. Equip each door with ground finger pull and adjustable cylinder lock with two keys.

1. Thickness: Not less than 6 mm thick.
2. Number of Doors: Two.

D. Shelves: Not less than 6 mm thick tempered glass; supported on adjustable shelf standards and supports.

1. Shelf Depth: 3-1/2 inches (89 mm).
2. Number of Shelves: Three.

E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04102; with shelf brackets, B04112; recess mounted in rear surface. Provide standards extending full height of display case.

F. Vinyl Back Panel: Vinyl-fabric-faced tackboard panel.

G. Hardwood Back Panel: Hardwood veneer to match display case construction.

H. Size: 72 inches (1829 mm) wide, by 48 inches (1200 mm) high, by 4 inches (100 mm) deep.

2.6 DISPLAY CASES - TYPE 2

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. A-1 Visual Systems.
2. AARCO Products, Inc.
3. ADP Lemco.
4. AJW Architectural Products.
5. Architectural School Products Ltd.
6. Aywon.
7. CIG-JAN Products Ltd.
8. Claridge Products and Equipment, Inc.
9. Ghent Manufacturing, Inc.
10. Nelson-Harkins Industries.
11. Peter Pepper Products, Inc.
12. Platinum Visual Systems.
13. Poblocki Sign Company.
14. Pyramid Presentation Products.
15. Tablet & Ticket Co. (The).

16. Waddell Furniture; a division of Ghent Manufacturing, Inc.

B. Recessed Display Case: Factory-fabricated display case; with finished interior, operable glazed doors at front, and trim on face to cover edge of recessed opening.

1. Display Case Cabinet: Extruded aluminum.

2. Face Frame: Aluminum.
3. Aluminum Finish: Clear anodic.

C. Glazed Sliding Doors: Tempered glass; unframed; with extruded-aluminum top and bottom track; supported on nylon or ball-bearing rollers; with plastic top guide and rubber bumpers. Equip each door with ground finger pull and adjustable cylinder lock with two keys.

1. Thickness: Not less than 6 mm thick.
2. Number of Doors: Two.

D. Shelves: Not less than 6 mm thick tempered glass; supported on adjustable shelf standards and supports.

1. Shelf Depth: 5-1/2 inches (140 mm).
2. Number of Shelves: Three.

E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04102; with shelf brackets, B04112; recess mounted in rear surface. Provide standards extending full height of display case.

F. Vinyl Back Panel: Vinyl-fabric-faced tackboard panel.

G. Hardwood Back Panel: Hardwood veneer to match display case construction.

H. Size: 72 inches (1829 mm) wide, by 48 inches (1200 mm) high, by 6 inches (150 mm) deep.

2.7 TACKBOARD PANELS

A. Vinyl-Fabric-Faced Tackboard Panel: Vinyl fabric factory laminated to 1/2 inch (13 mm) thick, fiberboard backing.

1. Color: White.

2.8 MATERIALS

A. Fiberboard: ASTM C208.

B. Vinyl Fabric: ASTM F793/F793M, Type II, burlap weave; weighing not less than 13 oz./sq. yd. (440 g/sq. m); with flame-spread index of 25 or less when tested in accordance with ASTM E84.

C. Extruded-Aluminum Bars and Shapes: ASTM B221 (ASTM B221M), Alloy 6063.

D. Clear Tempered Glass: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality Q3, with exposed edges seamed before tempering.

E. Fasteners: Provide screws, bolts, and other fastening devices made from same material as items being fastened, except provide hot-dip galvanized, stainless steel, or aluminum fasteners for exterior applications. Provide types, sizes, and lengths to suit installation conditions. Use security fasteners where exposed to view.

2.9 FABRICATION

A. Fabricate display cases to requirements indicated for dimensions, design, and thickness and finish of materials.

B. Use metals and shapes of thickness and reinforcing required to produce flat surfaces, and to impart strength for size, design, and application indicated.

C. Fabricate cabinets and door frames with reinforced corners, mitered to a hairline fit, with no exposed fasteners.

D. Fabricate shelf standards plumb and at heights to align shelf brackets for level shelves.

2.10 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.11 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Examine walls and partitions for proper backing for display cases.

C. Examine walls and partitions for suitable framing depth if recessed units will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare recesses for display cases as required by type and size of unit.

3.3 INSTALLATION

A. General: Comply with applicable provisions in the CBC and the 2010 ADA Standards for Accessible Design for accessible display case mounting height. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

1. Provide continuous backing at top and bottom of units.
2. No plastic anchors allowed.

B. Recessed Display Cases: Attach units to wall framing with fasteners at not more than 16 inches (400 mm) o.c. Attach aluminum trim over edges of recessed display cases and conceal grounds and clips. Attach trim with fasteners at not more than 24 inches (600 mm) o.c.

C. Display Case Mounting Heights: Install display cases at mounting heights indicated on Drawings, or if not indicated, at heights indicated below.

1. Mounting Height: 60 inches (1524 mm) above finished floor to top of cabinet.

D. Install display case shelving level and straight.

3.4 ADJUSTING AND CLEANING

A. Adjust doors to operate smoothly without warp or bind and so contact points meet accurately. Lubricate operating hardware as recommended in writing by manufacturer.

B. Touch up factory-applied finishes to restore damaged areas.

END OF SECTION 101200

SECTION 22 14 13 - FACILITY STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Hubless, cast-iron soil pipe and fittings.

2. Encasement for underground metal piping.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Detail storm drainage piping. Show support locations, type of support, weight on each support, required clearances, and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Structural members to which drainage piping will be attached or suspended from.
2. Refer to Section 22 00 50, “Common Work Results for Plumbing Systems for additional requirements.

B. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.6 FIELD CONDITIONS

A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Owner and Construction Manager no fewer than seven days in advance of proposed interruption of storm drainage service.

2. Do not proceed with interruption of storm drainage service without Owner's and Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Storm Drainage Piping: 10-foot head of water.

2.2 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1. AB & I Foundry; a part of the McWane family of companies.
2. Charlotte Pipe and Foundry Company.
3. Tyler Pipe; a part of McWane family of companies.

B. Pipe and Fittings:

1. Marked with CISPI collective trademark and NSF certification mark.
2. Standard: ASTM A 888 or CISPI 301.

C. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

a. ANACO-Husky.
b. Charlotte Pipe and Foundry Company.
c. MIFAB, Inc.
d. Tyler Pipe; a subsidiary of McWane Inc.

2. Couplings shall bear CISPI collective trademark and NSF certification mark.
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

D. Heavy-Duty, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

a. ANACO-Husky.
b. Charlotte Pipe and Foundry Company.
c. Clamp-All Corp.

d. Ideal Clamp Products, Inc.
e. MIFAB, Inc.
f. Mission Rubber Company, LLC; a division of MCP Industries.
g. Tyler Pipe; a subsidiary of McWane Inc.

2. Standard: ASTM C 1540.
3. Description: Stainless-steel shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.3 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in ODs or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified-piping-system fitting.
3. Unshielded, Nonpressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1) Dallas Specialty & Mfg. Co.
2) Fernco Inc.
3) Mission Rubber Company, LLC; a division of MCP Industries.
4) Plastic Oddities.

b. Standard: ASTM C 1173.
c. Description: Elastomeric sleeve, reducing or transition pattern. Include shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.
d. Sleeve Materials:

1) For Cast-Iron Soil Pipes: ASTM C 564, rubber.
2) For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
3) For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric-Flange Insulating Kits:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1) Advance Products & Systems, Inc.
2) Calpico, Inc.
3) Central Plastics Company.
4) GPT; an EnPro Industries company.

b. Description:

1) Nonconducting materials for field assembly of companion flanges.
2) Pressure Rating: 150 psig.
3) Gasket: Neoprene or phenolic.
4) Bolt Sleeves: Phenolic or polyethylene.
5) Washers: Phenolic with steel-backing washers.

3. Dielectric Nipples:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1) Grinnell Mechanical Products.
2) Matco-Norca.
3) Precision Plumbing Products.
4) Victaulic Company.

b. Description: Electroplated steel nipple.
c. Standard: IAPMO PS 66.
d. Pressure Rating: 300 psig at 225 deg F.
e. End Connections: Male threaded or grooved.
f. Lining: Inert and noncorrosive, propylene.

2.4 ENCASEMENT FOR UNDERGROUND METAL PIPING

A. Standard: ASTM A 674 or AWWA C105/A 21.5.

B. Material: linear low-density polyethylene film of 0.008-inch minimum thickness.

C. Form: Sheet or tube.

D. Color: Black or natural.

PART 3 - EXECUTION

3.1 EARTH MOVING

A. Comply with requirements for excavating, trenching, and backfilling specified in Section 31 20 00 "Earthwork."

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems.

1. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations.
2. Install piping as indicated unless deviations from layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping to permit valve servicing.

F. Install piping at indicated slopes.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Install piping to allow application of insulation.

J. Install seismic restraints on piping. Comply with requirements for seismic-restraint devices specified in Section 22 05 48 "Vibration and Seismic Controls for Plumbing Piping and Equipment."

K. Make changes in direction for piping using appropriate branches, bends, and long-sweep bends.

1. Do not change direction of flow more than 90 degrees.
2. Use proper size of standard increasers and reducers if pipes of different sizes are connected.

    a. Reducing size of drainage piping in direction of flow is prohibited.

L. Lay buried building piping beginning at low point of each system.

1. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream.
2. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
3. Maintain swab in piping and pull past each joint as completed.

M. Install piping at the following minimum slopes unless otherwise indicated:

1. Building Storm Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 or 2 percent downward in direction of flow for piping NPS 4 and larger.
2. Horizontal Storm Drainage Piping: 1 or 2 percent downward in direction of flow.

N. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

1. Install encasement on underground piping according to ASTM A 674 or AWWA C105/A 21.5.

O. Plumbing Specialties:

1. Install cleanouts at grade and extend to where building storm drains connect to building storm sewers in storm drainage gravity-flow piping.

a. Comply with requirements for cleanouts specified in Section 22 14 23 "Storm Drainage Piping Specialties."

2. Install drains in storm drainage gravity-flow piping.

a. Comply with requirements for drains specified in Section 22 14 23 "Storm Drainage Piping Specialties."

P. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

Q. Install sleeves for piping penetrations of walls, ceilings, and floors.

1. Comply with requirements for sleeves specified in Section 22 05 17 "Sleeves and Sleeve Seals for Plumbing Piping."

R. Install sleeve seals for piping penetrations of concrete walls and slabs.

1. Comply with requirements for sleeve seals specified in Section 22 05 17 "Sleeves and Sleeve Seals for Plumbing Piping."

S. Install escutcheons for piping penetrations of walls, ceilings, and floors.

1. Comply with requirements for escutcheons specified in Section 22 05 18 "Escutcheons for Plumbing Piping."

3.3 JOINT CONSTRUCTION

A. Hubless, Cast-Iron Soil Piping Coupled Joints:

1. Join according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

B. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1.

1. Cut threads full and clean using sharp dies.
2. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

a. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
b. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
c. Do not use pipe sections that have cracked or open welds.

3.4 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in ODs.

3.5 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for seismic-restraint devices specified in Section 22 05 48 "Vibration and Seismic Controls for Plumbing Piping and Equipment."

B. Comply with requirements for pipe hanger and support devices and installation specified in Section 22 05 29 "Hangers and Supports for Plumbing Piping and Equipment."

3.6 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect interior storm drainage piping to exterior storm drainage piping. Use transition fitting to join dissimilar piping materials.

C. Connect storm drainage piping to roof drains and storm drainage specialties.

1. Install test tees (wall cleanouts) in conductors near floor, and floor cleanouts with cover flush with floor.

3.7 IDENTIFICATION

A. Identify exposed storm drainage piping.

B. Comply with requirements for identification specified in Section 22 05 53 "Identification for Plumbing Piping and Equipment."

3.8 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Test storm drainage piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired.

a. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.

2. Leave uncovered and unconcealed new, altered, extended, or replaced storm drainage piping until it has been tested and approved.

a. Expose work that was covered or concealed before it was tested.

3. Test Procedure:

   a. Test storm drainage piping on completion of roughing-in.
   b. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. Maintain such pressure without leakage for four hours. From 15 minutes before inspection starts until completion of inspection, water level must not drop. Inspect joints for leaks.

4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
5. Prepare reports for tests and required corrective action.

C. Piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.9 CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.10 PIPING SCHEDULE

A. Aboveground storm drainage piping shall be the following:

1. Hubless, cast-iron soil pipe and fittings; CISPI, hubless-piping couplings; and coupled joints.

   a. Hubless, cast-iron soil pipe and fittings; heavy-duty hubless-piping couplings; and coupled joints shall be installed where piping will be located over critical areas including food preparation, food storage, and food serving.

2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

B. Underground storm drainage piping shall be the following:

1. Hubless, cast-iron soil pipe and fittings; heavy-duty, hubless-piping couplings; and coupled joints.
2. Dissimilar Pipe-Material Couplings: Shielded, nonpressure transition couplings.

END OF SECTION 221413

SECTION 23 23 00 - REFRIGERANT PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Refrigerant pipes and fittings.
2. Refrigerant piping valves and specialties.

1.2 PERFORMANCE REQUIREMENTS

A. Line Test Pressure for Refrigerant R-410A:

1. Suction Lines for Heat-Pump Applications: 535 psig.
2. Hot-Gas and Liquid Lines: 535 psig.

1.3 ACTION SUBMITTALS

A. Shop Drawings:

1. Show layout of refrigerant piping and specialties, including pipe, tube, and fitting sizes, flow capacities, valve arrangements and locations, slopes of horizontal runs, oil traps, double risers, wall and floor penetrations, and equipment connection details. Show interface and spatial relationships between piping and equipment.
2. Show piping size and piping layout, including oil traps, double risers, specialties, and pipe and tube sizes to accommodate, as a minimum, equipment provided, elevation difference between compressor and evaporator, and length of piping to ensure proper operation and compliance with warranties of connected equipment.
3. Show interface and spatial relationships between piping and equipment.
4. Shop Drawing Scale: 1/4 inch equals 1 foot.

1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Field quality-control test reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For refrigerant valves and piping specialties to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

B. Comply with ASHRAE 15, "Safety Code for Refrigeration Systems."

C. Comply with ASME B31.5, "Refrigeration Piping and Heat Transfer Components."

1.7 PRODUCT STORAGE AND HANDLING

A. Store piping with end caps in place to ensure that piping interior and exterior are clean when installed.

1.8 COORDINATION

A. Coordinate size and location of roof curbs, equipment supports, and roof penetrations. These items are specified in Section 077200 "Roof Accessories."

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

A. Copper Tube: ASTM B 280, Type ACR. Refer to piping application schedules in PART 3 of this Section.

1. Manufactured, pre-charged and pre-insulated refrigerant line-set refrigerant piping may be utilized at Contractor’s discretion.
2. VRF Systems: Use of manufactured, pre-charged and pre-insulated refrigerant line-set refrigerant piping between outdoor condensing units and indoor distribution headers and tees is not allowed. When system manufacturer’s installation instructions allow use of refrigerant line-set piping between distribution headers and tees, and air terminal devices, follow instructions for allowable pipe size range and support to avoid forming traps in the piping.

B. Wrought-Copper Fittings: ASME B16.22.

C. Variable Refrigerant Flow Heat Pump Systems Fittings:

1. For systems manufacturers requiring engineered, pre-assembled headers and branch fittings, Contractor shall obtain such fittings from system manufacturer. Fittings shall be suitable for system type and configuration.
2. VRF Systems: Use of manufactured, pre-charged and pre-insulated refrigerant line-set refrigerant piping between outdoor condensing units and indoor distribution headers and tees is not allowed. When system manufacturer’s installation instructions allow use of refrigerant line-set piping between distribution headers and tees, and air terminal devices, follow instructions for allowable pipe size range and support to avoid forming traps in the piping.

D. Wrought-Copper Unions: ASME B16.22.

E. Brazing Filler Metals: AWS A5.8.

F. Flexible Connectors:

1. Body: Tin-bronze bellows with woven, flexible, tinned-bronze-wire-reinforced protective jacket.
2. End Connections: Socket ends.
3. Offset Performance: Capable of minimum 3/4-inch misalignment in minimum 7-inch- long assembly.
4. Pressure Rating: Factory test at minimum 500 psig.
5. Maximum Operating Temperature: 250 deg F.

2.2 REFRIGERANTS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Atofina Chemicals, Inc.
2. DuPont Company; Fluorochemicals Div.
3. Honeywell, Inc.; Genetron Refrigerants.
4. INEOS Fluor Americas LLC.

C. ASHRAE 34, R-410A: Pentafluoroethane/Difluoromethane.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS FOR REFRIGERANT R-410A

A. Suction, Hot Gas and Liquid Lines, all Sizes, for Heat Pump Applications: Copper, Type ACR, drawn-temper tubing and wrought-copper fittings with brazed joints.

B. Safety-Relief-Valve Discharge Piping:

1. Safety relief valve piping shall be as specified for refrigerant piping.

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.

B. Install refrigerant piping according to ASHRAE 15.

C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping adjacent to machines to allow service and maintenance.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Select system components with pressure rating equal to or greater than system operating pressure.

J. Refer to Section 230923 "Direct Digital Control System for HVAC" for solenoid valve controllers and control wiring.

K. Refer Drawings for sequence of operation.

L. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.

M. Arrange piping to allow inspection and service of refrigeration equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels as specified in Section 083113 "Access Doors and Frames" if valves or equipment requiring maintenance is concealed behind finished surfaces.

N. Install refrigerant piping in protective conduit where installed belowground.

O. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.

P. Install manufactured, pre-charged and pre-insulated refrigerant line-set refrigerant piping in rigid or flexible conduit.

Q. Slope refrigerant piping as follows:

1. Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.
2. Install horizontal suction lines with a uniform slope downward to compressor.
3. Install traps and double risers to entrain oil in vertical runs.
4. Liquid lines may be installed level.

R. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.

S. Install piping with adequate clearance between pipe and adjacent walls and hangers or between pipes for insulation installation.

T. Identify refrigerant piping and valves according to Section 230553 "Identification for HVAC Piping and Equipment."

U. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

V. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."

W. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 230518 "Escutcheons for HVAC Piping."

3.3 PIPE JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Fill pipe and fittings with an inert gas (nitrogen or carbon dioxide), during brazing or welding, to prevent scale formation.

D. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."

1. Use Type BcuP, copper-phosphorus alloy for joining copper socket fittings with copper pipe.
2. Use Type BAg, cadmium-free silver alloy for joining copper with bronze or steel.

3.4 HANGERS AND SUPPORTS

A. Hanger, support, and anchor products are specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."

B. Install the following pipe attachments:

1. Adjustable steel clevis hangers for individual horizontal runs less than 20 feet long.
2. Roller hangers and spring hangers for individual horizontal runs 20 feet or longer.
3. Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet or longer, supported on a trapeze.
4. Spring hangers to support vertical runs.
5. Copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.

C. Install hangers for copper tubing with the following maximum spacing and minimum rod sizes:

1. NPS 1/2: Maximum span, 60 inches; minimum rod size, 3/8 inch.
2. NPS 5/8: Maximum span, 60 inches; minimum rod size, 3/8 inch.
3. NPS 1: Maximum span, 72 inches; minimum rod size, 3/8 inch.
4. NPS 1-1/4: Maximum span, 96 inches; minimum rod size, 3/8 inch.
5. NPS 1-1/2: Maximum span, 96 inches; minimum rod size, 3/8 inch.
6. NPS 2: Maximum span, 96 inches; minimum rod size, 3/8 inch.
7. NPS 2-1/2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
8. NPS 3: Maximum span, 10 feet; minimum rod size, 3/8 inch.
9. NPS 4: Maximum span, 12 feet; minimum rod size, 1/2 inch.

D. Support multifloor vertical runs at least at each floor.

3.5 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

B. Tests and Inspections:

1. Comply with ASME B31.5, Chapter VI.
2. Test refrigerant piping, specialties, and receivers. Isolate compressor, condenser, evaporator, and safety devices from test pressure if they are not rated above the test pressure.
3. Test high- and low-pressure side piping of each system separately at not less than the pressures indicated in Part 1 "Performance Requirements" Article.

    a. Fill system with nitrogen to the required test pressure.
    b. System shall maintain test pressure at the manifold gage throughout duration of test.
    c. Test joints and fittings with electronic leak detector or by brushing a small amount of soap and glycerin solution over joints.
    d. Remake leaking joints using new materials, and retest until satisfactory results are achieved.

3.6 SYSTEM CHARGING

A. Charge system using the following procedures:

1. Install core in filter dryers after leak test but before evacuation.
2. Evacuate entire refrigerant system with a vacuum pump to 500 micrometers. If vacuum holds for 12 hours, system is ready for charging.
3. Break vacuum with refrigerant gas, allowing pressure to build up to 2 psig.
4. Charge system with a new filter-dryer core in charging line.

END OF SECTION 232300