EMERALD POINT

GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONSTRUCTION DOCUMENTS AND SHALL AT ONCE REPORT TO OWNER'S REPRESENTATIVE ANY ERROR, INCONSISTENCY, OR OMISSION HE/SHE MAY DISCOVER. CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK AT ANY TIME WITHOUT CONSTRUCTION DOCUMENTS, OR WHERE REQUIRED, APPROVED SHOP DRAWINGS, PRODUCT DATA OR SAMPLES FOR SUCH PORTION OF THE WORK. THE TERM "OWNER" HEREIN REFERS TO THE PARTY TO WHICH THE GENERAL CONTRACTOR HAS CONTRACTED WITH TO PERFORM THE WORK.
2. THE CONTRACTOR, IMMEDIATELY UPON APPROVAL OF CONSTRUCTION PRICING, SHALL PREPARE AND SUBMIT FOR THE OWNER INFORMATION AN ESTIMATED PROGRESS SCHEDULE FOR THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS. THE SCHEDULE SHALL BE SUBMITTED WITHIN THREE (3) DAYS OF APPROVAL DATE.
3. THE CONTRACTOR SHALL MAINTAIN AT THE SITE FOR ARCHITECT, ONE RECORD COPY OF ALL DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS AND OTHER MODIFICATIONS, IN GOOD ORDER AND MARKED CURRENTLY TO RECORD ALL CHANGES MADE DURING CONSTRUCTION, AND APPROVED SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
4. GENERAL CONTRACTOR TO COORDINATE ALL CONSTRUCTION AND DESIGN DOCUMENTS SUPPLIED BY MALONE MAXWELL DENNEHY ARCHITECTS. ANY CONSTRUCTION WORK PERTAINING TO HVAC SYSTEMS, FIRE PROTECTION SYSTEMS, SECURITY SYSTEMS, SPECIAL ELECTRICAL REQUIREMENTS, ETC., SHALL BE HANDLED BY OWNER'S SPECIFIC VENDORS.
5. EACH CONTRACTOR/SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP AND REMOVAL OF DEBRIS AS RELATED TO HIS TRADE. SPACE SHALL BE LEFT CLEAN AND READY FOR NEXT TRADE. AT FINAL PHASE CONTRACTOR SHALL LEAVE AREA CLEAN FOR OWNER MOVE-IN.
6. WALL CONSTRUCTION DIMENSIONS ARE FROM FINISH FACE TO FINISH FACE U.N.O. CONTRACTOR SHALL COMPENSATE FOR SUCH WHEN LAYING OUT OR MEASURING FOR CHALK LINES.
7. ELECTRICAL OUTLETS ARE DIMENSIONS FROM FACE OF WALL TO CENTERLINE OF LOCATION; U.N.O.
8. UNLESS OTHERWISE PROVIDED IN CONTRACT DOCUMENTS, CONTRACTOR TO PROVIDE AND PAY FOR ALL PERMITS, LABOR, CONSTRUCTION EQUIPMENT AND MACHINERY, TOOLS, TRANSPORTATION AND OTHER FACILITIES AND SERVICES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF WORK. CONTRACTOR TO PAY ALL SALES, CONSUMER, USE AND OTHER SIMILAR TAXES FOR WORK, OR PORTIONS THEREOF PROVIDED BY CONTRACTOR, WHICH ARE LEGAL ENACTED AT TIME OF CONSTRUCTION.
9. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING CONTRACTOR'S BEST SKILL AND ATTENTION. CONTRACTOR TO BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND SHALL COORDINATE ALL PORTIONS OF THE WORK.
10. CONTRACTOR SHALL BE RESPONSIBLE TO OWNER FOR THE ACTS AND OMISSIONS OF THE CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH CONTRACTOR.
11. CONTRACTOR AT ALL TIMES SHALL ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG CONTRACTOR'S EMPLOYEES AND WILL NOT EMPLOY ON THE WORK ANY UNFIT PERSON OR ANYONE NOT SKILLED IN THE TASK ASSIGNED TO THEM.
12. CONTRACTOR WARRANTS TO THE OWNER THAT ALL EQUIPMENT AND MATERIAL FURNISHED UNDER THIS CONTRACT WILL BE NEW, UNLESS OTHERWISE SPECIFIED, AND ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH CONTRACT DOCUMENTS. ALL WORK NOT CONFORMING TO THESE REQUIREMENTS, INCLUDING SUBSTITUTIONS NOT PROPERLY APPROVED AND AUTHORIZED, MAY BE CONSIDERED DEFECTIVE AND WILL BE REMOVED & REPLACED AT THE CONTRACTOR'S EXPENSE.
13. CONTRACTOR WILL BE PRESUMED TO HAVE INSPECTED AND TO HAVE READ AND TO BE THOROUGHLY FAMILIAR WITH THE CONSTRUCTION DOCUMENTS. FAILURE OR OMISSION OF ANY CONTRACTOR TO EXAMINE ANY FORM, INSTRUMENT OR DOCUMENT SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION IN RESPECT TO HIS/HER WORK.
14. ALL FINISHES, SPECIFIED OR NOT, SHALL BE APPROVED BY OWNER/ARCHITECT FOR SUITABILITY PRIOR TO APPLICATION.
15. WHERE SPECIAL ITEMS REQUIRE EXTENDED LEAD TIME PREVENTING INSTALLATION BY PROJECTED MOVE IN DATE, CONTRACTOR IS TO PROPOSE AN AVAILABLE ALTERNATE FOR APPROVAL BY OWNER/ARCHITECT AS WELL AS TO PREPARE PRICING FOR POSSIBLE TEMPORARY ASSEMBLIES AND/OR FINISHES.
16. ALL CONSTRUCTION TO BE PER APPLICABLE AND GOVERNING CODES AND AUTHORITIES. THE CONTRACTOR SHALL NOTIFY MALONE MAXWELL DENNEHY ARCHITECTS OF ANY CONFLICT BETWEEN THE DRAWINGS AND GOVERNING CODES PRIOR TO BEGINNING CONSTRUCTION.
17. ALL PLANS ARE DRAWN TO SCALE AS MUCH AS POSSIBLE, BUT ARE NOT INTENDED TO BE AND SHOULD NOT BE SCALED.
18. CONTRACTOR TO VERIFY ALL DIMENSIONS, CONDITIONS, ETC., PRIOR TO SUBMISSION OF PROPOSALS AND TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AS WELL AS NATURE AND SCOPE OF THE WORK. NOTIFY ARCHITECT IN WRITING OF ANY VARIATIONS OR DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION.
19. CONTRACTOR TO VERIFY SIZE, LOCATION AND CHARACTERISTIC OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT AND PREPARE ALL SURFACES ACCORDINGLY.
20. "TYPICAL" MEANS TYPICAL FOR ALL SIMILAR CONDITIONS U.N.O.
21. ALL GYPSUM BOARD PARTITION RETURNS SHALL HAVE METAL "L" CORNER BEADS FLOOR TO CEILING.
22. "ALIGN" MEANS SIMILAR COMPONENTS OF CONSTRUCTION (E.G., WALLS JAMBS, ETC.) SHALL ALIGN ACROSS VOIDS OR WITH EXISTING WALL.
23. GENERAL CONTRACTOR TO COORDINATE KEYING SYSTEM WITH OWNER.
24. ANY ACCESS OR PENETRATION IN SOUND INSULATED PORTION OF WALLS BY PIPES, DUCTS AND OTHER ELEMENTS IN THE PLENUM IS TO BE SEALED OFF TO PREVENT SOUND TRANSMISSION.
25. CONTRACTOR IS TO PROVIDE ADDITIONAL ANCHORING AND/OR BLOCKING IN STUD PARTITIONS AS NECESSARY. CONTRACTOR SHALL FLASH PATCH AREAS WHERE FLOOR IS ROUGH AND CRACKED PRIOR TO INSTALLATION OF FLOORING AND IS TO REMOVE ALL OBSTRUCTIONS, AND IS TO PROVIDE AN EVEN FLOOR IN TIME FOR SCHEDULED FLOORING INSTALLATION.
26. SLAB IS NOT TO EXCEED A 1/8" SLOPE PER EVERY 10'-0" UNDER ALL MILLWORK.
27. ALL WALL ANGLES ARE EITHER 90 DEGREES OR 45 DEGREES U.N.O.
28. ALL REQUIRED FIREPROOFING IS TO BE U.L. APPROVED.
29. OWNER, WITHOUT INVALIDATING THE CONTRACT, MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO, OR DEDUCTING FROM THE WORK, THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY. ALL SUCH WORK SHALL BE EXECUTED UNDER THE CONDITIONS OF THE ORIGINAL CONTRACT, EXCEPT THAT ANY CLAIM FOR EXTENSIONS OF TIME CAUSED THEREBY SHALL BE ADJUSTED AT TIME OF ORDERING SUCH CHANGE.
30. IF CONTRACTOR CLAIMS THAT ANY REVISION TO THE DRAWINGS INVOLVES EXTRA COST UNDER THIS CONTRACT HE/SHE SHALL GIVE OWNER WRITTEN NOTICE THEREOF WITHIN A REASONABLE TIME AFTER RECEIPT OF SUCH INSTRUCTIONS. IN ANY EVENT, BEFORE PROCEEDING TO EXECUTE THE WORK, AND THE PROCEDURES SHALL THEN BE PROVIDED FOR IN THE CHANGE IN THE WORK. NO SUCH CLAIM SHALL BE VALID UNLESS SO MADE. UNLESS OTHERWISE AGREED, NO PAYMENT ON SUCH BILLS WILL BE MADE UNTIL FINAL SETTLEMENT.
31. OWNER/ARCHITECT WILL CONDUCT A JOB PUNCH LIST WHEN CONSTRUCTION IS SUBSTANTIALLY COMPLETE. CONSTRUCTION IS CONSIDERED TO BE SUBSTANTIALLY COMPLETE WHEN ALL ITEMS SPECIFIED, DRAWN OR DETAILED IN THE CONSTRUCTION DOCUMENTS HAVE BEEN COMPLETED. CONTRACTOR SHALL COMPLETE ALL PUNCH ITEMS WITHIN TWO (2) BUSINESS WEEKS OF RECEIPT OF PUNCH LIST.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING ALL PHASES OF THE WORK AS REQUIRED BY FEDERAL, STATE, COUNTY AND MUNICIPAL LAW.
33. CONTRACTOR SHALL NOTIFY OWNER/ARCHITECT IMMEDIATELY IF HE/SHE CANNOT COMPLY WITH ALL NOTES CALLED FOR ON ALL DOCUMENTS AND DRAWINGS PRIOR TO CONSTRUCTION.
34. CONTRACTOR SHALL FURNISH AND INSTALL ANY AND ALL ITEMS REQUIRED TO MEET SAFETY CODES AS REQUIRED BY ALL APPLICABLE FEDERAL, STATE & LOCAL GOVERNING ORDINANCES, CODES & REGULATIONS.
35. CONTRACTOR SHALL FURNISH AND INSTALL ANY AND ALL ITEMS REQUIRED TO MEET ACCESSIBILITY STANDARDS AS REQUIRED BY ALL APPLICABLE FEDERAL, STATE & LOCAL GOVERNING ORDINANCES, CODES & REGULATIONS.
36. GENERAL CONTRACTOR TO PROVIDE 1" INSULATED METAL DUCTWORK THROUGHOUT PROJECT WITH NO MORE THAN 4' OF FLEXIBLE DUCT BETWEEN DISTRIBUTION AND REGISTER BOOT. SLOT DIFFUSERS WILL BE REQUIRED IN ALL PUBLIC SPACES - ALL OTHER AREAS WILL HAVE RECTANGULAR PROPORTIONED REGISTERS/DIFFUSER MANUFACTURED BY NAILOR INDUSTRIES OR EQUAL.

CONTRACT CLOSEOUT

1. AT COMPLETION OF THE WORK, THE G.C. SHALL ENSURE THAT ALL SURFACES ARE CLEAN AND UNMARKED AND THE AREA IS FREE OF ALL CONSTRUCTION MATERIAL, DEBRIS AND DUST.
2. THREE COPIES OF WARRANTIES, GUARANTEES AND MANUFACTURERS' INSTRUCTIONS ON EQUIPMENT FURNISHED AND INSTALLED BY THE G.C. SHALL BE SUBMITTED IN NOTEBOOK FORM TO OWNER AT THE TIME OF OCCUPANCY.
3. THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION AND ACCEPTANCE BY THE OWNER, SHALL ADJUST, REPAIR, OR REPLACE AT NO COST TO THE OWNER ANY ITEM, MATERIAL OR WORKMANSHIP FOUND TO BE DEFECTIVE, INCLUDED OR AFFECTED WITHIN THE SCOPE OF THE CONTRACT.
4. G.C. TO WARRANT TO THE TENANT THAT ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE NEW, UNLESS OTHERWISE SPECIFIED, AND THAT ALL WORK SHALL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND CONFORMS WITH THE CONTRACT DOCUMENTS.
5. CLOSE OUT DOCUMENTS TO INCLUDE THE FOLLOWING:
   - A. CERTIFICATE OF SUBSTANTIAL COMPLETION
   - B. PERMITS AND INSPECTIONS
   - C. SUBCONTRACTOR DIRECTORY LIST
   - D. GENERAL CONTRACTOR WARRANTY LETTER
   - E. SUBCONTRACTOR WARRANTY LETTERS
   - F. OPERATIONAL AND WARRANTY INFORMATION FOR ALL MATERIALS/PRODUCTS INSTALLED ON THE JOB.

DRAWING SYMBOLS

- 101A — DOOR NUMBER
- A — WINDOW NUMBER
- 1A — WALL TYPE NUMBER
- ELEVATION MARK
- 1 — REVISION NUMBER
- ROOM 212 — ROOM NAME & NUMBER
- 1 / 4 A700 2 / 3 — INTERIOR ELEVATION NUMBER & SHEET NUMBER
- 1 / A900 — DETAIL NUMBER, SHEET NUMBER
- A400 3 — SHEET NUMBER, EXTERIOR ELEVATION NUMBER
- 2 / A900 — SECTION NUMBER, SHEET NUMBER

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MEP

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PH:931.526.5143

CONTACT:
GARY LOFTIS, P.E.
GARY@MAFFETT-LOFTIS.COM

CODE SUMMARY

BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE WITH AUSTIN AMENDMENTS
ELECTRICAL CODE:	2020 NATIONAL ELECTRICAL CODE
ENERGY CODE:	2021 INTERNATIONAL ENERGY CONSERVATION CODE WITH AUSTIN AMENDMENTS
FIRE CODE:	2021 INTERNATIONAL FIRE CODE WITH AUSTIN AMENDMENTS
FUEL/GAS CODE:	2021 INTERNATIONAL FUEL AND GAS CODE
MECHANICAL CODE:	2021 UNIFORM MECHANICAL CODE WITH AUSTIN AMENDMENTS
PLUMBING CODE:	2021 UNIFROM PLUMBING CODE WITH AUSTIN AMENDMENTS
TDLR TABS#:	2022008432

PROJECT DATA

PROJECT:	EMERALD POINT	ZONING:	
PROJECT ADDRESS:	5473 HILINE RD AUSTIN, TX 78734	FRONT YARD SETBACK:	
		SIDE YARD SETBACK:	
		REAR YARD SETBACK:	
PROJECT DESCRIPTION:	SIPS CONSTRUCTION	MAXIMUM BLDG HEIGHT:	
BUILDING AREA:	2,050 SF	SITE SQUARE FOOTAGE:	
		MAXIMUM LOT COVERAGE:	
JURISDICTION:	TRAVIS COUNTY	ACTUAL COVERAGE:	
ZONING:			
BUILDING USE:	OFFICE, BATHROOM, RETAIL		
CONSTRUCTION TYPE:			
FIRE SUPPRESSION:	YES		

ABBREVIATIONS

A/C	AIR CONDITIONING
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
BD	BOARD
BLDG	BUILDING
B.O.	BOTTOM OF
CAB	CABINET
CER	CERAMIC
CJ	CONTROL JOINT
CLG	CEILING
CLO	CLOSET
C.O.	CASED OPENING
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DW	DISHWASHER
DWR	DRAWER
EJ	EXPANSION JOINT
ELEC	ELECTRIC (AL)
ELEV	ELEVATION
EQ	EQUAL
ESMT	EASEMENT
EXIST	EXISTING
EXT	EXTERIOR
F.F.E.	FINISH FLOOR ELEVATION
FLR	FLOOR
FREZ	FREEZER
GALV	GALVANIZED
GFI	GROUND FAULT INTERRUPTER
GK	GAS KEY
GL	GLASS
GYP	GYPSUM
HB	HOSE BIBB
HC	HANDICAPPED
HT	HEIGHT
INSUL	INSULATION, INSULATING
LAM	LAMINATE
LAV	LAVATORY
MANUF	MANUFACTURER
MAX	MAXIMUM
M.C.	MEDICINE CABINET
MECH	MECHANICAL
MICRO	MICROWAVE
MIN	MINIMUM
MTL	METAL
NTS	NOT TO SCALE
OC	ON CENTER
O.C.E.W.	ON CENTER EACH WAY
O.H.	OVERHEAD
PLAS	PLASTIC
PL	PLATE
PWDR	POWDER
REF	REFER (ENCE)
REFRG	REFRIGERATOR
REQ	REQUIRED
RM	ROOM
R/S	ROD / SHELF
SCHED	SCHEDULE
SF	SQUARE FEET
SH	SHELF
SHLVS	SHELVES
SIM	SIMILAR
SL	SLOPE
SPR	SPRINKLER
SS	STAINLESS STEEL
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
TC	TRASH COMPACTOR
T&G	TONGUE AND GROOVE
THK	THICK
T.O.	TOP OF
T/R	TREAD / RISER
TV	TELEVISION
TYP	TYPICAL
U.C.	UNDER COUNTER
U.M.	UNDER MOUNT
UNO	UNLESS NOTED OTHERWISE
UTIL.	UTILITY
VEST	VESTIBULE
V.I.F.	VERIFY IN FIELD
W.C.	WATER CLOSET
W/D	WASHER / DRYER
WD	WOOD
WH	WATER HEATER
WP	WATERPROOFING
WRM	WARMING
∠	ANGLE
℄	CENTERLINE
C	CHANNEL
d	PENNY
PL	PLATE
ϕ	DIAMETER
W	WIDE FLANGE BEAM

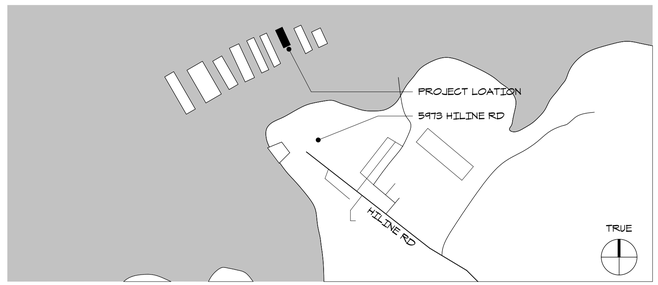
DRAWING INDEX

NUMBER	TITLE	06.10.22 PERMIT	07.20.22 REV 01	03.14.23 REV 02	04.20.23 PERMIT RESP
ARCHITECTURAL					
A001	INDEX SHEET	●			●
A003	TAS GUIDELINES	●			
A004	TAS GUIDELINES	●			
A005	TAS GUIDELINES	●			
A006	TAS GUIDELINES	●			
A011	PROJECT SCHEDULES	●			
A101	SITE PLAN	●			
A102	DOCK PLAN		●		
A103	DOCK PLAN		●		
A104	DOCK PLAN - ALT		●		
A201	FIRST FLOOR PLAN	●			●
A202	ENLARGED PLAN	●			●
A203	ENLARGED PLAN	●			
A221	POWER PLAN	●			
A301	REFLECTED CEILING PLAN	●			
A401	EXTERIOR ELEVATIONS	●			
A402	EXTERIOR ELEVATIONS	●			
A501	BUILDING SECTIONS	●			●
A701	INTERIOR ELEVATIONS	●			
A702	INTERIOR ELEVATIONS	●			
A703	INTERIOR ELEVATIONS	●			
A901	MILLWORK DETAILS	●			
A902	DETAILS	●			
A903	FIRE RISER ROOM			●	
A904	DETAILS				●
STRUCTURAL					
S1	FOUNDATION AND FOUNDATION LOADING PLAN	●			
S2	ROOF FRAMING PLAN	●			
S3	DETAILS	●			
SIPS					
C1	GENERAL NOTES ISOMETRICS	●			
P1	FIRST FLOOR PANEL PLAN WALL PROFILE DETAILS	●			
P2	BUILDING SECTIONS WALL PROFILES DETAIL	●			
P3	WALL PROFILES DETAILS	●			

NUMBER	TITLE	06.10.22 PERMIT	07.20.22 REV 01	03.14.23 REV 02	04.20.23 PERMIT RESP
P4	ROOF PANEL PLAN DETAILS	●			
P5	DETAILS MAT'L SUPPLY CHART LUMBER CUTS	●			
MEP					
E0.1	ELECTRICAL NOTES AND SCHEDULES	●			
E0.2	ELECTRICAL DETAILS	●			
E0.3	ELECTRICAL DETAILS	●			
E0.4	ELECTRICAL DETAILS	●			
E1.0	ELECTRICAL SITE PLAN	●			●
E1.1	ELECTRICAL POWER PLAN	●			
E1.2	ELECTRICAL DOCK PLAN	●			
E1.3	ELECTRICAL ROOF PLAN	●			
E1.4	ELECTRICAL SOLAR PV ARRAY DIAGRAM	●			
E2.1	ELECTRICAL LIGHTING PLAN	●			
E3.1	ELECTRICAL RISER AND ONE-LINE DIAGRAM	●			
E3.2	ELECTRICAL PANEL SCHEDULES	●			●
F1.0	FUEL SITE PLAN		●		
F1.1	FUEL PLAN		●		
FP0.1	FIRE PROTECTION NOTES AND SCHEDULES	●			
FP1.0	FIRE PROTECTION SITE PLAN	●			
FP1.1	FIRE PROTECTION PLAN	●			
M0.1	MECHANICAL NOTES AND SCHEDULES	●			●
M0.2	MECHANICAL DETAILS	●			
M1.1	MECHANICAL PLAN	●			●
P0.1	PLUMBING NOTES AND SCHEDULES	●			
P0.2	PLUMBING DETAILS	●			
P0.3	PLUMBING DETAILS	●			
P1.1	SANITARY SEWER PLAN	●			
P2.1	DOMESTIC WATER PLAN	●			
P3.0	FUEL SITE PLAN	●			
P3.1	FUEL PLAN	●			
P4.1	PLUMBING ISOMETRICS	●			

1 2 3

VICINITY MAP



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REGISTERED ARCHITECT — LANDON A. WILLIAMS — 12090 — STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
1	07.20.22	REV 01
2	03.14.23	REV 02
3	04.20.23	PERMIT RESP

INDEX SHEET

SHEET NO.

A001

PROJECT NO. 21016

DATE 07.21.21

CHAPTER 3: BUILDING BLOCKS

302 Floor or Ground Surfaces

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture.

Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed exposed edge. Carpet edge trim shall comply with 303.

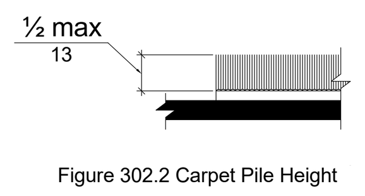


Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

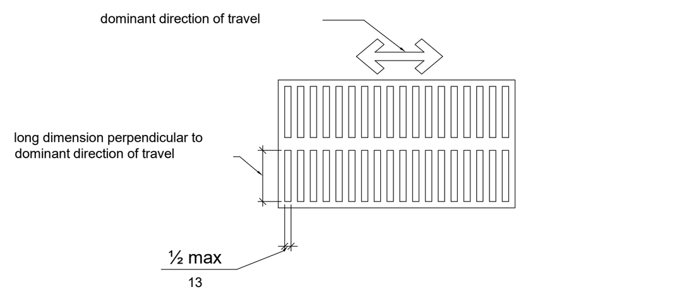


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

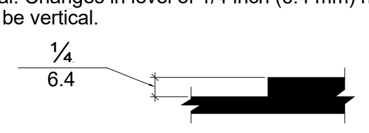


Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

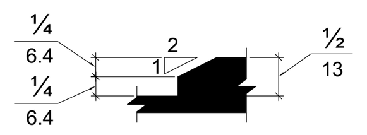


Figure 303.3 Beveled Change in Level

304 Turning Space

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (i305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

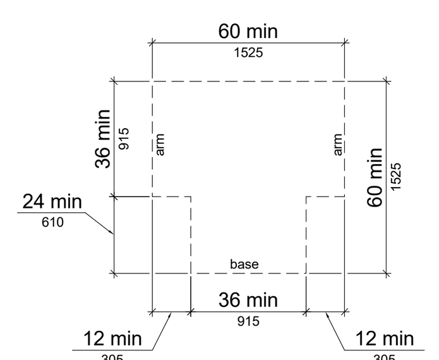


Figure 304.3.2 T-Shaped Turning Space

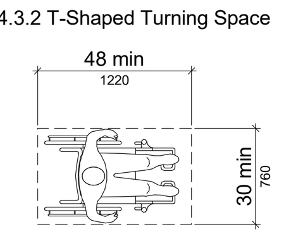


Figure 305.3 Clear Floor or Ground Space

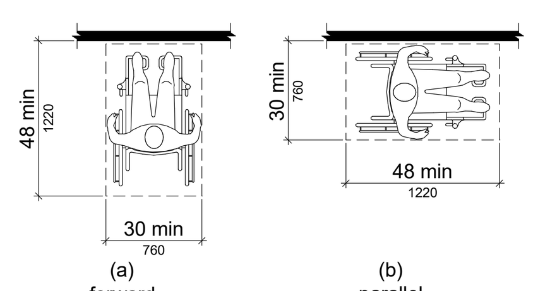


Figure 305.5 Position of Clear Floor or Ground Space

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm) wide minimum where the depth exceeds 24 inches (610 mm).

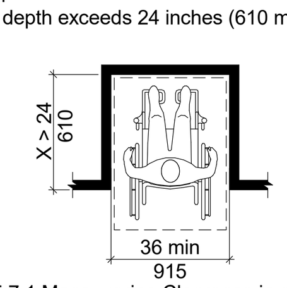


Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

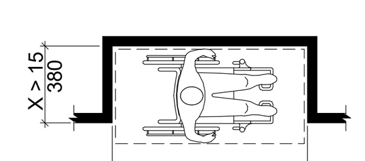


Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

306 Knee and Toe Clearance

306.2 Toe Clearance.

306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

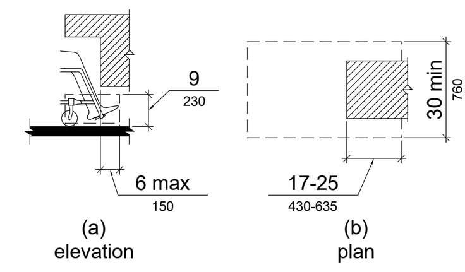


Figure 306.2 Toe Clearance

306.3 Knee Clearance.

306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

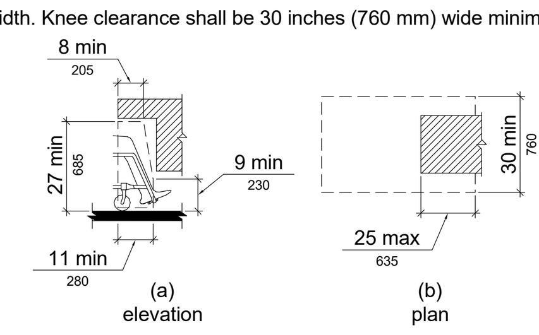


Figure 306.3 Knee Clearance

307 Protruding Objects

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.

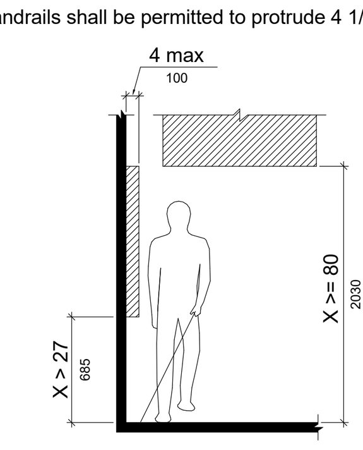


Figure 307.2 Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.

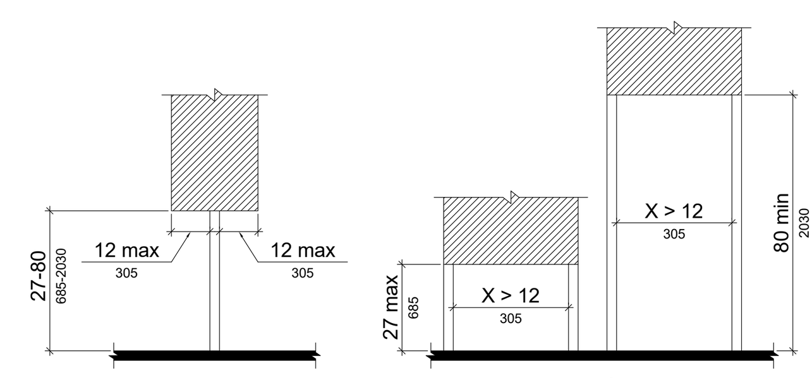


Figure 307.3 Post-Mounted Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

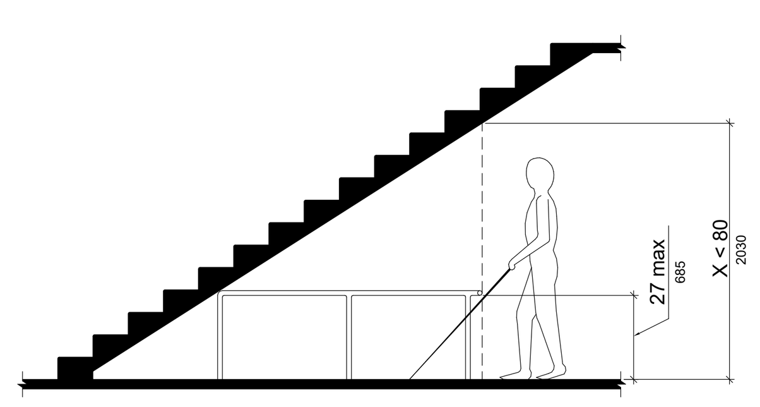


Figure 307.4 Vertical Clearance

308 Reach Ranges

Children's Reach Ranges

Forward or Side Reach	High (maximum)	Low (minimum)
Ages 3 and 4	36 in (915 mm)	20 in (510 mm)
Ages 5 through 8	40 in (1015 mm)	18 in (455 mm)
Ages 9 through 12	44 in (1120 mm)	16 in (405 mm)

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380mm) minimum above the finish floor or ground.

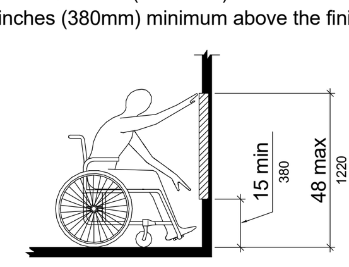


Figure 308.2.2 Obstructed High Forward Reach

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reachshall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

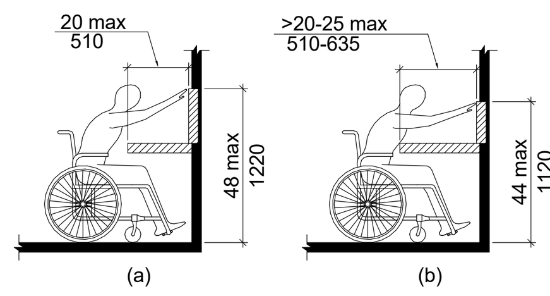
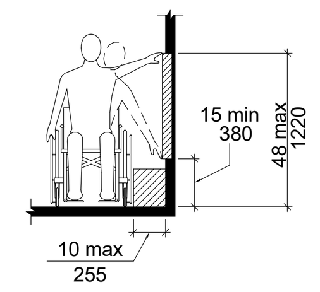


Figure 308.3.1 Unobstructed Side Reach

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.



308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

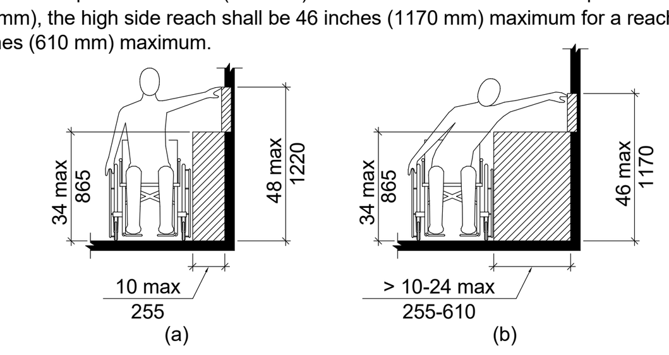


Figure 308.3.2 Obstructed High Side Reach

309 Operable Parts

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.

309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.

309.4 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.

CHAPTER 4: ACCESSIBLE ROUTES

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

Advisory 402.2 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

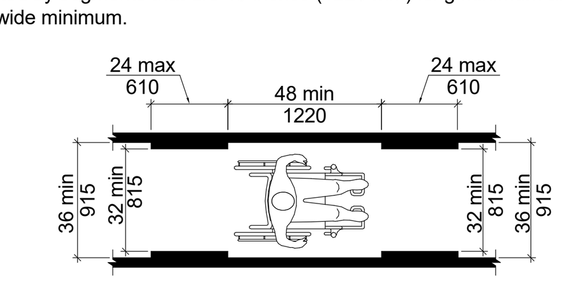


Figure 403.5.1 Clear Width of an Accessible Route

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

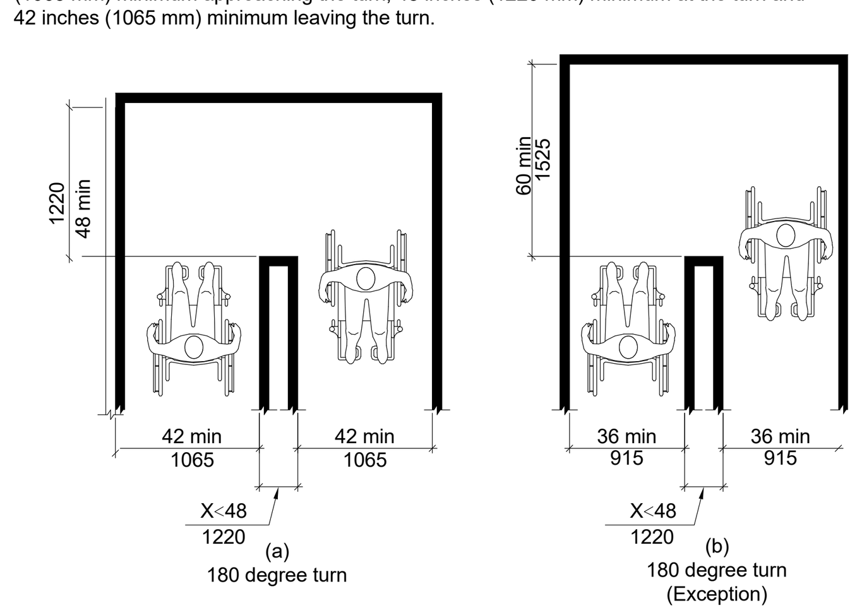


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum.

404 Doors, Doorways, and Gates

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 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 (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

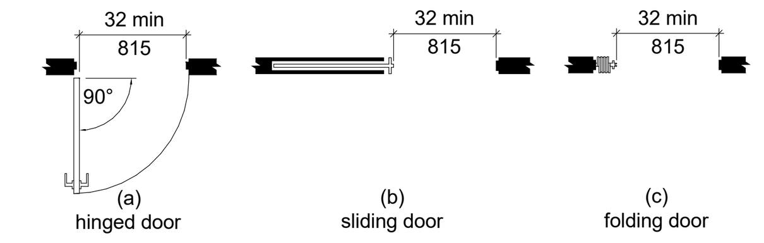


Figure 404.2.3 Clear Width of Doorways

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

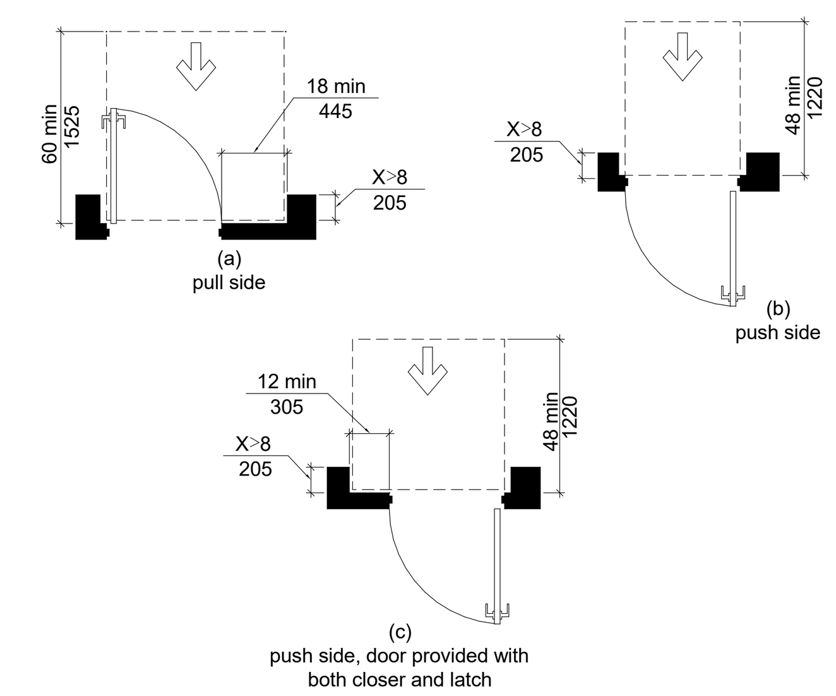


Figure 404.2.4.3 Maneuvering Clearances at Recessed Doors and Gates

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

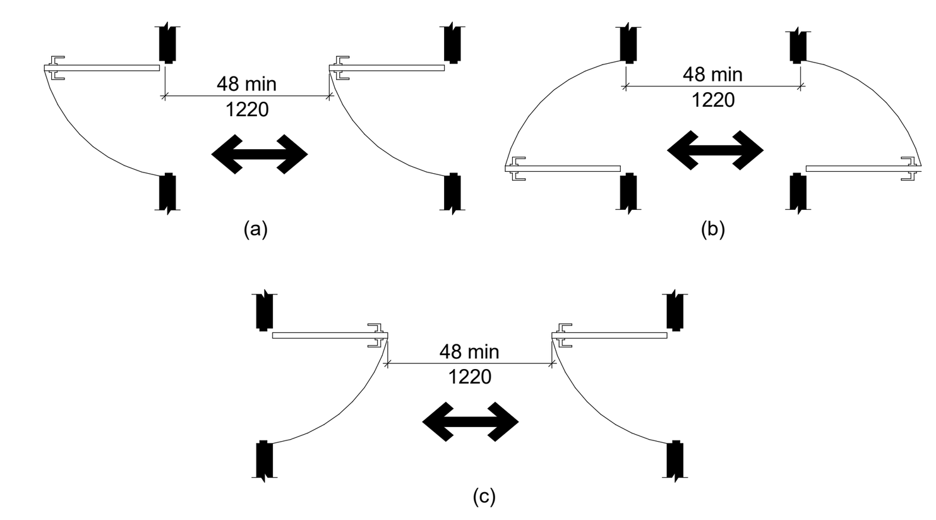


Figure 404.2.6 Doors in Series and Gates in Series

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 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.

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.

404.2.8.2 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.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.

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.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255mm) 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. Cavities created by added kick plates shall be capped.

404.2.11 Vision Lights. Doors, gates, and side lights 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 (1090 mm) maximum above the finish floor.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

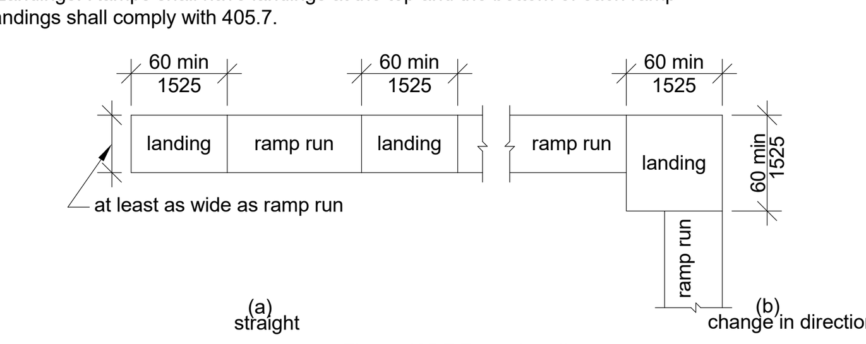


Figure 405.7 Ramp Landings

405.7.1 Slope. Landings shall have slope no steeper than 1:48. Changes in level are not permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

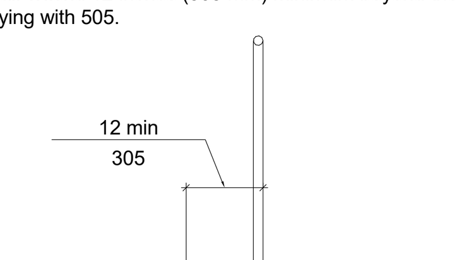


Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

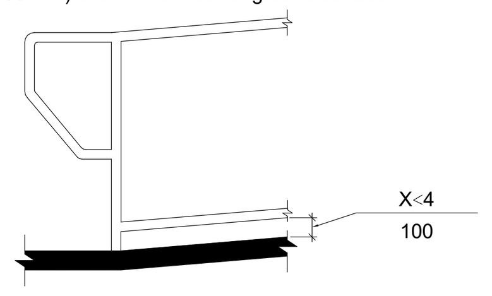


Figure 405.9.2 Curb or Barrier Edge Protection

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

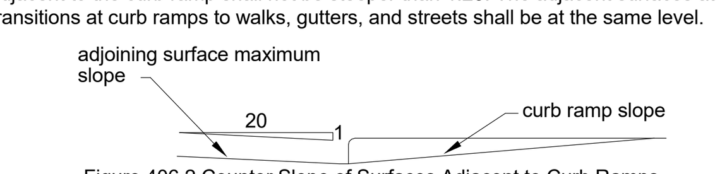


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

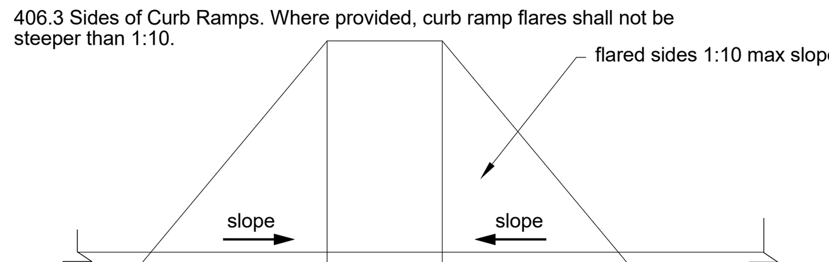


Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing. leading to the landing.

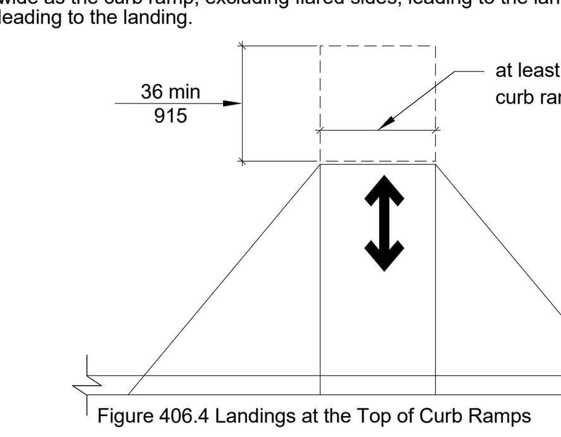


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

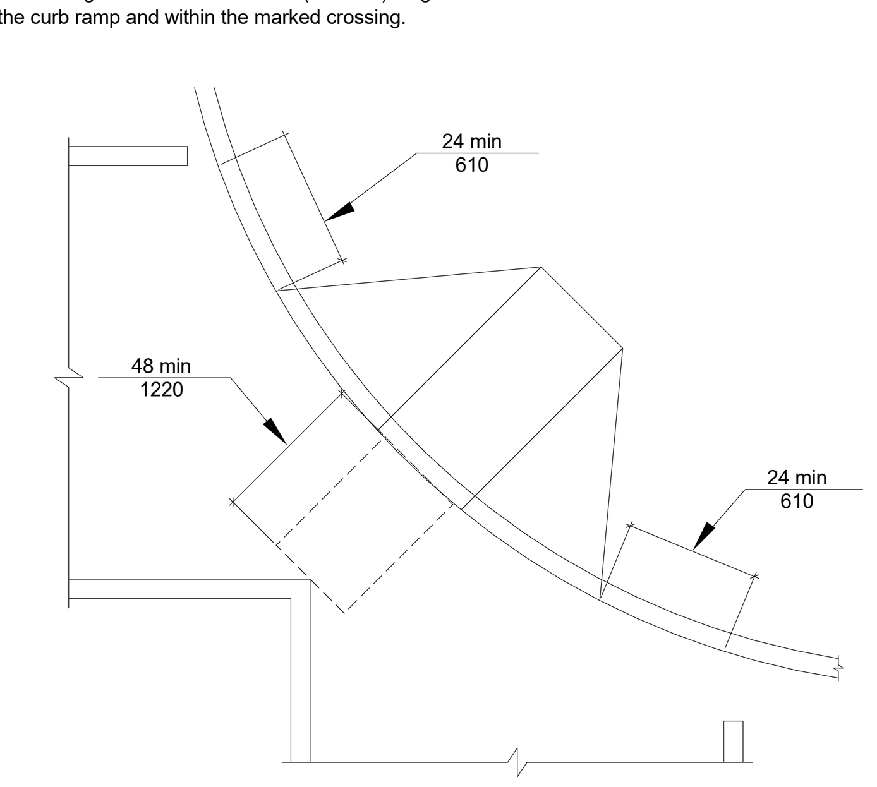


Figure 406.6 Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

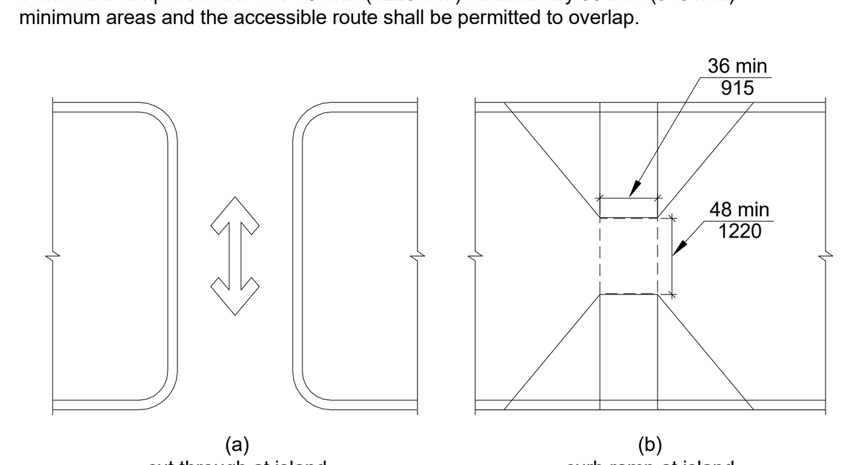


Figure 406.7 Islands in Crossings

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JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

TAS GUIDELINES

SHEET NO.

A003

PROJECT NO. 21016

DATE 07.27.21

407 Elevators

407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

EXCEPTION: Existing conditions don't have to comply.

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoist way entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.

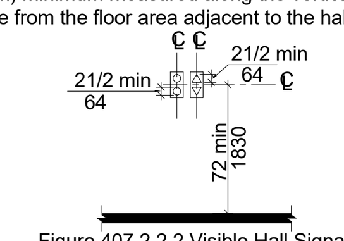

Figure 407.2.2.2 Visible Hall Signals

407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star shall be provided on both jambs at the main entry level.

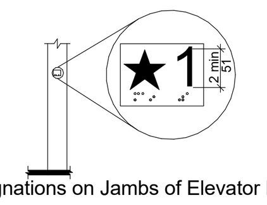

Figure 407.2.3.1 Floor Designations on Jambs of Elevator Hoistway Entrances

407.2.3.2 Car Designations. Destination-oriented elevators shall provide tactile complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2inches (51 mm) high minimum.

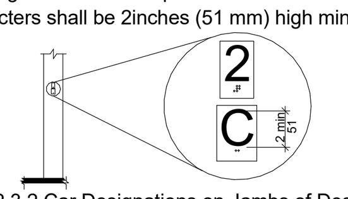

Figure 407.2.3.2 Car Designations on Jambs of Destination-Oriented Elevator Hoistway Entrances

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds min.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

T = D/(1.5 ft/s) or T = D/(455 mm/s) = 5 seconds minimum where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.

407.4 Elevator Car Requirements. Elevator cars shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Table 407.4.1.

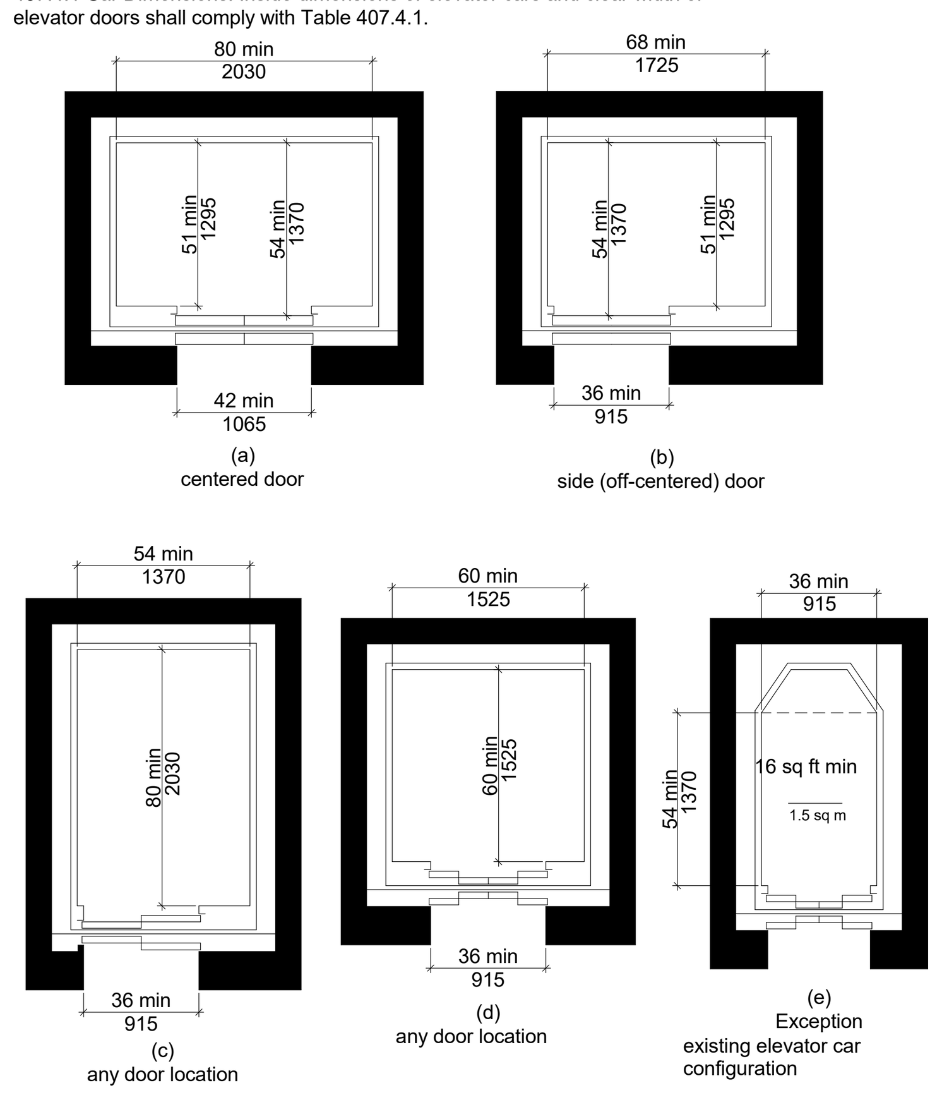

Figure 407.4.1 Elevator Car Dimensions

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoist way landing shall be 1 1/4 inch (32 mm) maximum.

407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

407.4.5 Illumination. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

407.4.6 Elevator Car Controls. Where provided, elevator car controls shall comply with 407.4.6 and 309.4.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall be raised or flush.

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finish floor.

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3.

407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.8.2.2 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000Hz maximum.

408 Limited-Use/Limited-Application Elevators

408.1 General. Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

408.2 Elevator Landings. Landings serving limited-use/limited-application elevators shall comply with 408.2.

408.2.1 Call Buttons. Elevator call buttons and keypads shall comply with 407.2.1.

408.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1.

408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3.

408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall comply with 404, 407.3.2 and 408.3.2.

408.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. Elevator cars shall comply with 408.4.

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.

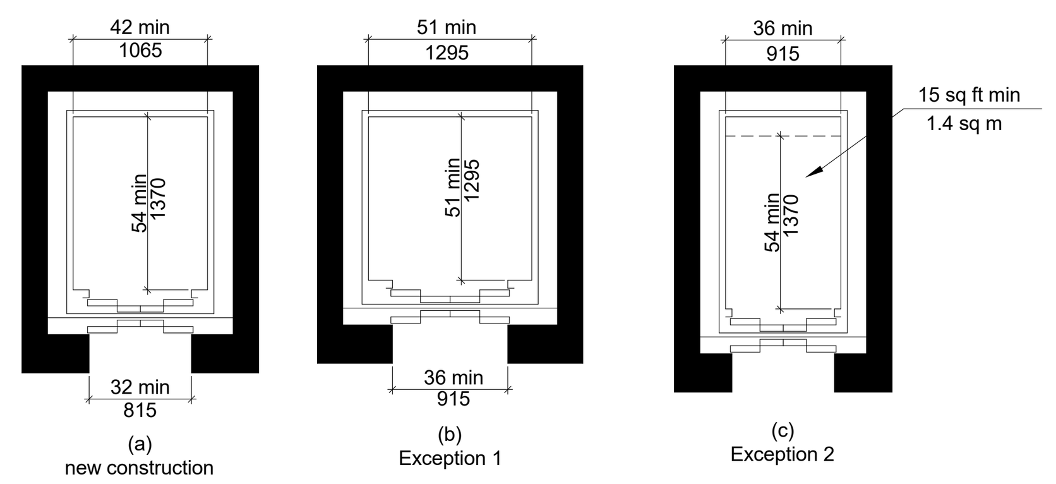

Figure 408.4.1 Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hoist way Clearance. The platform to hoist way clearance shall comply with 407.4.3.

408.4.4 Leveling. Elevator car leveling shall comply with 407.4.4.

408.4.5 Illumination. Elevator car illumination shall comply with 407.4.5.

408.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

408.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

408.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.9 shall be provided.

409 Private Residence Elevators

409.1 General. Private residence elevators that are provided within a residential dwelling unit required to provide mobility features complying with 809.2 through 809.4 shall comply with 409 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

409.2 Call Buttons. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension and shall comply with 309.

409.3 Elevator Doors. Hoistway doors, car doors, and car gates shall comply with 409.3 and 404.

409.3.1 Power Operation. Elevator car and hoistway doors and gates shall be power operated and shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Power operated doors and gates shall remain open for 20 seconds minimum when activated.

409.3.2 Location. Elevator car doors or gates shall be positioned at the narrow end of the clear floor spaces required by 409.4.1.

409.4 Elevator Cars. Private residence elevator cars shall comply with 409.4.

409.4.1 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear floor space of 36inches (915 mm) minimum by 48 inches (1220 mm) minimum and shall comply with 305.

409.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

409.4.3 Platform to Hoistway Clearance. The clearance between the car platform and the edge of any landing sill shall be 1 1/2 inch (38 mm) maximum.

409.4.4 Leveling. Each car shall automatically stop at a floor landing within a tolerance of 1/2inch (13 mm) under rated loading to zero loading conditions.

409.4.5 Illumination Levels. Elevator car illumination shall comply with 407.4.5.

409.4.6 Car Controls. Elevator car control buttons shall comply with 409.4.6, 309.3, 309.4 ,and shall be raised or flush.

409.4.6.1 Size. Control buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

409.4.6.2 Location. Control panels shall be on a side wall, 12 inches (305 mm) minimum from any adjacent wall.

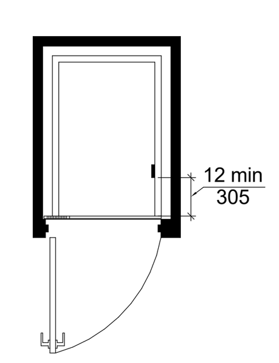

Figure 409.4.6.2 Location of Private Residence Elevator Control Panel

409.4.7 Emergency Communications. Emergency two-way communication systems shall comply with 409.4.7.

409.4.7.1 Type. A telephone and emergency signal device shall be provided in the car.

409.4.7.2 Operable Parts. The telephone and emergency signaling device shall comply with 309.3 and 309.4.

409.4.7.3 Compartment. If the telephone or device is in a closed compartment, the compartment door hardware shall comply with 309.

409.4.7.4 Cord. The telephone cord shall be 29 inches (735 mm) long minimum.

410 Platform Lifts

410.1 General. Platform lifts shall comply with ASME A18.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

Advisory 410.1 General. Inclined stairway chairlifts and inclined and vertical platform lifts are available for short-distance vertical transportation. Because an accessible route requires an 80 inch(2030 mm) vertical clearance, care should be taken in selecting lifts as they may not be equally suitable for use by people using wheelchairs and people standing. If a lift does not provide 80inch (2030 mm) vertical clearance, it cannot be considered part of an accessible route in new construction.

The ADA and other Federal civil rights laws require that accessible features be maintained in working order so that they are accessible to and usable by those people they are intended to benefit. Building owners are reminded that the ASME A18 Safety Standard for Platform Lifts and Stairway Chairlifts requires routine maintenance and inspections. Isolated or temporary interruptions in service due to maintenance or repairs may be unavoidable; however, failure to take prompt action to effect repairs could constitute a violation of Federal laws and these requirements.

410.2 Floor Surfaces. Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space. Clear floor space in platform lifts shall comply with 305.

410.4 Platform to Runway Clearance. The clearance between the platform sill and the edge of any runway landing shall be 1 inch (32 mm) maximum.

410.5 Operable Parts. Controls for platform lifts shall comply with 309.

410.6 Doors and Gates. Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. End doors and gates shall provide a clear width 32 inches (815 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1065 mm) minimum.

EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on sides shall be permitted to have self-closing manual doors or gates.

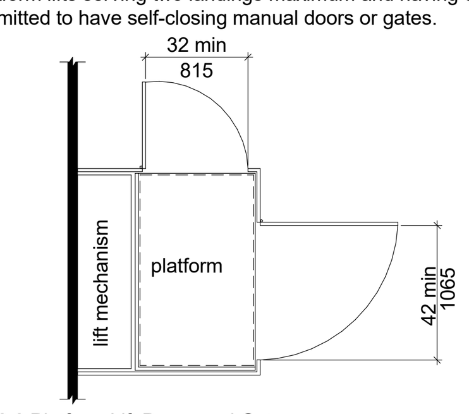

Figure 410.6 Platform Lift Doors and Gates

501 General

501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

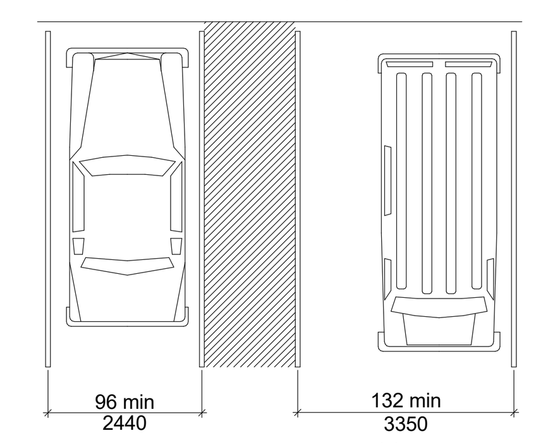

Figure 502.2 Vehicle Parking Spaces

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

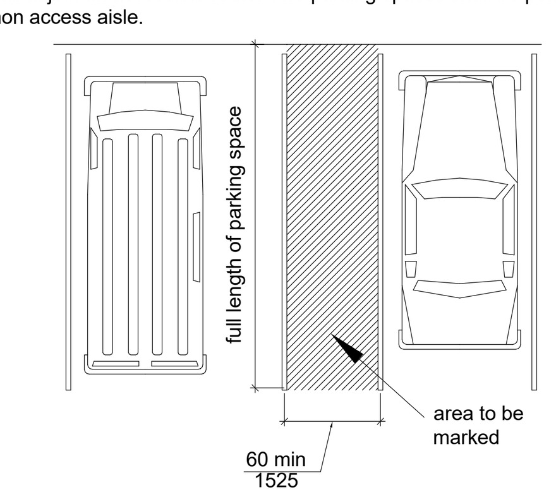

Figure 502.3 Parking Space Access Aisle

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

503 Passenger Loading Zones

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

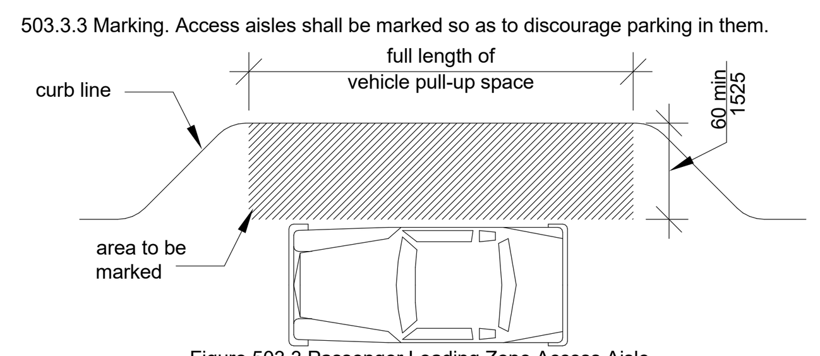

Figure 503.3 Passenger Loading Zone Access Aisle

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs that are part of the means of egress are required to comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38mm) maximum over the tread below.

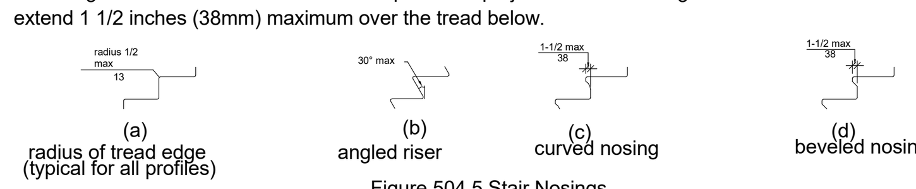

Figure 504.5 Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

Advisory 505.1 General. Handrails are required on ramp runs with a rise greater than 6 inches(150 mm) (see 405.8) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6).Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

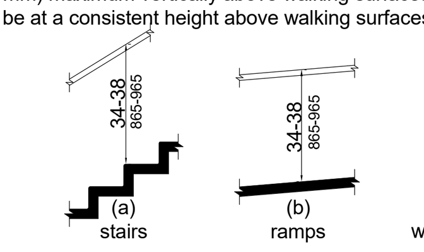

Figure 505.4 Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

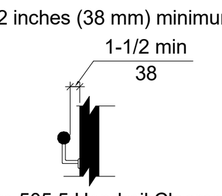

Figure 505.5 Handrail Clearance

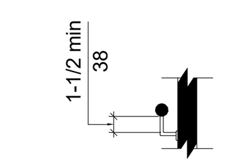

Figure 505.6 Horizontal Projections Below Gripping Surface

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

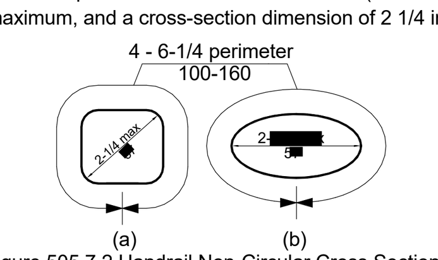

Figure 505.7.2 Handrail Non-Circular Cross Section

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the direction of stair flights and ramp runs in accordance with 505.10.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous an adjacent ramp run.

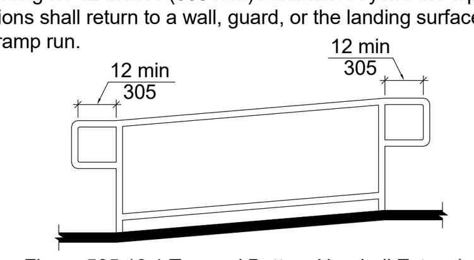

Figure 505.10.1 Top and Bottom Handrail Extension at Ramps

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

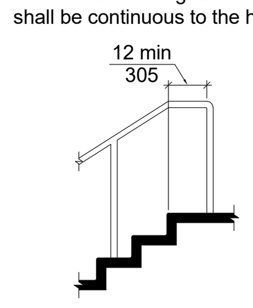

Figure 505.10.2 Top Handrail Extension at Stairs

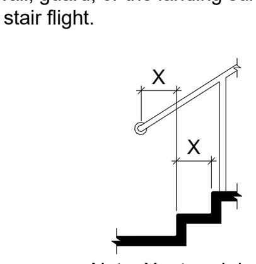

Figure 505.10.3 Bottom Handrail Extension at Stairs

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

CHAPTER 6: PLUMBING ELEMENTS AND FACILITIES

602 Drinking Fountains

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION: A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

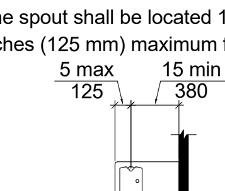

Figure 602.5 Drinking Fountain Spout Location

602.6 Water Flow. The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603.2 Clearances. Clearances shall comply with 603.2.

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.

603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220mm) maximum above the finish floor.

604 Water Closets and Toilet Compartments

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water shall be arranged for a left-hand or right-hand approach.

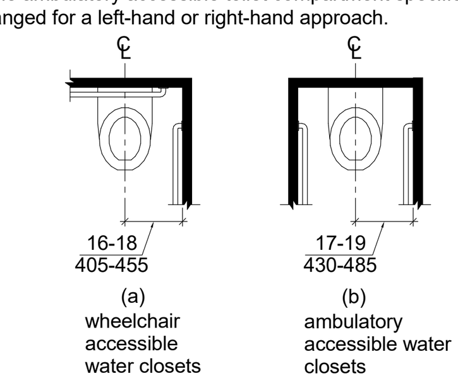

Figure 604.2 Water Closet Location

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.

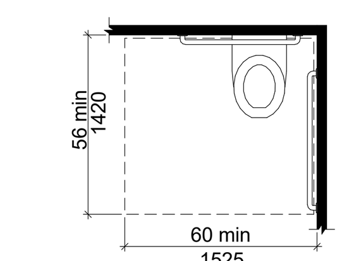

Figure 604.3.1 Size of Clearance at Water Closets

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

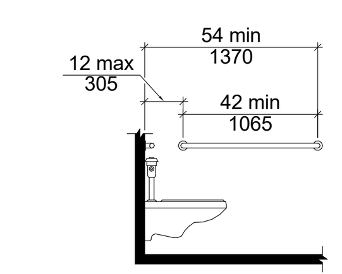

Figure 604.5.1 Side Wall Grab Bar at Water Closets

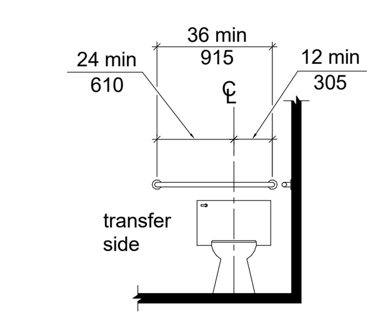

Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

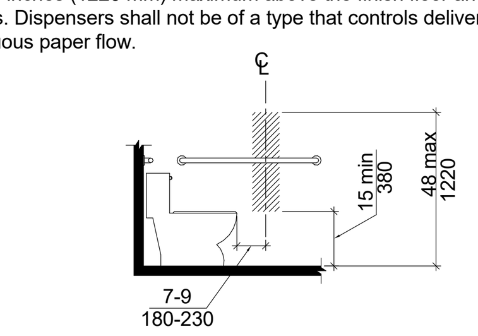

Figure 604.7 Dispenser Outlet Location

604.8 Toilet Compartments. Wheelchair accessible toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments. Wheelchair accessible compartments shall comply with 604.8.1.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. Wheelchair accessible compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

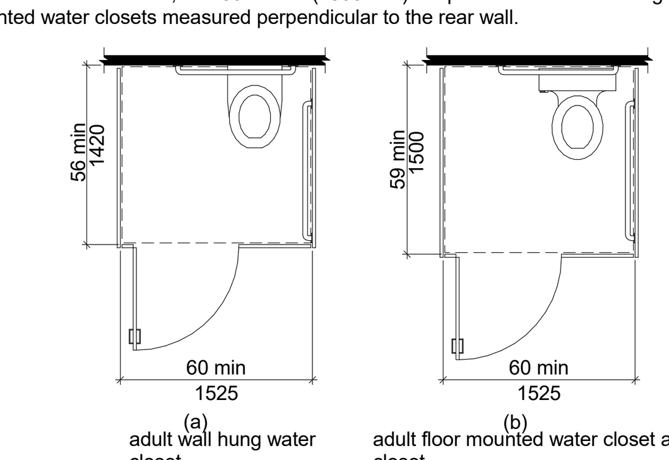

Figure 604.8.1.1 Size of Wheelchair Accessible Toilet Compartment

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

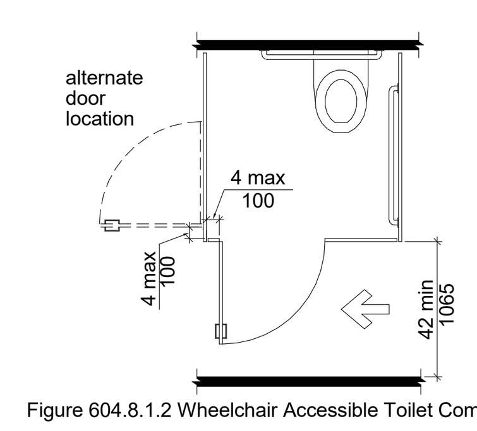

Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment Doors

Malone Maxwell Dennehy Architects

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214-969-5440

3400 OAK GROVE AVE.
SUITE 202

DALLAS, TEXAS 75204

EMERALD POINT

5413 HILINE RD
AUSTIN, TX 78734

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

TAS GUIDELINES

SHEET NO.

A004

PROJECT NO. 21016

DATE 07.27.21

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.4 Toe Clearance. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Compartments for children's use shall provide a toe clearance of 12 inches (305mm) minimum above the finish floor.

EXCEPTION: Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep witha floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide. Toe clearance at the front partition is not required in a compartment for children's use that is greater than 65 inches (1650 mm) deep.

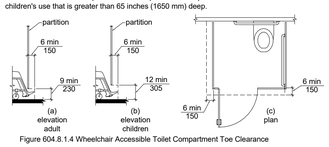


Figure 604.8.1.4 Wheelchair Accessible Toilet Compartment Toe Clearance

604.8.1.5 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall comply with 604.8.2.

604.8.2.1 Size. Ambulatory accessible compartments shall have a depth of 60 inches (1525mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

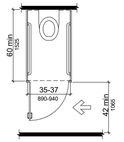


Figure 604.8.2 Ambulatory Accessible Toilet Compartment

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220mm) maximum above the finish floor.

604.9 Water Closets and Toilet Compartments for Children's Use. Water closets and toilet compartments for children's use shall comply with 604.9.

604.9.1 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand specified in 604.8approach to the water closet.

604.9.2 Clearance. Clearance around a water closet shall comply with 604.3.

604.9.3 Height. The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.9.4 Grab Bars. Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.9.6 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 1 4 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 11⁄2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments. Toilet compartments shall comply with 604.8.

605 Urinals

605.2 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13 1⁄2 inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

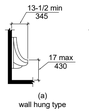


Figure 605.2 Height and Depth of Urinals

605.3 Clear Floor Space. A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

606 Lavatories and Sinks

606.2 Clear Floor Space. A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.

606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.

606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.2 Clearance. Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

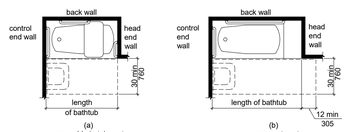


Figure 607.2 Clearance for Bathtubs

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255mm) maximum above the rim of the bathtub. Each grab bar shall be installed 15 inches (380mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.1.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

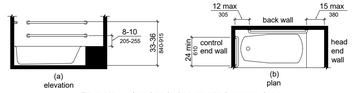


Figure 607.4.1 Grab Bars for Bathtubs with Permanent Seats

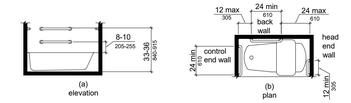


Figure 607.4.2 Grab Bars for Bathtubs with Removable In-Tub Seats

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall comply with 607.4.2.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.2.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

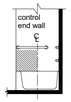


Figure 607.5 Bathtub Control Location

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4.

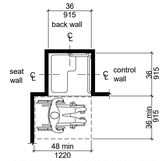
607.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120°F (49°C) maximum.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

608 Shower Compartments

608.2 Size and Clearances for Shower Compartments. Shower compartments shall have sizes and clearances complying with 608.2.

608.2.1 Transfer Type Shower Compartments. Transfer type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) clear inside dimensions measured at the center points of opposing sides and shall have a 36 inch (915 mm) wide minimum entry on the face of the shower compartment. Clearance of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.

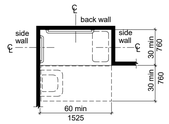


Note: inside finished dimensions measured at the center points of opposing sides

Figure 608.2.1 Transfer Type Shower Compartment Size and Clearance

608.2.2 Standard Roll-In Type Shower Compartments. Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment.

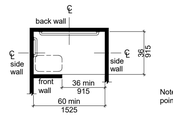
608.2.2.1 Clearance. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.



Note: inside finished dimensions measured at the center points of opposing sides

Figure 608.2.2 Standard Roll-In Type Shower Compartment Size and Clearance

608.2.3 Alternate Roll-In Type Shower Compartments. Alternate roll-in type shower compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.



Note: inside finished dimensions measured at the center points of opposing sides

Figure 608.2.3 Alternate Roll-In Type Shower Compartment Size and Clearance

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.

608.3.1 Transfer Type Shower Compartments. In transfer type compartments, grab bars shall be provided across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

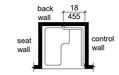


Figure 608.3.1 Grab Bars for Transfer Type Showers

608.3.2 Standard Roll-In Type Shower Compartments. Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

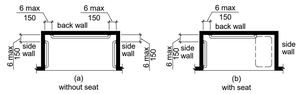


Figure 608.3.2 Grab Bars for Standard Roll-In Type Showers

608.3.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

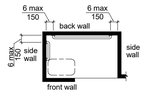


Figure 608.3.3 Grab Bars for Alternate Roll-In Type Showers

608.4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in transient lodging guest rooms with mobility features complying with 806.2. Seats shall comply with 610.

608.5 Controls. Controls, faucets, and shower spray units shall comply with 309.4.

608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor and shall be located on the control wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.

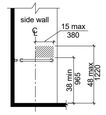


Figure 608.5.1 Transfer Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat and shall be located 27 inches (685 mm) maximum from the seat wall.

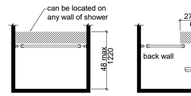


Figure 608.5.2 Standard Roll-In Type Shower Compartment Control Location

608.5.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat 27 inches (685mm) maximum from the side wall behind the seat or shall be located on the back wall opposite the seat 15 inches (380mm) maximum, left or right, of the centerline of the seat. Where a seat is not provided, the controls, faucets, & shower spray unit shall be installed on the side wall farthest from the compartment entry.

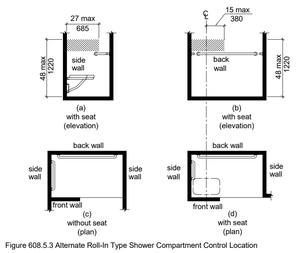


Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds 1/2 inch (13 mm) high maximum shall be beveled, rounded, or vertical.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars

609.1 General. Grab bars in toilet facilities and bathing facilities shall comply with 609.

609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

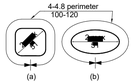


Figure 609.2.2 Grab Bar Non-Circular Cross Section

609.3 Spacing. The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

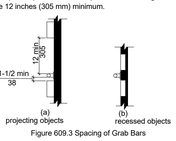


Figure 609.3 Spacing of Grab Bars

609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

609.6 Fittings. Grab bars shall not rotate within their fittings.

609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar,fastener, mounting device, or supporting structure.

610 Seats

610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.

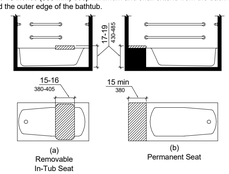


Figure 610.2 Bathtub Seats

610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

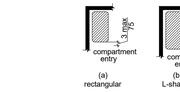


Figure 610.3 Extent of Seat

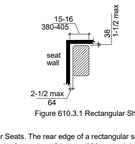


Figure 610.3.1 Rectangular Shower Seat

610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm) maximum from the adjacent wall.

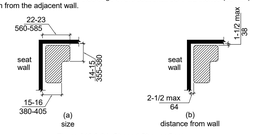


Figure 610.3.2 L-Shaped Shower Seat

610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

611 Washing Machines and Clothes Dryers

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

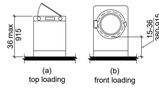


Figure 611.4 Height of Laundry Compartment Opening

612 Saunas and Steam Rooms

612.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with 903. Doors shall not swing into the clear floor space required by 903.2.

612.3 Turning Space. A turning space complying with 304 shall be provided within saunas and steam rooms.

CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES

702 Fire Alarm Systems

702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4.

703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I". 703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I".

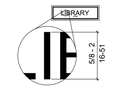


Figure 703.2.5 Height of Raised Characters

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

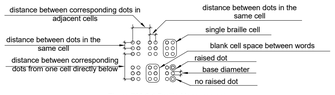


Figure 703.3.1 Braille Measurement

703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8 inch (9.5 mm) minimum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements.

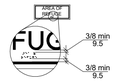


Figure 703.3.2 Position of Braille

703.4 Installation Height and Location. Signs with tactile characters shall comply with 703.4.

703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

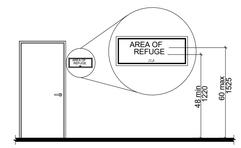


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

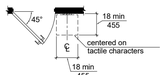


Figure 703.4.2 Location of Tactile Signs at Doors

703.5 Visual Characters. Visual characters shall comply with 703.5.

703.5.1 Finish and Contrast. Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

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REGISTERED ARCHITECT
B.E. JAMES
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

TAS GUIDELINES

SHEET NO.

A005

PROJECT NO. 21016

DATE 07.27.21

703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".

703.5.6 Height From Finish Floor or Ground. Visual characters shall be 40 inches (1015 mm) minimum above the finish floor or ground.

703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the character.

703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height.

703.6 Pictograms. Pictograms shall comply with 703.6.

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.

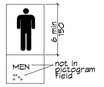

Figure 703.6.1 Pictogram Field
dark-on-light.

703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7.

703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

704 Telephones

704.1 General. Public telephones shall comply with 704.

704.2 Wheelchair Accessible Telephones. Wheelchair accessible telephones shall comply with 704.2.

704.2.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

Advisory 704.2.1 Clear Floor or Ground Space. Because clear floor and ground space is required to be unobstructed, telephones, enclosures and related telephone book storage cannot encroach on the required clear floor or ground space and must comply with the provisions for protruding objects. (See Section 307).

704.2.1.1 Parallel Approach. Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.

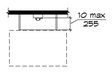

Figure 704.2.1.1 Parallel Approach
to Telephone

Figure 704.2.1.2 Forward
Approach to Telephone

704.2.1.2 Forward Approach. Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.

704.2.2 Operable Parts. Operable parts shall comply with 309. Telephones shall have push-button controls where such service is available.

704.2.3 Telephone Directories. Telephone directories, where provided, shall be located in accordance with 308.

704.2.4 Cord Length. The cord from the telephone to the handset shall be 24 inches (1195 mm) long minimum.

704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a receive volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12 dB of gain minimum. An automatic reset shall be provided.

704.4 TTYs. TTYs required at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

704.4.1 Height. When in use, the touch surface of TTY keypads shall be 34 inches (865 mm) minimum above the finish floor.

704.5 TTY Shelf. Public pay telephones required to accommodate portable TTYs shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a TTY and shall have 6 inches (150 mm) minimum vertical clearance above the area where the TTY is to be placed.

705 Detectable Warnings

705.1 General. Detectable warnings shall consist of a surface of truncated domes and shall comply with 705.

705.1.1 Dome Size. Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1 mm).

705.1.2 Dome Spacing. Truncated domes in a detectable warning surface shall have a center-to-center spacing of 1.6 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.65 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

705.1.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

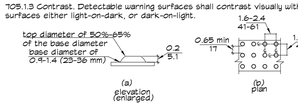

Figure 705.1 Size and Spacing of Truncated Domes

705.2 Platform Edges. Detectable warning surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the public use areas of the platform.

706 Assistive Listening Systems

706.2 Receiver Jacks. Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mono jack.

706.3 Receiver Hearing-Aid Compatibility. Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

706.4 Sound Pressure Level. Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

706.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

706.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

707 Automatic Teller Machines and Fare Machines

707.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

707.3 Operable Parts. Operable parts shall comply with 309. Unless a clear or correct key is provided, each operable part shall be able to be differentiated by sound or touch, without activation.

EXCEPTION: Drive-up only automatic teller machines and fare machines shall not be required to comply with 309.2 and 309.3.

707.4 Privacy. Automatic teller machines shall provide the opportunity for the same degree of privacy of input and output available to all individuals.

707.5 Speech Output. Machines shall be speech enabled. Operating instructions and orientation, visible transaction prompts, user input verification, error messages, and all displayed information for full use shall be accessible to and independently usable by individuals with vision impairments. Speech shall be delivered through a mechanism that is readily available to all users, including but not limited to, an industry standard connector or a telephone handset. Speech shall be recorded or digitized human, or synthesized.

707.5.1 User Control. Speech shall be capable of being repeated or interrupted. Volume control shall be provided for the speech function.

707.5.2 Receipts. Where receipts are provided, speech output devices shall provide audible balance inquiry information, error messages, and all other information on the printed receipt necessary to complete or verify the transaction.

707.6 Input. Input devices shall comply with 707.6.

707.6.1 Input Controls. At least one tactilely discernible input control shall be provided for each function. Where provided, key surfaces not on active areas of display screens, shall be raised above surrounding surfaces. Where membrane keys are the only method of input, each shall be tactilely discernable from surrounding surfaces and adjacent keys.

707.6.2 Numeric Keys. Numeric keys shall be arranged in a 12-key ascending or descending telephone keypad layout. The number five key shall be tactilely distinct from the other keys.

707.6.3.1 Contrast. Function keys shall contrast visually from background surfaces. Characters and symbols on key surfaces shall contrast visually from key surfaces. Visual contrast shall be either light-on-dark or dark-on-light.

707.6.3.2 Tactile Symbols. Function key surfaces shall have tactile symbols as follows: Enter or Proceed key: raised circle; Clear or Correct key: raised left arrow; Cancel key: raised letter ex; Add Value key: raised plus sign; Decrease Value key: raised minus sign.

707.7 Display Screen. The display screen shall comply with 707.7.

707.7.1 Visibility. The display screen shall be visible from a point located 40 inches (1015 mm) above the center of the clear floor space in front of the machine.

707.7.2 Characters. Characters displayed on the screen shall be in a sans serif font. Characters shall be 3/16 inch (4.8 mm) high minimum based on the uppercase letter "I". Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

707.8 Braille Instructions. Braille instructions for initiating the speech mode shall be provided. Braille shall comply with 703.3.

708 Two-Way Communication Systems

708.1 General. Two-way communication systems shall comply with 708.

708.2 Audible and Visual Indicators. The system shall provide both audible and visual signals.

708.3 Handsets. Handset cords, if provided, shall be 24 inches (1195 mm) long minimum.

708.4 Residential Dwelling Unit Communication Systems. Communications systems between a residential dwelling unit and a site, building, or floor entrance shall comply with 708.4.

708.4.1 Common Use or Public Use System Interface. The common use or public use system interface shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface.

CHAPTER 8: SPECIAL ROOMS, SPACES AND ELEMENTS

801 General

801.1 Scope. The provisions of Chapter 8 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

Advisory 801.1 Scope. Facilities covered by these requirements are also subject to the requirements of the other chapters. For example, 806 addresses guest rooms in transient lodging facilities while 902 contains the technical specifications for dining surfaces. If a transient lodging facility contains a restaurant, the restaurant must comply with requirements in other chapters such as those applicable to certain dining surfaces.

804 Kitchens and Kitchenettes

804.1 General. Kitchens and kitchenettes shall comply with 804.

804.2 Clearance. Where a pass through kitchen is provided, clearances shall comply with 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with 804.2.2.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to comply with 804.2.

Advisory 804.2 Clearance. Clearances are measured from the furthest projecting face of all opposing base cabinets, counter tops, appliances, or walls, excluding hardware.

804.2.1 Pass Through Kitchen. In pass through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass through kitchens shall have two entries.

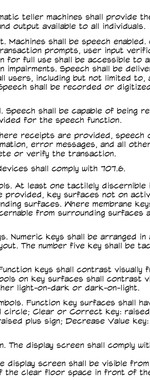

Figure 804.2.1 Pass Through Kitchens

804.2.2 U-Shaped. In U-shaped kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

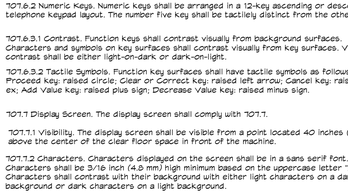

Figure 804.2.2 U-Shaped Kitchens

804.3 Kitchen Work Surface. In residential dwelling units required to comply with 809, at least one 30 inches (760 mm) wide minimum section of counter shall provide a kitchen work surface that complies with 804.3.

804.3.1 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for a forward approach shall be provided. The clear floor or ground space shall be centered on the kitchen work surface and shall provide knee and toe clearance complying with 306.

EXCEPTION: Cabinetry shall be permitted under the kitchen work surface provided that all of the following conditions are met:

(a) the cabinetry can be removed without removal or replacement of the kitchen work surface,
(b) the finish floor extends under the cabinetry, and
(c) the walls behind and surrounding the cabinetry are finished.

804.3.2 Height. The kitchen work surface shall be 34 inches (865 mm) maximum above the finish floor or ground.

EXCEPTION: A counter that is adjustable to provide a kitchen work surface at variable heights, 24 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted.

804.3.3 Exposed Surfaces. There shall be no sharp or abrasive surfaces under the work surface counters.

804.4 Sinks. Sinks shall comply with 606.

804.5 Storage. At least 50 percent of shelf space in storage facilities shall comply with 811.

804.6 Appliances. Where provided, kitchen appliances shall comply with 804.6.

804.6.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided at each kitchen appliance. Clear floor or ground spaces shall be permitted to overlap.

804.6.2 Operable Parts. All appliance controls shall comply with 309.

EXCEPTIONS:

1. Appliance doors and door latching devices shall not be required to comply with 309.4.
2. Bottom-hinged appliance doors, when in the open position, shall not be required to comply with 309.3.

804.6.3 Dishwasher. Clear floor or ground space shall be positioned adjacent to the dishwasher door. The dishwasher door, in the open position, shall not obstruct the clear floor or ground space for the dishwasher or the sink.

804.6.4 Range or Cooktop. Where a forward approach is provided, the clear floor or ground space shall provide knee and toe clearance complying with 306. Where knee and toe space is provided, the underside of the range or cooktop shall be insulated or otherwise configured to prevent burns, abrasions, or electrical shock. The location of controls shall not require reaching across burners.

804.6.5 Oven. Ovens shall comply with 804.6.5.

804.6.5.1 Side-Hinged Door Ovens. Side-hinged door ovens shall have the work surface required by 804.3 positioned adjacent to the latch side of the oven door.

804.6.5.2 Bottom-Hinged Door Ovens. Bottom-hinged door ovens shall have the work surface required by 804.3 positioned adjacent to one side of the door.

804.6.5.3 Controls. Ovens shall have controls on front panels.

804.6.6 Refrigerator/Freezer. Combination refrigerators and freezers shall have at least 50 percent of the freezer space 54 inches (1370 mm) maximum above the finish floor or ground. The clear floor or ground space shall be positioned for a parallel approach to the space dedicated to a refrigerator/freezer with the centerline of the clear floor or ground space offset 24 inches (610 mm) maximum from the centerline of the dedicated space.

811 Storage

811.1 General. Storage shall comply with 811.

811.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

811.3 Height. Storage elements shall comply with at least one of the reach ranges specified in 308.

811.4 Operable Parts. Operable parts shall comply with 309.

CHAPTER 9: BUILT-IN ELEMENTS

902 Dining Surfaces and Work Surfaces

902.2 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for a forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided.

902.3 Height. The tops of dining surfaces and work surfaces shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the finish floor or ground.

902.4 Dining Surfaces and Work Surfaces for Children's Use. Accessible dining surfaces and work surfaces for children's use shall comply with 902.4.

902.4.1 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided, except that knee clearance 24 inches (610 mm) minimum above the finish floor or ground shall be permitted.

902.4.2 Height. The tops of tables and counters shall be 28 inches (660 mm) minimum and 30 inches (760 mm) maximum above the finish floor or ground.

903 Benches

903.2 Clear Floor or Ground Space. Clear floor or ground space complying with 305 shall be provided and shall be positioned at the end of the bench seat and parallel to the short axis of the bench.

903.3 Size. Benches shall have seats that are 42 inches (1065 mm) long minimum and 20 inches (510 mm) deep minimum and 24 inches (610 mm) deep maximum.

903.4 Back Support. The bench shall provide for back support or shall be affixed to a wall. Back support shall be 42 inches (1065 mm) long minimum and shall extend from a point 2 inches (51 mm) maximum above the seat surface to a point 18 inches (455 mm) minimum above the seat surface. Back support shall be 2 1/2 inches (64 mm) maximum from the rear edge of the seat measured horizontally.

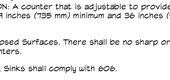

Figure 903.4 Bench Back Support

903.5 Height. The top of the bench seat surface shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the finish floor or ground.

903.6 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

903.7 Wet Locations. Where installed in wet locations, the surface of the seat shall be slip resistant and shall not accumulate water.

904 Check-Out Aisles and Sales and Service Counters

904.1 General. Check-out aisles and sales and service counters shall comply with the applicable requirements of 904.

904.2 Approach. All portions of counters required to comply with 904 shall be located adjacent to a walking surface complying with 403.

904.3 Check-Out Aisles. Check-out aisles shall comply with 904.3.

904.3.1 Aisle. Aisles shall comply with 403.

904.3.2 Counter. The counter surface height shall be 38 inches (965 mm) maximum above the finish floor or ground. The top of the counter edge protection shall be 2 inches (51 mm) maximum above the top of the counter surface on the aisle side of the check-out counter.

Figure 904.3.2 Check-Out Aisle Counters

904.3.3 Check Writing Surfaces. Where provided, check writing surfaces shall comply with 902.3.

904.4 Sales and Service Counters. Sales counters and service counters shall comply with 904.4.1 or 904.4.2. The accessible portion of the counter top shall extend the same depth as the sales or service counter top.

904.4.1 Parallel Approach. A portion of the counter surface that is 36 inches (915 mm) long minimum and 36 inches (915 mm) high maximum above the finish floor shall be provided. A clear floor or ground space complying with 305 shall be positioned for a parallel approach adjacent to the 36 inch (915 mm) minimum length of counter.

904.4.2 Forward Approach. A portion of the counter surface that is 30 inches (760 mm) long minimum and 36 inches (915 mm) high maximum shall be provided. Knee and toe space complying with 306 shall be provided under the counter. A clear floor or ground space complying with 305 shall be positioned for aforward approach to the counter.

904.5 Food Service Lines. Counters in food service lines shall comply with 904.5.

904.5.1 Self-Service Shelves and Dispensing Devices. Self-service shelves and dispensing devices for tableware, dishware, condiments, food and beverages shall comply with 309.

904.5.2 Tray Slides. The tops of tray slides shall be 28 inches (710 mm) minimum and 34 inches (865mm) maximum above the finish floor or ground.

904.6 Security Glazing. Where counters or teller windows have security glazing to separate personnel fromthe public, a method to facilitate voice communication shall be provided. Telephone handset devices, if provided, shall comply with 704.3.

1003 Recreational Boating Facilities

1003.1 General. Recreational boating facilities shall comply with 1003.

1003.2 Accessible Routes. Accessible routes serving recreational boating facilities, including gangways and floating piers, shall comply with Chapter 4 except as modified by the exceptions in 1003.2.

1003.2.1 Boat Slips. Accessible routes serving boat slips shall be permitted to use the exceptions in 1003.2.1.

EXCEPTIONS:

1. Where an existing gangway or series of gangways is replaced or altered, an increase in the length of the gangway shall not be required to comply with 1003.2 unless required by 202.4.
2. Gangways shall not be required to comply with the maximum rise specified in 405.6.
3. Where the total length of a gangway or series of gangways serving as part of a required accessible route is 80 feet (24 m) minimum, gangways shall not be required to comply with 405.2.
4. Where facilities contain fewer than 25 boat slips and the total length of the gangway or series of gangways serving as part of a required accessible route is 30 feet (9145 mm) minimum, gangways shall not be required to comply with 405.2.
5. Where gangways connect to transition plates, landings specified by 405.7 shall not be required.
6. Where gangways and transition plates connect and are required to have handrails, handrail extensions shall not be required. Where handrail extensions are provided on gangways or transition plates, the handrail extensions shall not be required to be parallel with the ground or floor surface.
7. The cross slope specified in 403.3 and 405.3 for gangways, transition plates, and floating piers that are part of accessible routes shall be measured in the static position.
8. Changes in level complying with 303.3 and 303.4 shall be permitted on the surfaces of gangways and boat launch ramps.

Advisory 1003.2.1 Boat Slips Exception 3. The following example shows how exception 3 would be applied: A gangway is provided to a floating pier which is required to be on an accessible route. The vertical distance is 10 feet (3050 mm) between the elevation where the gangway departs the landside connection and the elevation of the pier surface at the lowest water level. Exception 3 permits the gangway to be 80 feet (24 m) long. Another design solution would be to have two 40 foot (12 m) plus continuous gangways joined together at a float, where the float (as the water level falls) will stop dropping at an elevation five feet below the landside connection. The length of transition plates would not be included in determining if the gangway(s) meet the requirements of the exception.

1003.2.2 Boarding Piers at Boat Launch Ramps. Accessible routes serving boarding piers at boat launch ramps shall be permitted to use the exceptions in 1003.2.2.

EXCEPTIONS:

1. Accessible routes serving floating boarding piers shall be permitted to use Exceptions 1, 2, 5, 6, 7 and 8 in 1003.2.1.
2. Where the total length of the gangway or series of gangways serving as part of a required accessible route is 30 feet (9145 mm) minimum, gangways shall not be required to comply with 405.2.
3. Where the accessible route serving a floating boarding pier or skid pier is located within a boat launch ramp, the portion of the accessible route located within the boat launch ramp shall not be required to comply with 405.

1003.3 Clearances. Clearances at boat slips and on boarding piers at boat launch ramps shall comply with 1003.3.

Advisory 1003.3 Clearances. Although the minimum width of the clear pier space is 60 inches (1525 mm), it is recommended that piers be wider than 60 inches (1525 mm) to improve the safety for persons with disabilities, particularly on floating piers.

1003.3.1 Boat Slip Clearance. Boat slips shall provide clear pier space 60 inches (1525 mm) wide minimum and at least as long as the boat slips. Each 10 feet (3050 mm) maximum of linear pier edge serving boat slips shall contain at least one continuous clear opening 60 inches (1525 mm) wide minimum.

EXCEPTIONS:

1. Clear pier space shall be permitted to be 36 inches (915 mm) wide minimum for a length of 24 inches (610 mm) maximum, provided that multiple 36 inch (915 mm) wide segments are separated by segments that are 60 inches (1525 mm) wide minimum and 60 inches (1525 mm) long minimum.
2. Edge protection shall be permitted at the continuous clear openings, provided that it is 4 inches (100 mm) high maximum and 2 inches (51 mm) wide maximum.
3. In existing piers, clear pier space shall be permitted to be located perpendicular to the boat slip and shall extend the width of the boat slip, where the facility has at least one boat slip complying with 1003.3, and further compliance with 1003.3 would result in a reduction in the number of boat slips available or result in a reduction of the widths of existing slips.

Advisory 1003.3.1 Boat Slip Clearance Exception 3. Where the conditions in exception 3 are satisfied, existing facilities are only required to have one accessible boat slip with a pier clearance which runs the length of the slip. All other accessible slips are allowed to have the required pier clearance at the head of the slip. Under this exception, at piers with perpendicular boat slips, the width of most "finger piers" will remain unchanged. However, where mooring systems for floating piers are replaced as part of pier alteration projects, an opportunity may exist for increasing accessibility. Piers may be reconfigured to allow an increase in the number of wider finger piers, and serve as accessible boat slips.

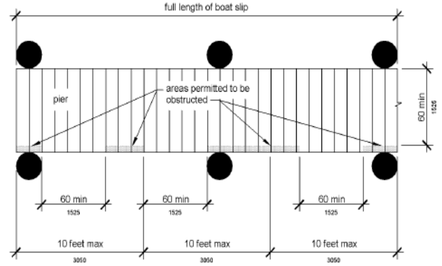

Figure 1003.3.1 Boat Slip Clearance

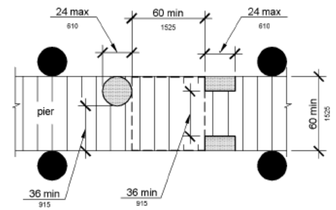

Figure 1003.3.1 (Exception 1) Clear Pier Space Reduction at Boat Slips

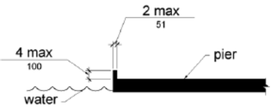

Figure 1003.3.1 (Exception 2) Edge Protection at Boat Slips

1003.3.2 Boarding Pier Clearances. Boarding piers at boat launch ramps shall provide clear pier space 60 inches (1525 mm) wide minimum and shall extend the full length of the boarding pier. Every 10 feet (3050 mm) maximum of linear pier edge shall contain at least one continuous clear opening 60 inches (1525 mm) wide minimum.

EXCEPTIONS:

1. The clear pier space shall be permitted to be 36 inches (915 mm) wide minimum for a length of 24 inches (610 mm) maximum provided that multiple 36 inch (915 mm) wide segments are separated by segments that are 60 inches (1525 mm) wide minimum and 60 inches (1525 mm) long minimum.
2. Edge protection shall be permitted at the continuous clear openings provided that it is 4 inches (100 mm) high maximum and 2 inches (51 mm) wide maximum.

Advisory 1003.3.2 Boarding Pier Clearances. These requirements do not establish a minimum length for accessible boarding piers at boat launch ramps. The accessible boarding pier should have a length at least equal to that of other boarding piers provided at the facility. If no other boarding pier is provided, the pier would have a length equal to what would have been provided if no access requirements applied. The entire length of accessible boarding piers would be required to comply with the same technical provisions that apply to accessible boat slips. For example, at a launch ramp, if a 20 foot (6100 mm) long accessible boarding pier is provided, the entire 20 feet (6100 mm) must comply with the pier clearance requirements in 1003.3. Likewise, if a 60 foot (18 m) long accessible boarding pier is provided, the pier clearance requirements in 1003.3 would apply to the entire 60 feet (18 m).

The following example applies to a boat launch ramp boarding pier: A chain of floats is provided on a launch ramp to be used as a boarding pier which is required to be accessible by 1003.3.2. At high water, the entire chain is floating and a transition plate connects the first float to the surface of the launch ramp. As the water level decreases, segments of the chain end up resting on the launch ramp surface, matching the slope of the launch ramp.

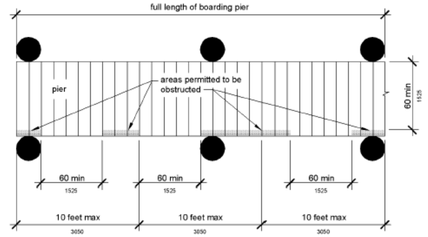

Figure 1003.3.2 Boarding Pier Clearance

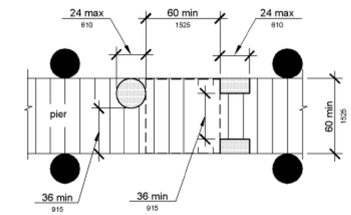

Figure 1003.3.2 (Exception 1) Clear Pier Space Reduction at Boarding Piers

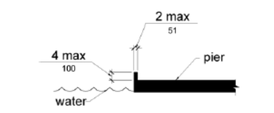

Figure 1003.3.2 (Exception 2) Edge Protection at Boarding Piers

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JUNE 10, 2022

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REVISIONS

NO.	DATE	DESCRIPTION

TAS GUIDELINES

SHEET NO.

A006

PROJECT NO.	21016
DATE	07.27.21

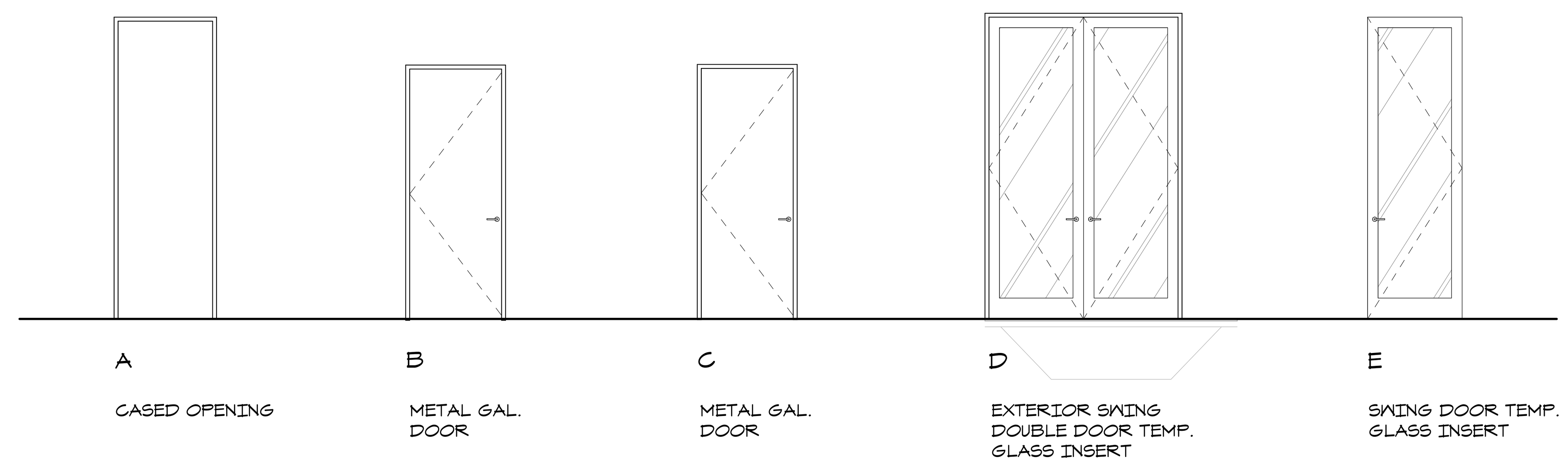
DOOR HARDWARE GROUP SCHEDULE

GROUP #	LOCK FUNCTION	LEVER MODEL	LEVER FINISH	HINGE MODEL	HINGE FINISH	STOP MODEL	STOP FINISH	CLOSER MODEL	CLOSER FINISH	COMMENTS
1	EXTERIOR ENTRY	DEADBOLT: ADAMS RITE MS1950; 1 1/2" BS - MORTISE CYLINDER: ADAMS RITE 4036 - PULL: ROCKWOOD 'RM3402' 36" CTC BACK TO BACK MOUNTING	US32 BRIGHT STAINLESS STEEL	BOMMER 8002-450	STAINLESS STEEL	ROCKWOOD, 'FLOOR - 446'	SATIN CHROME	LCN 4000 SERIES W/ MTL COVER	ALUM. POWDER COAT	
2	OFFICE ENTRY	SCHLAGE 'L-SERIES' MORTISE L07 W/ ROSE TRIM	626 SATIN CHROME	BOMMER 8002-450	STAINLESS STEEL	ROCKWOOD, 'FLOOR - 446'	SATIN CHROME	--	--	
3	PRIVACY W/ THUMBTURN	SCHLAGE 'L-SERIES' MORTISE L07 W/ ROSE TRIM	626 SATIN CHROME	BOMMER 8002-450	STAINLESS STEEL	ROCKWOOD, 'FLOOR - 446'	SATIN CHROME	--	--	ALL KEYED ALIKE; PROVIDE OCCUPANCY INDICATOR TYP.
4	STOREROOM	SCHLAGE 'L-SERIES' MORTISE L07 W/ ROSE TRIM	626 SATIN CHROME	BOMMER 8002-450	STAINLESS STEEL	ROCKWOOD, 'FLOOR - 446'	SATIN CHROME	--	--	
5	PUSH/PULL W/ DEADBOLTS	DEADBOLT: ADAMS RITE MS1950: 1 1/2 BS - ROCKWOOD PUSH/PULL	626 SATIN CHROME	BOMMER 8002-450	STAINLESS STEEL	ROCKWOOD, 'FLOOR - 446'	SATIN CHROME	LCN 4000 SERIES W/ MTL COVER	ALUM. POWDER COAT	

DOOR SCHEDULE (1)

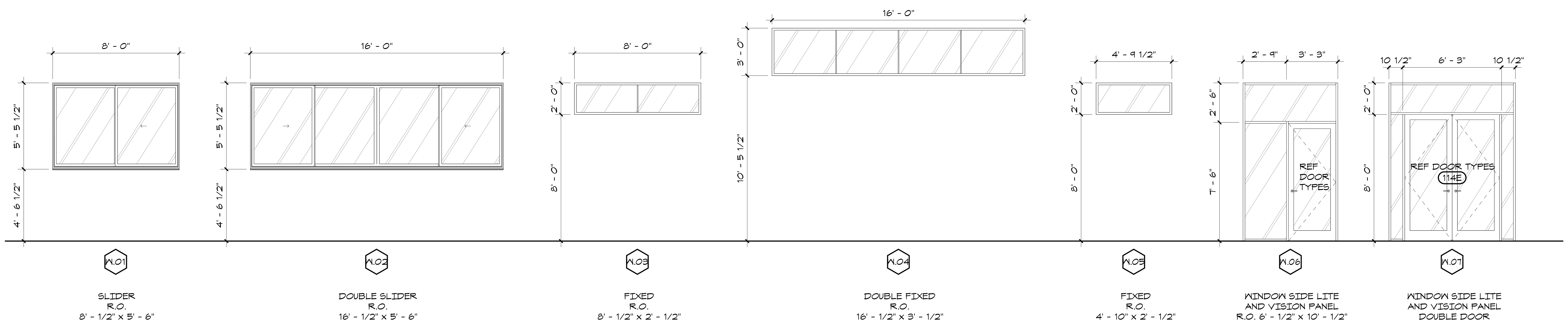
MARK	TYPE	PANEL SIZE WIDTH	PANEL SIZE HEIGHT	PANEL SIZE THICKNESS	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	HARDWARE GROUP	REMARKS
101A	D	6' - 0"	8' - 0"	1 3/4"			1	THRESHOLD
102A	A	4' - 9"	10' - 0"	1 3/4"	5' - 0"	10' - 1 1/2"		CASED
103A	F	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	4	
105A	C	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	4	THRESHOLD
106A	F	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	4	
107A	E	3' - 0"	7' - 11 1/4"	1 3/4"			2	THRESHOLD
107B	P219	6' - 0"	7' - 0"	1 3/4"	6' - 3"	7' - 1 1/2"		
108A	G	3' - 0"	8' - 0"	1 3/4"			2	
109A	G	3' - 0"	8' - 0"	1 3/4"			2	
110A	E	3' - 0"	7' - 11 1/4"	1 3/4"			3	THRESHOLD
111A	C	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	3	THRESHOLD, KICK PLATE 12"xDOOR WIDTH
112A	C	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	3	THRESHOLD, KICK PLATE 12"xDOOR WIDTH
113A	C	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	5	THRESHOLD, KICK PLATE 12"xDOOR WIDTH
114A	C	3' - 0"	8' - 0"	1 3/4"	3' - 4 1/2"	8' - 2 1/4"	5	THRESHOLD, KICK PLATE 12"xDOOR WIDTH

NOTE: ALL THRESHOLDS TO BE TSA/ADA ACCESSIBLE



2 DOOR TYPES

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

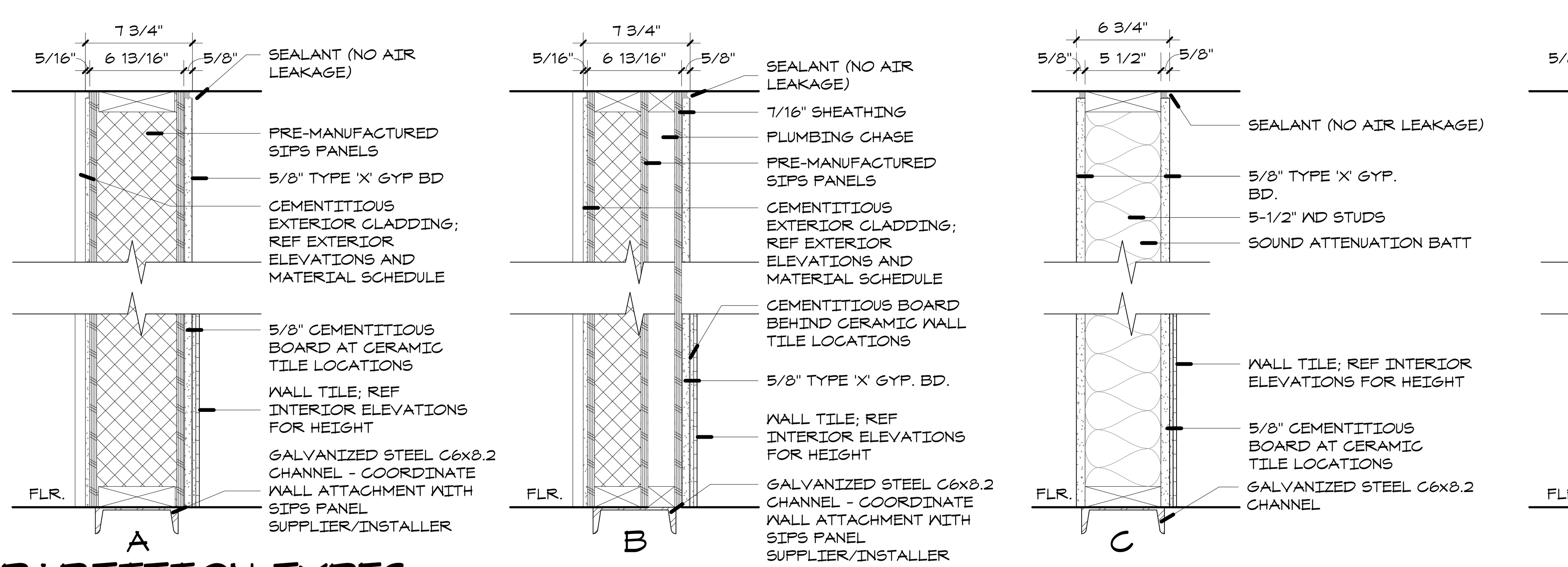


1 WINDOW TYPES (PROVIDE TEMPERED GLAZING AS REQUIRED BY CODE)

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

GENERAL PARTITION NOTES:

1. WALL CONSTRUCTION TO MEET BUILDING REQUIREMENTS.
2. ALL GYP. BD. TO BE 5/8" TYPE 'X' U.N.O.
3. SET ALL BASE PLATES IN FULL BED MASTIC.
4. PROVIDE 5/8" CEMENTITIOUS BOARD AT ALL LOCATIONS RECEIVING CERAMIC TILE.



PARTITION TYPES

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

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NO.	DATE	DESCRIPTION
1	07.20.22	REV 01

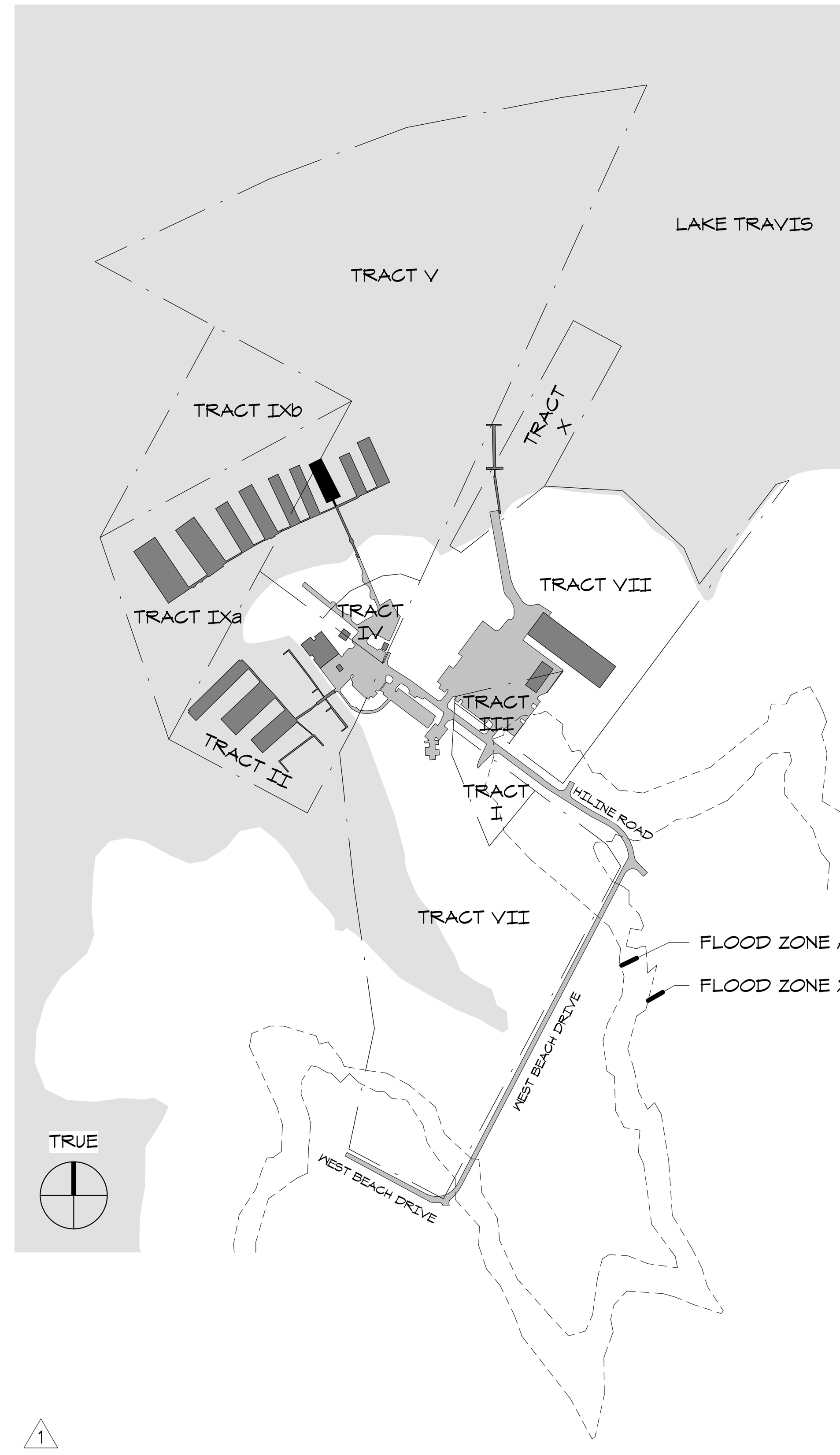
PROJECT SCHEDULES

SHEET NO.

A011

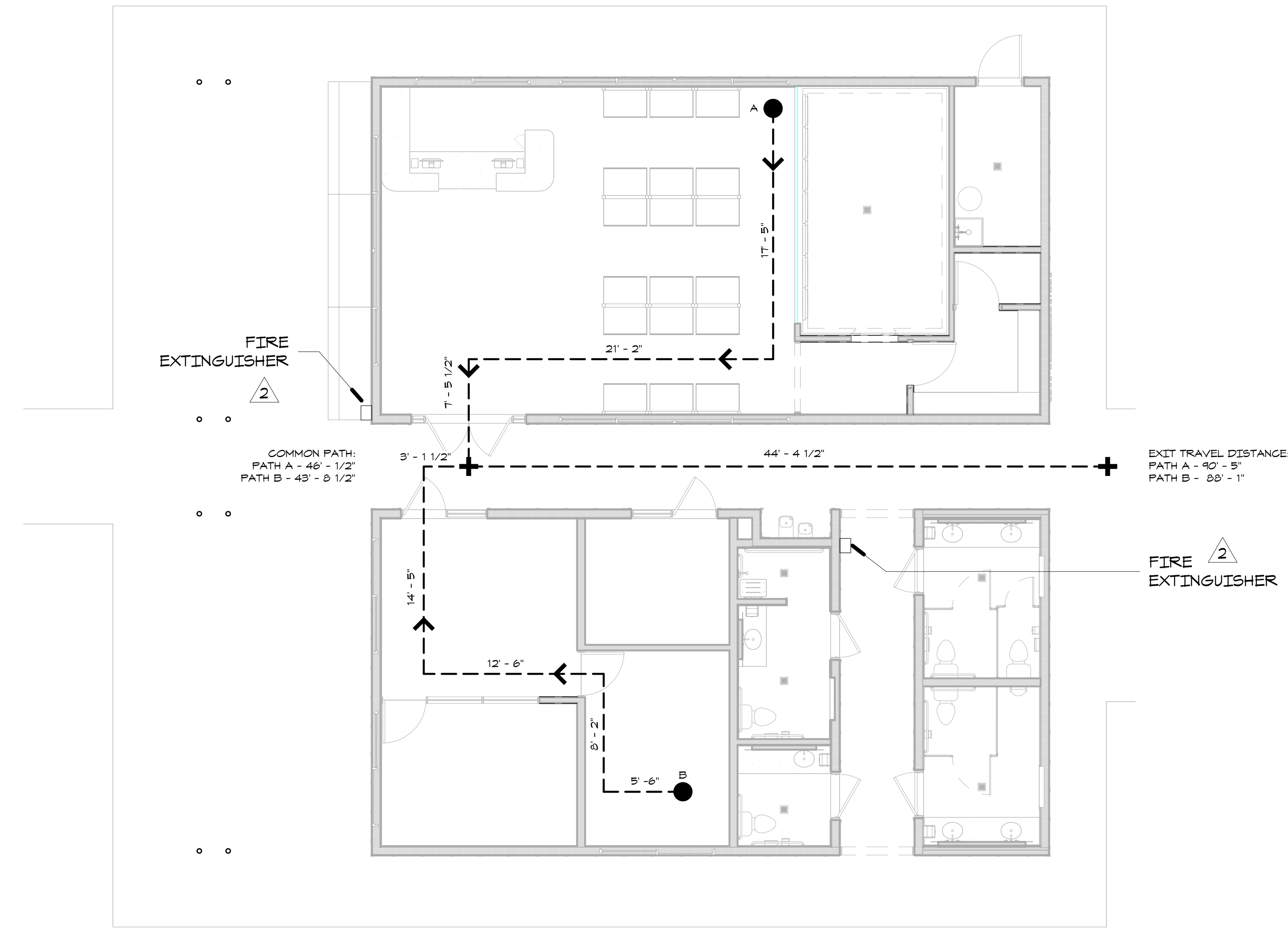
PROJECT NO. 21016

DATE 07.27.21



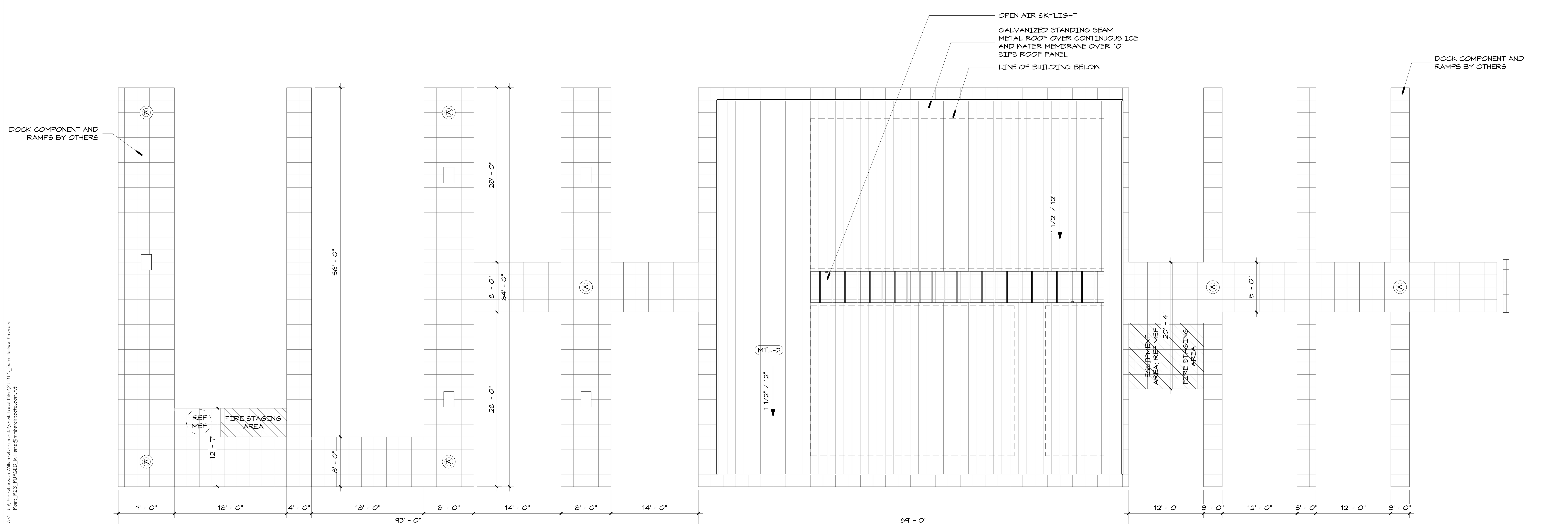
3 SITE PLAN 1

SCALE : 1" = 50'-0"



2 FLOOR PLAN - EGRESS

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



1 DOCK PLAN

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

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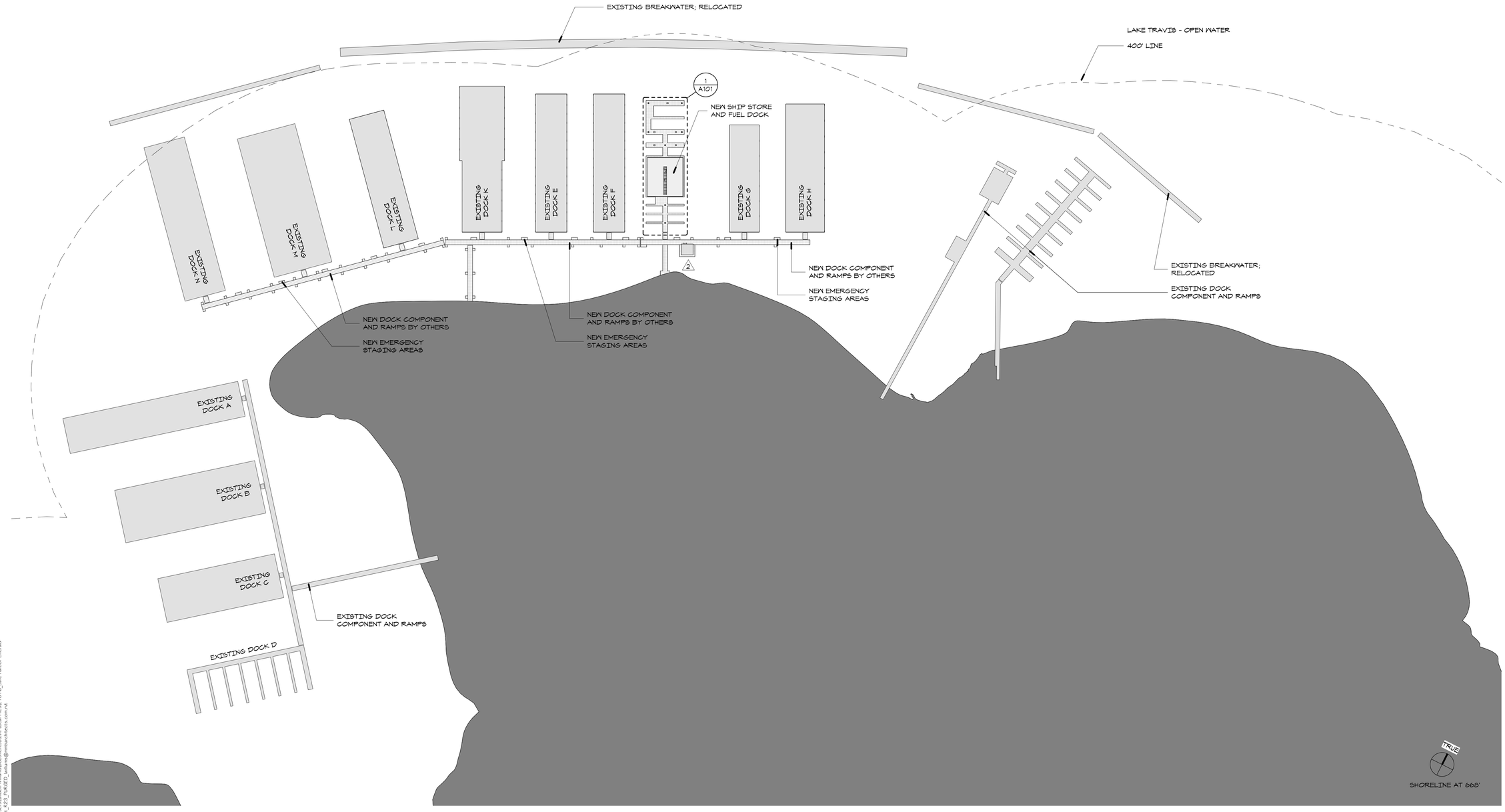
1	07.20.22	REV 01
2	03.14.23	REV 02

SITE PLAN

SHEET NO.

A101

PROJECT NO.	21016
DATE	07.27.21



1 REPLACEMENT DOCK PLAN - LAKE AT 668 FEET

SCALE : 1" = 80'-0"

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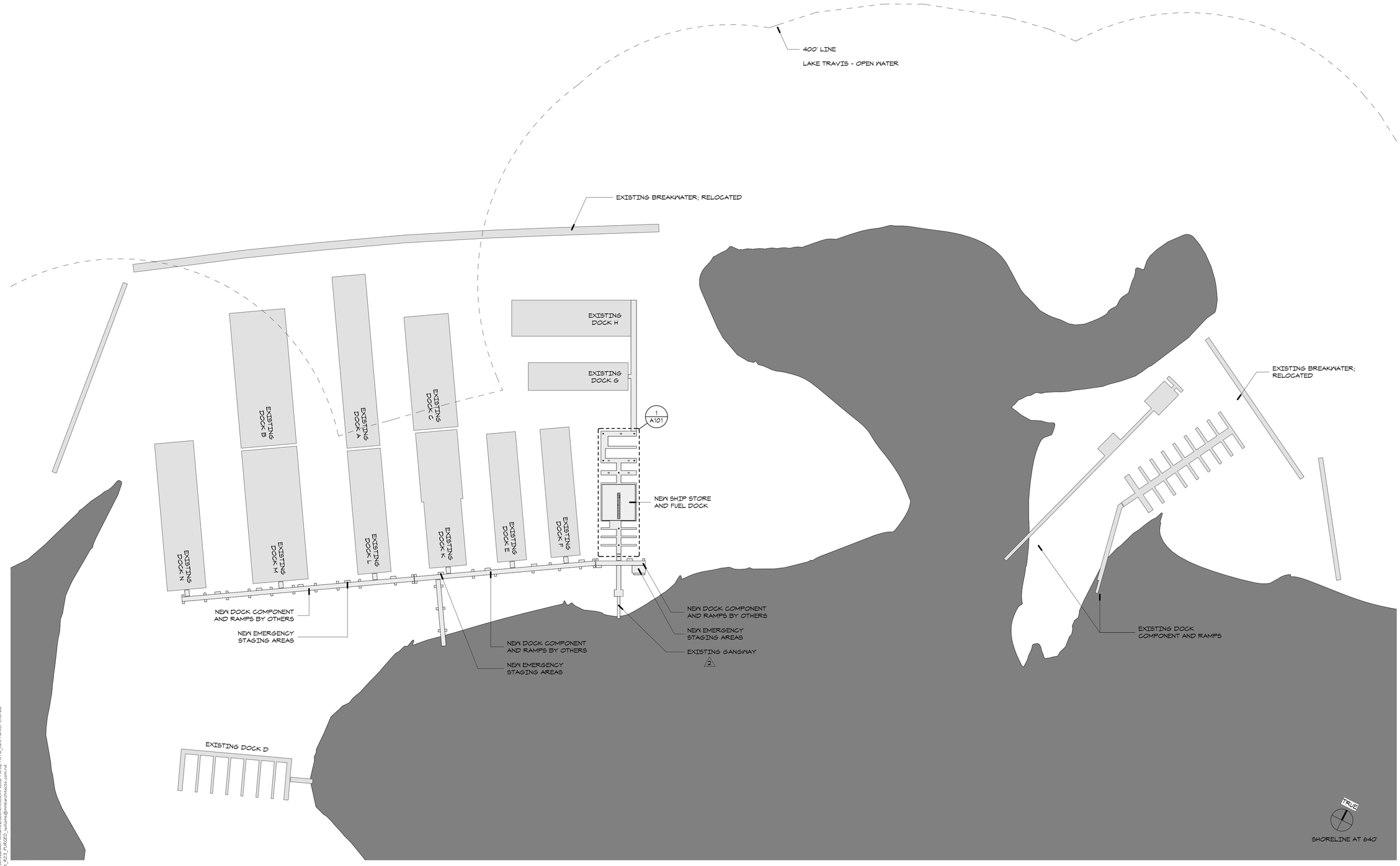
DOCK PLAN

SHEET NO.

A102

PROJECT NO. 21016

DATE 07.27.21



1 REPLACEMENT DOCK PLAN - LAKE AT 640 FEET

SCALE : 1" = 80'-0"

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DOCK PLAN

SHEET NO.

A103
1

PROJECT NO. 21016

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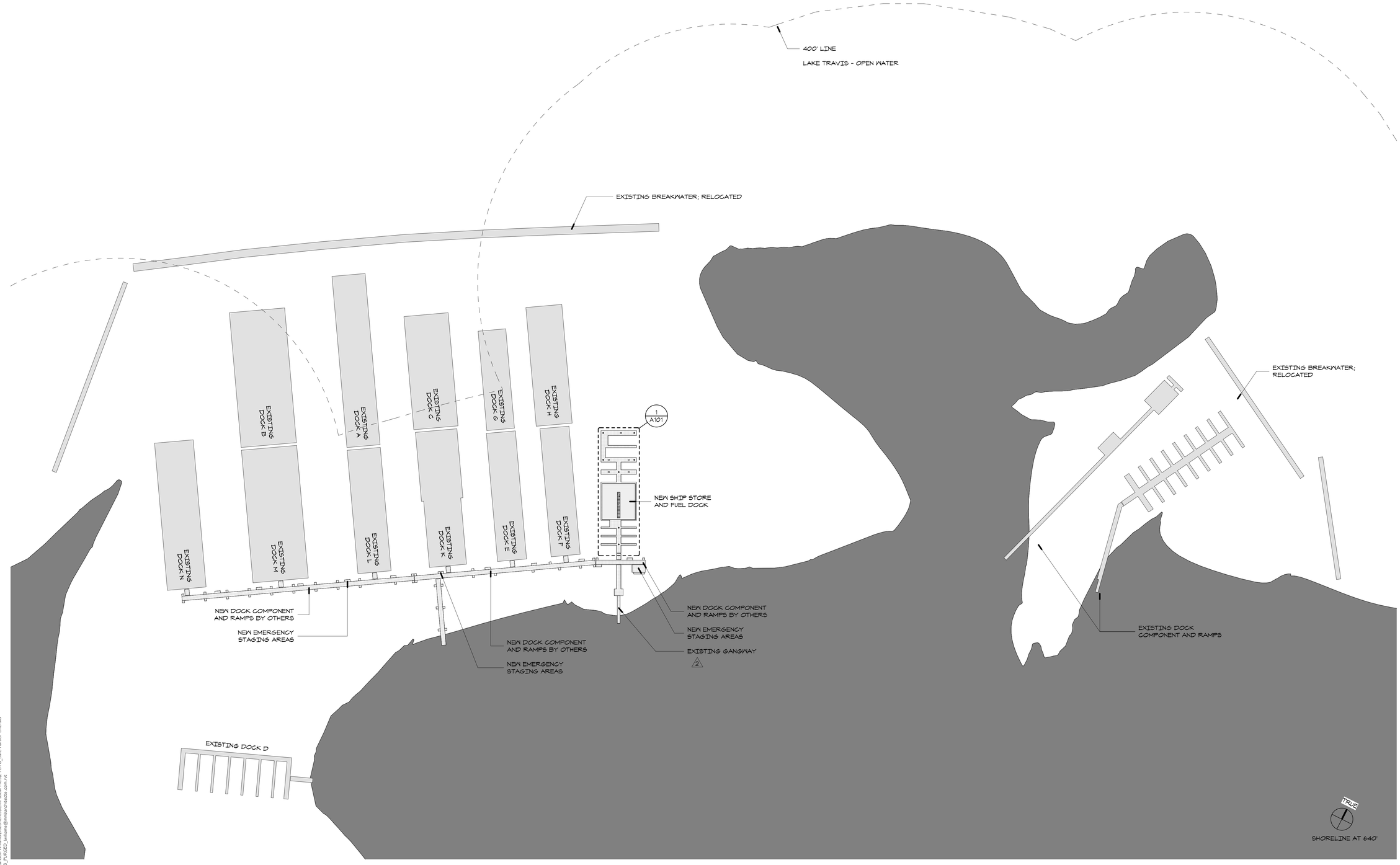

1 REPLACEMENT DOCK PLAN - LAKE AT 640 FEET - ALTERNATE

SCALE : 1" = 80'-0"

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DOCK PLAN - ALT

SHEET NO.

A104

1

PROJECT NO. 21016

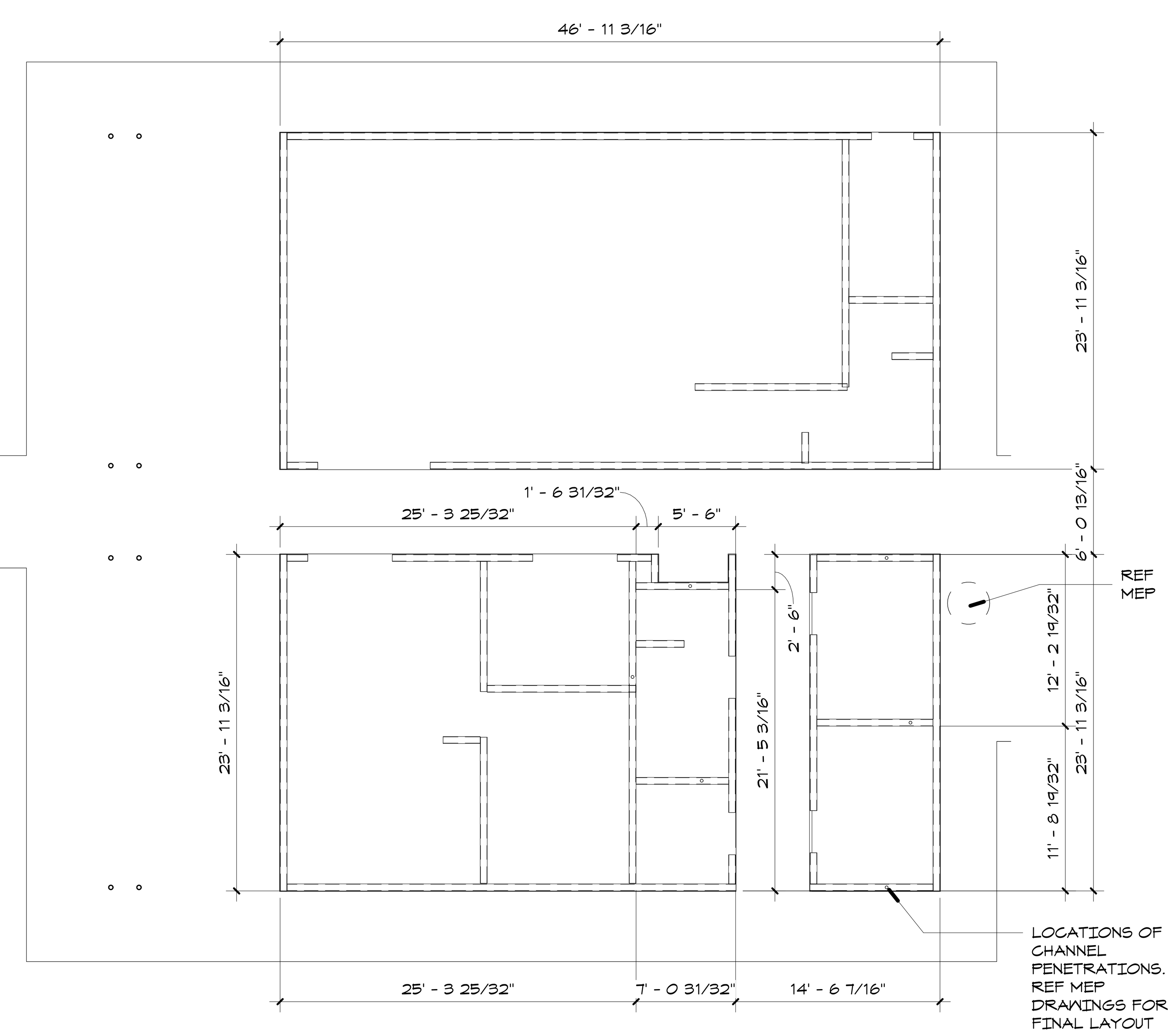
DATE 07.27.21

MATERIAL LEGEND

MARK	DESCRIPTION	SPECIFICATION
CEILING		
ACT-1	24 x 24 ACT	
FLOOR		
CPT-1	CARPET	GC TO COORDINATE FINAL CARPET SELECTION WITH OWNER AND ARCHITECT
T-1	CERAMIC FLOOR TILE	ACACIA VALLEY, ASH, AV-05, 9X36, GROUT; CUSTOM BUILDING PRODUCTS, DRIFTWOOD, 543
VF-1	VINYL PLANK FLOORING	ARMSTRONG FLOORING VINYL TILE; COLLECTION: EXCHANGE; SIZE: 6"x36"; COLOR: STATIC 'THUNDERSTORM'
MISC		
PLAM-1	PLASTIC LAMINATE	
MISC.		
GL-1	CLEAR GLASS	TEMPERED CLEAR GLASS
MTL-1	METAL TOILET PARTITION	METPAR; POWDER COATED STEEL TOILET PARTITION
MTL-3	GALVANIZED AND PAINTED METAL	GALVANIZED HOLLOW METAL DOOR SLAB PAINTED; COLOR: IN THE NAVY 'SW9178'
MTL-4	GALVANIZED AND PAINTED METAL	GALVANIZED HOLLOW METAL DOOR SLAB PAINTED; COLOR: EXTRA WHITE 'SW7006'
MTL-5	ANODIZED ALUMINM	CUSTOM POWDER COATED ALUMINUM; COLOR: IN THE NAVY 'SW9178
MTL-6	PAINTED STEEL	GALVANIZED STRUCTURAL STEEL; PREP., PRIME, AND PAINT; COLOR EXTRA WHITE 'SW7006'
ST-1	STONE	ONE QUARTZ; MOLTEN GREY 'NQ-95'
WD-1	WOOD VENEER CABINETS	QTR WALNUT VENEER ON 3/4" PLYWOOD; SAMPLE TO BE APPROVED BY ARCHITECT
WD-2	PAINTED WOOD	MARINE GRADE WOOD; PREP., PRIME, AND PAINT; COLOR: EXTRA WHIRE 'SW7006'
WD-3	PAINTED WOOD	PAINTED WOOD; COLOR: IN THE NAVY 'SW9178', SATIN
ROOF		
MTL-2	STANDING SEAM PANEL	3" GALVALUME STANDING SEAM ROOF PANELS
WALL		
	CORRIGATED METAL PANEL	
B-1	GRAY PLASTIC	
FRP-1	FRP	MARLITE SMOOTH FINISH FRP PANELS; COLOR: S 100 S/2/S WHITE
GL-2	MIRROR	FRAMELESS MIRROR WITH POLISHED EDGES
GYP-1	PAINTED GYPSUM BOARD	TYPE 'X' 5/8" GYP. BD. LEVEL 4 SMOOTH FINISH W/ SHERWIN WILLIAMS SUPERPAINT, COLOR: EXTRA WHITE 'SW7006', SHEEN= WALL:EGGSHELL, CEILING:FLAT
HB-1	HARDIE BOARD	SMOOTH FINISH VERTICAL SIDING; COLOR: EXTRA WHITE 'SW7006', SATIN
HB-2	HARDIE BOARD	SMOOTH FINISH VERTICAL BATTEN BOARDS; COLOR: EXTRA WHITE 'SW7006', SATIN
HB-3	HARDIE BOARD	SMOOTH FINISH VERTICAL BATTEN BOARDS; COLOR: IN THE NAVY 'SW9178', SATIN
HB-4	HARDIE BOARD	5 1/2" SMOOTH FINISH HARDIE TRIM BOARD; COLOR: IN THE NAVY 'SW9178', SATIN
T-2	WALL TILE	FORMULA, THEOREM IVY, FM-93, 12X24; GROUT, CUSTIM BUILDING PRODUCTS, ALABASTER, 333

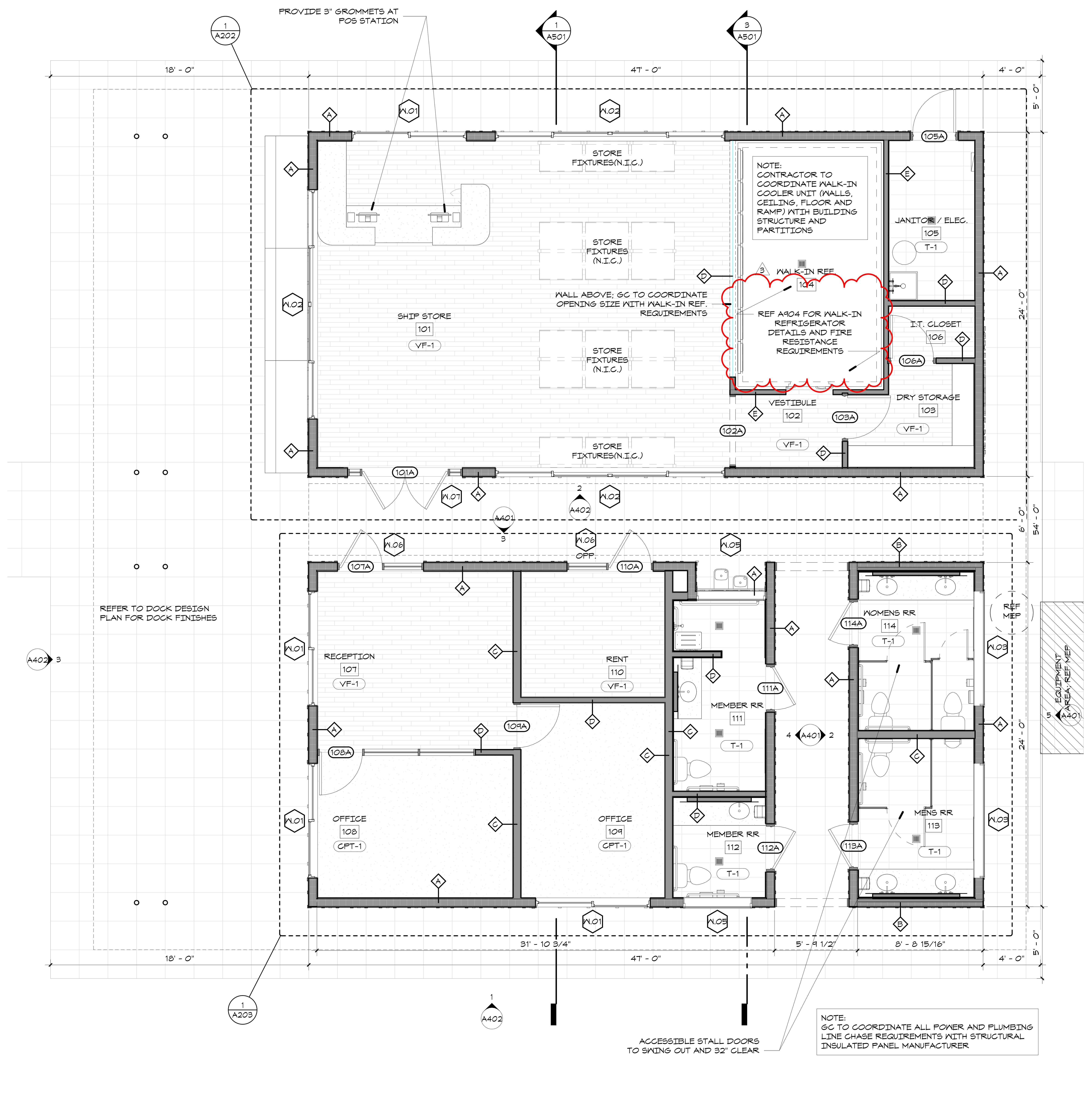
ROOM SCHEDULE

#	ROOM NAME	FLOOR MATERIAL	WALL FINISH	BASE MATERIAL	CEILING FINISH	CEILING HEIGHT	MILLWORK CABINETS	MILLWORK COUNTERTOP	REMARKS
101	SHIP STORE	T-1	GYP-1	B-1	GYP-1	SLOPED	PLAM-1	ST-1	
102	VESTIBULE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
103	DRY STORAGE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
104	WALK-IN REF.	FD-1	GYP-1						
105	JANITOR / ELEC.	T-1	GYP-1	B-1		SLOPED			
106	I.T. CLOSET								
107	RECEPTION	T-1	GYP-1	B-1	ACT-1	10' - 0"			
108	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
109	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
110	RENT	T-1	GYP-1	B-1	ACT-1	10' - 0"			
111	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
112	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
113	MENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
114	WOMENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	



2 FLOOR PLAN - STRUCTURAL CHANNEL PLAN

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



1 FLOOR PLAN

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

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REGISTERED ARCHITECT, STATE OF TEXAS, 12090

JUNE 10, 2022

SET ISSUE DATES	
DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
3	04.20.23	PERMIT RESP

FIRST FLOOR PLAN

SHEET NO.

A201

PROJECT NO. 21016

DATE 07.27.21

ROOM SCHEDULE

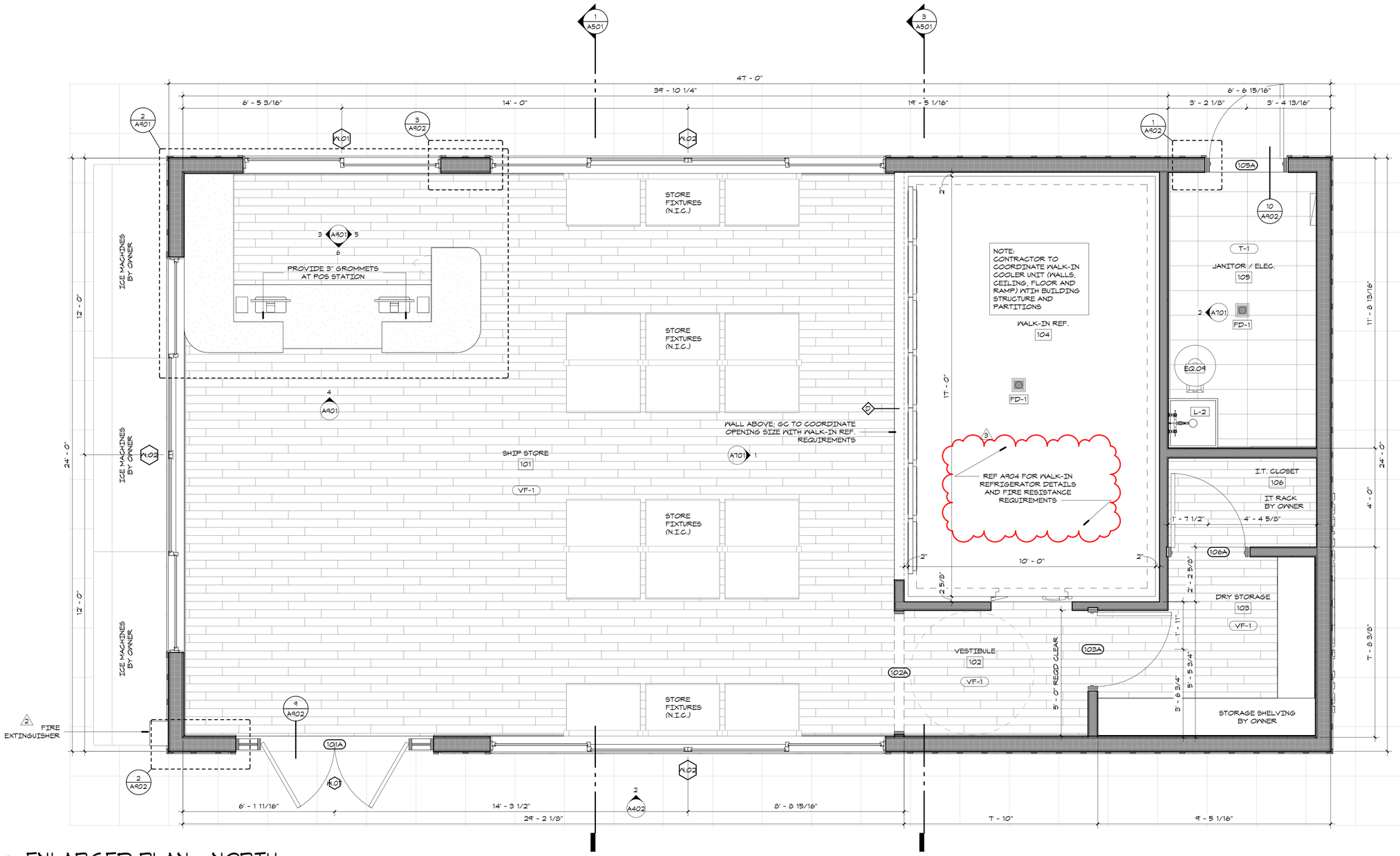
#	ROOM NAME	FLOOR MATERIAL	WALL FINISH	BASE MATERIAL	CEILING FINISH	CEILING HEIGHT	MILLWORK CABINETS	MILLWORK COUNTERTOP	REMARKS
101	SHIP STORE	T-1	GYP-1	B-1	GYP-1	SLOPED	PLAM-1	ST-1	
102	VESTIBULE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
103	DRY STORAGE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
104	WALK-IN REF.	FD-1	GYP-1						
105	JANITOR / ELEC.	T-1	GYP-1	B-1		SLOPED			
106	I.T. CLOSET								
107	RECEPTION	T-1	GYP-1	B-1	ACT-1	10' - 0"			
108	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
109	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
110	RENT	T-1	GYP-1	B-1	ACT-1	10' - 0"			
111	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
112	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
113	MENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
114	WOMENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	

PLUMBING FIXTURE SCHEDULE

MARK	COUNT	DESCRIPTION	COMMENTS
DF-1	1	HALSEY TAYLOR WALL MOUNTED BI LEVEL WATER COOLER	EXTERIOR RATED
FD-1	7	JOSAM 30000-AF SERIES	
L-1	6	AMERICAN STANDARD STUDIO UNDER COUNTER SINK WITH SLOAN SENSOR FAUCET 'SF-2300' AND SLOAN SOAP DISPENSER 'ESD-2000-CP'	GC TO COORDINATE ELEC. REQUIREMENTS
L-2	1	FLORESTONE SINK MSR-2424 WITH T&S BRASS FAUCET B-0662	
SH-1	1	DELTA T13H153 ADA SHOWER HEAD AND CONTROLS	
WC-1	5	AMERICAN STANDARD MADERA TOILET WITH FLUSHOMETER	GC TO COORDINATE ELEC. REQUIREMENTS
WC-2	1	AMERICAN STANDARD ALLBROOK URINAL WITH FLOWISE	GC TO COORDINATE ELEC. REQUIREMENTS

EQUIPMENT SCHEDULE

MARK	DESCRIPTION	COMMENTS
EQ.01	KOALA KARE HORIZONTAL WALL MOUNTED BABY CHANGING STATION - KB110-SSWM	
EQ.02	TORK ELECTRONIC HAND TOWEL DISPENSER - 711728	GC TO COORDINATE ELEC. REQUIREMENTS
EQ.03	TORK JUMBO TISSUE ROLL DISPENSER WITH RESERVE - 554028A	
EQ.04	BOBRICK SURFACE MOUNTED SANITARY NAPKIN DISPOSAL - B-254	
EQ.05	BOBRICK STRAIGHT GRAB BARS - B-5806	36" AND 42"
EQ.06	BOBRICK FOLDING SHOWER SEAT - B-519	
EQ.07	ICE CHEST	BY OWNER
EQ.08	SECURITY CAMERA	
EQ.09	WATER HEATER; REF. MEP	



TRUE 1 ENLARGED PLAN - NORTH

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

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REGISTERED ARCHITECT LANDON JAMES WILLIAMS 12090 STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
2	03.14.23	REV 02
3	04.20.23	PERMIT RESP

ENLARGED PLAN

SHEET NO.

A202

PROJECT NO. 21016

DATE 07.27.21

ROOM SCHEDULE

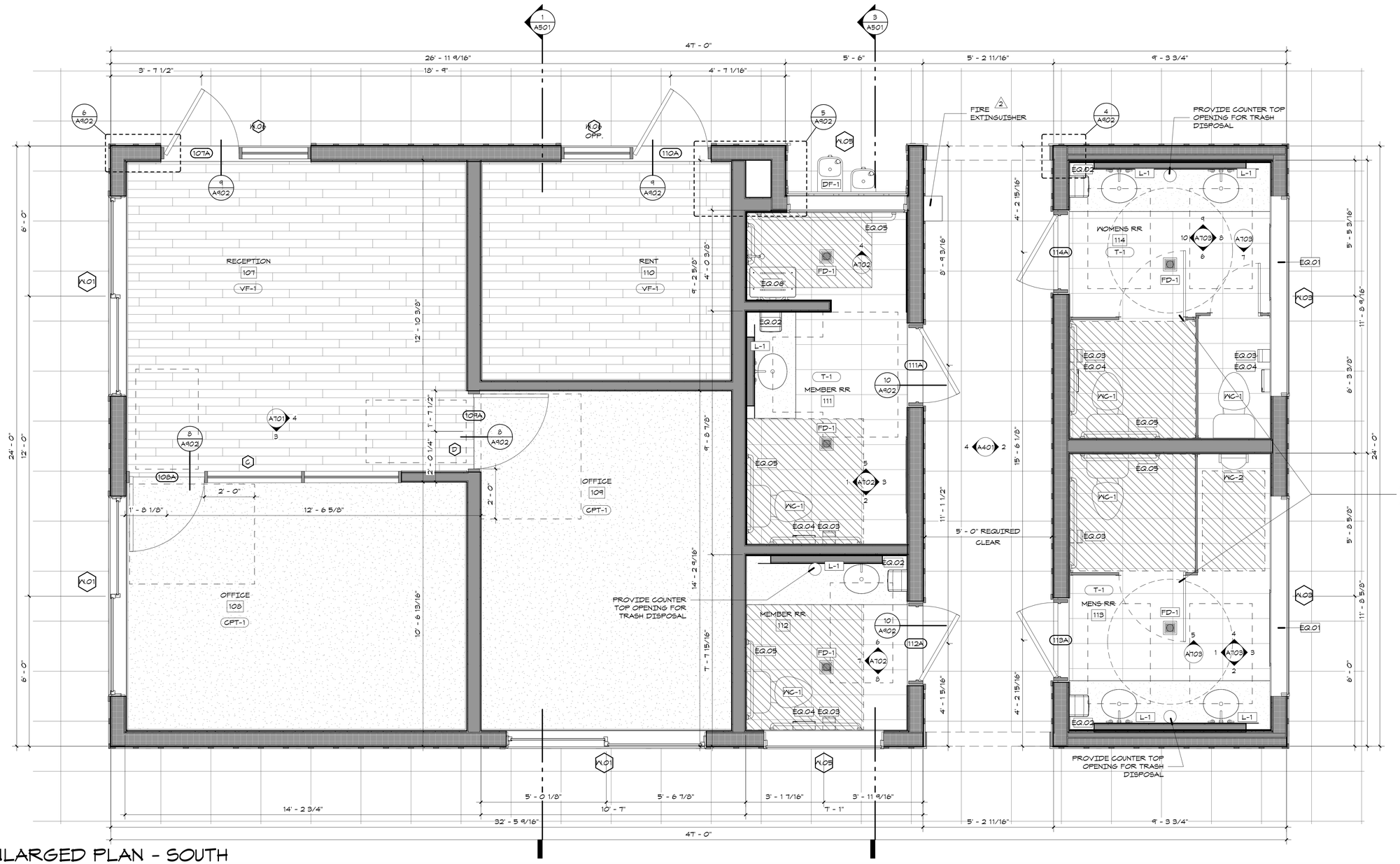
#	ROOM NAME	FLOOR MATERIAL	WALL FINISH	BASE MATERIAL	CEILING FINISH	CEILING HEIGHT	MILLWORK CABINETS	MILLWORK COUNTERTOP	REMARKS
101	SHIP STORE	T-1	GYP-1	B-1	GYP-1	SLOPED	PLAM-1	ST-1	
102	VESTIBULE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
103	DRY STORAGE	T-1	GYP-1	B-1	GYP-1	10' - 0"			
104	WALK-IN REF.	FD-1	GYP-1						
105	JANITOR / ELEC.	T-1	GYP-1	B-1		SLOPED			
106	I.T. CLOSET								
107	RECEPTION	T-1	GYP-1	B-1	ACT-1	10' - 0"			
108	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
109	OFFICE	CPT-1	GYP-1	B-1	ACT-1	10' - 0"			
110	RENT	T-1	GYP-1	B-1	ACT-1	10' - 0"			
111	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
112	MEMBER RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
113	MENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	
114	WOMENS RR	T-1	T-2, GYP-1		GYP-1	SLOPED		ST-1	

PLUMBING FIXTURE SCHEDULE

MARK	COUNT	DESCRIPTION	COMMENTS
DF-1	1	HALSEY TAYLOR WALL MOUNTED BI LEVEL WATER COOLER	EXTERIOR RATED
FD-1	7	JOSAM 30000-AF SERIES	
L-1	6	AMERICAN STANDARD STUDIO UNDER COUNTER SINK WITH SLOAN SENSOR FAUCET 'SF-2300' AND SLOAN SOAP DISPENSER 'ESD-2000-CP'	GC TO COORDINATE ELEC. REQUIREMENTS
L-2	1	FLORESTONE SINK MSR-2424 WITH T45 BRASS FAUCET B-0662	
SH-1	1	DELTA T13H153 ADA SHOWER HEAD AND CONTROLS	
WC-1	5	AMERICAN STANDARD MADERA TOILET WITH FLUSHOMETER	GC TO COORDINATE ELEC. REQUIREMENTS
WC-2	1	AMERICAN STANDARD ALLBROOK URINAL WITH FLOWISE	GC TO COORDINATE ELEC. REQUIREMENTS

EQUIPMENT SCHEDULE

MARK	DESCRIPTION	COMMENTS
EQ.01	KOALA KARE HORIZONTAL WALL MOUNTED BABY CHANGING STATION - KB110-SSNM	
EQ.02	TORK ELECTRONIC HAND TOWEL DISPENSER - 711129	GC TO COORDINATE ELEC. REQUIREMENTS
EQ.03	TORK JUMBO TISSUE ROLL DISPENSER WITH RESERVE - 554028A	
EQ.04	BOBRICK SURFACE MOUNTED SANITARY NAPKIN DISPOSAL - B-254	
EQ.05	BOBRICK STRAIGHT GRAB BARS - B-5806	36" AND 42"
EQ.06	BOBRICK FOLDING SHOWER SEAT - B-519	
EQ.07	ICE CHEST	BY OWNER
EQ.08	SECURITY CAMERA	
EQ.09	WATER HEATER; REF. MEP	



1 ENLARGED PLAN - SOUTH

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

TRUE

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REGISTERED ARCHITECT LANDON R. WILLIAMS 12090 STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
2	03.14.23	REV 02

ENLARGED PLAN

SHEET NO.

A203

PROJECT NO. 21016

DATE 07.27.21

ELECTRICAL SYMBOLS

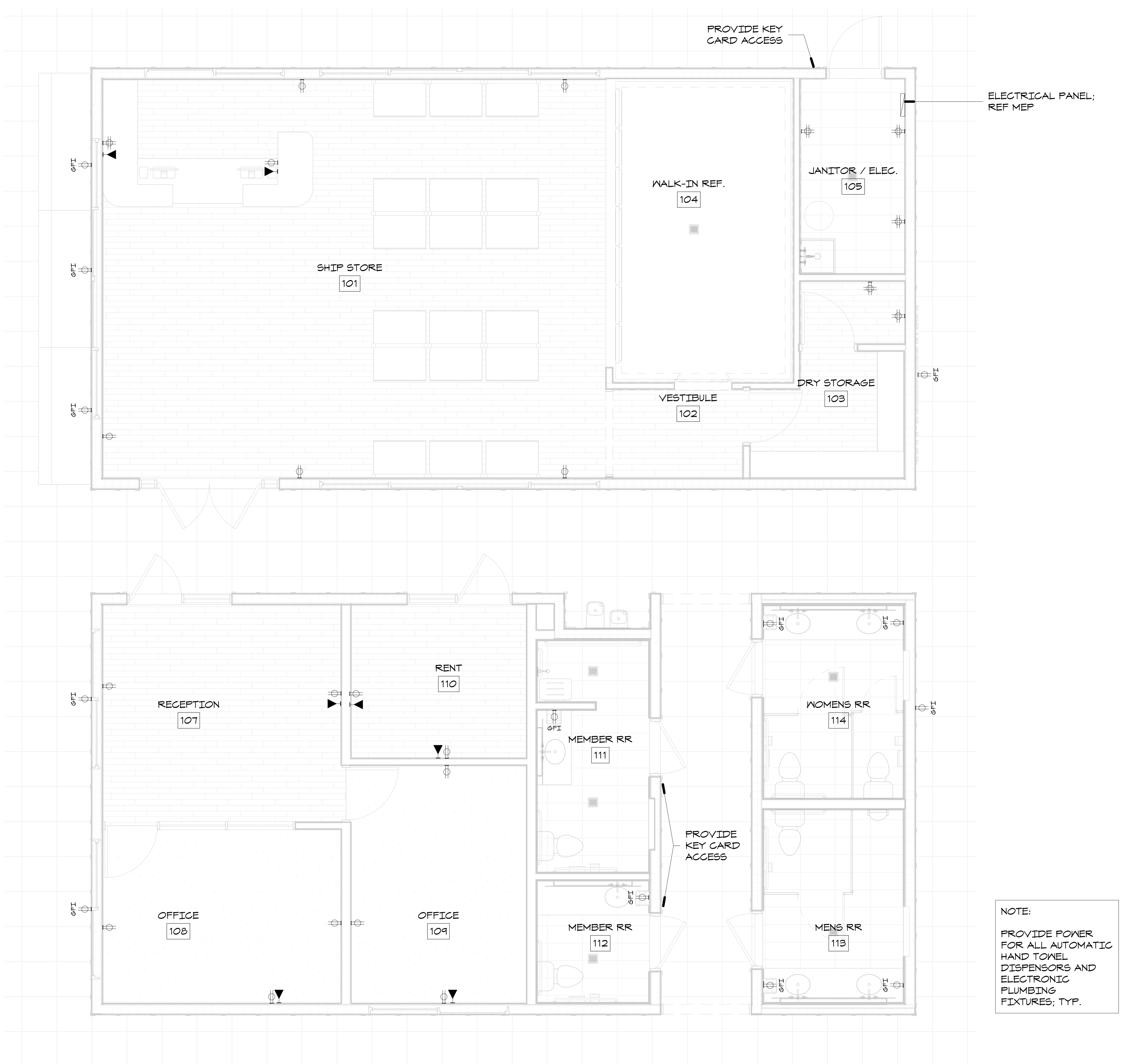
- 110 WALL MOUNTED DUPLEX OUTLET
- 110 WALL MOUNTED GOUND FAULT INTERRUPTER DUPLEX OUTLET
- 110 WALL MOUNTED SWITCHED DUPLEX OUTLET
- 110 WALL MOUNTED SIMPLEX OUTLET
- 220 WALL MOUNTED OUTLET
- 110 FLOOR MOUNTED DUPLEX OUTLET
- SWITCH
- TIMER SWITCH
- THERMOSTATIC SWITCH
- MOISTURE SENSING SWITCH
- FAN SWITCH
- DOORBELL
- DOOR JAMB SWITCH
- 3-WAY SWITCH
- 4-WAY SWITCH
- DIMMER
- WALL MOUNTED DATA JACK
- FLOOR/CEILING MOUNTED DATA JACK
- WALL MOUNTED PHONE JACK
- FLOOR/CEILING MOUNTED PHONE JACK
- WALL MOUNTED TV JACK
- FLOOR/CEILING MOUNTED TV JACK
- WALL MOUNTED INTERCOM
- WALL MOUNTED SECURITY PANEL
- WALL MOUNTED THERMOSTAT
- WALL MOUNTED HEAT DETECTOR
- CEILING MOUNTED HEAT DETECTOR
- WALL MOUNTED COMBINED SMOKE AND CARBON MONOXIDE DETECTOR
- CEILING MOUNTED SMOKE DETECTOR
- CEILING MOUNTED COMBINED SMOKE AND CARBON MONOXIDE DETECTOR
- WALL MOUNTED CARBON MONOXIDE DETECTOR
- CEILING MOUNTED CARBON MONOXIDE DETECTOR
- RECESSED WALL MOUNTED AUDIO SPEAKER
- RECESSED CEILING MOUNTED AUDIO SPEAKER
- WALL MOUNTED AUDIO JACK
- FLOOR/CEILING MOUNTED AUDIO JACK
- WALL MOUNTED HOUSE AUDIO VOLUME CONTROL
- FLOOR/CEILING or WALL MOUNTED EXHAUST FAN

PLUMBING FIXTURE SCHEDULE

MARK	COUNT	DESCRIPTION	COMMENTS
DF-1	1	HALSEY TAYLOR WALL MOUNTED BI LEVEL WATER COOLER	EXTERIOR RATED
FD-1	7	JOSAM 30000-AF SERIES	
L-1	6	AMERICAN STANDARD STUDIO UNDER COUNTER SINK WITH SLOAN SENSOR FAUCET 'SF-2300' AND SLOAN SOAP DISPENSER 'ESD-2000-CP'	GC TO COORDINATE ELEC. REQUIREMENTS
L-2	1	FLORESTONE SINK MSR-2424 WITH T&S BRASS FAUCET B-0662	
SH-1	1	DELTA T13H153 ADA SHOWER HEAD AND CONTROLS	
WC-1	5	AMERICAN STANDARD MADERA TOILET WITH FLUSHOMETER	GC TO COORDINATE ELEC. REQUIREMENTS
WC-2	1	AMERICAN STANDARD ALLBROOK URINAL WITH FLOWISE	GC TO COORDINATE ELEC. REQUIREMENTS

EQUIPMENT SCHEDULE

MARK	DESCRIPTION	COMMENTS
EQ.01	KOALA KARE HORIZONTAL WALL MOUNTED BABY CHANGING STATION - KB110-SSWM	
EQ.02	TORK ELECTRONIC HAND TOWEL DISPENSER - 771728	GC TO COORDINATE ELEC. REQUIREMENTS
EQ.03	TORK JUMBO TISSUE ROLL DISPENSER WITH RESERVE - 554028A	
EQ.04	BOBRICK SURFACE MOUNTED SANITARY NAPKIN DISPOSAL - B-254	
EQ.05	BOBRICK STRAIGHT GRAB BARS - B-5806	36" AND 42"
EQ.06	BOBRICK FOLDING SHOWER SEAT - B-519	
EQ.07	ICE CHEST	BY OWNER
EQ.08	SECURITY CAMERA	
EQ.09	WATER HEATER; REF. MEP	



NOTE:

PROVIDE POWER FOR ALL AUTOMATIC HAND TOWEL DISPENSORS AND ELECTRONIC PLUMBING FIXTURES; TYP.

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

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

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SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

POWER PLAN

SHEET NO.

A221

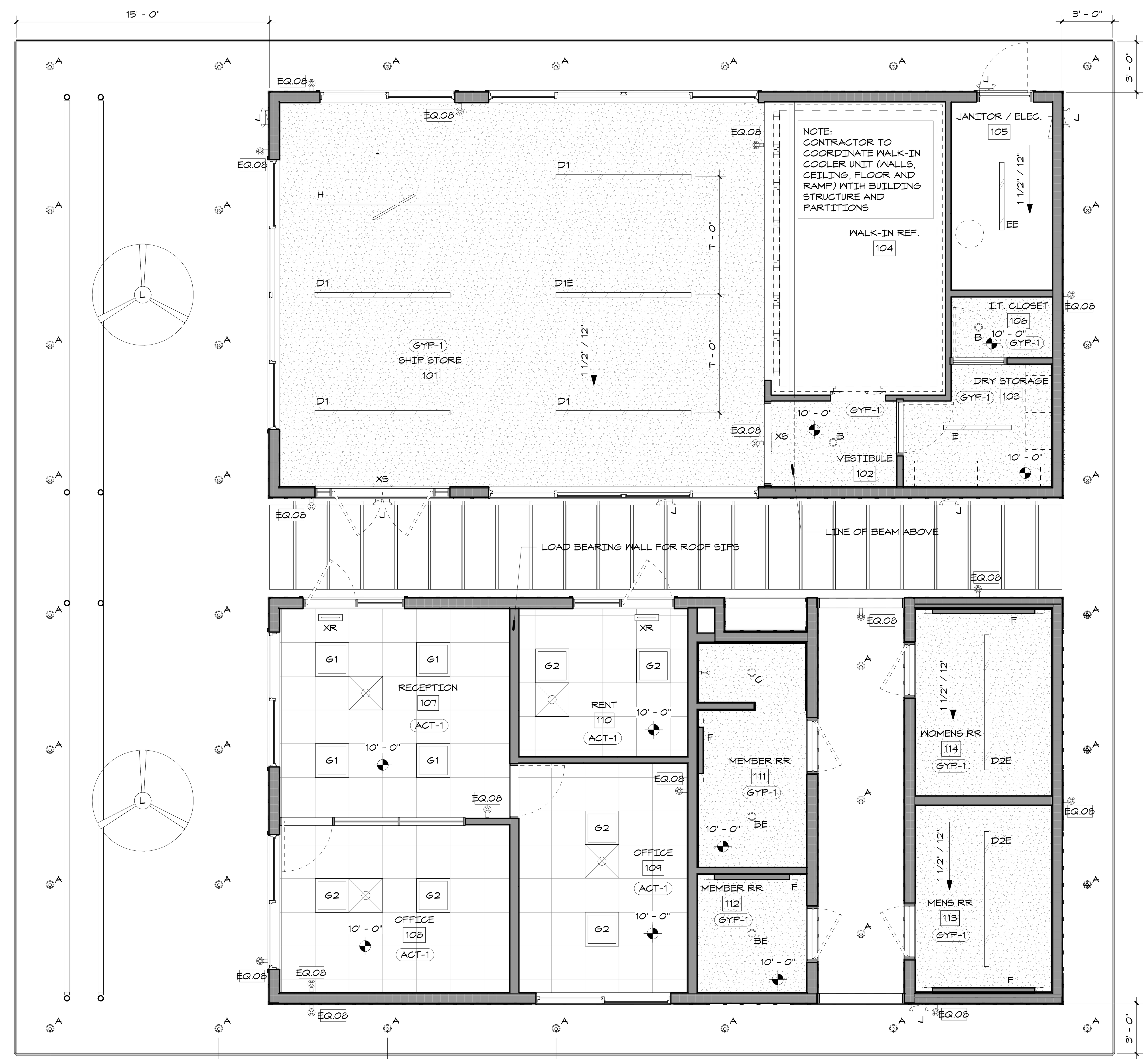
PROJECT NO. 21016

DATE 07.21.21

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	COMMENTS
A	WET RATED CYLINDER, YOKE MOUNT TO J-BOX WITH ADJSTABLE AIMING, TO NADIR, WIDE BEAM WITH INTEGRAL DRIVER	COOPER - PORTFOLIO	LERSYM4B-10-D010-P-EC4B-1020-8035-4LBSS3-H-MW	
B	6" RECESSED DOWNLIGHT WITH 3000 LUMEN OUTPUT, 60 DEG BEAM, 3500K	COOPER - HALO COMMERCIAL	1004-A1-RCS-FL-LED3590-W-CS-L1-UNV-RSM	
BE	SAME AS TYPE "B" WITH 14 WATT INTEGRAL BATTERY BACKUP WITH TEST SWITCH / INDICATOR LOCATED IN REFLECTOR	COOPER - HALO COMMERCIAL	HC6-30D010-IEM14-HM634835-61MD-H-WF	
C	6" RECESSED "SHOWER RATED" DOWNLIGHT WITH 3000 LUMEN OUTPUT, 60 DEG BEAM, 3500K, WITH DEAD FRONT REFLECTOR/LENS	COOPER - HALO COMMERCIAL	HC6-30D010-HM634835-61PS-MDW	
D1	3.75" SQUARE ALUMINUM 8FT SUSPENDED DIRECT / INDIRECT SLOTLIGHT WITH BATWING DISTIBUTION UP AND DIFFUSED DISTRIBUTION DOWN, AIRCRAFT CABLE SUSPENSION, WHITE FINISH	COOPER - CORELITE	SQ4-F-100U-075D-835-1DUNV-STD-W-AC120-JB-8	
D1E	SAME AS TYPE "D1" WITH 6 WATT OUTPUT; INTEGRAL BATTERY BACKUP WITH "SELF DIAGNOSTICS"	COOPER - CORELITE	SQ4-F-100U-075D-835-1DUNV-STD-BSL6-W-AC120-JB-8	
D2E	3.75" SQUARE ALUMINUM 8FT SUSPENDED DIRECT / INDIRECT SLOTLIGHT WITH BATWING DISTIBUTION UP AND DIFFUSED DISTRIBUTION DOWN, WITH 6 WATT OUTPUT; INTEGRAL BATTERY BACKUP WITH "SELF DIAGNOSTICS", AIRCRAFT CABLE SUSPENSION, WHITE FINISH	COOPER-CORELITE	SQ4-F-100U-125D-835-1DUNV-STD-BSL6-W-AC120-JB-8	
E	4FT LENSED STRIP 5000 LUMENS, SURFACE MTD TO CEILING OR SUSPENDED FROM STRUCTURE	COOPER - METALUX	4SNLED-LD5-46SL-LN-UNV-L835-CD1-U // AYC	
EE	SAME AS TYPE "E" WITH 14 WATT OUTPUT; INTEGRAL BATTERY BACKUP WITH "SELF DIAGNOSTICS"	COOPER - METALUX	4SNLED-LD5-46SL-LN-UNV-EL14W-L835-CD1-U // AYC	
F	24 VDC LED TAPE + EXTRUDED ALUMINUM CHANNEL, OPAL LENS + REMOTE DRIVER. FACTORY PREPPED AS COMPLETE FIXTURES TO MAKE UP A RUN(S) TO FRAME AROUND MIRRORS; PER ARCHITECTURAL DETAILS, ON PLANS	TIVOLI	CHANNEL: MOSR-CHAN-SLV-XX" // MOSR-LNS-OP-XX" // MOSR-EC-02/MOSR-EC-1 //MTBK-03 LED TAPE: TPLD-SB-I-35-24 DRIVER:INF-J-96-1-24	
G1	ARCHITECTURAL 2X2 RECESSED WITH 3000 LUMEN OUTPUT, WHITE METAL PAN REFLECOR WITH CENTERED LED COMPARTMENT AND SQUARE ACRYLIC LENS	COOPER - METALUX	22CZ2-29HE-SQR-UNV-L835-CD1-U	
G2	ARCHITECTURAL 2X2 RECESSED WITH 5500 LUMEN OUTPUT, WHITE METAL PAN REFLECOR WITH CENTERED LED COMPARTMENT AND SQUARE ACRYLIC LENS	COOPER - METALUX	22CZ2-55VHE-SQR-UNV-L835-CD1-U	
H	SUSPENDED LINEAR PENDANT BY OWNER	TBD	TBD	
J	FULL CUT OFF WALL PACK, WITH BATTERY BACKUP , WHITE HOUSING, DEEP BACKBOX	COOPER - LUMARK	AXCS4A-C-WT-CBP	
K	POST-TOP MOUNTED AREA LUMINAIRE WITH SYMETRIC ROUND OPTIC, ALUMINAUM HOUSING; MOUNTED TO A 12' ROUND TAPERED ALUMINUM POLE WITH ALUMINUM BASE	COOPER - INVUE	LXS-VA4-740-U-SYM-S-WH // ARP5L612AWH5X	
L	EXTERIOR RATED 3-BLADE 3-SPEED, REVERSIBLE; CEILING FAN 52" DIAMETER WHITE FINISH. WALL CONTROL SWITCH INCLUDED. PLEASE CONTACT TEXAS LIGHTING FOR PRICING 817-267-9300	HUNTER	JTKLMS-59610 // 9974-XX"	
XR	SPEC GRADE - CEILING RECESSED MOUNT SINGLE FACE EDGE-LIT EXIT SIGN, RED LETTERS, NI-CAD BATTERY.	COOPER - SURE LITES	EUR71R	
XS	SPEC GRADE - SURFACE WALL"BACK MOUNT" SINGLE FACE EDGE-LIT EXIT SIGN, RED LETTERS, NI-CAD BATTERY.	COOPER - SURE LITES	EUS71R	

GENERAL NOTE:
- ALL FIXTURES LISTED IN THE LIGHTING SCHEDULE ARE "SAFE HARBOR" NATIONAL LIGHTING STANDARDS TO BE USED FOR MULTIPLE LOCATIONS. NO SUBSTITUTIONS.
- COOPER LIGHTING SOLUTIONS LOCAL REPS TO COORDINATE WITH "TEXAS LIGHTING SOLUTIONS" QUOTATIONS DEPARTMENT 817.267.9300 FOR PRICING AUTHORIZATION
- GC TO COORDINATE ALL ELECTRICAL FED AND CONDUIT ROUTING WITH SIPS PANEL MANUFACTURER. NO EXPOSED CONDUITS.



1 REFLECTED CEILING PLAN
SCALE : 1/4" = 1'-0"

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REGISTERED ARCHITECT STATE OF TEXAS 12090
JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

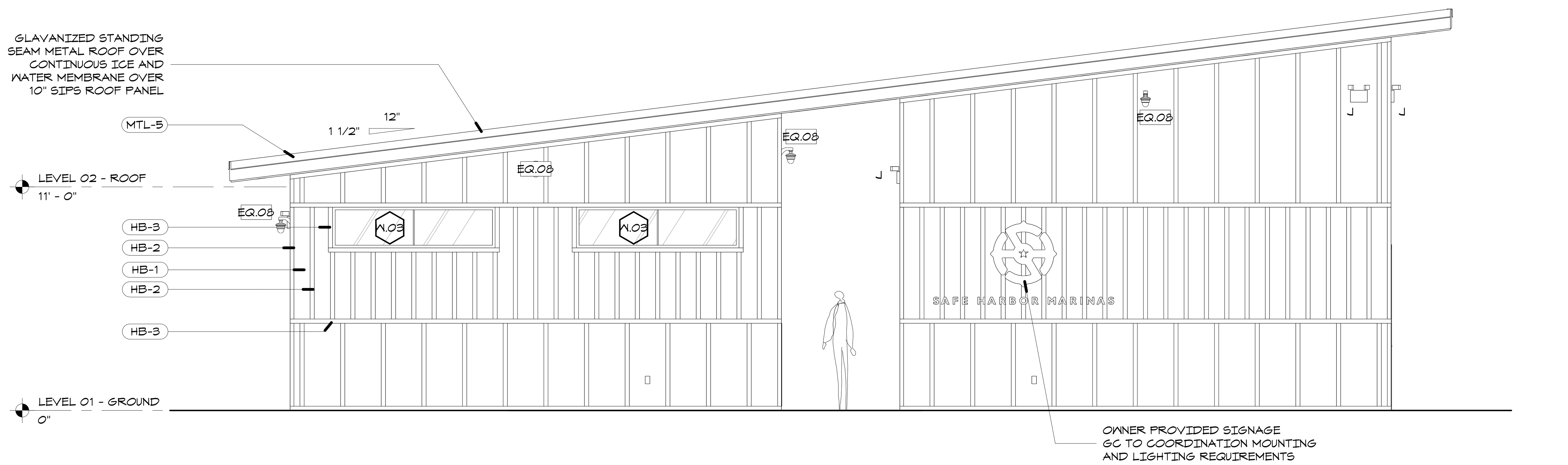
REVISIONS

NO.	DATE	DESCRIPTION

REFLECTED CEILING PLAN

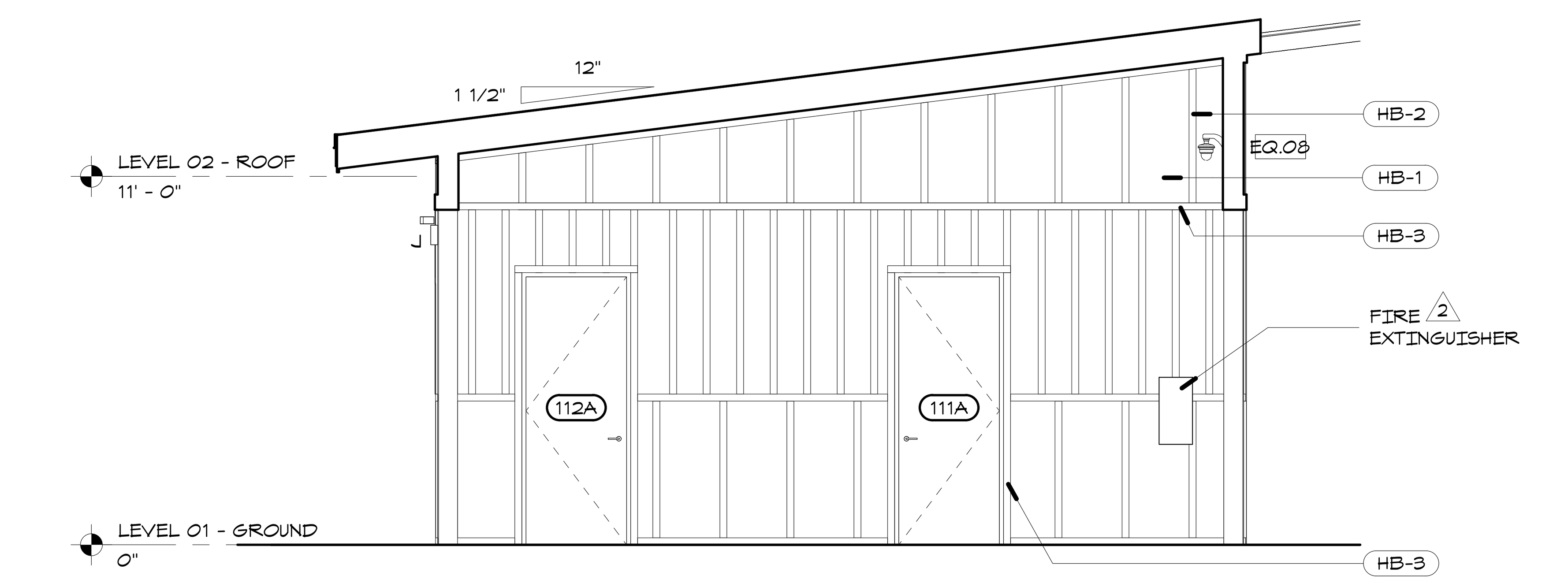
SHEET NO.
A301

PROJECT NO. 21016
DATE 07.27.21



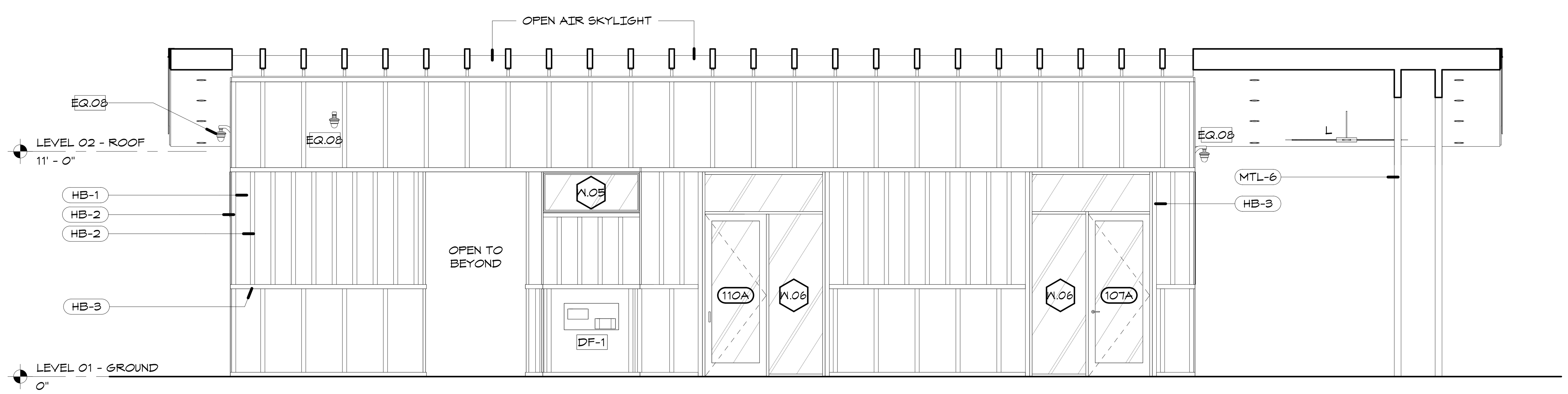
5 EXTERIOR ELEVATION - EAST

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



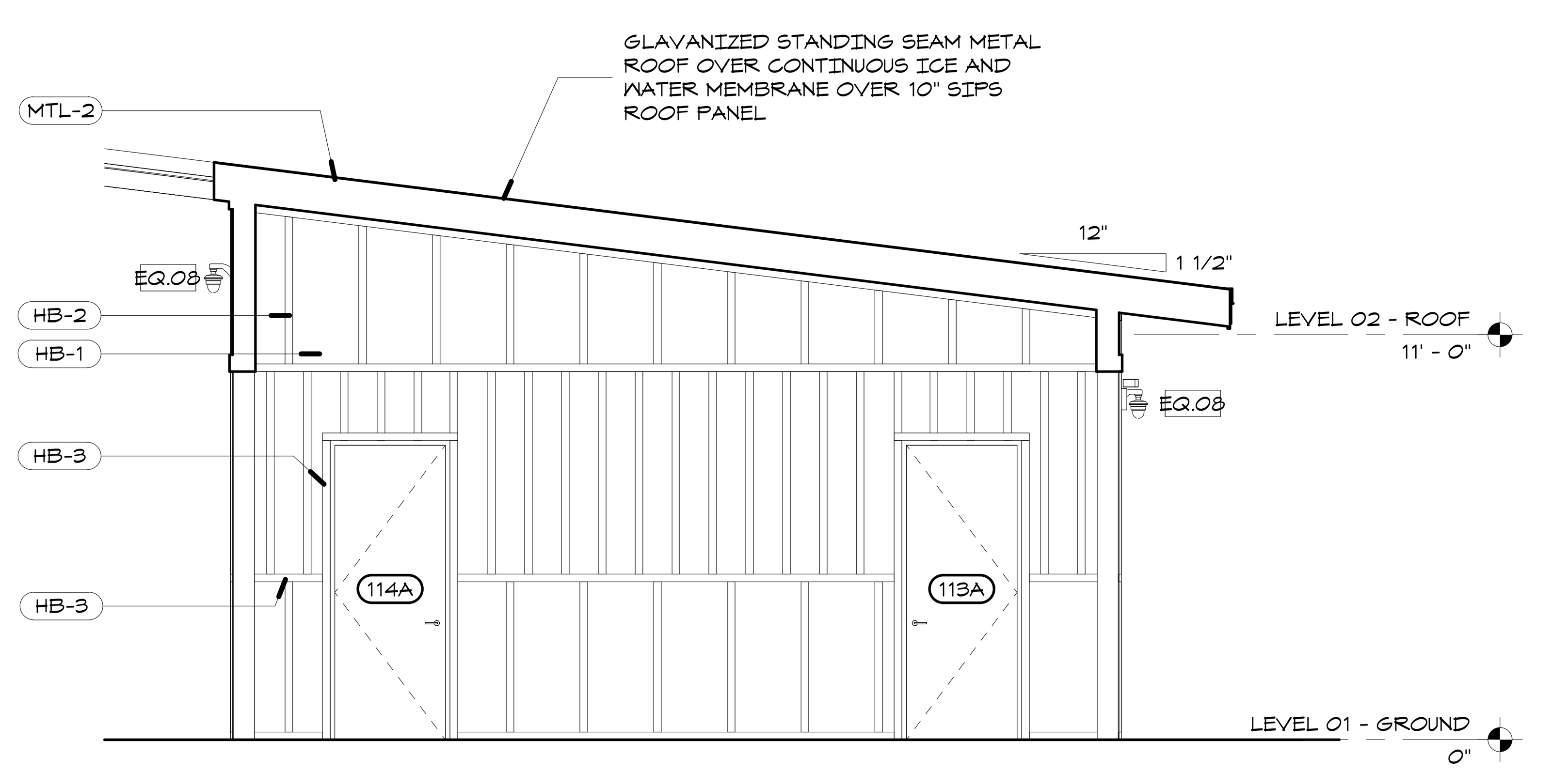
4 EXTERIOR ELEVATION/SECTION - EAST

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



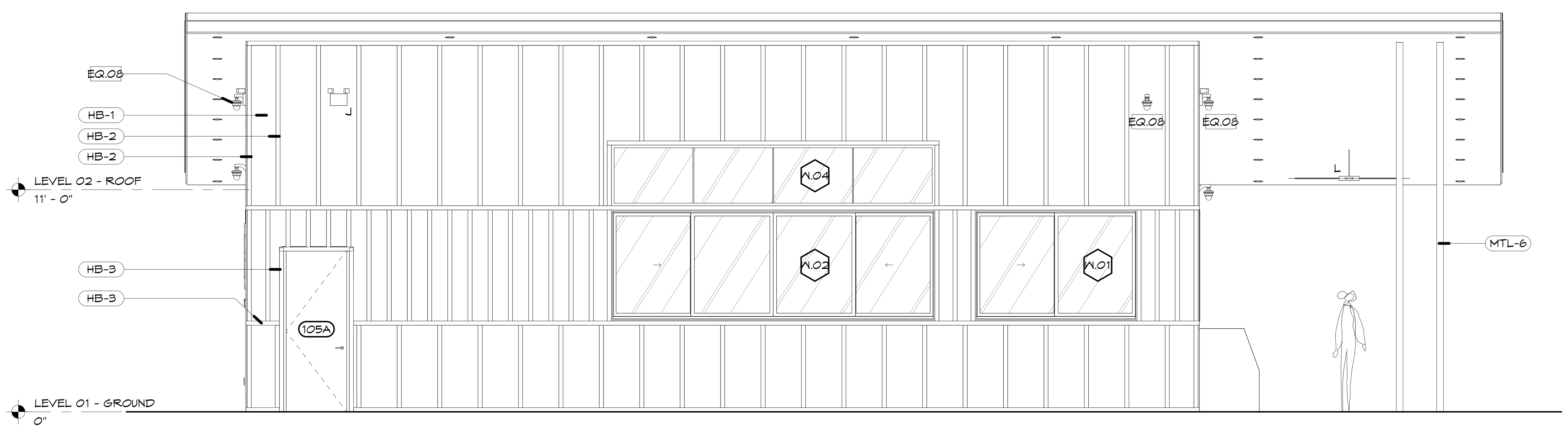
3 EXTERIOR ELEVATION/SECTION - NORTH

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



2 EXTERIOR ELEVATION/SECTION - WEST

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



1 EXTERIOR ELEVATION - NORTH

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

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JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
2	03.14.23	REV 02

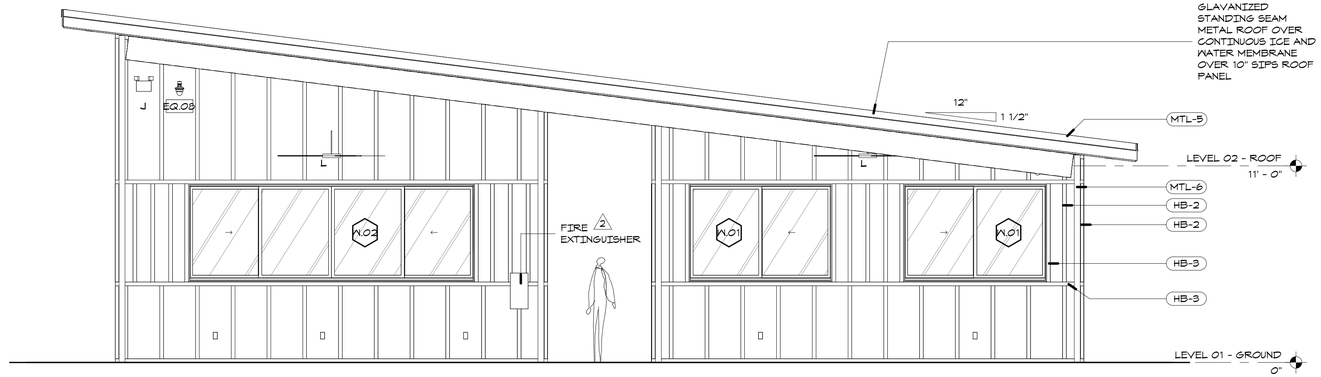
EXTERIOR ELEVATIONS

SHEET NO.

A401

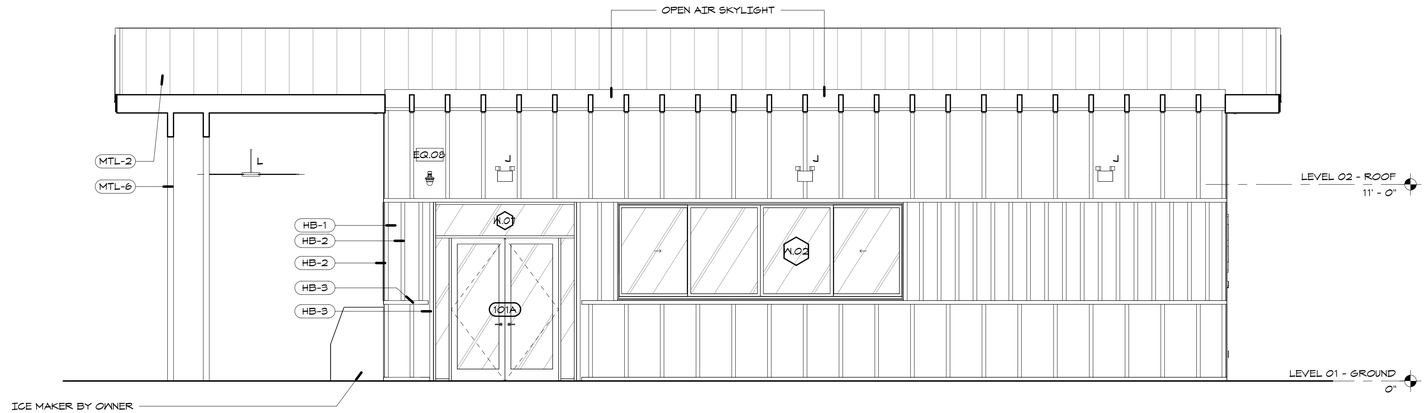
PROJECT NO. 21016

DATE 07.27.21



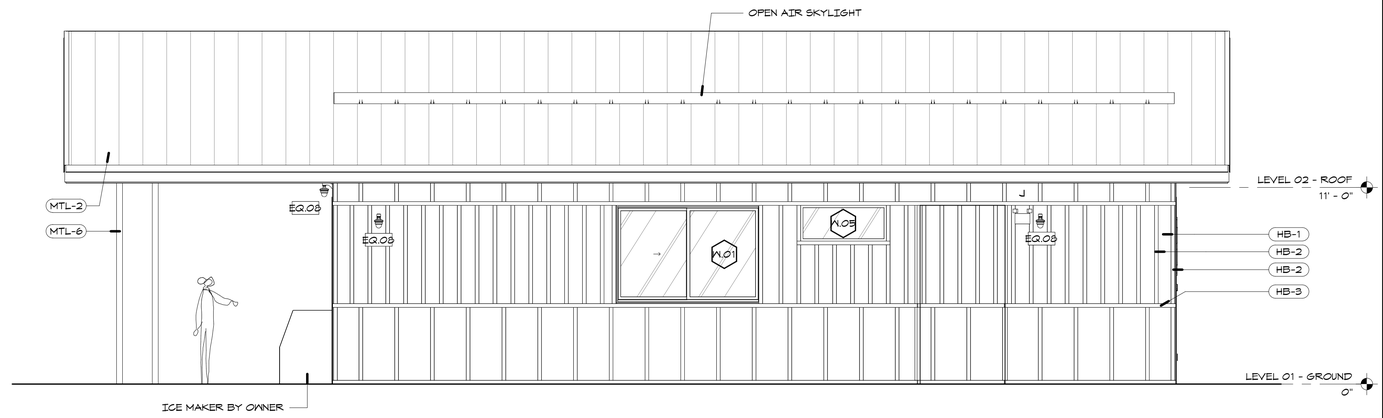
3 EXTERIOR ELEVATION - WEST

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



2 EXTERIOR ELEVATION/SECTION - SOUTH

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



1 EXTERIOR ELEVATION - SOUTH

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

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REGISTERED ARCHITECT
BRANDON JAMES WILLIAMS
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

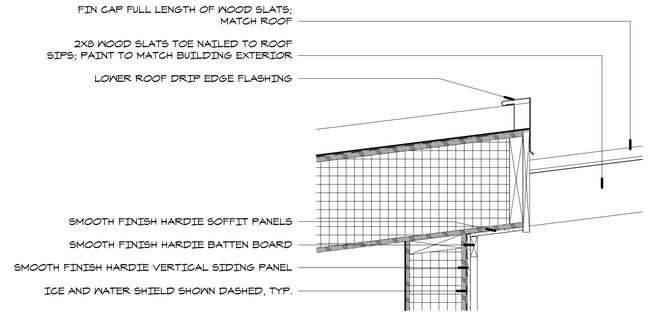
NO.	DATE	DESCRIPTION
2	03.14.23	REV 02

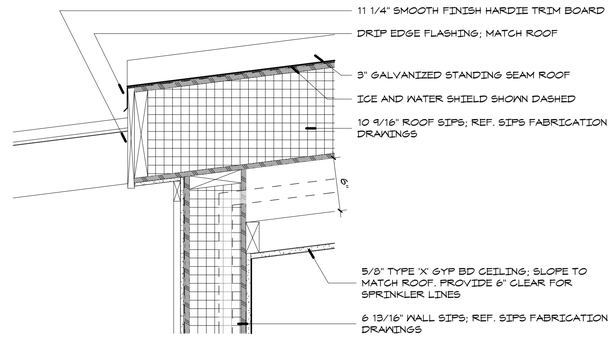
EXTERIOR ELEVATIONS

SHEET NO.

A402

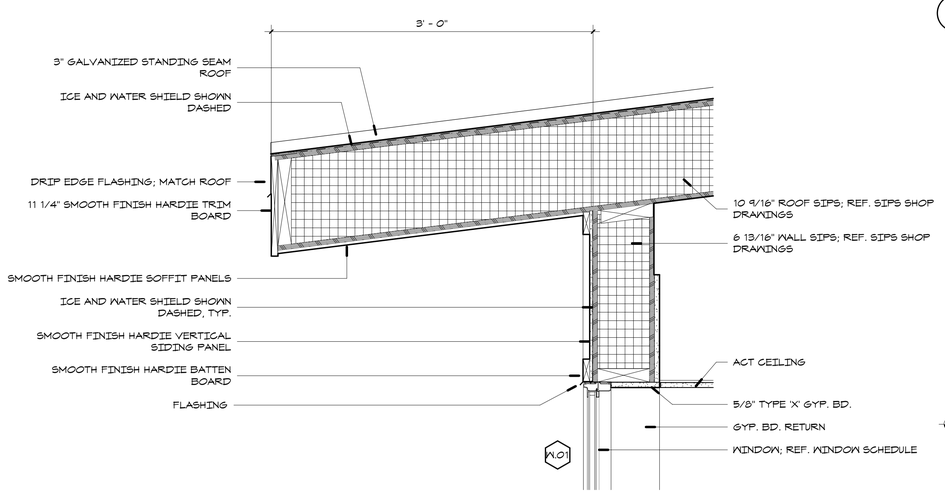
PROJECT NO.	21016
DATE	07.27.21





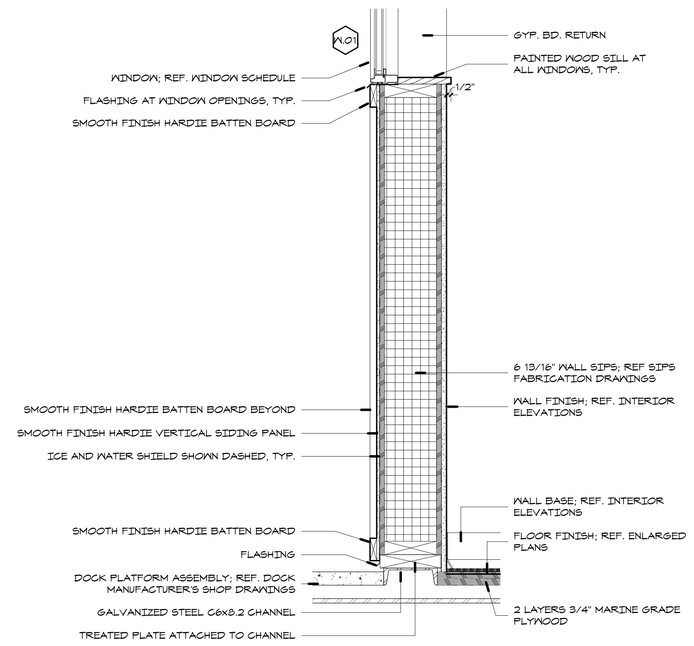
5 SEC. DTL. - ROOF OPENING

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



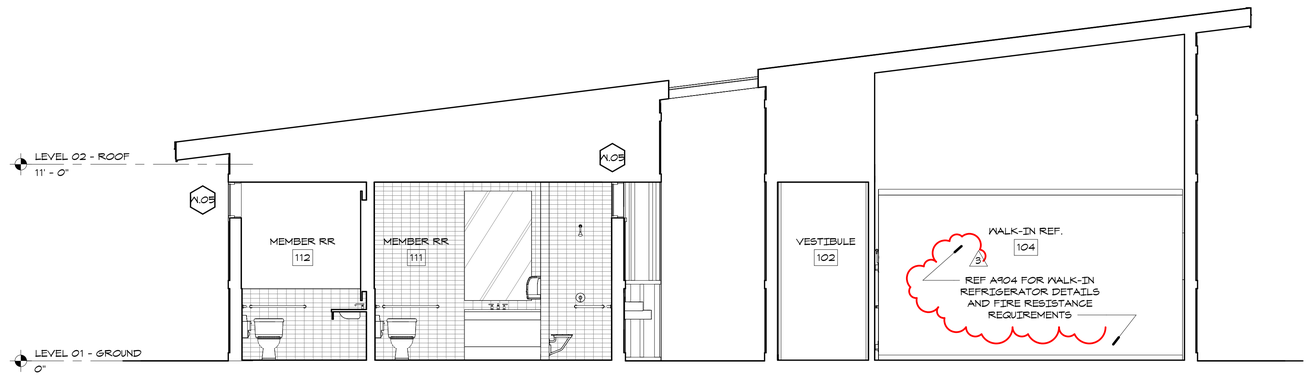
4 SEC. DTL. - ROOF OVERHANG

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



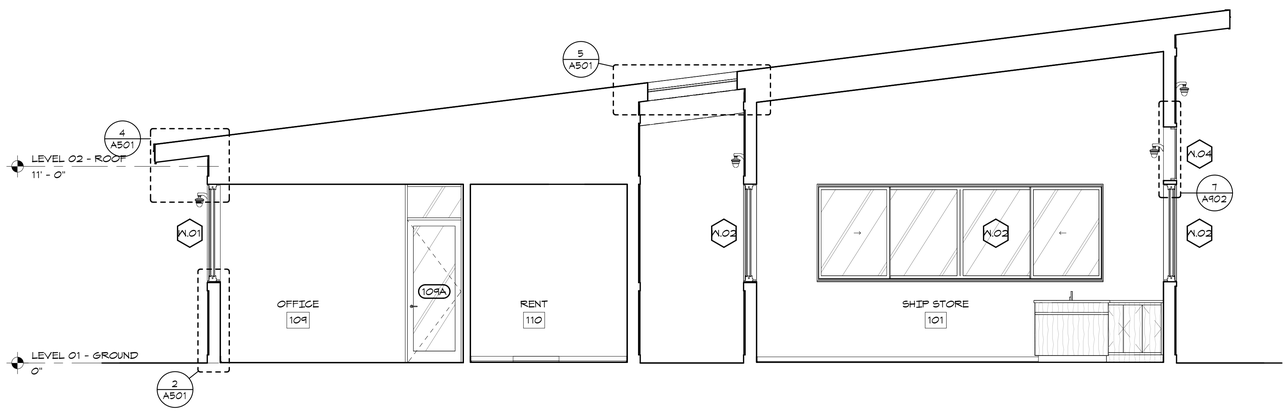
2 SEC. DTL. - WINDOW SILL

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



3 BUILDING SECTION - S-N

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



1 BUILDING SECTION - N-S

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

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WILLIAM EL-JAMIL WILLIAMS
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
3	04.20.23	PERMIT RESP

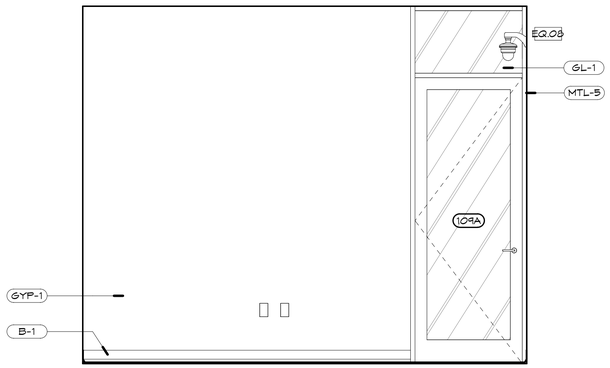
BUILDING SECTIONS

SHEET NO.

A501

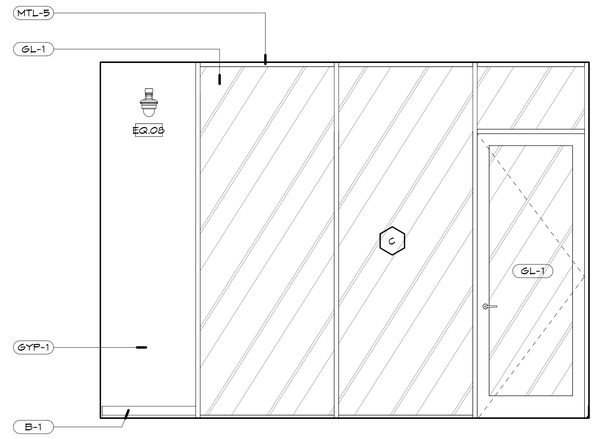
PROJECT NO. 21016

DATE 07.27.21



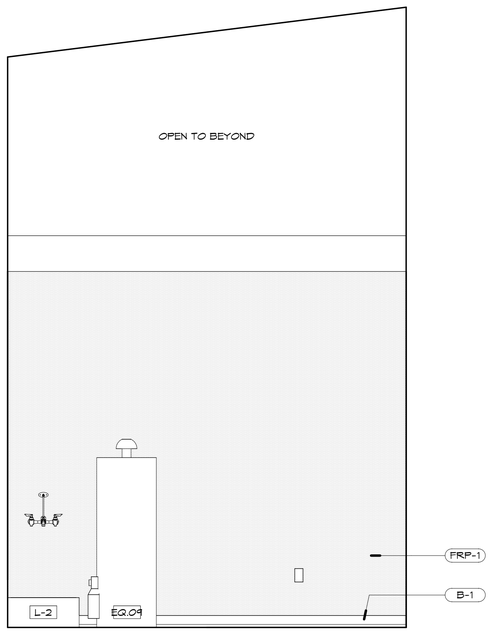
4 107 - WEST

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



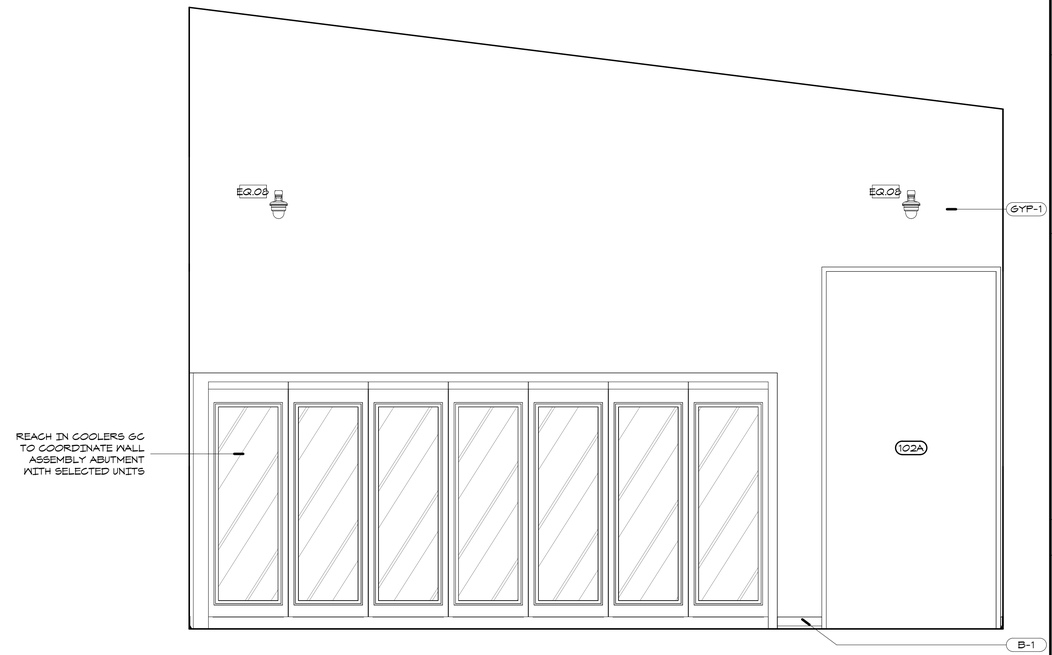
3 107 - NORTH

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



2 105 - EAST

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



1 101 - WEST

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

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JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

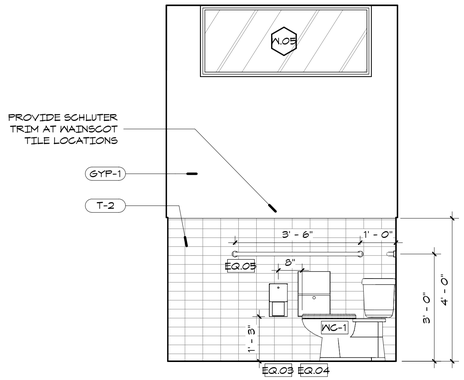
NO.	DATE	DESCRIPTION

INTERIOR ELEVATIONS

SHEET NO.

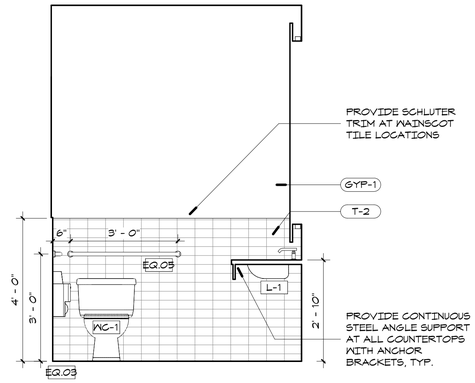
A701

PROJECT NO.	21016
DATE	07.27.21



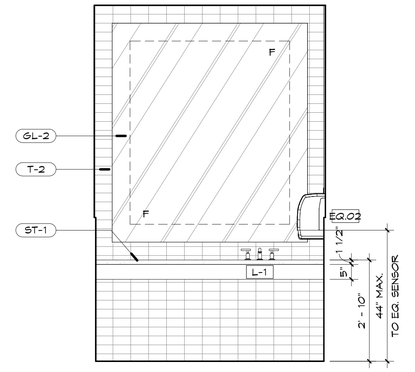
8 112 - NORTH

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



7 112 - EAST

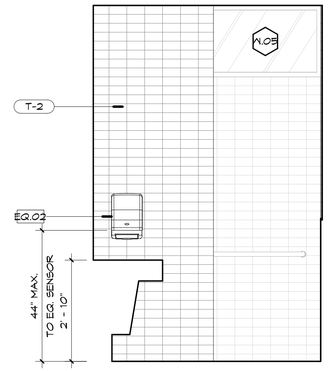
SCALE : 1/2" = 1'-0"



6 112 - SOUTH

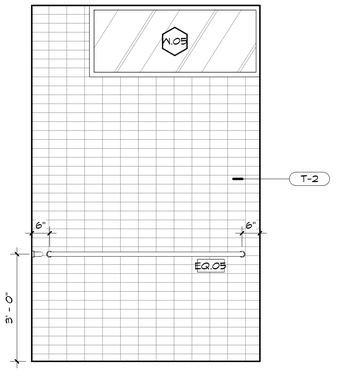
SCALE : 1/2" = 1'-0"

TOILET ACCESSORIES				
MARK	COUNT	MODEL	DESCRIPTION	COMMENTS
EQ.01	3	KB110-SSRE	KOALA KARE HORIZONTAL WALL MOUNTED BABY CHANGING STATION - KB110-SSWM	
EQ.02	4	B-72974	TORK ELECTRONIC HAND TOWEL DISPENSER - TT1720	GC TO COORDINATE ELEC. REQUIREMENTS
EQ.03	5	B-2888	TORK JUMBO TISSUE ROLL DISPENSER WITH RESERVE - 554028A	
EQ.04	4	B-254	BOBRICK SURFACE MOUNTED SANITARY NAPKIN DISPOSAL - B-254	
EQ.05	6	B-5806	BOBRICK STRAIGHT GRAB BARS - B-5806	36" AND 42"
EQ.06	1	B-5191	BOBRICK FOLDING SHOWER SEAT - B-519	
EQ.07	1		ICE CHEST	BY OWNER
EQ.08	16	V2102D-W31 3MIR	SECURITY CAMERA	
EQ.09	1		WATER HEATER; REF. MEP	



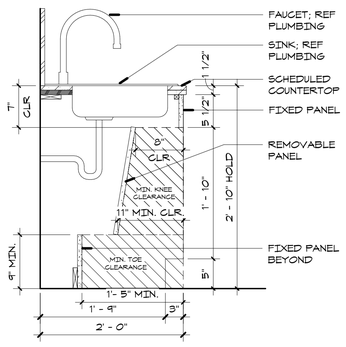
5 111 - SOUTH A

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



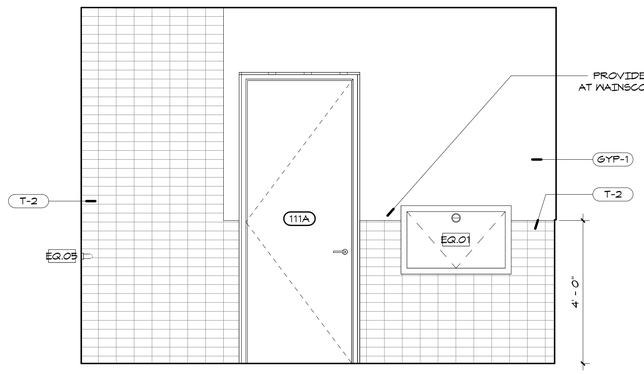
4 111 - SOUTH B

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



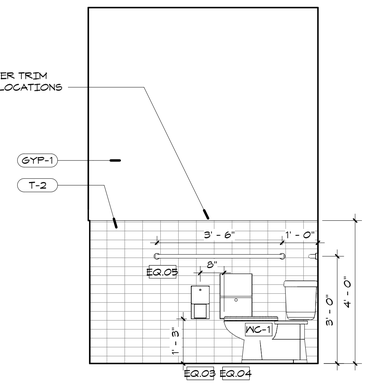
9 SEC. DTL. - ACCESSIBLE SINK

SCALE : 1" = 1'-0"



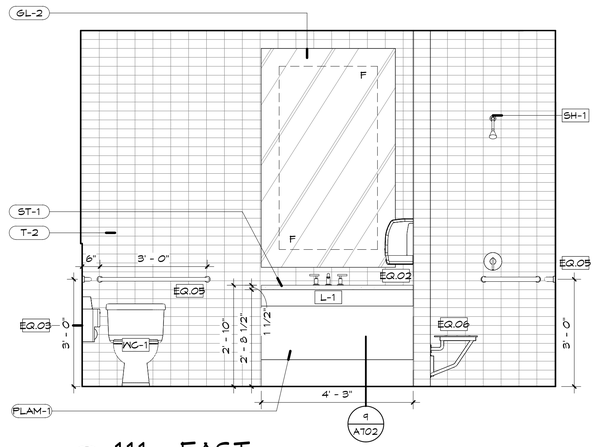
3 111 - WEST

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



2 111 - NORTH

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



1 111 - EAST

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

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REGISTERED ARCHITECT
ALLEN JAMES WILLIAMS
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

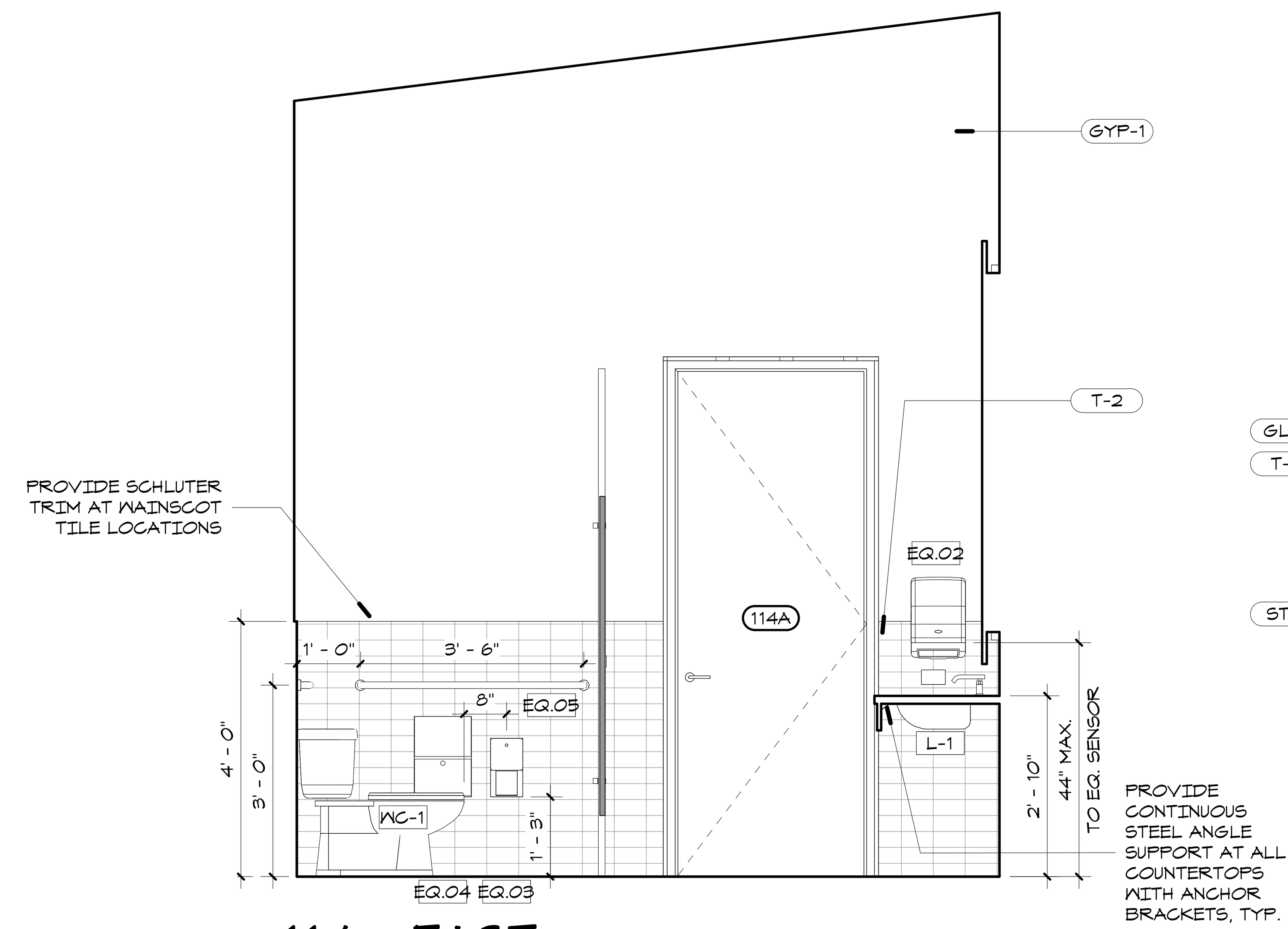
INTERIOR ELEVATIONS

SHEET NO.

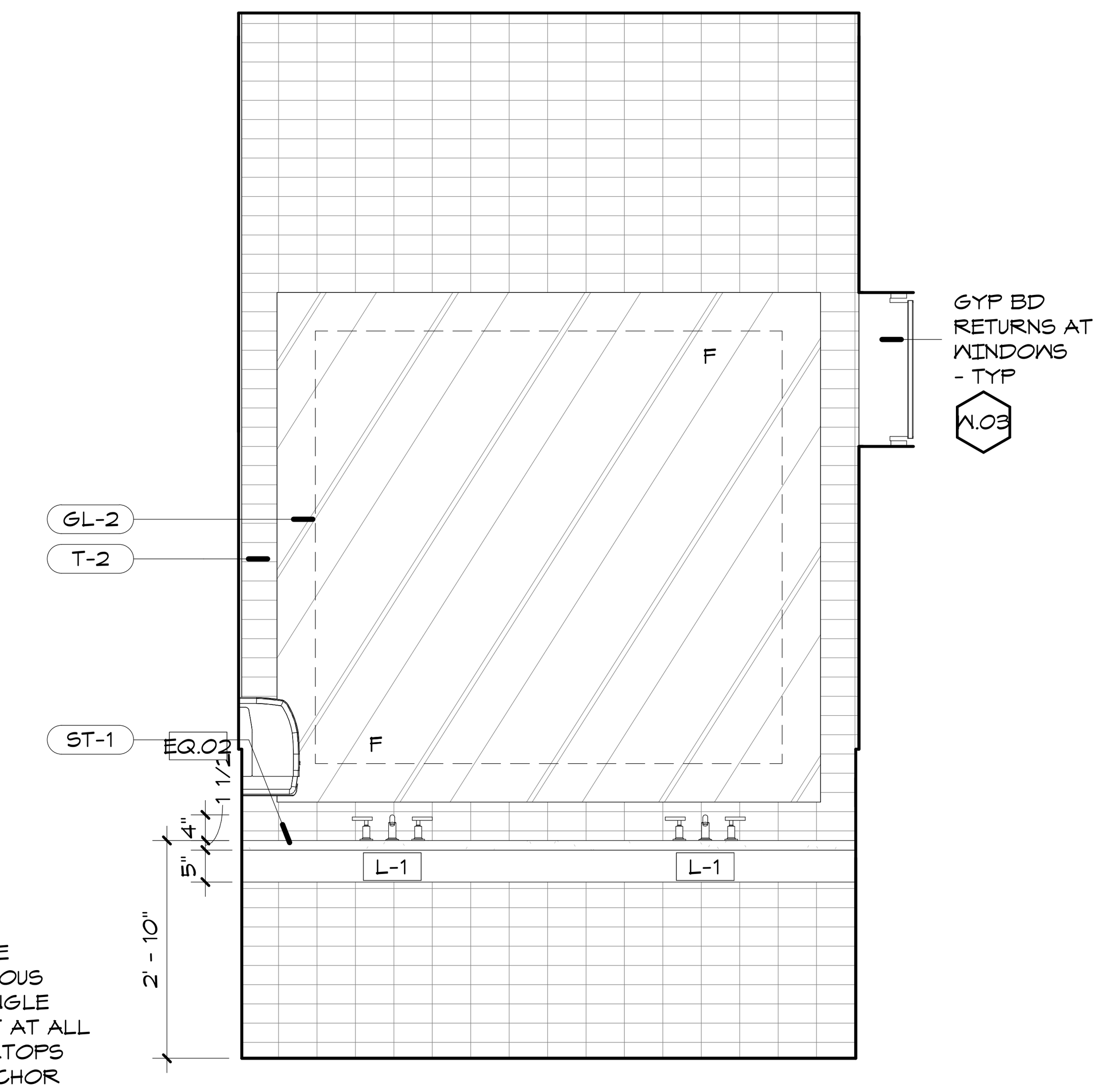
A702

PROJECT NO. 21016

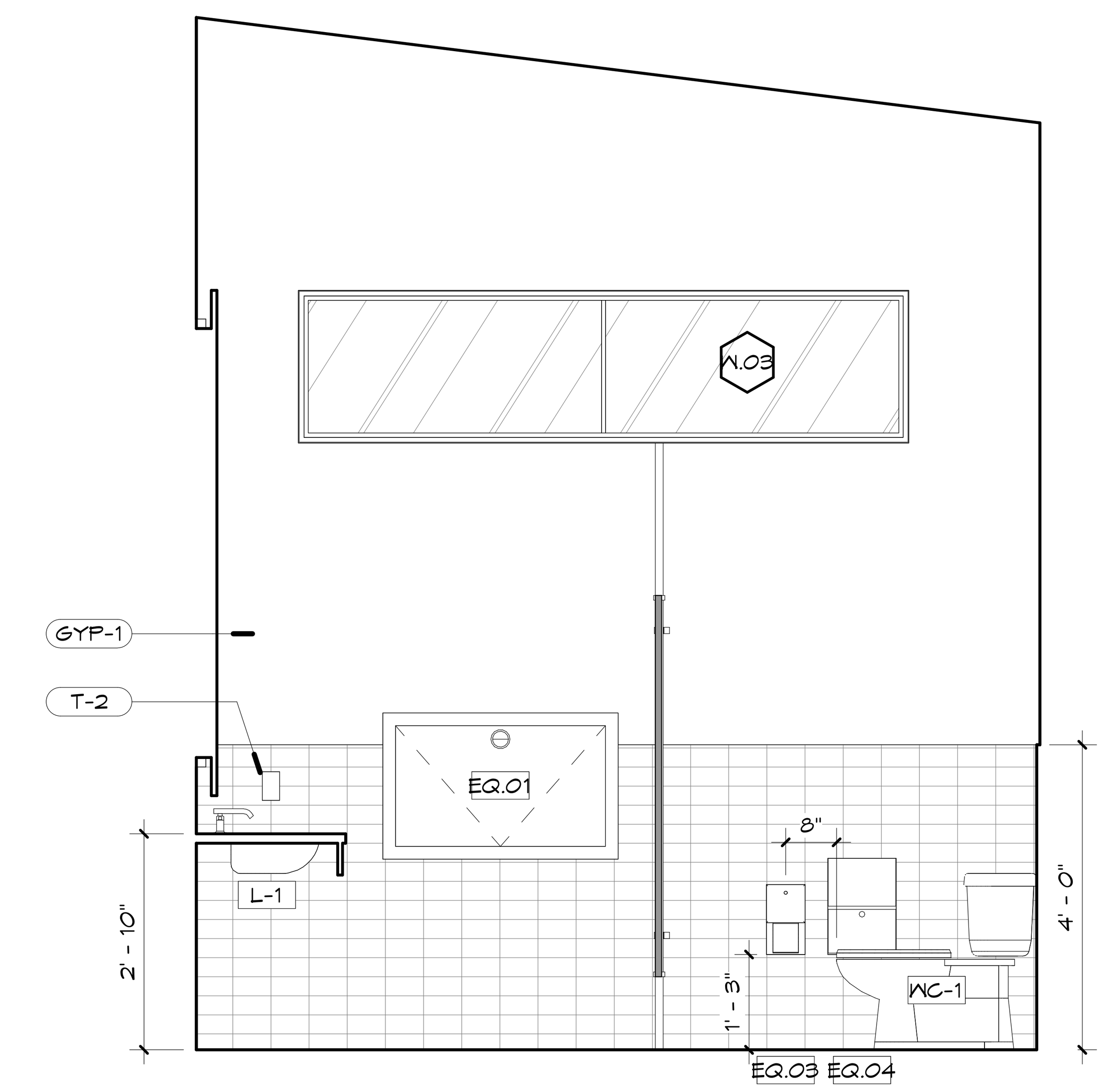
DATE 07.27.21



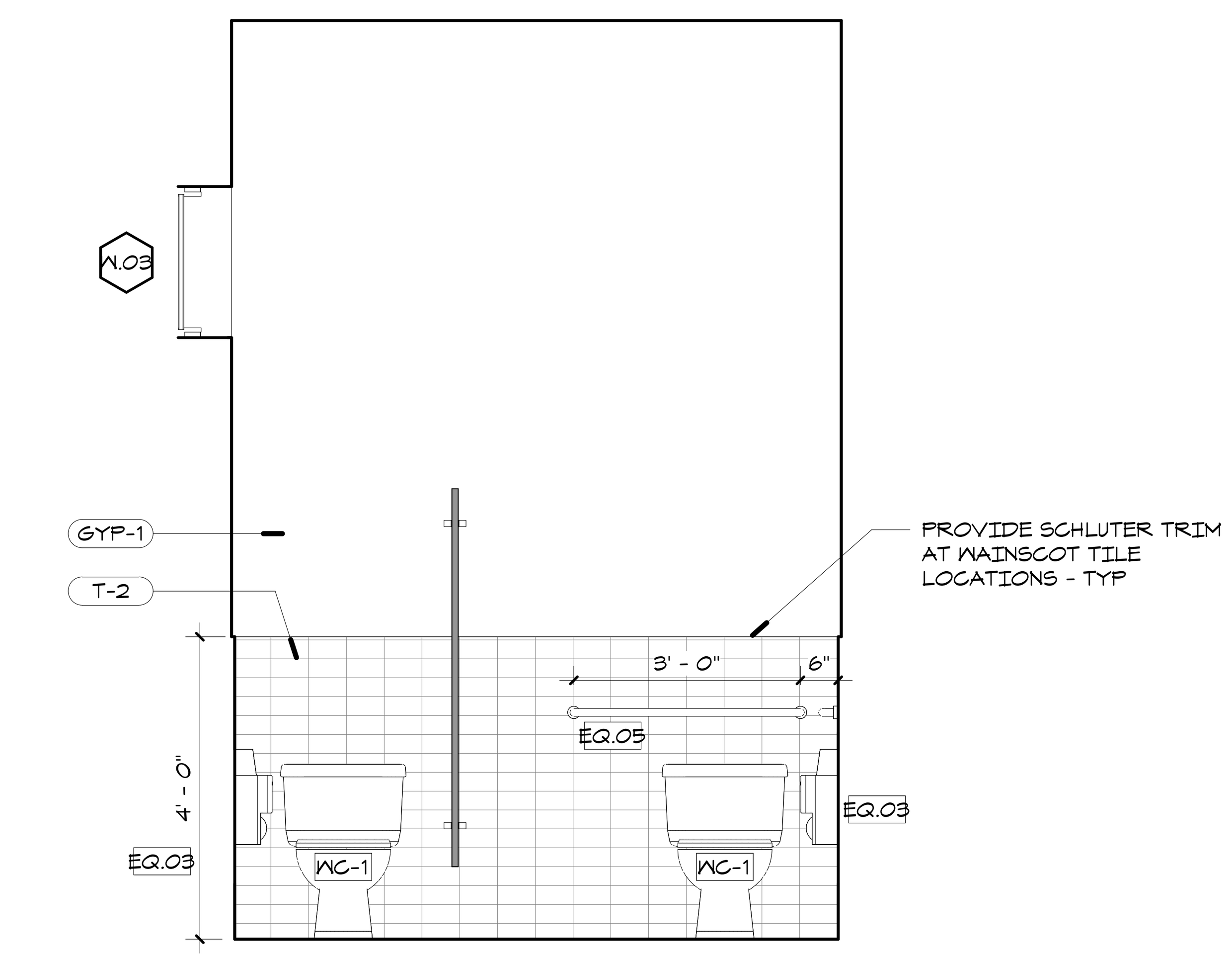
10 114 - EAST
SCALE : 1/2" = 1'-0"



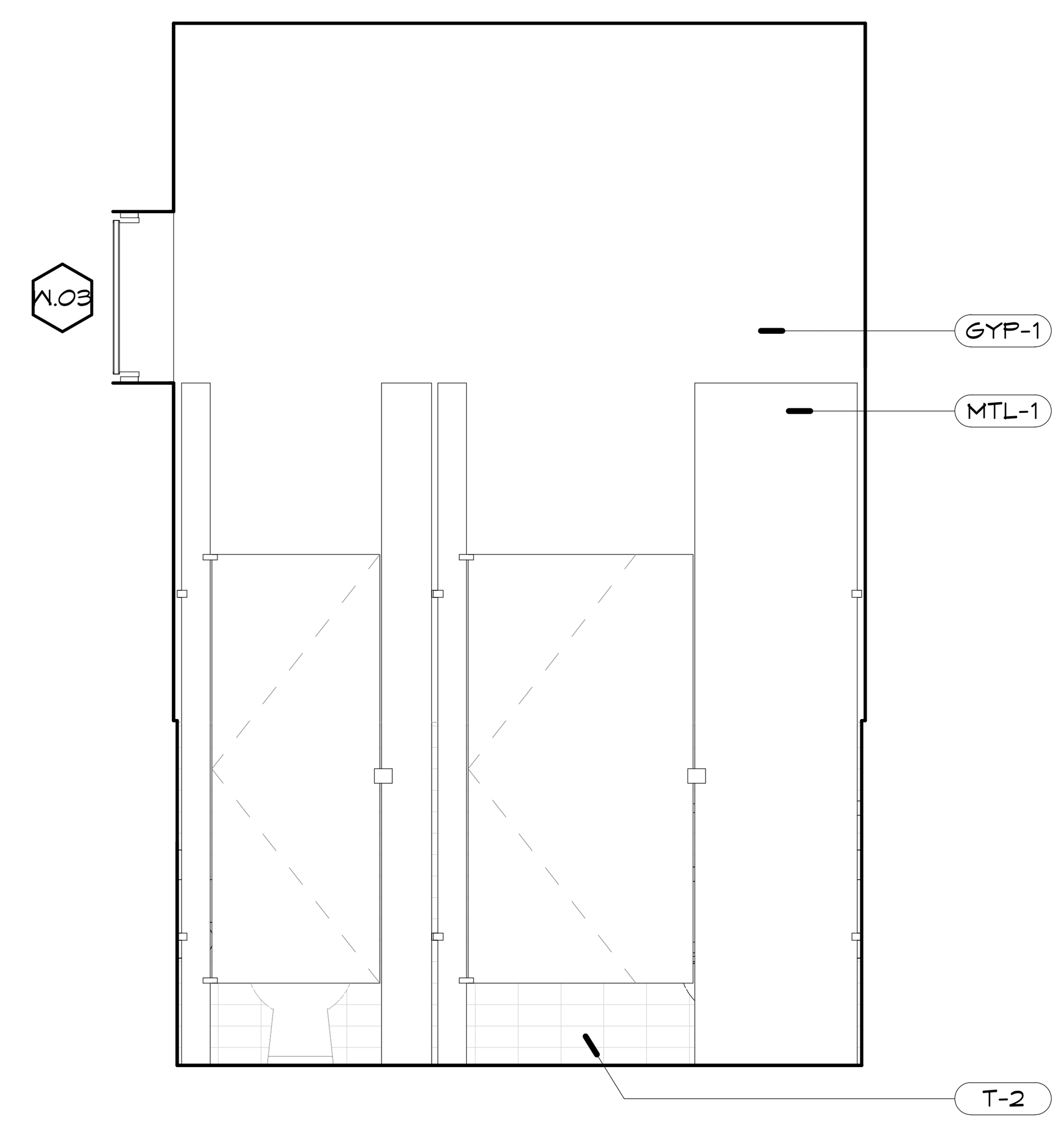
9 114 - SOUTH
SCALE : 1/2" = 1'-0"



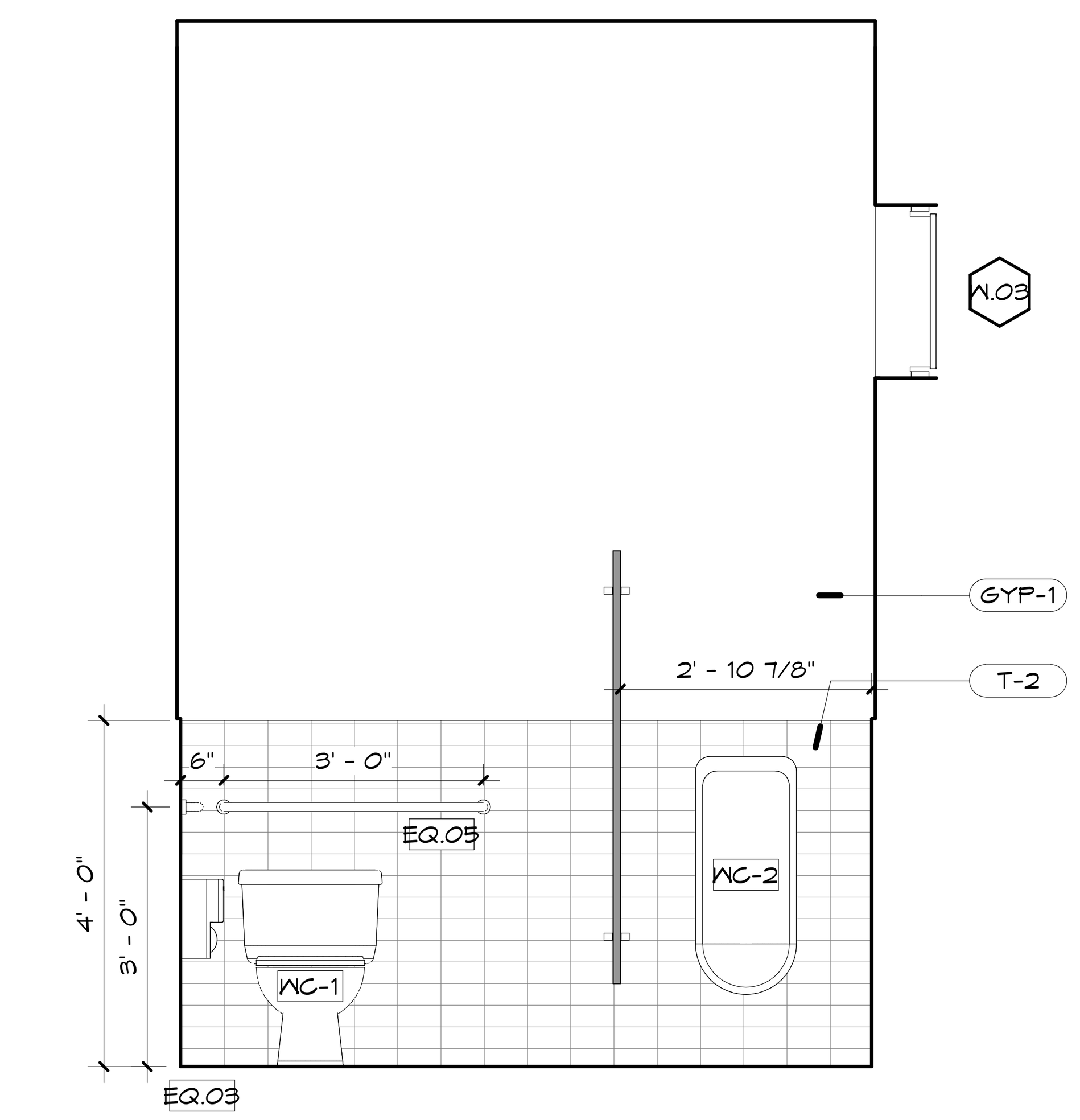
8 114 - WEST
SCALE : 1/2" = 1'-0"



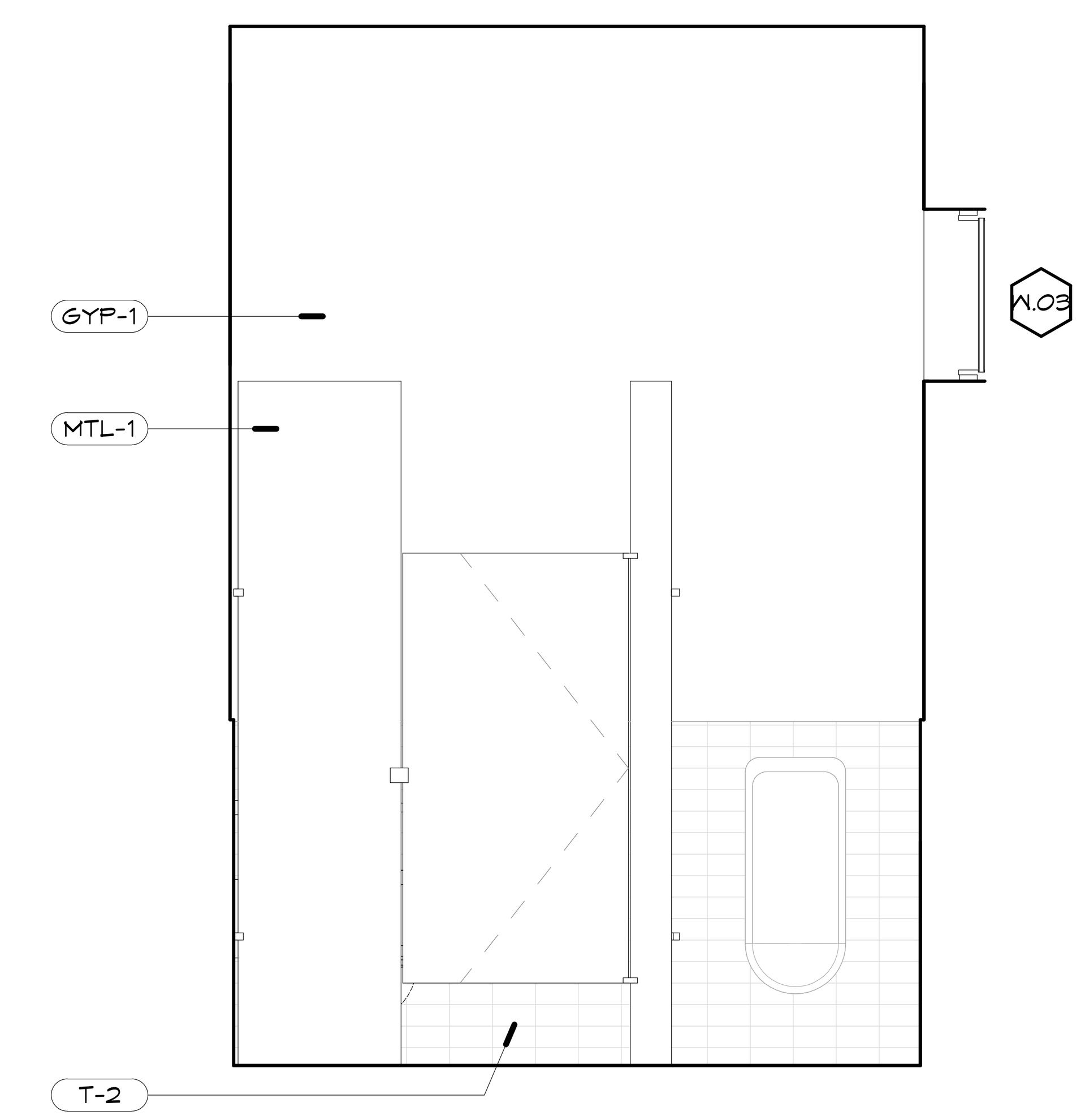
7 114 - NORTH
SCALE : 1/2" = 1'-0"



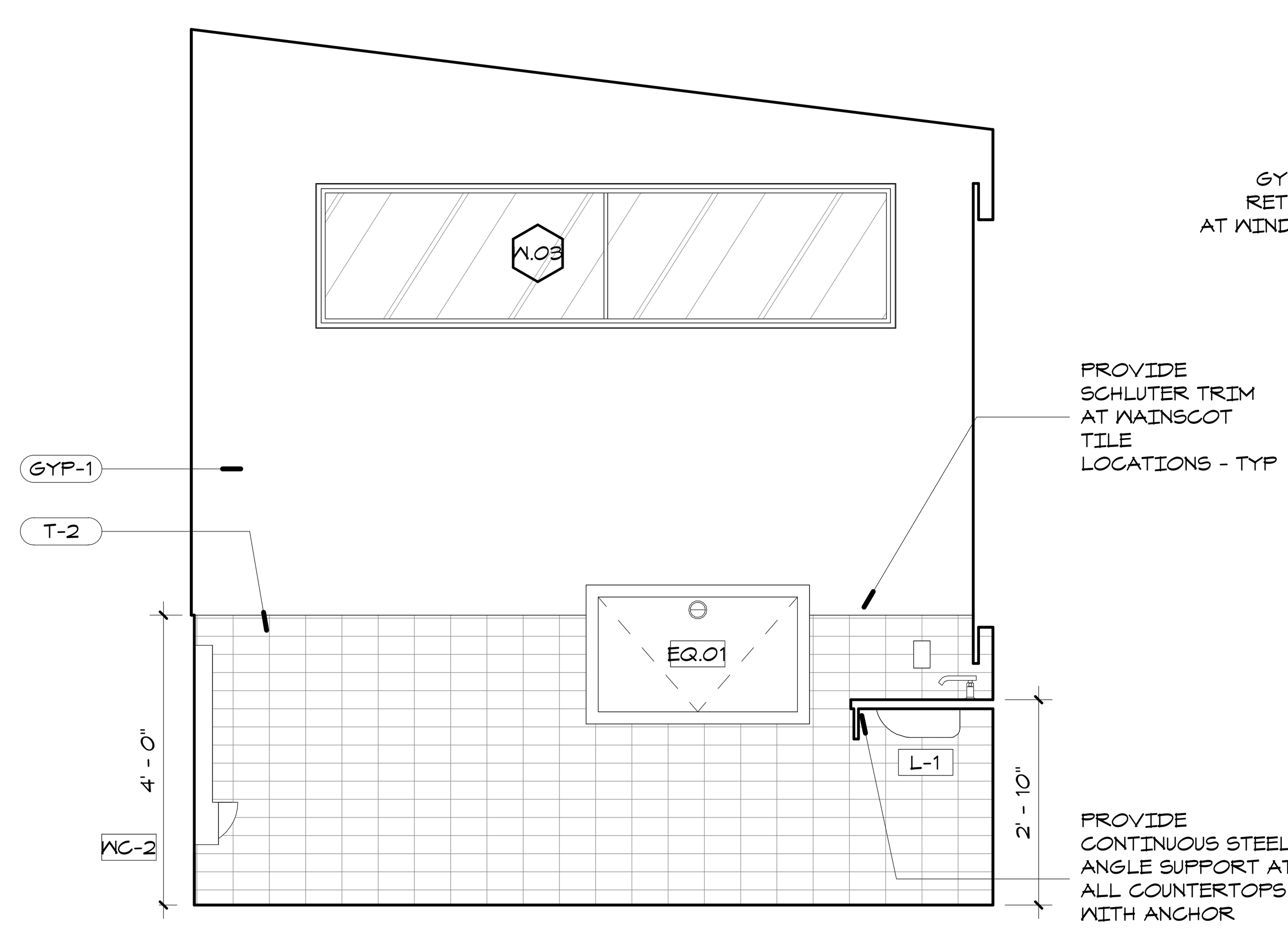
6 114 - NORTH
SCALE : 1/2" = 1'-0"



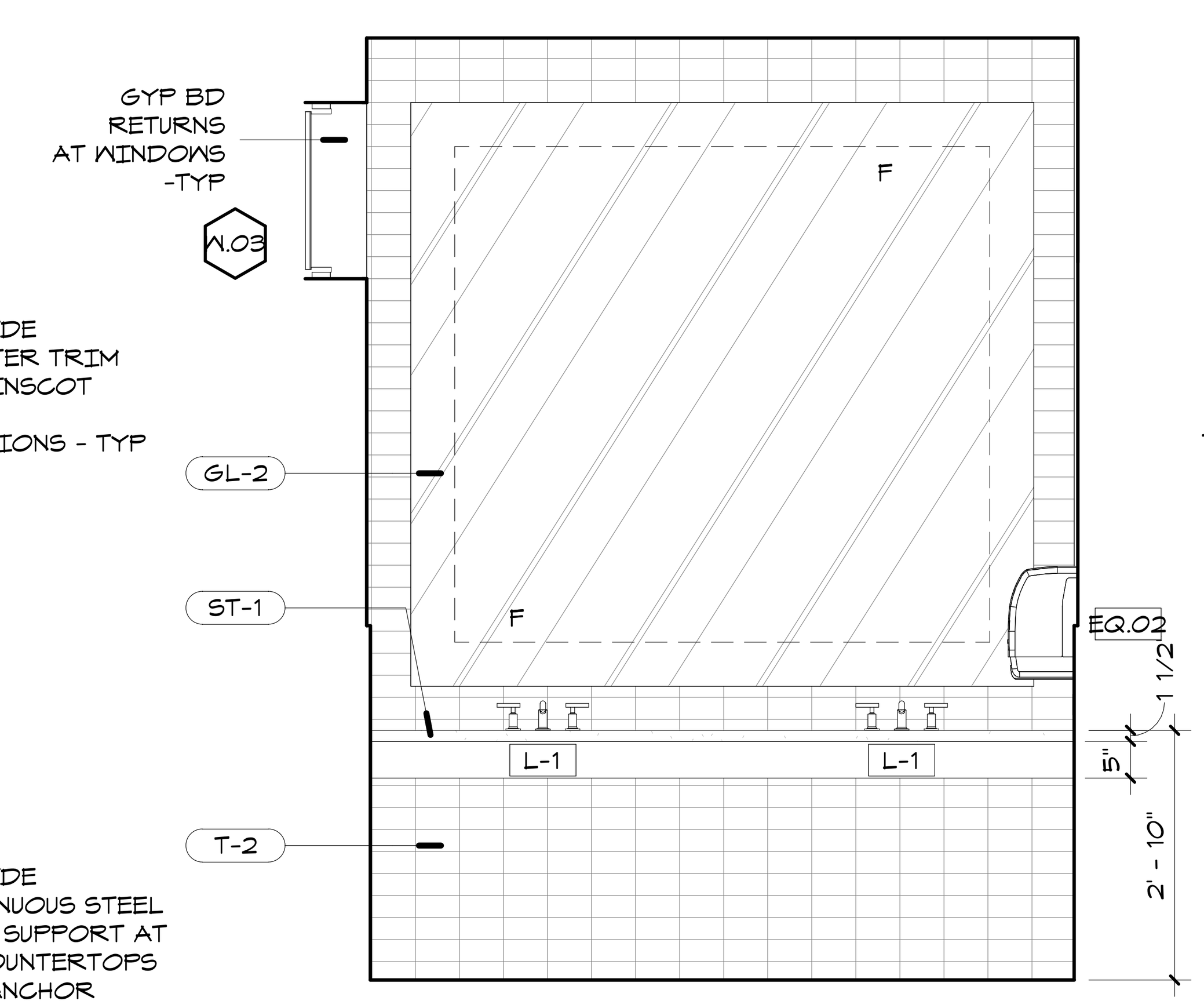
5 113 - SOUTH
SCALE : 1/2" = 1'-0"



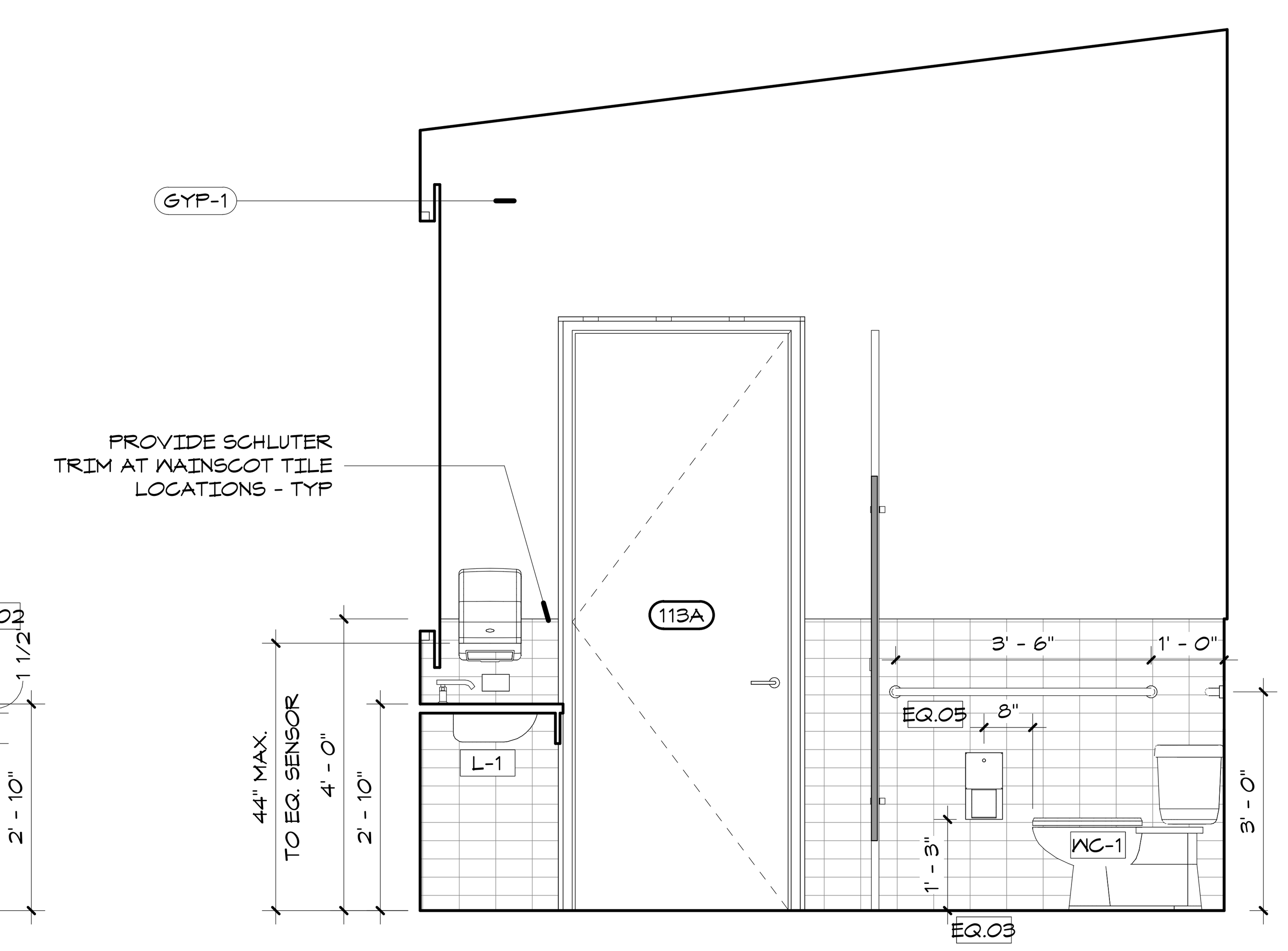
4 113 - SOUTH
SCALE : 1/2" = 1'-0"



3 113 - WEST
SCALE : 1/2" = 1'-0"



2 113 - NORTH
SCALE : 1/2" = 1'-0"



1 113 - EAST
SCALE : 1/2" = 1'-0"

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REGISTERED ARCHITECT
STATE OF TEXAS
12090

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

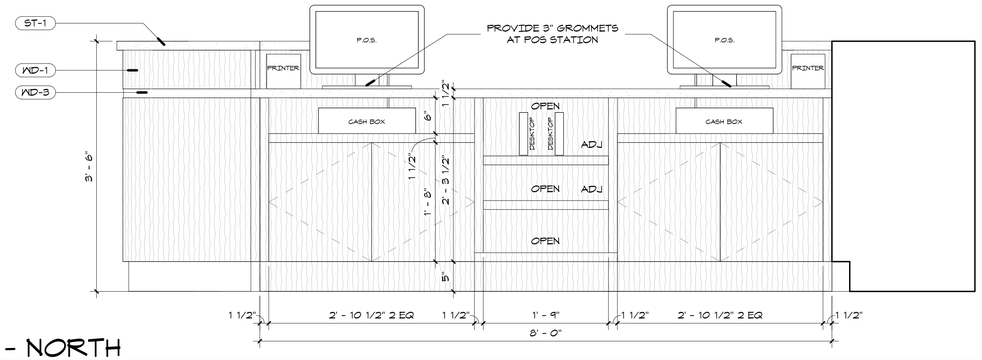
NO.	DATE	DESCRIPTION

INTERIOR ELEVATIONS

SHEET NO.

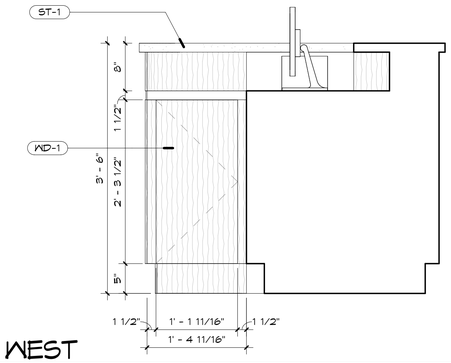
A703

PROJECT NO. 21016
DATE 07.27.21



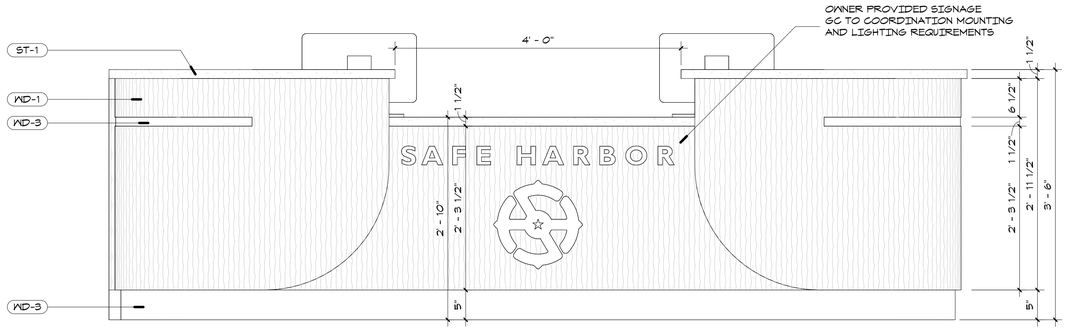
6 POS - NORTH

SCALE : 1" = 1'-0"



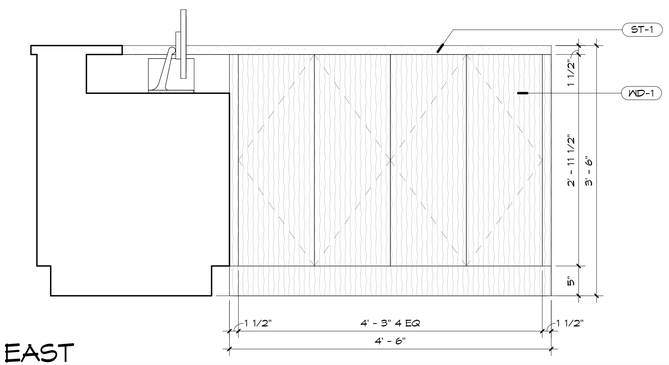
5 POS - WEST

SCALE : 1" = 1'-0"



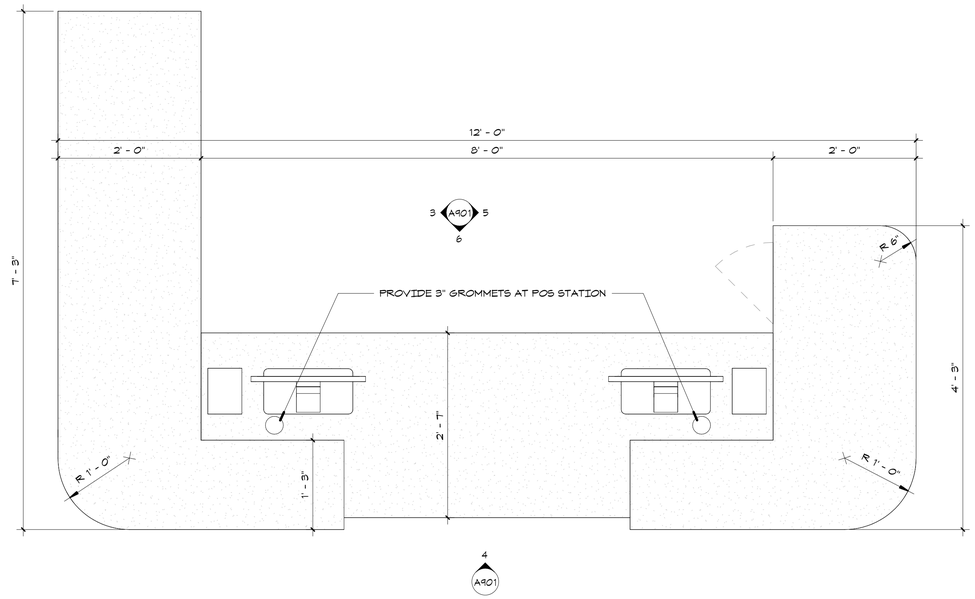
4 POS - SOUTH

SCALE : 1" = 1'-0"



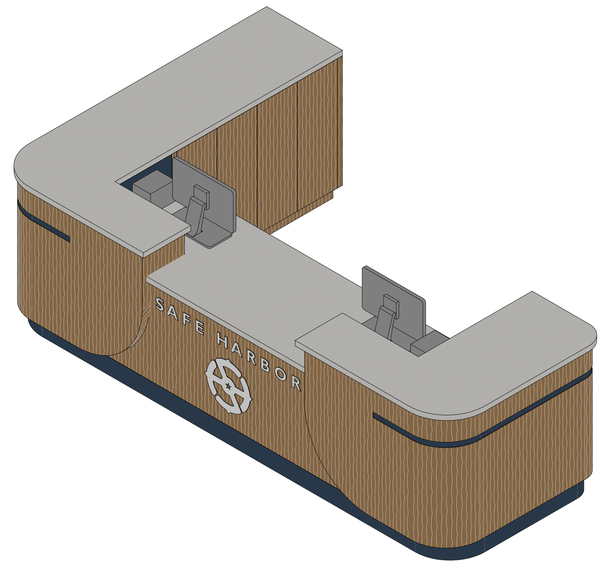
3 POS - EAST

SCALE : 1" = 1'-0"



2 FLOOR PLAN - POINT OF SALE COUNTER

SCALE : 1" = 1'-0"



1 3D - POINT OF SALE COUNTER

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BRIAN D. JAMES WILLIAMS
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

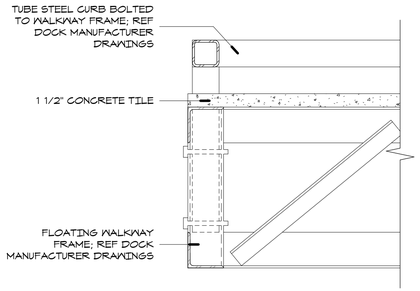
NO.	DATE	DESCRIPTION

MILLWORK DETAILS

SHEET NO.

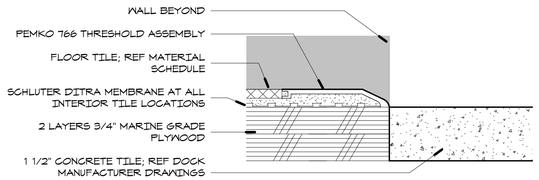
A901

PROJECT NO.	21016
DATE	07.27.21



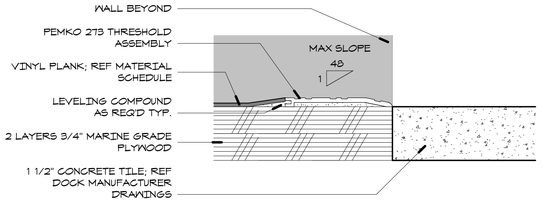
11 SEC DTL - CURB ⚠2

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



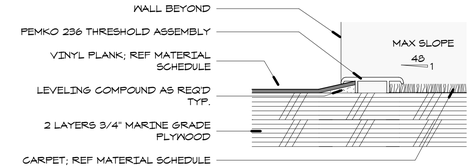
10 SEC DTL - FLOOR TRANSITION

SCALE : 6" = 1'-0"



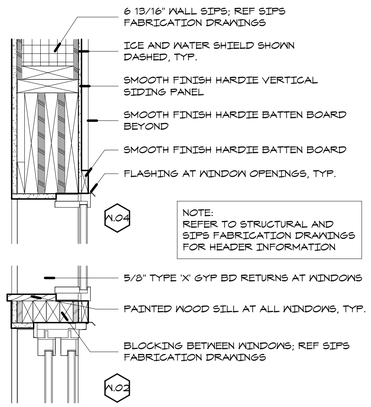
9 SEC DTL - FLOOR TRANSITION

SCALE : 6" = 1'-0"



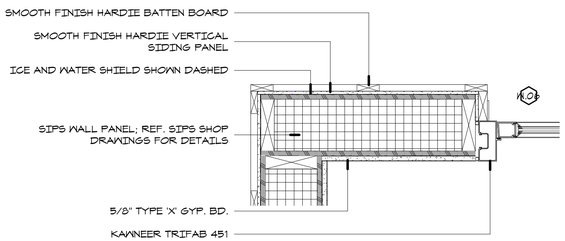
8 SEC DTL - FLOOR TRANSITION

SCALE : 6" = 1'-0"



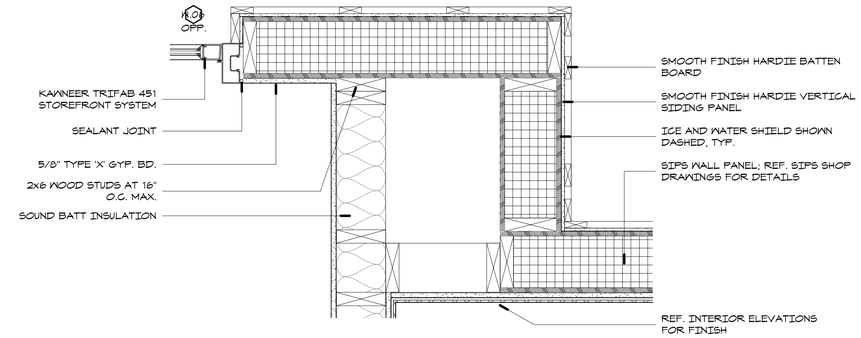
7 SEC. DTL. - CLERESTORY

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



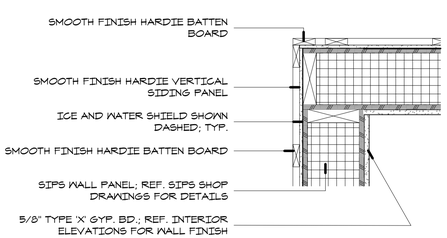
6 PLAN DTL - STOREFRONT DOOR

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



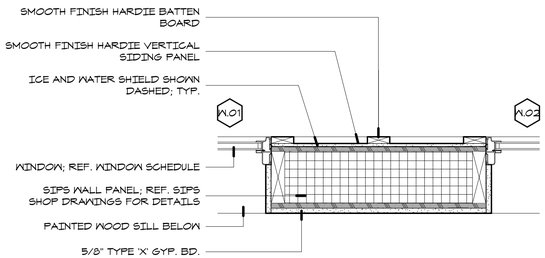
5 PLAN DETAIL - CHASE

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



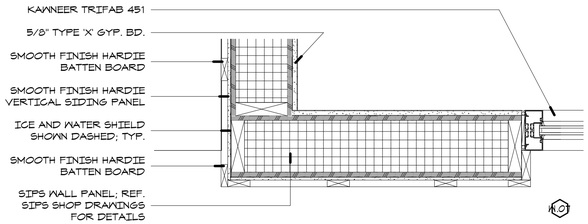
4 PLAN DETAIL

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



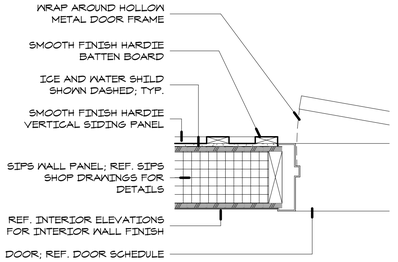
3 PLAN DETAIL - WINDOW JAMB

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



2 PLAN DTL - EXTERIOR CORNER

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



1 PLAN DETAIL - DOOR JAMB

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

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EMERALD POINT

5973 HILINE RD
AUSTIN, TX 78734

REGISTERED ARCHITECT 12090 STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
2	03.14.23	REV 02

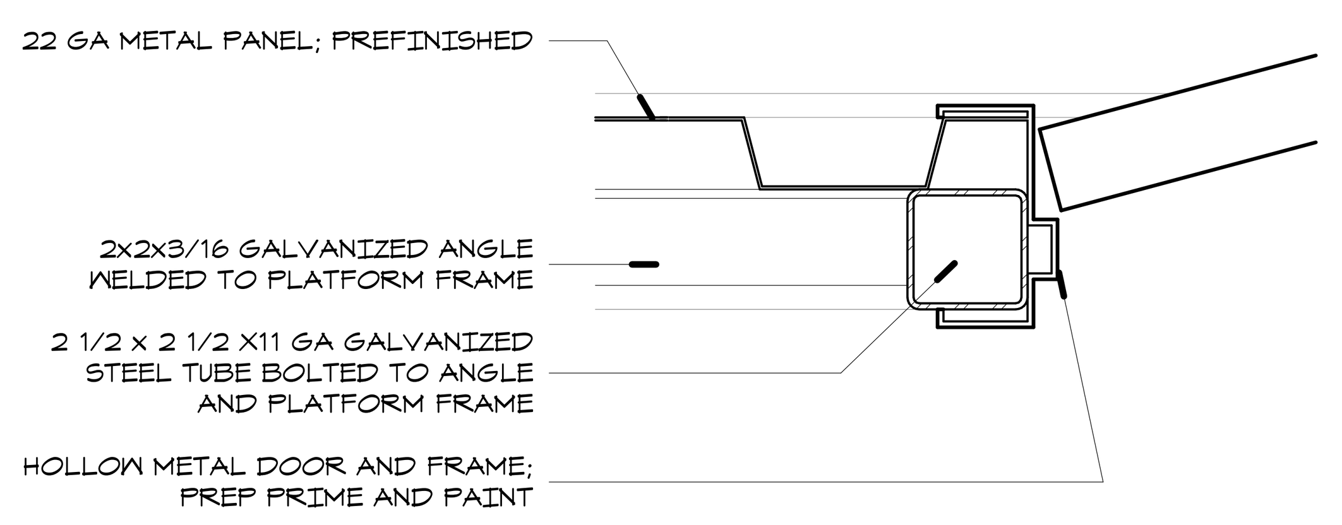
DETAILS

SHEET NO.

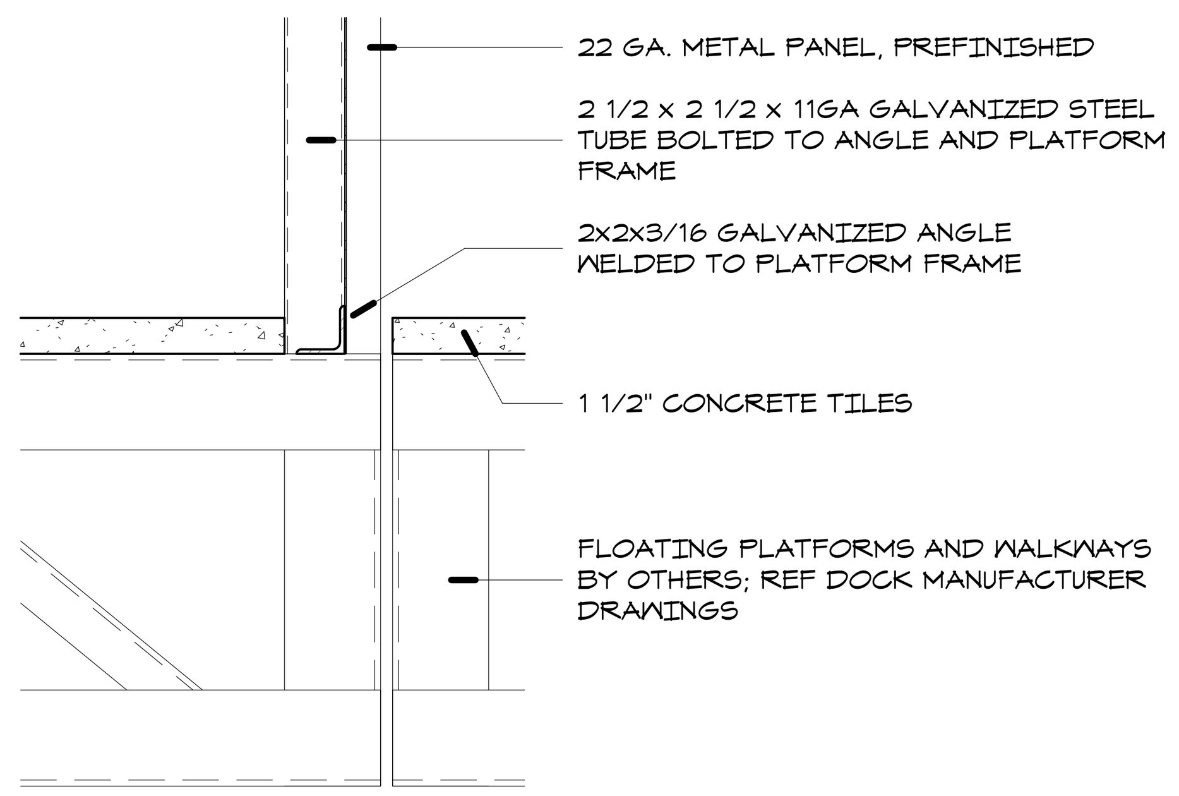
A902

PROJECT NO. 21016

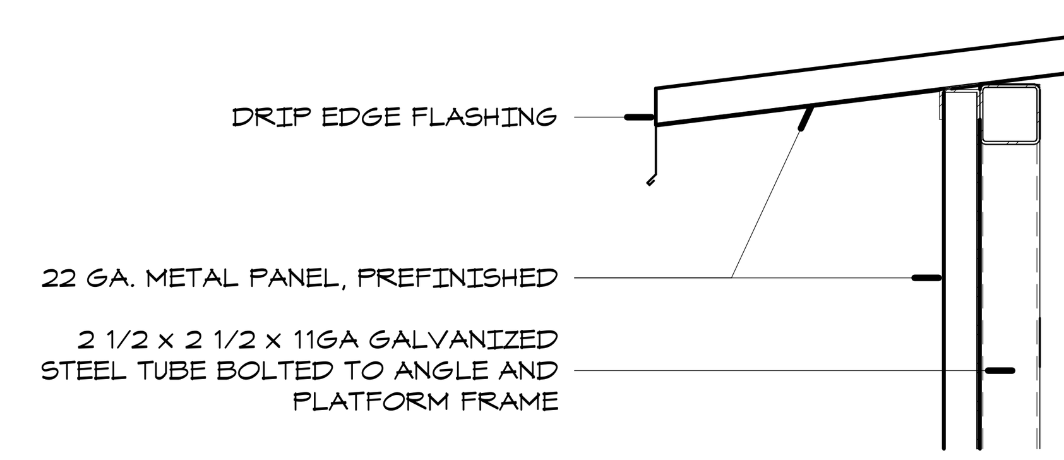
DATE 07.27.21



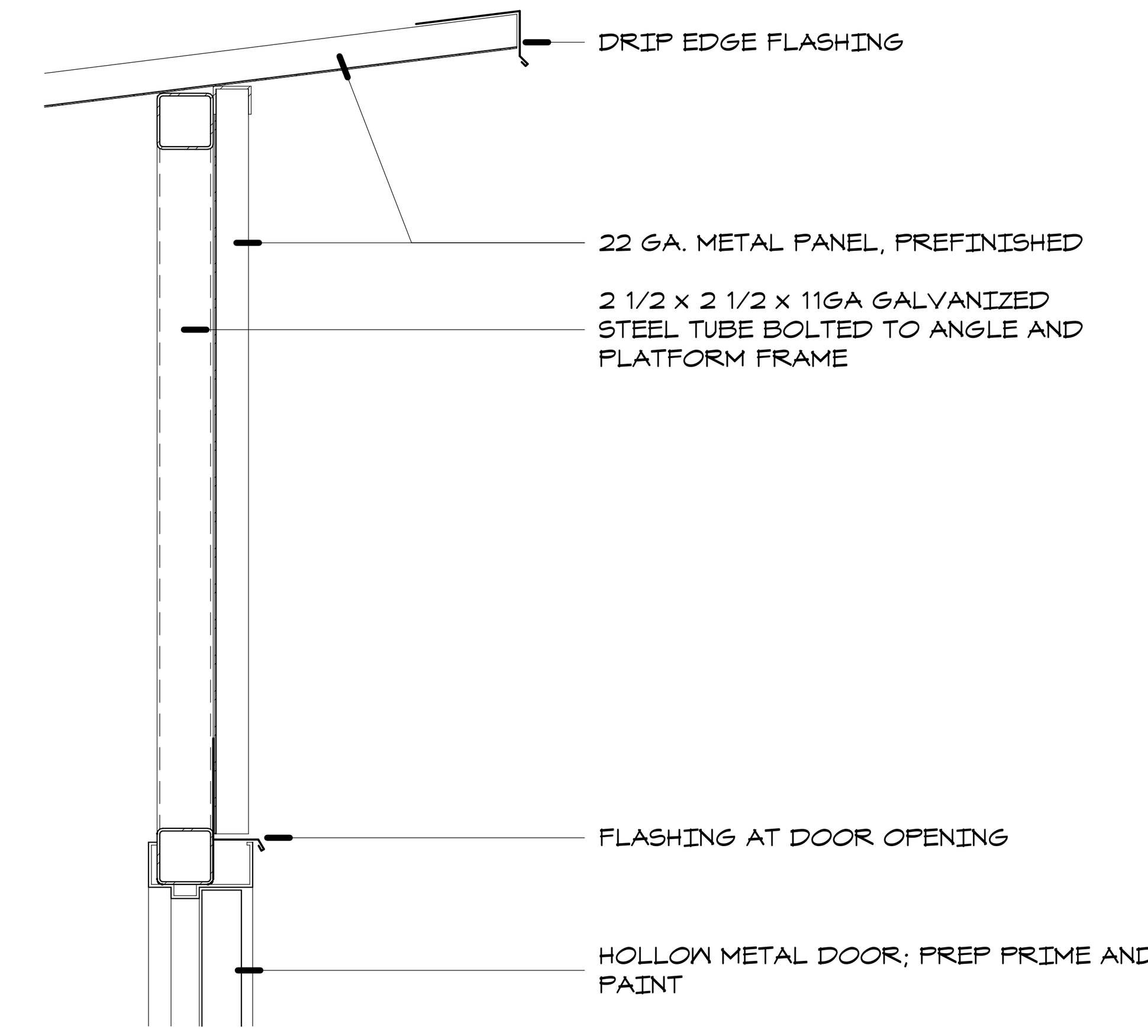
7 PLAN DTL - DOOR JAMB
SCALE : 3" = 1'-0"



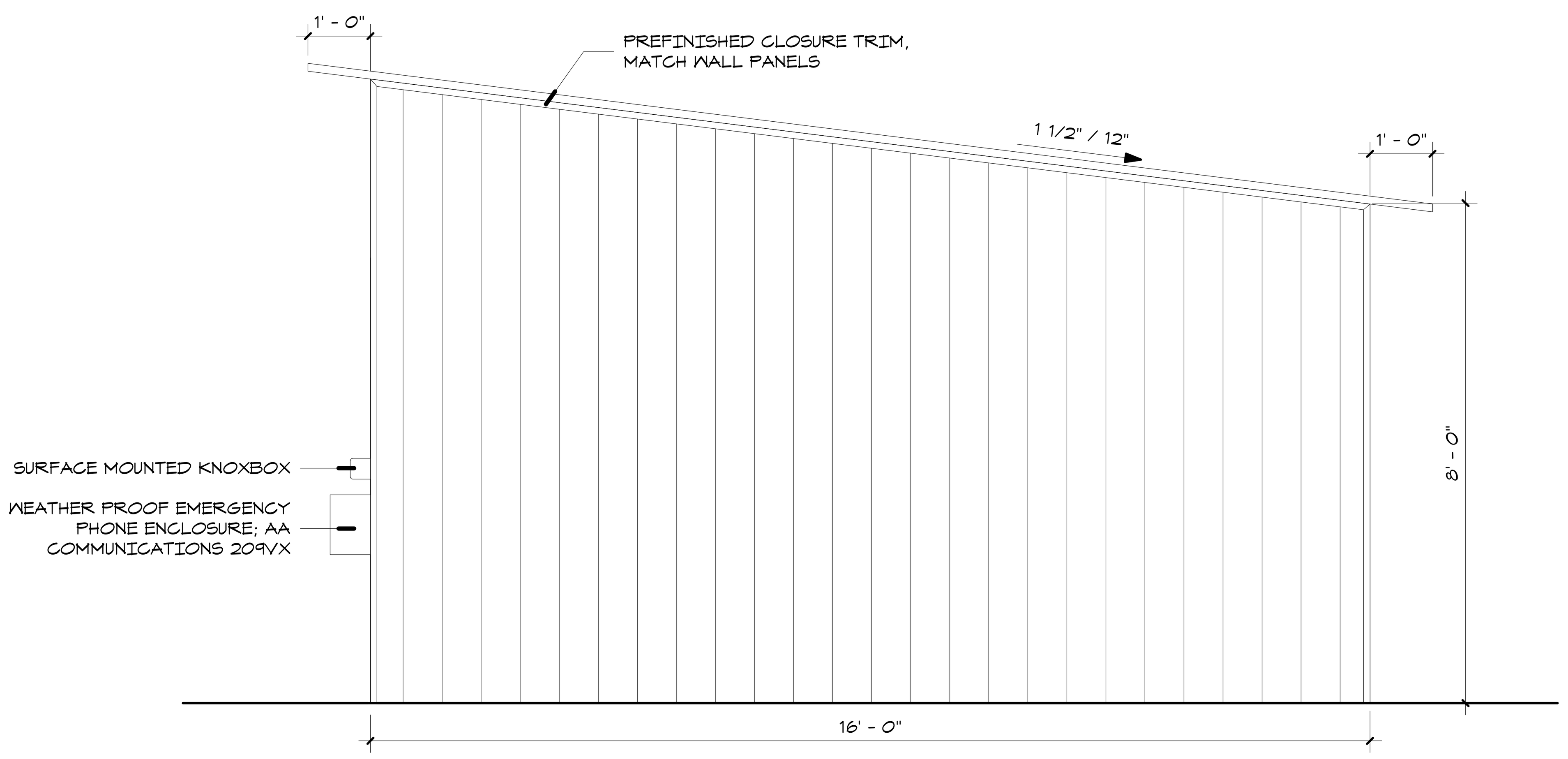
6 SEC DTL - DOCK CONNECTION
SCALE : 1 1/2" = 1'-0"



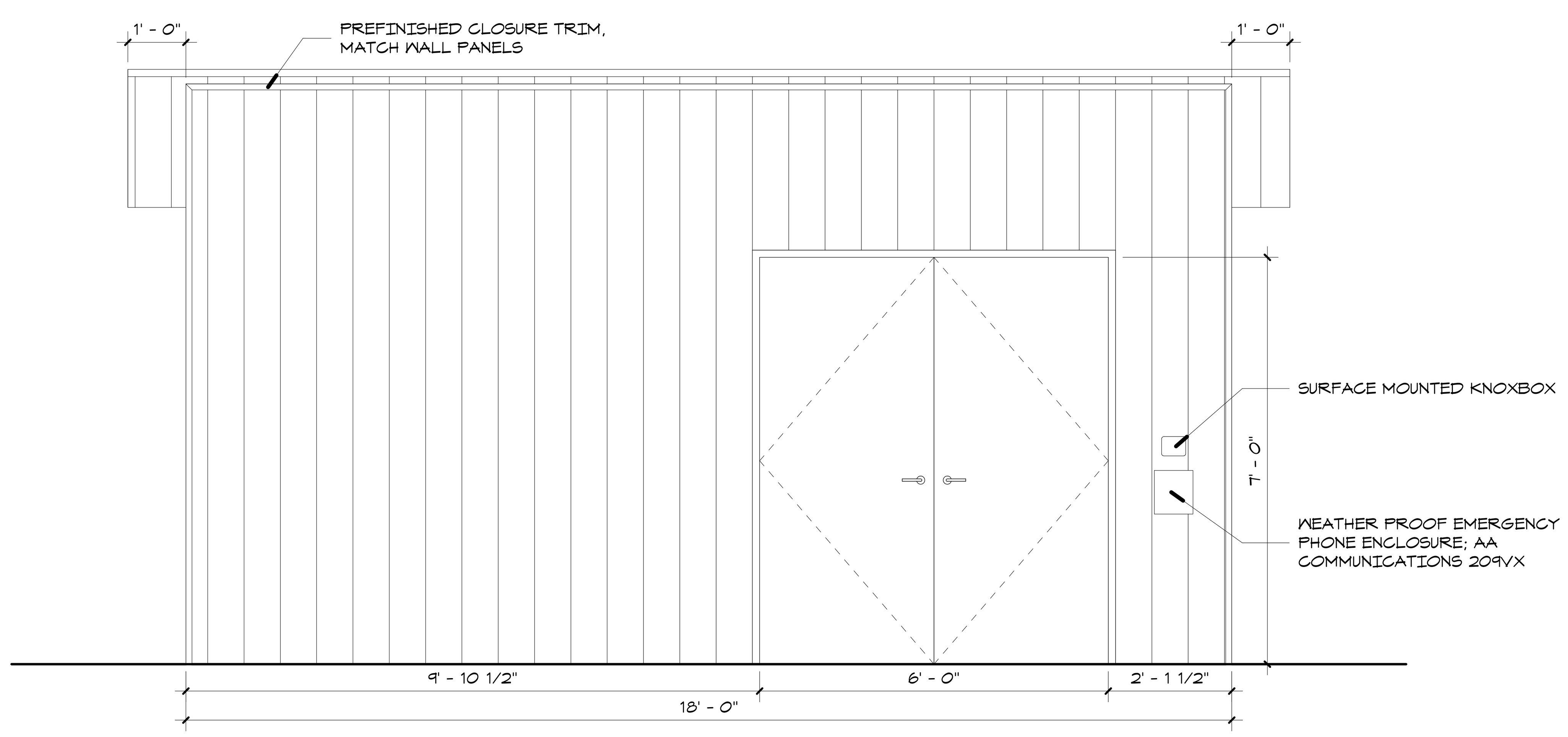
5 SEC DTL - LOW EAVE
SCALE : 1 1/2" = 1'-0"



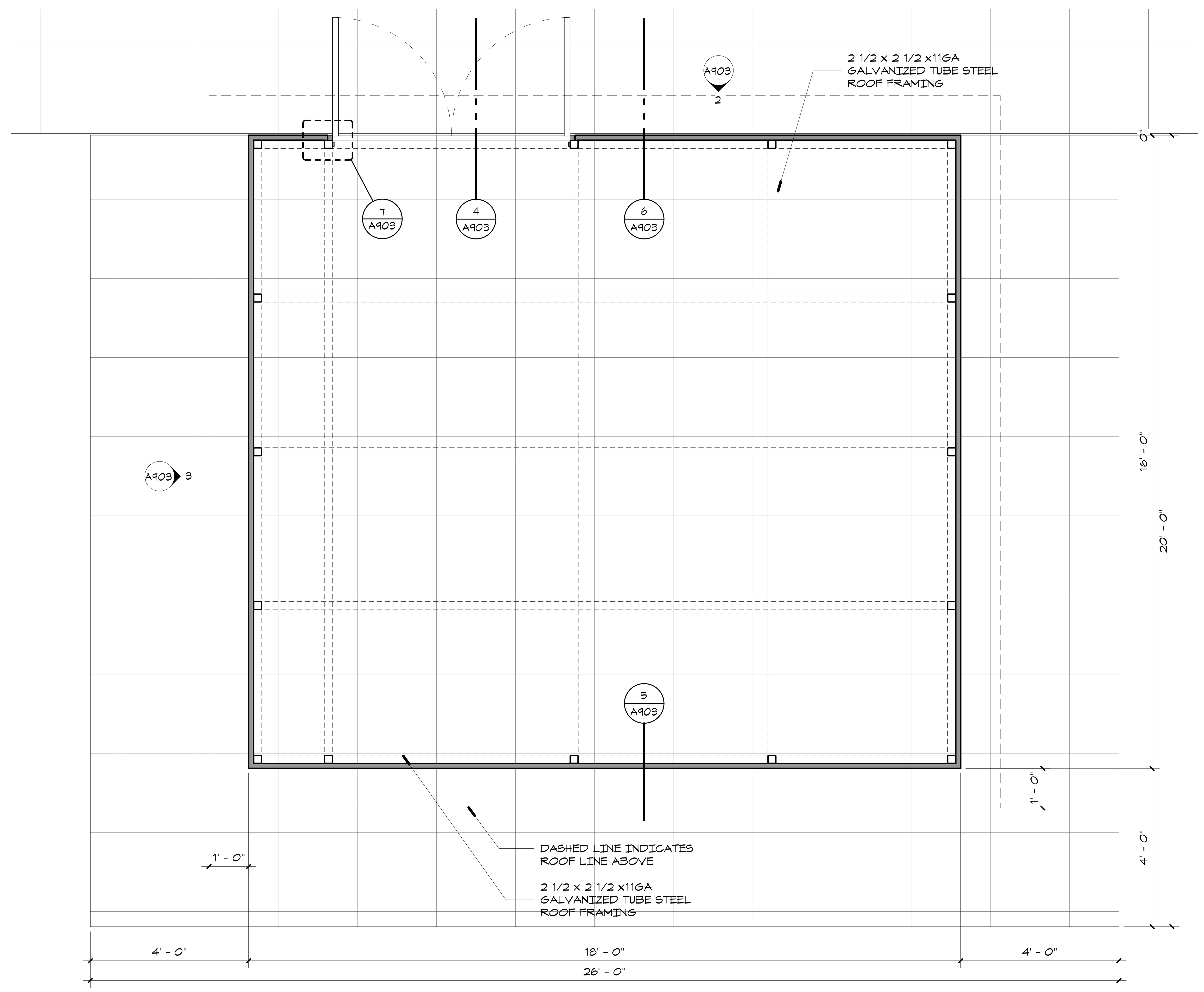
4 SEC DTL - HEADER AND EAVE
SCALE : 1 1/2" = 1'-0"



3 ELEVATION - RISER ROOM SIDE
SCALE : 1/2" = 1'-0"



2 ELEVATION - RISER ROOM FRONT
SCALE : 1/2" = 1'-0"



NOTE:
REFER TO FIRE PROTECTION AND DOCK MANUFACTURER DRAWINGS FOR EQUIPMETN LAYOUTS

1 PLAN - FIRE RISER ROOM
SCALE : 1/2" = 1'-0"

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STATE OF TEXAS
12090
JUNE 10, 2022

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REVISIONS

NO.	DATE	DESCRIPTION
2	03.14.23	REV 02

FIRE RISER ROOM

SHEET NO.
A903

PROJECT NO. 21016
DATE 07.27.21

GENERAL NOTE:

WALK-IN COOLER WILL BE "IMPERIAL-BROWN" WALK-IN COLD STORAGE ROOM AS DESCRIBED ON THIS SHEET OR APPROVED EQUAL SATISFYING THE REQUIREMENTS OF 2015 IBC 2603.4.1.2.

IMPERIAL BROWN WALK-IN UL 723 TEST RESULTS ARE AS FOLLOWS AND DESCRIBED IN THE INCLUDED "IMPERIAL-BROWN FOAM PLASTIC CODE COMPLIANCE" LETTER:

FLAME SPREAD	20
E-84 SMOKE DEVELOPED INDEX	250
MINIMUM SELF-IGNITION TEMPERATURE	932F (500C)
MINIMUM FLASH-IGNITION TEMPERATURE	716F (380C)

ROOM CONTAINING WALK-IN COOLER WILL BE PROTECTED BY *AUTOMATIC SPRINKLER SYSTEM* IN ACCORDANCE WITH 2015 IBC SECTION 903.3.1.1.

SPECIFICATIONS

Indoor cooler (+35°F) (with floor)
Vinyl NSF gasket (1/16" joint thickness), Cam-lock layout SN1

SPECIAL INSTRUCTIONS
Standard crating

WALL PANELS
Construction: 4" urethane
Exterior Finish: Stucco galvalume
Interior Finish: Stucco galvalume
Ceiling connections: Camlock
Floor connections: Camlock

CEILING PANELS
Construction: 4" high density urethane
Exterior Finish: Metal
Interior Finish: Stucco galvalume
Ceiling Caps: Factory mounted
Live Load: 10 psf

FLOOR PANELS
Model: Hand-Truck Floor panels model #HTFN (NSF)
Construction: 3 1/2" high density urethane
w/ .080 smooth aluminum @ interior
over 1/2" plywood
w/ Metal @ exterior

DOORS
[A]: 36" x 78" flush model G3 self-closing inswing cooler door
*** ELECTRICAL COMPONENTS PRE-WIRED ***
Brand: Imperial Brown
Frame: 4" high density urethane, 3-sided
w/ Stucco galvalume both sides
w/ 24 ga. stainless steel 430 (magnetic) liners
Leaf: 4" thick, 3-side lap, raised 1/4"
w/ Stucco galvalume both sides
w/ Magnetic gasket
(3) Component Hardware #W59 spring assisted adjustable hinge
(1) Kason #1229 handle only
(1) Kason 'PUSH' pad
(1) Kason #1094 hydraulic door closer
(1) Allegis #3200CH pull handle @ int.
(1) Weiss 24DT-L, single pole switch and thermometer combo @ ext.
(1) Kason #1808NM vapor proof LED light fixture
(1) Kason 1832 non-heated air vent
(1) .080 smooth aluminum threshold for interior ramp
36" high AFF .063 aluminum diamond tread (LP) kickplates (leaf, ext. & int.)

[B]: (7) 26" x 79" CDS Legacy FS Series cooler glass door
w/ 2-pane low E gas filled glass, light switch & controller(s) (black frame)
w/ LED lights & (7) rows of 27" deep shelves (Black)

Imperial BROWN

1/1/2020

RE: Imperial-Brown Foam Plastic Code Compliance

Imperial Brown, Inc. insulated panels and doors are designed and comply with specification requirements of the INTERNATIONAL BUILDING CODE, local, and state building code requirements as follows.

The 2019 IBC Section 2603, *Combustible Material in Type I and II Construction*, permits foam plastics when used in accordance with Chapter 26, "*Plastic*" of the code. Specifically, Section 2603 "Foam Plastic Insulation" is applicable to the polyurethane cores of Imperial Brown.

Below are excerpts from the IBC and Imperial Brown's evidence of compliance:

2603.4. **1.2 Cooler and freezer walls**. Foam plastic installed in a maximum thickness of 10 inches (254 mm) in cooler and freezer walls shall:

1. Have a flame spread index of 25 or less and a smoke-developed index of not more than 450, where tested in a minimum 4 inch (102 mm) thickness.

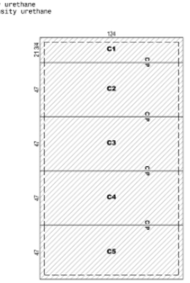
2. Have flash ignition and self-ignition temperatures of not less than 600°F and 800°F (316°C and 427°C), respectively. 3. Have a covering of not less than 0.032 -inch (0.8 mm) aluminum or corrosion-resistant steel having a base metal thickness not less than 0.0160 inch (0.4 mm) at any point.

4. Be protected by an automatic sprinkler system in accordance with Section 903.3. 1.1. Where the cooler or freezer is within a building, both the cooler or freezer and that part of the building in which it is located shall be sprinklered.

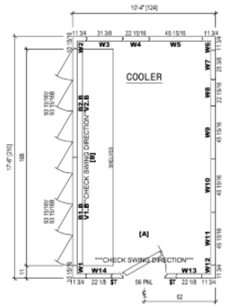
2603.4. **1.3 Walk-in coolers**. In non-sprinklered buildings, foam plastic having a thickness that does not exceed 4 inches (102 mm) and a maximum flame spread index of 75 is permitted in walk-in coolers or freezer units where the aggregate floor area does not exceed 400 square feet (37 m^2) and the foam plastic is covered by a metal facing not less than 0.032 -inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41 mm). A thickness of up to 10 inches (254 mm) is permitted where protected by a thermal barrier.

2271 N.E. 194th Ave., Portland, OR 97230 – Phone: 800.238.4093 / 503.665.5539 – Fax: 503.665.2929
209 Long Meadow Dr., Salisbury, NC 28147 – Phone: 800.438.2316 / 704.636.5131 – Fax: 704.216.2758
2115 W. Main St., Prague, OK 74864 – Phone: 800.289.2784 / 405.567.1960 – Fax: 405.567.1961
www.imperial-brown.com

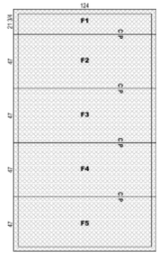
CONSTRUCTION LEGEND:
4" urethane
4" high density urethane
3 1/2" high density urethane



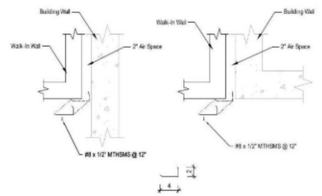
CEILING PANELS



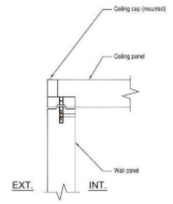
WALL PANELS



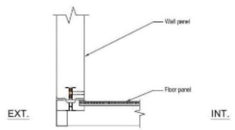
FLOOR PANELS



1/5 VERTICAL CLOSURES



2/5 CEILING CONNECTION



3/5 FLOOR CONNECTION

Imperial BROWN

Imperial Brown uses a UL 723 tested foam core with a 20 flame spread and 250 smoke developed index, meeting code requirements. Below is the UL723 test data:

Core foam UL data (File #R5692 - up to 6" Core panels)/ ASTM-E-84

Flame Spread*	20
E-84 Smoke Developed Index	250
Minimum Self-Ignition Temperature	500C (932F)
Minimum Flash-Ignition Temperature	380C (716F)

*This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under fire conditions.

Panels are max. 6" thick, metal facers are minimum .0187" thick steel or 0.032" -inch-thick aluminum facer.

Ken Rhoads
Corp. Manager - Quality Control,
Product Design, Compliance, and Facilities
503-706-6060 24/7

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REGISTERED ARCHITECT
JAMES ALLEN WILLIAMS JR.
12090
STATE OF TEXAS

JUNE 10, 2022

SET ISSUE DATES

DATES	ISSUES
06/10/2022	PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
3	04.20.23	PERMIT RESP

DETAILS

3

SHEET NO.

A904

PROJECT NO. 21016
DATE 07.27.21

4/20/2023 9:50:20 AM C:\Users\Landon.Williams\Documents\Revit Local Files\21016_Safe Harbor Emerald Point_R23_PwRGED_williams@mmdarchitects.com.rvt

ELECTRICAL POWER LEGEND

	PANEL
GAP	GENERATOR ANNUNCIATOR PANEL
	120V DUPLEX RECPT
	120V QUAD RECPT
	240V RECPT
	RECPT, IN-FLOOR BOX & COVER
	WEATHER-RESISTANT RECPT, IN-USE
	ABOVE COUNTER RECPT, COORD. W/ ARCHITECT
	UNDER COUNTER RECPT, COORD. W/ ARCHITECT
	HOSPITAL-GRADE RECPT
	TAMPER-RESISTANT RECPT
	RECPT W/ GROUND FAULT CIRCUIT INTERRUPTER
	EQUIPMENT DISCONNECT
	FUSED EQUIPMENT DISCONNECT
TV	CABLE TELEVISION OUTLET
	DATA / TELE. - STUB UP CONDUIT ABOVE WALL
	TELEPHONE - STUB UP CONDUIT ABOVE WALL
	TRANSFORMER
	JUNCTION BOX
T	THERMOSTAT
T	TIMER

ELECTRICAL LIGHTING LEGEND

NOTES:
1) HATCHING ON PLANS INDICATES 24/7 LIGHT; WIRED HOT TO CIRCUIT INDICATED ON PLANS
2) HATCHING ON PLANS INDICATES ILLUMINATED SIDES OF LIGHT; SEE PLANS FOR DIRECTIONAL ARROWS

$	SWITCH
$3 $4	3 - 4 WAY SWITCH
$D	DIMMER SWITCH
$F	FAN CONTROL SWITCH
$T	TIMER CONTROL SWITCH
$OS	OCCUPANCY SENSOR SWITCH
	RECESSED / SURFACE MOUNT DOWNLIGHT
E	RECESSED EXHAUST FAN, SWITCHED WITH LIGHT
	2'x4' RECESS MOUNTED LINEAR FIXTURE; NOTE 1
	2'x2' RECESS MOUNTED LINEAR FIXTURE; NOTE 1
	4' SURFACE MOUNTED LINEAR FIXTURE; NOTE 1
	2'x4' SURFACE MOUNTED LINEAR FIXTURE; NOTE 1
	EXIT SIGN; NOTE 2
	EMERGENCY LIGHT
	EXIT / EMERGENCY COMBO LIGHT; NOTE 2
	EXTERIOR WALL PACK FLOOD LIGHT
	EXTERIOR SPOT LIGHT / FLOOD LIGHT
	EXTERIOR POLE LIGHT
	WALL SCONCE
CT	LIGHTING CONTACTOR
	BATHROOM CEILING LIGHT / HEATER FIXTURE
	VANITY LIGHT
	CLOSE-TO-CEILING FIXTURE
	WALL MOUNT NIGHT LIGHT
	CEILING FAN
	CHANDELIER LIGHT FIXTURE
	EXTERIOR PHOTO-ELECTRIC CELL SWITCH
	INDOOR PHOTO-ELECTRIC CELL SWITCH
	EXTERIOR EMERGENCY WALL PACK

POWER WIRING COLOR CODE

CONDUCTOR	COLOR
120/208 (240)	
PHASE A	BLACK
PHASE B	RED
PHASE C (3Φ ONLY)	BLUE
NEUTRAL	WHITE
GROUND	GREEN
277/480	
PHASE A	BROWN
PHASE B	ORANGE
NEUTRAL	GRAY
GROUND	GREEN

CALL BEFORE YOU DIG

www.call811.com

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES INCLUDING AND NOT LIMITED TO GAS, WATER, ELECTRIC, CABLE, AND TELEPHONE COMPANIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL NOTIFY ONE-CALL SERVICE (CALL 811) SEVENTY-TWO (72) HOURS AS REQUIRED BY LAW BEFORE ANY EXCAVATION, AT ANY LOCATION.

811

ELECTRICAL MATERIALS SCHEDULE - MARINA

• ALL NONMETALLIC MATERIAL SHALL BE UV-RESISTANT

DESCRIPTION	MATERIAL	STANDARDS	REMARKS
BOXES			
PULL / JUNCTION / OUTLET BOX	GALVANIZED STEEL	UL 731A	• 1 1/2" MINIMUM DEPTH WITH COVER, COORDINATE SIZE WITH NEC
WIRE / CABLE			
#10 & SMALLER	600-VOLT THWN THWN-2 AS NOTED	UL 83	• SOLID OR STRANDED AS REQUIRED BY EQUIPMENT MANUFACTURER • TINNED SOFT • DRAWN COPPER
#8 & LARGER	600-VOLT THWN THWN-2 AS NOTED	UL 83	• STRANDED • TINNED SOFT • DRAWN COPPER
TYPE "W" / "G" / "G-GC" MARINE CABLE	105°C 2000-VOLT	UL 83	• USE FOR UNDERWATER FEEDER • STRANDED • TINNED SOFT • DRAWN COPPER • EXTRA HARD USE • SUN LIGHT RESISTANT • OIL, GAS, AND CHEMICAL RESISTANT
WET-LISTED MC CABLE	600-VOLT		• PVC JACKET
CONDUIT			
RIGID	GALVANIZED STEEL	HH 9359	• USE ABOVE OR BELOW GROUND
PVC	SCHEDULE 40 / 80 PVC	NEMA TC-2	• USE SCHEDULE 40 IN PROTECTED DOCK STRUCTURE OR UNDERGROUND / UNDERWATER / UNDERDECK • USE SCHEDULE 80 ABOVE THE DECK AND ABOVE GROUND UP TO 6'
EMT	GALVANIZED DUCTILE STEEL	HE 8141	• ELECTRIC METALLIC TUBING - USE IN DRY OF FLOATING BUILDINGS
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT		• LISTED FOR DIRECT BURIAL - INSTALL WHERE NOT SUBJECT TO PHYSICAL DAMAGE AND NOT ABOVE THE DECK
HDPE	HIGH-DENSITY POLYETHYLENE		• INSTALL UNDERGROUND FOR SERVICE AND FEEDER CONDUCTORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE
CONDUIT HANGERS / STRAPS			
UP TO 3/4"	GALVANIZED STEEL		• 4'-0" O/C MAXIMUM
1" TO 1-1/4"			• 6'-0" O/C MAXIMUM
1-1/2" & UP			• 8'-0" O/C MAXIMUM
CABLE SUPPORT			
"KELLEMS" CABLE GRIPS	STAINLESS STEEL		• COORDINATE SIZE AND STYLE FOR PROPER CABLE OR CONDUIT

SERVICE ENTRANCE CONDUCTOR & CONDUIT LEGEND

- ALL WIRE SIZED FOR THWN COPPER

SERVICE CONDUCTOR LABEL	CONDUCTORS PER CONDUIT	CABLES PER RUN	MINIMUM CONDUIT	CONDUCTOR AMPACITY 75° C	Φ	VOLT RANGE
1S225	(3) #4/0 & (1) #2 GEC	1	3"	230	1	208 - 480

PORTABLE POWER CABLE BRANCH CIRCUIT AND FEEDER LEGEND

ALL WIRE SIZED USING NEC 400.5(A)(2), WITH GREEN INSULATED GROUND
ALL CONDUCTORS SHALL BE COPPER, AND SHALL BE:
• WET LISTED
• APPROVED FOR MARINA USE
• SUITABLE FOR CONTINUOUS SUBMERSION IN WATER
NOTE: * IN LABEL INDICATES THERE IS NO NEUTRAL CONDUCTOR REQUIRED

FEEDER LABEL	CABLE FOR MARINA / BOATYARD APPLICATION	CABLES PER RUN	CONDUIT (SCH. 40 PVC UNLESS NOTED)	CONDUCTOR AMPACITY 75° C	Φ	VOLT RANGE
1G250	#3/0 AWG TYPE G OR W CABLE	1	3"	275	1	240 - 480

ELECTRICAL NOTES

1 APPLICABLE CODES INCLUDE, BUT ARE NOT RESTRICTED TO, THE LATEST ADOPTED VERSIONS OF:
- NFPA 70 NATIONAL ELECTRIC CODE
- INTERNATIONAL BUILDING CODE
- UL UNDERWRITERS LABORATORY
- NEMA

2 ELECTRICAL SYSTEM(S) SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART OF SUCH WORK FOR A FULLY OPERATIONAL, COMPLETE, AND CODE COMPLIANT SYSTEM.

3 PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEM. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION. ANY GROSS INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.

4 ALL ELECTRICAL CONNECTIONS SHALL BE MOUNTED ABOVE ELECTRICAL DATUM PLANE.

5 COORDINATE FINAL LOCATIONS OF ALL SWITCHES AND OUTLETS WITH OWNER. OWNER SHALL RETAIN RIGHT TO MAKE MINOR LOCATION ADJUSTMENTS PRIOR TO EQUIPMENT INSTALLATION WITHOUT ADDITIONAL COST.

6 ALL 3Φ CIRCUITS SHALL HAVE A-B-C PHASE ROTATION. ALL 3Φ ELECTRICAL SWITCHGEAR, SWITCHBOARDS, MCC'S, AND SIMILAR EQUIPMENT SHALL HAVE A-B-C PHASE ROTATION FROM LEFT TO RIGHT. REFER TO THE POWER WIRING COLOR CODE ON THIS SHEET.

7 VERIFY AVAILABLE CIRCUIT CURRENT WITH ELECTRICAL POWER SUPPLIER.

8 PROVIDE COMPLETE AND COMPLIANT EQUIPMENT AND SYSTEM GROUNDING THROUGHOUT ELECTRICAL INSTALLATION. INSTALL BONDING JUMPERS TO OUTLET BOXES IN METALLIC CONDUIT SYSTEMS.

9 UNLESS OTHERWISE NOTED, EACH CONDUIT OR RACEWAY SHALL CONTAIN ONLY A SINGLE CIRCUIT.

10 ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RAINTIGHT.

11 WITH ALL LIGHTING AND MOTOR LOADS OPERATING, CONTRACTOR SHALL VERIFY THAT THE PHASE BALANCE IN EACH PANEL IS WITHIN 5%.

12 COMPLETE ELECTRICAL SYSTEMS SHALL BE TESTED FOR COMPLIANCE AND FUNCTION IN ACCORDANCE WITH LOCAL INSPECTIONS AND NATIONAL CODES.

13 CONTRACTOR SHALL INSTALL EXPANSION AND DEFLECTION CONDUIT FITTINGS PER NEC 300.7(B), PLANS, AND SPECIFICATIONS.

14 IF DISCREPANCIES EXIST WITHIN THE PLANS AND/OR SPECIFICATIONS, THE MOST STRINGENT SHALL APPLY AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BRING IT TO THE ATTENTION OF THE ENGINEER BEFORE WORK IS STARTED OR MATERIAL/EQUIPMENT IS ORDERED.

15 THE PLANS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED WITH THE INTENT TO BE AS ACCURATE AND COMPLETE AS PRACTICAL, BUT ERRORS, OMISSIONS, AND CONFLICTS MAY EXIST. PRIOR TO SUBMITTING A BID FOR CONSTRUCTING THE WORK, THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS IN DETAIL. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTING A BID. BY SUBMITTING A BID FOR THE WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, UNDERSTANDS THE DESIGN INTENT, AND DOES NOT HAVE ANY FURTHER QUESTIONS OR COMMENTS.

16 CONTRACTOR SHALL FIELD VERIFY THAT ALL PARALLEL CONDUCTOR RUNS OF SERVICE ENTRANCE OR FEEDER CONDUCTORS FOR EACH CIRCUIT FOLLOW THE SAME PATH AND ARE OF EQUAL LENGTH.

17 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY FEES AND CHARGES FOR INSTALLATION AND UTILITY UPGRADES FOR PROJECT.

18 CONTRACTOR SHALL COORDINATE AND PAY FOR ALL PERMITS, INSPECTION FEES, UTILITY FEES, AND UTILITY CHARGES FOR THIS PROJECT.

19 CONTRACTOR SHALL WARRANTY ALL SYSTEMS FOR PARTS, EQUIPMENT, MATERIAL, AND LABOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

20 THE OWNER AND/OR OWNER'S REPRESENTATIVE SHALL INSPECT THE INSTALLATION AT SUBSTANTIAL COMPLETION AND AT ONE YEAR FROM SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORRECTIONS THAT DO NOT CONFORM TO THE CODE AND/OR THE CONTRACT DOCUMENTS.

21 SUBMITTAL REQUIREMENTS: CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL DETAILED PRODUCT INFORMATION ON ALL EQUIPMENT INCORPORATED IN THE PROJECT RELATED TO THE SPECIFIC CONTRACTOR TRADE. SUBMITTAL SHALL BE PROVIDED, AND ENGINEER SHALL REVIEW AND APPROVE, PRIOR TO EQUIPMENT PURCHASE. FOUR COPIES OF SUBMITTALS SHALL BE PROVIDED TO THE ENGINEER. TWO COPIES SHALL BE RETURNED TO THE CONTRACTOR. PRIOR TO SUBMITTAL, CONTRACTOR SHALL REVIEW AND CERTIFY THAT THE SUBMITTED EQUIPMENT MEETS SPECIFICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, FITTINGS, AND CONSTRUCTION FEATURES RELATIVE TO EQUIPMENT. APPROVAL OF SUBMITTAL INFORMATION BY THE ENGINEER ONLY REFERS TO MATERIALS, DESIGN, AND ADHERENCE TO SPECIFICATIONS.

GROUND FAULT MONITOR SCHEDULE

- MANUFACTURER SHALL PROGRAM ALL PARAMETERS PER THE DESIGN AND SHALL SET TIME AND DATE
- SEE CIRCUIT SCHEDULES FOR TRIP SETTINGS
- CT SENSORS AS REQUIRED TO CONTROL SHUNT TRIP BREAKERS
- SPARE CHANNELS SHALL BE DISABLED
- USE SPECIFIED EQUIPMENT OR EQUAL
- LOCKABLE DOOR

LABEL	MANUFACTURER	MODEL	INPUTS / OUTPUTS	ENCLOSURE	NOTES
MG1	BENDER	MARINA GUARD MG-T.2	12	NEMA 4X	
MG2	BENDER	MARINA GUARD MG-T.2	12	SS2	
MG3	BENDER	MARINA GUARD MG-1.2	1	NEMA 4X	
MGFP	BENDER	MARINA GUARD MG-1.2	1	NEMA 4X	

2

ELECTRICAL ABBREVIATIONS

A / AB	ABOVE	IPC	INTEGRATED POWER CENTER
AF	AMPERE FRAME	KVA	KILOVOLT-AMPERE
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AFG	ABOVE FINISHED GRADE	LC	LIGHTING CONTACTOR
AFI	ARC FAULT INTERRUPTER	LEUD	LOCAL ELECTRICAL AND UTILITY DEPARTMENT
AHJ	AUTHORITY HAVING JURISDICTION	MAX	MAXIMUM
AIC	AVAILABLE FAULT CURRENT	MCB	MAIN CIRCUIT BREAKER
AMP	AMPERE	MCS	MOLDED CASE SWITCH
AP	ANNUNCIATOR PANEL	MDP	MAIN DISTRIBUTION PANEL
AT	AMPERE TRIP	MFG	MANUFACTURING
ATS	AUTOMATIC TRANSFER SWITCH	MFR	MANUFACTURER
AUTO	AUTOMATIC	MIN	MINIMUM
BFG	BELOW FINISHED GRADE	MLB	MICROLOGIC BREAKER
C	CONTACTOR	MLO	MAIN LUG ONLY
CKT	CIRCUIT	MOCP	MAIN OVERCURRENT PROTECTION
COM	COMMUNICATION	N.C.	NORMALLY CLOSED
CT	CURRENT TRANSFORMER	N.O.	NORMALLY OPEN
DACR	DIGITAL ALARM COMMUNICATION RECEIVER	OCP	OVERCURRENT PROTECTION
DACT	DIGITAL ALARM COMMUNICATION TRANSMITTER	OH	OVERHEAD
DETD	DUAL ELEMENT TIME DELAY	PB	PUSH BUTTON
DN	DOWN	PH / Φ	PHASE
DWG	DRAWING	PNL	PANEL
EC	ELECTRICAL CONTRACTOR	PPC	PORTABLE POWER CABLE
ECB	ENCLOSED CIRCUIT BREAKER	RECIRC	RECIRCULATING / RECIRCULATION
EDP	ELECTRICAL DATUM PLANE	RECPT	RECEPTACLE
EMG	EMERGENCY	SCH	SCHEDULE
EQUIP	EQUIPMENT	SER	SERVICE ENTRANCE CONDUCTOR
ETB	ELECTRONIC TRIP BREAKER	SPD	SURGE PROTECTIVE DEVICE
FACP	FIRE ALARM CONTROL PANEL	ST	SHUNT TRIP
FAP	FIRE ALARM PANEL	TEL	TELEPHONE
FAS	FIRE ALARM SYSTEM	TMB	THERMAL MAGNETIC BREAKER
GAL	GALLON	TYP	TYPICAL
GAP	GENERATOR ANNUNICATOR PANEL	U / UC	UNDER / UNDER CABINET
GD	GARBAGE DISPOSAL	UG	UNDERGROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UPS	UNINTERRUPTIBLE POWER SUPPLY
GFI	GROUND FAULT INTERRUPTER	US	UNDERSLAB
GFM	GROUND FAULT MONITOR	UW	UNDERWATER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT	V	VOLT
GPH	GALLONS PER HOUR	VA	VOLT-AMPERE
HACR	HEATING, AIR CONDITIONING, REFRIGERATION	W	WATT
HP	HORSEPOWER	WR	WEATHER-RESISTANT
HZ	HERTZ	WRI	WEATHER-RESISTANT, IN-USE

BRANCH CIRCUIT & FEEDER LEGEND W/ EQUIP. GROUND

- ALL WIRE SIZED FOR THWN COPPER
- ALL CONDUIT SIZED FOR RIGID PVC, SCHEDULE 40; RESIZE FOR DIFFERENT CONDUIT AS REQUIRED

FEED LABEL	CONDUCTORS PER CONDUIT	CABLES PER RUN	MINIMUM CONDUIT	CONDUCTOR AMPACITY 75°C	Φ	VOLT RANGE
A20	(2) #12 & (1) #12 GND	1	1/2"	20	1	120 OR 277
A30	(2) #10 & (1) #10 GND	1	3/4"	30	1	120 OR 277
A50	(2) #8 & (1) #10 GND	1	3/4"	50	1	120 OR 277
B20	(3) #12 & (1) #12 GND	1	1/2"	20	1	208 - 480
B30	(3) #10 & (1) #10 GND	1	3/4"	30	1	208 - 480
B50	(3) #8 & (1) #10 GND	1	3/4"	50	1	208 - 480
B60	(3) #6 & (1) #10 GND	1	3/4"	65	1	208 - 480
B60	(3) #6 & (1) #10 GND	1	3/4"	65	1	208 - 480
B80	(3) #4 & (1) #8 GND	1	1"	85	1	208 - 480
B100	(3) #3 & (1) #8 GND	1	1"	100	1	208 - 480
B115	(3) #2 & (1) #6 GND	1	1-1/2"	115	1	208 - 480
B125	(3) #1 & (1) #6 GND	1	1-1/2"	130	1	208 - 480
B150	(3) #1/0 & (1) #6 GND	1	2"	150	1	208 - 480
B175	(3) #2/0 & (1) #6 GND	1	2"	175	1	208 - 480
B200	(3) #3/0 & (1) #6 GND	1	2"	200	1	208 - 480
B225	(3) #4/0 & (1) #4 GND	1	2-1/2"	230	1	208 - 480
B250	(3) #250 KCM & (1) #4 GND	1	2-1/2"	255	1	208 - 480
B275	(3) #300 KCM & (1) #4 GND	1	2-1/2"	285	1	208 - 480
B300	(3) #350 KCM & (1) #4 GND	1	2-1/2"	310	1	208 - 480
B325	(3) #400 KCM & (1) #3 GND	1	3"	335	1	208 - 480
B350	(3) #500 KCM & (1) #3 GND	1	3"	380	1	208 - 480

LIGHTING FIXTURE SCHEDULE

LABEL	MFG	MODEL	LAMP	DESCRIPTION	WATTS	VOLTS
A	COOPER - PORTFOLIO	LERSYM4B-10-D010-P-EC4B-1020-8035-4LBSS3-H-MW	LED	WET-RATED CYLINDER, YOKE MOUNTED TO JUNCTION BOX WITH ADJUSTABLE AIMING, WIDE BEAM WITH INTEGRAL DRIVER.	11 W	120 V
B	COOPER - HALO	1004-A1-RCS-FL-LED3590-W-CS-L1-UNV-RSM	LED	6" RECESSED DOWNLIGHT, 3000 LUMEN OUTPUT, 60 DEGREE BEAM, 3500K	27 W	120 V
BE	COOPER - HALO	HC6-30D010-IEM14-HM634835-61MD-H-WF	LED	6" RECESSED DOWNLIGHT, 3000 LUMEN OUTPUT, 60 DEGREE BEAM, 3500K, INTEGRAL BATTERY BACKUP WITH TEST SWITCH / INDICATOR LOCATED IN REFLECTOR	27 W	120 V
C	COOPER - HALO	HC6-30D010-HM634835-61PS-MDW	LED	6" RECESSED SHOWER DOWNLIGHT, 3000 LUMEN OUTPUT, 60 DEGREE BEAM, 3500K, DEADFRONT REFLECTOR/LENS	27 W	120 V
D1	COOPER - CORELITE	SQ4-F-100U-075D-835-1DUNV-STD-W-AC120-JB-8	LED	3.75" SQUARE ALUMINUM 8FT SUSPENDED DIRECT / INDIRECT SLOTLIGHT WITH BATWING DISTIBUTION UP AND DIFFUSED DISTRIBUTION DOWN, AIRCRAFT CABLE SUSPENSION, WHITE FINISH	41 W	120 V
D1E	COOPER - CORELITE	SQ4-F-100U-075D-835-1DUNV-STD-BSL6-W-AC120-JB-8	LED	3.75" SQUARE ALUMINUM 8FT SUSPENDED DIRECT / INDIRECT SLOTLIGHT WITH BATWING DISTIBUTION UP AND DIFFUSED DISTRIBUTION DOWN, AIRCRAFT CABLE SUSPENSION, WHITE FINISH, INTEGRAL BATTERY BACKUP	41 W	120 V
D2E	COOPER - CORELITE	SQ4-F-100U-125D-835-1DUNV-STD-BSL6-W-AC120-JB-8	LED	3.75" SQUARE ALUMINUM 8FT SUSPENDED DIRECT / INDIRECT SLOTLIGHT WITH BATWING DISTIBUTION UP AND DIFFUSED DISTRIBUTION DOWN, WITH 6 WATT OUTPUT; INTEGRAL BATTERY BACKUP WITH "SELF DIAGNOSTICS", AIRCRAFT CABLE SUSPENSION, WHITE FINISH	41 W	120 V
E	COOPER - METALUX	4SNLED-LD5-46SL-LN-UNV-L835-CD1-U / AYC	LED	4FT LENSED STRIP 5000 LUMENS, SURFACE MTD TO CEILING OR SUSPENDED FROM STRUCTURE	38 W	120 V
EE	COOPER - METALUX	4SNLED-LD5-46SL-LN-UNV-EL14W-L835-CD1-U / AYC	LED	4FT LENSED STRIP 5000 LUMENS, SURFACE MTD TO CEILING OR SUSPENDED FROM STRUCTURE, INTEGRAL BATTERY BACKUP	38 W	120 V
F	TIVOLI	CHANNEL: MOSR-CHAN-SLV-XX / MOSR-LNS-OP-XX / MOSR-EC-02/MOSR-EC-1 / MTBK-03 LED TAPE: TPLD-SB-I-35-24 DRIVER:INF-J-96-1-24	LED	24 VDC LED TAPE + EXTRUDED ALUMINUM CHANNEL, OPAL LENS + REMOTE DRIVER. FACTORY PREPPED AS COMPLETE FIXTURES TO MAKE UP A RUN(S) TO FRAME AROUND MIRRORS; PER ARCHITECTURAL DETAILS	96 W	120 V
G1	COOPER - METALUX	22CZ2-29HE-SQR-UNV-L835-CD1-U	LED	ARCHITECTURAL 2X2 RECESSED WITH 3000 LUMEN OUTPUT, WHITE METAL PAN REFLECOR WITH CENTERED LED COMPARTMENT AND SQUARE ACRYLIC LENS	21 W	120 V
G2	COOPER - METALUX	22CZ2-55HE-SQR-UNV-L835-CD1-U	LED	ARCHITECTURAL 2X2 RECESSED WITH 3000 LUMEN OUTPUT, WHITE METAL PAN REFLECOR WITH CENTERED LED COMPARTMENT AND SQUARE ACRYLIC LENS	21 W	120 V
H	BY ARCHITECT	BY ARCHITECT	LED	SUSPENDED LINEAR PENDANT BY ARCHITECT	32 W	120 V
J	COOPER - LUMARK	AXCS4A-C-WT-CBP	LED	FULL CUT OFF WALL PACK, WITH BATTERY BACKUP ,WHITE HOUSING, DEEP BACKBOX, BUTTON PHOTOCELL	44 W	120 V
K	COOPER - INVUE	LXS-VA4-740-U-SYM-S-WH / ARP5L612AWH5X	LED	POST-TOP MOUNTED AREA LUMINAIRE WITH SYMETRIC ROUND OPTIC, ALUMINAUM HOUSING; MOUNTED TO A 12' ROUND TAPERED ALUMINUM POLE WITH ALUMINUM BASE	99 W	120 V
L	HUNTER	JTKLMS-59610 // 9974-XX	LED	EXTERIOR RATED, 3-BLADE, 3-SPEED, REVERSIBLE CEILING FAN, 52" DIAMETER. COORDINATE FINISH WITH ARCHITECT.	30 W	120 V
XR	COOPER - SURE LITES	EUR71R	LED	SPEC GRADE - CEILING RECESSED MOUNT SINGLE FACE EDGE-LIT EXIT SIGN, RED LETTERS, NI-CAD BATTERY.	5 W	120 V
XS	COOPER - SURE LITES	EUS71R	LED	SPEC GRADE - SURFACE WALL"BACK MOUNT" SINGLE FACE EDGE-LIT EXIT SIGN, RED LETTERS, NI-CAD BATTERY. BATTERY.	5 W	120 V

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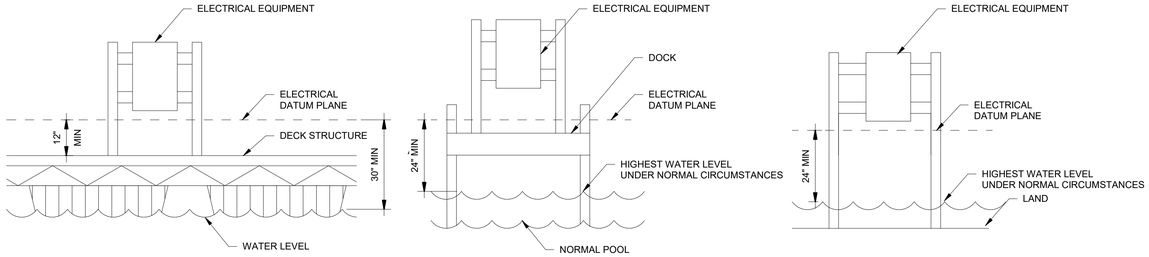
Revisions indicated w/ △

Revisions: No.	Date	Description
2	03/09/23	REVISION 2

SHEET: E0.1
TITLE: ELECTRICAL NOTES AND SCHEDULES
DATE: 6-10-22
JOB NO: 21094
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



FLOATING

FIXED

LAND NOT SUBJECT TO TIDES

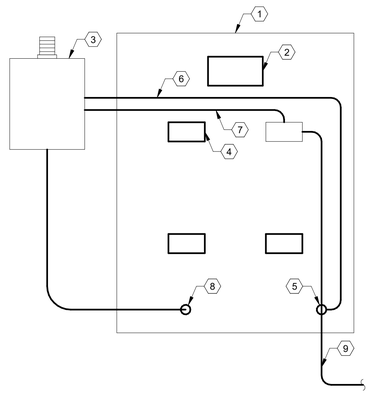
ELECTRICAL NOTES

GENERAL NOTES

A ALL ELECTRICAL CONNECTIONS (WITH EXCEPTION TO GROUND BONDING TO DOCK STRUCTURE), ON FLOATING OR FIXED PIERS, SHALL BE ABOVE THE ELECTRICAL DATUM PLANE. BOTTOMS OF TRANSFORMERS SHALL NOT BE BELOW THE ELECTRICAL DATUM PLANE.

1 E0.2 — ELECTRICAL DATUM PLANE DTL

NOT TO SCALE



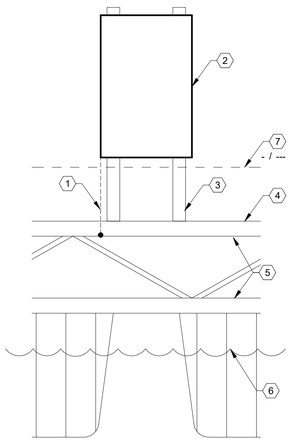
ELECTRICAL NOTES

NUMBERED NOTES

1 ELECTRICAL PANEL.
2 MAIN CIRCUIT BREAKER.
3 GROUND FAULT MONITOR (GFM), COORDINATE WITH MANUFACTURER FOR WIRING AND INSTALLATION REQUIREMENTS. RED BEACON SHALL FLASH UPON ALL CIRCUIT TRIPS DUE TO GROUND FAULT ALARMS.
4 SHUNT TRIP BRANCH BREAKER, TYPICAL. SEE PANEL SCHEDULE FOR SIZE.
5 GFM CURRENT SENSOR, TYPICAL. SIZE PER WIRE AS SHOWN IN PANEL SCHEDULE. HOT AND NEUTRAL CONDUCTORS TO BE ROUTED THROUGH CT.
6 CURRENT SENSOR CONTROL WIRE, TYIPCAL.
7 SHUNT TRIP CONTROL WIRE, TYPICAL.
8 TAP BUS ON LOAD SIDE OF THE MAIN BREAKER AND RUN TO GFM. UTILIZE A SUB-FEED LUG BLOCK OR SIMILAR MEANS TO MAKE TAP. TERMINATE CIRCUIT ON MANUFACTURER'S SUPPLIED OVERCURRENT DEVICE. CIRCUIT CONDUCTORS SHALL NOT EXTEND LONGER THAN 10 FEET.
9 BRANCH CIRCUIT TO MARINA PEDESTAL, TYPICAL.

2 E0.2 — GFM WIRING DTL

NOT TO SCALE



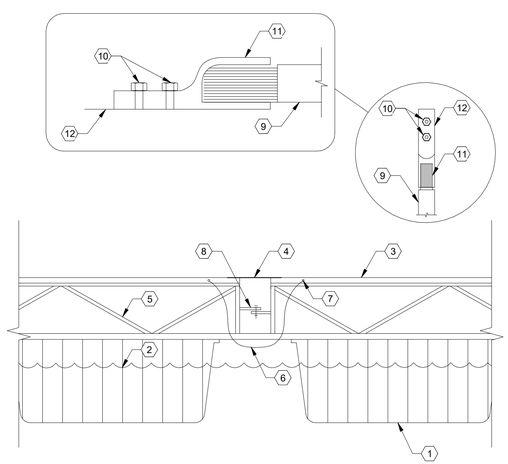
ELECTRICAL NOTES

NUMBERED NOTES

1 BOND METAL DOCK STRUCTURE TO GROUND BUS OF EQUIPMENT.
2 ELECTRICAL EQUIPMENT.
3 SUPPORT STRUCTURE.
4 DECK.
5 DOCK STRUCTURE.
6 WATER LEVEL.
7 ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.

3 E0.2 — EQUIPMENT BONDING DTL

NOT TO SCALE



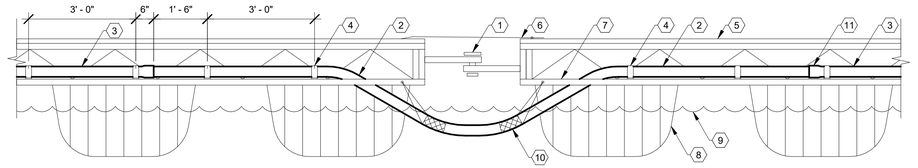
ELECTRICAL NOTES

NUMBERED NOTES

1 FLOTATION.
2 WATER LEVEL.
3 DECK.
4 TRANSITION COVER PLATE.
5 DOCK STRUCTURE.
6 BONDING CONDUCTOR #3/0 GREEN INSULATION COPPER CABLE, MSHA ACCEPTED, WET LOCATIONS, RESISTANT TO OILS, ACIDS, ALKALINES, AND ABRASION-RESISTANT, OR 12" OF GREEN TAPE AT EACH END. CONDUCTOR STRAND SHALL BE MINIMUM OF 448/24 STRANDS. ALLOW ENOUGH SLACK IN WIRE FOR FULL DOCK MOVEMENT. INSTALLATION LOCATION SHALL BE SUCH THAT NO DAMAGE WILL OCCUR TO CONDUCTOR DURING DOCK MOVEMENT.
7 BONDING SCREW WITH FERRULE.
8 HINGE OR FIFTH-WHEEL.
9 BONDING CONDUCTOR #3/0 GREEN INSULATION COPPER CABLE, MSHA ACCEPTED, WET LOCATIONS, RESISTANT TO OILS, ACIDS, ALKALINES, AND ABRASION-RESISTANT, OR 12" OF GREEN TAPE AT EACH END. CONDUCTOR STRAND SHALL BE MINIMUM OF 448/24 STRANDS. ALLOW ENOUGH SLACK IN WIRE FOR FULL DOCK MOVEMENT. INSTALLATION LOCATION SHALL BE SUCH THAT NO DAMAGE WILL OCCUR TO CONDUCTOR DURING DOCK MOVEMENT.
10 (2) STAINLESS STEEL HEX BOLTS 5/16 - 18 MIN.
11 HEX STYLE CRIMP OR EQUAL, USING A MINIMUM OF 14 TON CRIMP TOOL.
12 CLEAN DOCK METAL BEHIND CLAMP.

5 E0.2 — TRANSITION BONDING DTL

NOT TO SCALE



ELECTRICAL NOTES

NUMBERED NOTES

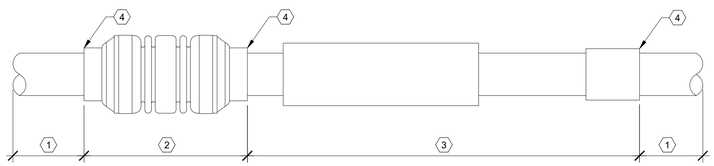
1 FIFTH-WHEEL PIVOT POINT.
2 LFNC CONDUIT.
3 PVC CONDUIT.
4 GALVANIZED TWO-HOLE STRAPS BOLTED TO DOCK STRUCTURE, TYPICAL.
5 DECK.
6 COVER PLATE.
7 DOCK STRUCTURE.
8 FLOTATION.
9 WATER LINE.
10 STAINLESS STEEL KELLEMS GRIP HELD BY AIRCRAFT CABLE AS REQUIRED. INSTALL MIN. 1/4" OIL-RESISTANT RUBBER MATERIAL BETWEEN CLAMP AND LFMC.
11 LFNC TO PVC CONNECTION.

GENERAL NOTES

A INSTALLATION OF CABLE SHALL BE AS CLOSE TO CENTER OF DOCK (I.E. HINGE POINT) AS PRACTICAL AND SHALL BE INSTALLED SO AS TO NOT ALLOW PHYSICAL DAMAGE.

4 E0.2 — 5TH-WHEEL CONDUIT DTL

NOT TO SCALE



ELECTRICAL NOTES

NUMBERED NOTES

1 RIGID PVC CONDUIT.
2 DEFLECTION FITTING, THOMAS & BETTS CATALOG # XD-NM-TB OR EQUAL.
3 LINEAR PVC EXPANSION FITTING. THOMAS & BETTS CATALOG # E945L OR EQUAL. INSTALL BASE ON AMBIENT TEMPERATURE TO ALLOW MAXIMUM MOVEMENT FOR FULL TEMPERATURE SWINGS.
4 PVC GLUE FITTING.

GENERAL NOTES

A SIZE FITTINGS PER CONDUIT SIZE.
B BASED ON A 100°F TEMPERATURE SWING AND NEC TABLE 352.44, INSTALL THIS DETAIL IN EVERY CONTINUOUS SECTION OF PVC RUN GREATER THAN 50' IN LENGTH AND 200' ON CENTER THEREAFTER.

6 E0.2 — EXPANSION & DEFLECTION DTL

NOT TO SCALE

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Revisions:		
No.	Date	Description
		Revisions indicated w/ △

SHEET: E0.2
TITLE: ELECTRICAL DETAILS
DATE: 6-10-22
JOB NO: 21094
DWN BY: AJG

STATE OF TEXAS
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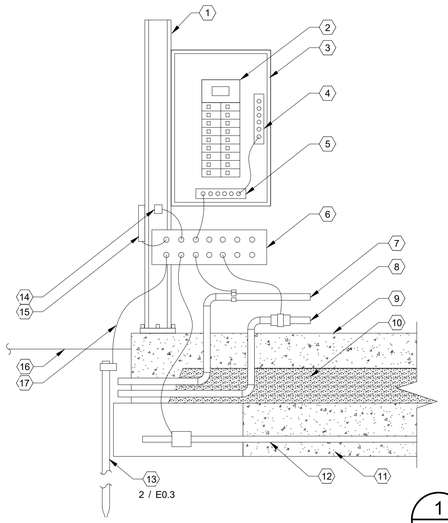
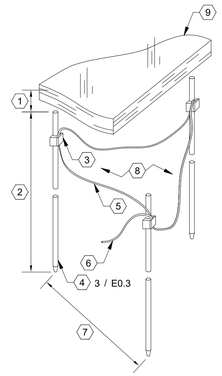


ELECTRICAL NOTES

NUMBERED NOTES
1. METAL FRAME OF BUILDING OR MOUNTING STRUCTURE.
2. MAIN DISCONNECT.
3. SERVICE EQUIPMENT.
4. NEUTRAL BAR.
5. GROUNDING BAR.
6. GROUNDING PLATE OR BONDING POINT AS REQUIRED.
7. GROUNDING PLATE OR BONDING POINT AS REQUIRED.
8. GAS PIPING ON LOAD SIDE OF METER.
9. FINISHED FLOOR.
10. FILL GRAVEL.
11. CONCRETE FOOTER.
12. CONCRETE-ENCASED ELECTRODE, 1/2" x 20' FOR NEW CONSTRUCTION.
13. GROUND ROD, SEE REFERENCED DETAIL.
14. BONDING POINT.
15. GROUND BAR FOR LOW VOLTAGE UTILITIES.
16. FINISHED GRADE.
17. GROUNDING ELECTRODE CONDUCTOR.

GENERAL NOTES
- A. SHALL BE PER NEC ARTICLE 250.
- B. ALL PROJECTS MAY NOT INCLUDE METAL WATER PIPE, GAS LINE, OR METAL CONSTRUCTION.
- C. CONFIGURATION OF SERVICE MAY DIFFER, COORDINATE INSTALLATION.

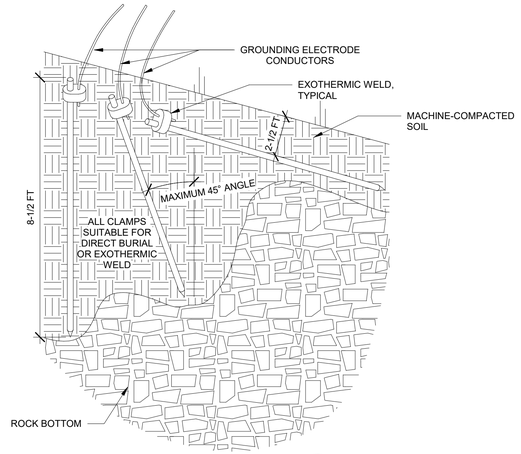
1 / E0.3 — GROUNDING DTL
NOT TO SCALE



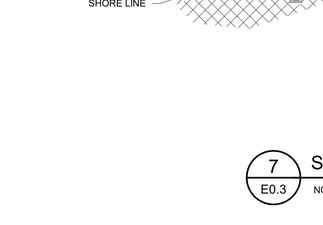
ELECTRICAL NOTES

NUMBERED NOTES
1. INSTALL GROUND ROD BELOW GROUND FREEZING DEPTH. COORDINATE DEPTH WITH AREA OF INSTALLATION.
2. GROUND ROD TO HAVE A MINIMUM OF 8' IN CONTACT WITH UNDISTURBED EARTH.
3. UL LISTED UNDERGROUND EXOTHERMIC WELD OR APPROVED CLAMP, TYP.
4. UL LISTED 5/8" Ø x 10' DRIVEN GROUND ROD, TYP. COORDINATE LOCATION WITH SITE. SEE REFERENCED DETAIL.
5. GROUNDING CONDUCTOR, TYP. SAME SIZE AS GROUNDING ELECTRODE CONDUCTOR.
6. GROUNDING ELECTRODE CONDUCTOR.
7. GROUND RODS TO BE INSTALLED IN A TRIANGULAR PATTERN WITH MIN. 6' APART, TYP.
8. VIRGIN EARTH.
9. FINISHED GRADE.

2 / E0.3 — GROUND ROD DTL
NOT TO SCALE



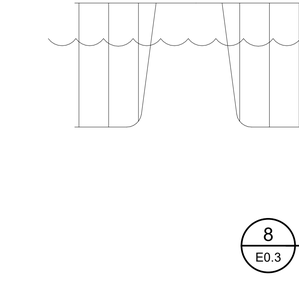
3 / E0.3 — GND ROD INSTALL. DTL
NOT TO SCALE



ELECTRICAL NOTES

NUMBERED NOTES
1. BOND NEUTRAL TO GROUND AT FIRST OVERCURRENT PROTECTION DEVICE.
2. RODENT WIRE GUARD.
3. SUPPORT FORM TO RAISE TRANSFORMER ABOVE ELECTRICAL DATUM PLANE.
4. SECONDARY TO DISTRIBUTION PANEL.
5. BOND GROUND TO DOCK METAL STRUCTURE.
6. ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.
7. LAKE BOTTOM.
8. WATER LEVEL.
9. DECK.
10. NON-COMBUSTIBLE MATERIAL.

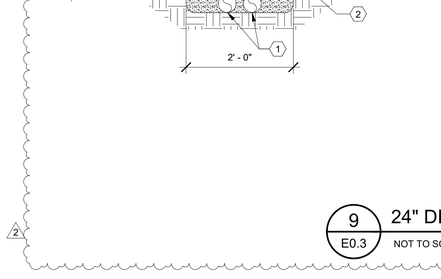
4 / E0.3 — MARINA TRANSFORMER DTL
NOT TO SCALE



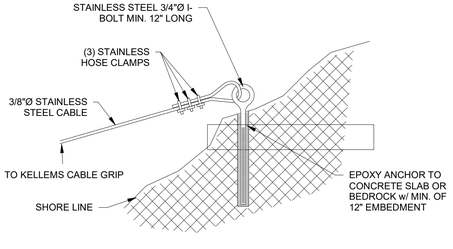
ELECTRICAL NOTES

NUMBERED NOTES
1. SCHEDULE 80 PVC, SIZE PER CABLE.
2. STAINLESS STEEL CABLE, SECURELY MOUNTED TO DOCK STRUCTURE.
3. STAINLESS STEEL KELLEMS GRIP, MATCH WIRE SIZE.
4. PORTABLE POWER CABLE.
5. DECK.
6. ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.
7. DOCK STRUCTURE.
8. SUPPORT STRUCTURE.
9. ELECTRICAL EQUIPMENT.
10. WATER LEVEL.
11. TWO-HOLE GALVANIZED STRAP AS REQUIRED.
12. STAINLESS STEEL KELLEMS GRIP LOCATED APPROXIMATELY HALFWAY TO LAKE BOTTOM DURING WINTER POOL.

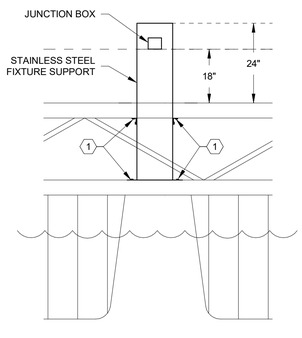
5 / E0.3 — CABLE MOUNTING DTL
NOT TO SCALE



6 / E0.3 — MARINA POST MOUNT DTL
NOT TO SCALE



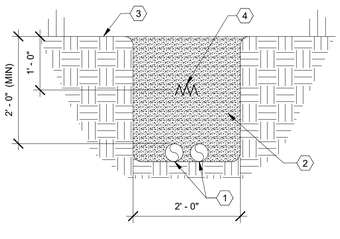
7 / E0.3 — SHORE ANCHOR
NOT TO SCALE



ELECTRICAL NOTES

NUMBERED NOTES
1. FIXTURE SUPPORT POLE TO BE FASTENED TO DOCK STRUCTURE USING STAINLESS STEEL PLATES AND BOLTS. COORDINATE WITH DOCK STRUCTURE AND MANUFACTURER.

8 / E0.3 — LIGHT FIXTURE DECK MOUNTING
NOT TO SCALE



ELECTRICAL NOTES

NUMBERED NOTES
1. SCH 40 PVC FEEDER AND/OR BRANCH CIRCUIT CONDUITS AS REQUIRED.
2. MACHINE COMPACTED GRAVEL FILL FOR AREAS WHEN CROSSING DRIVEWAYS, ROADS, AND PARKING LOTS. DIRT FILL AND COMPACT ALL OTHER AREAS
3. FINISHED GRADE.
4. WARNING TAPE.

9 / E0.3 — 24" DITCH DTL
NOT TO SCALE

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Revisions: No.	Date	Description
2	03/08/23	REVISION 2

SHEET: E0.3
TITLE: ELECTRICAL DETAILS
DATE: 6-10-22
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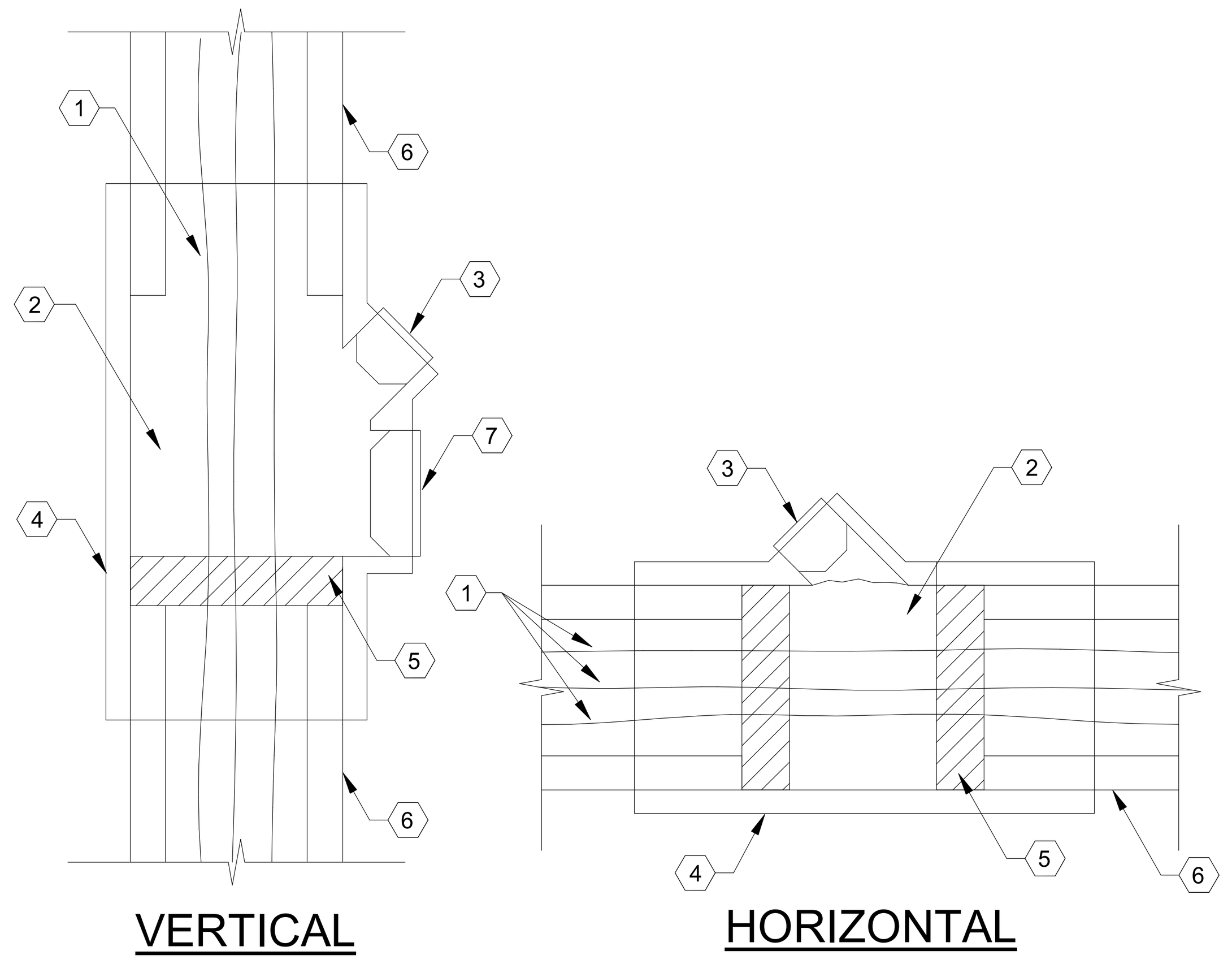
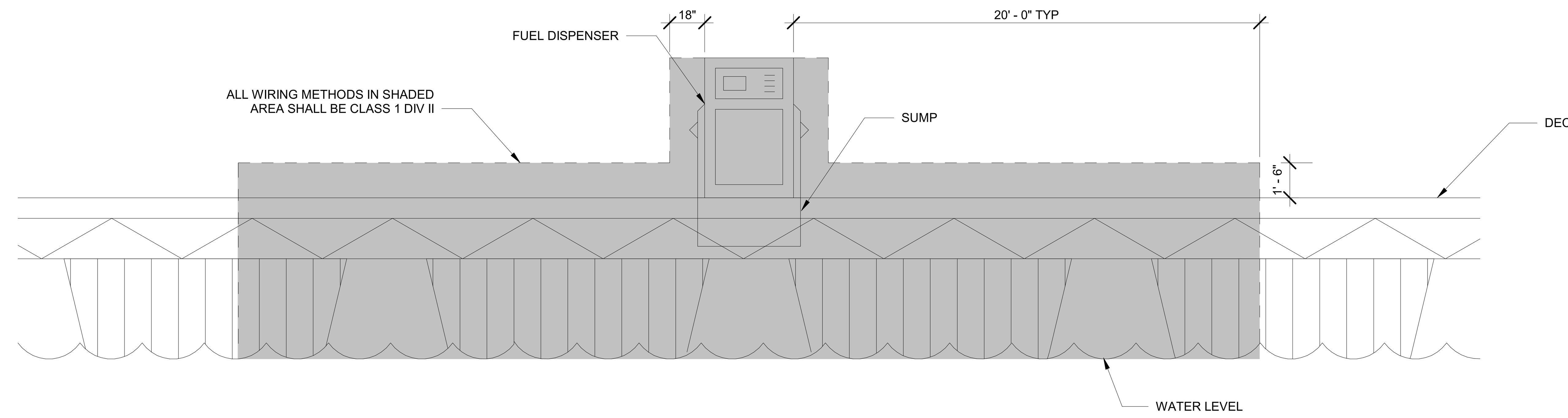


4 / E0.4 — ELEC SEAL-OFF DTL
NOT TO SCALE



3 / E0.4 — CLASSIFIED AREA FOR FUEL DISPENSER DTL
NOT TO SCALE

ELECTRICAL NOTES

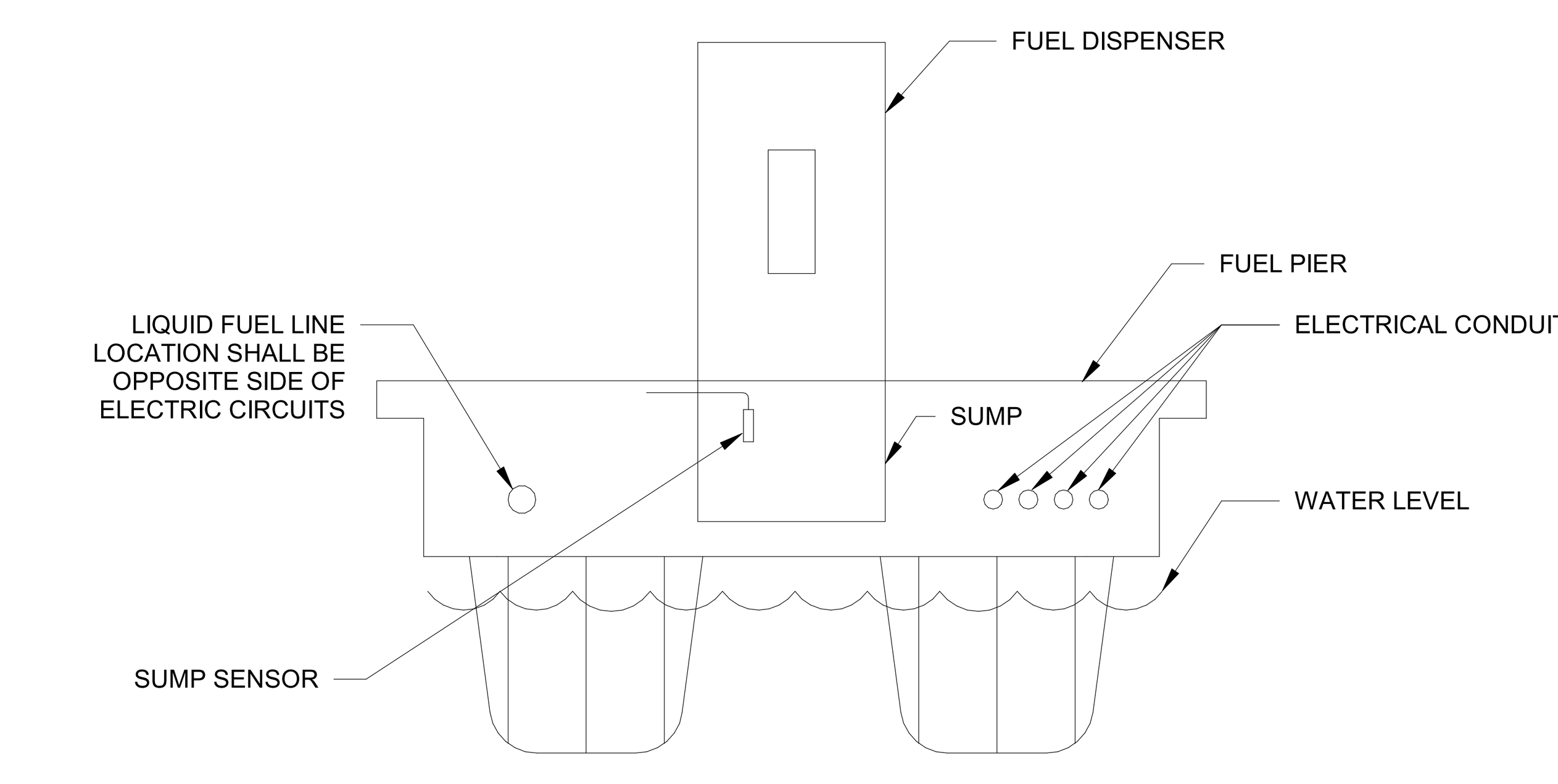
NUMBERED NOTES
1. DUAL-SIDE FUEL DISPENSER. ALL WIRING METHODS TO MEET CLASS I DIVISION II REQUIREMENTS.
2. SUMP UNDER FUEL DISPENSER FOR LEAKAGE.
3. E-STOP EMERGENCY SHUT-OFF, MODEL EATON #E22ASB106, SQUARE-D OR EQUAL. INSTALL FUEL EMERGENCY SHUT-OFF LABEL ABOVE SIGN. COORDINATE QUANTITY AND LOCATIONS WITH FUEL DESIGNER.
4. PANEL P2. SEE PLANS
5. AUTOMATIC TANK GAUGE (ATG) FUEL LEAKAGE MONITORING SYSTEM, LOCATED IN BUILDING.
6. ATG PROBE: FUEL & WATER LEVEL SENSOR.
7. E-STOP CIRCUIT TO BE HOT DURING NORMAL CONDITIONS.
8. LOW VOLTAGE ISOLATION RELAY CONTROL DISCONNECT IN NORMALLY OPEN STATE.
9. FUEL FILL PORT. COORDINATE LOCATION WITH CIVIL AND FUEL SYSTEM DESIGNER.
10. POINT OF SALE UNIT WITH CARD READER.
11. AUDIBLE & VISUAL ALARM.
12. PIPING SHALL NOT BE INSTALLED IN ELECTRICAL EQUIPMENT'S WORK SPACE.
13. FUEL PUMP N.O. CONTACTOR CONTROLLED VIA E-STOP CONTROL, 120 VOLT CONTROL.

ELECTRICAL NOTES

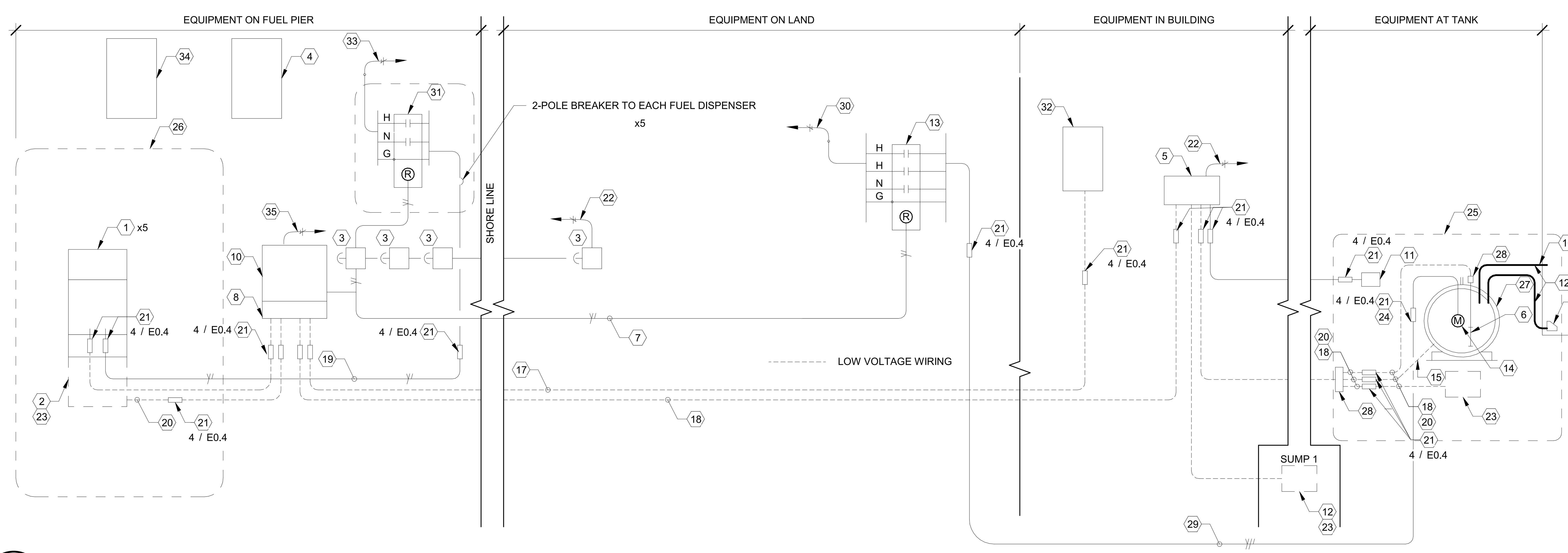
NUMBERED NOTES
14. 2 HP MOTOR FOR FUEL TANK.
15. 3/4" CLASS I DIV 2 CONDUIT FOR INTERSTITIAL TANK LEAKAGE MONITORING, SEE NOTE 20 FOR WIRING, COORDINATE.
16. FUEL VENT SHALL BE INSTALLED, COORDINATE.
17. 1.5" CLASS I DIV 2 CONDUIT FOR LOW VOLTAGE CONTROLS, PHONE LINE, AND/OR CAT6 CABLE.
18. BELDEN 8760, CAROL, OR EQUAL. SHIELDED TWISTED PAIR #16 CABLE FOR SUMP SENSOR. NO SPLICES.
19. 3/4" CLASS I DIV 2 CONDUIT FOR FUEL DISPENSER.
20. 3/4" CLASS I DIV 2 CONDUIT FOR SUMP AND INTERSTITIAL MONITORING, SEE NOTE 23 FOR WIRING.
21. CLASS I DIV 2 CONDUIT SEAL OFF, INSTALL IN VERTICAL OR HORIZONTAL RUNS OF CONDUIT AS REQUIRED, TYPICAL. SEE REFERENCED DETAIL.
22. 120V 1Φ FED FROM PANEL P5.
23. SUMP AND NON-DISCRIMINATING SUMP SENSOR TO MONITOR FUEL LEAKAGE.
24. 3/4" CLASS I DIV 2 CONDUIT FOR FUEL PUMP.
25. CLASS I DIV 2 AREA WITHIN 20' OF FUELING AREA. WIRING METHODS SHALL COMPLY WITH NEC 514. REFER TO PLANS.
26. CLASS I DIV 2 AREA. WIRING METHODS SHALL COMPLY WITH NEC 514. REFER TO PLANS.

ELECTRICAL NOTES

NUMBERED NOTES
27. DOUBLE WALL ABOVE AND/OR BELOW GROUND FUEL TANK. COORDINATE WITH PLANS FOR QUANITITY OF TANKS.
28. EXPLOSION-PROOF PULL OR JUNCTION BOX AS REQUIRED. COORDINATE MOUNTING.
29. THREE WIRE #8 WITH GREEN GROUNDING CONDUCTOR. COORDINATE WIRE GAUGE FOR VOLTAGE DROP.
30. 240V 1Φ FED FROM PANEL P4.
31. SHUNT TRIP MAIN BREAKER FOR PANEL P5.
32. COMMUNICATION BOARD. COORDINATE WITH COMMUNICATION UTILITY AND OWNER FOR COMMUNICATION UTILITY.
33. 120/240V 1Φ PANEL P5 FED FROM PANEL P2.
34. PANEL P5. SEE PLANS
35. 120V 1Φ FEED FROM PANEL P5.



5 / E0.4 — FUEL LINE & ELEC. CONDUIT ROUTING DTL
SCALE: 12" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")



1 / E0.4 — FUEL SYSTEM MONITORING AND POWER DIAGRAM
NOT TO SCALE

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No.	Date	Description

SHEET: E0.4
TITLE: ELECTRICAL DETAILS
JOB NO: 21094
DATE: 6-10-22
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
136175
LICENSED PROFESSIONAL ENGINEER
6-10-22

ELECTRICAL NOTES

NUMBERED NOTES

1 NEW ELEVATED PLATFORM TO BE LOCATED ABOVE FLOOD PLANE. COORDINATE EXACT LOCATION AND HEIGHT WITH OWNER.

2 PROVIDE SERVICE ENTRANCE RATED PANELBOARD.

3 240V FEED FOR FUEL TANK.

4 EXISTING FIRE PUMP LOCATION. RELOCATE FIRE PUMP TO NEW FIRE PUMP ROOM. REWORK CIRCUIT AS REQUIRED.

5 NEW FIRE PUMP LOCATION. REUSE EXISTING CIRCUIT. REWORK AS REQUIRED. COORDINATE WIRING OF NEW AUTOMATIC CONTROLLER WITH MANUFACTUER.

6 JOCKEY PUMP CONTROLLER. COORDINATE WIRING WITH MANUFACTUER.

7 NEW UNDERGROUND FEEDER FOR RELOCATED FIRE PUMP. FEEDER SHALL BE PPC IN PVC BELOW GRADE. COORDINATE EXACT ROUTING WITH EXISTING SITE CONDITIONS AND OWNER. SEE REFERENCED DITCH DETAIL FOR ADDITIONAL INFORMATION.

8 INSTALL NEW QUAZITE PULL BOXES FOR NEW UNDERGROUND FEEDER. SIZE BOX PER NFPA 70. COORDINATE EXACT LOCATIONS WITH EXISTING SITE CONDITIONS AND ROUTING OF NEW FEEDER.

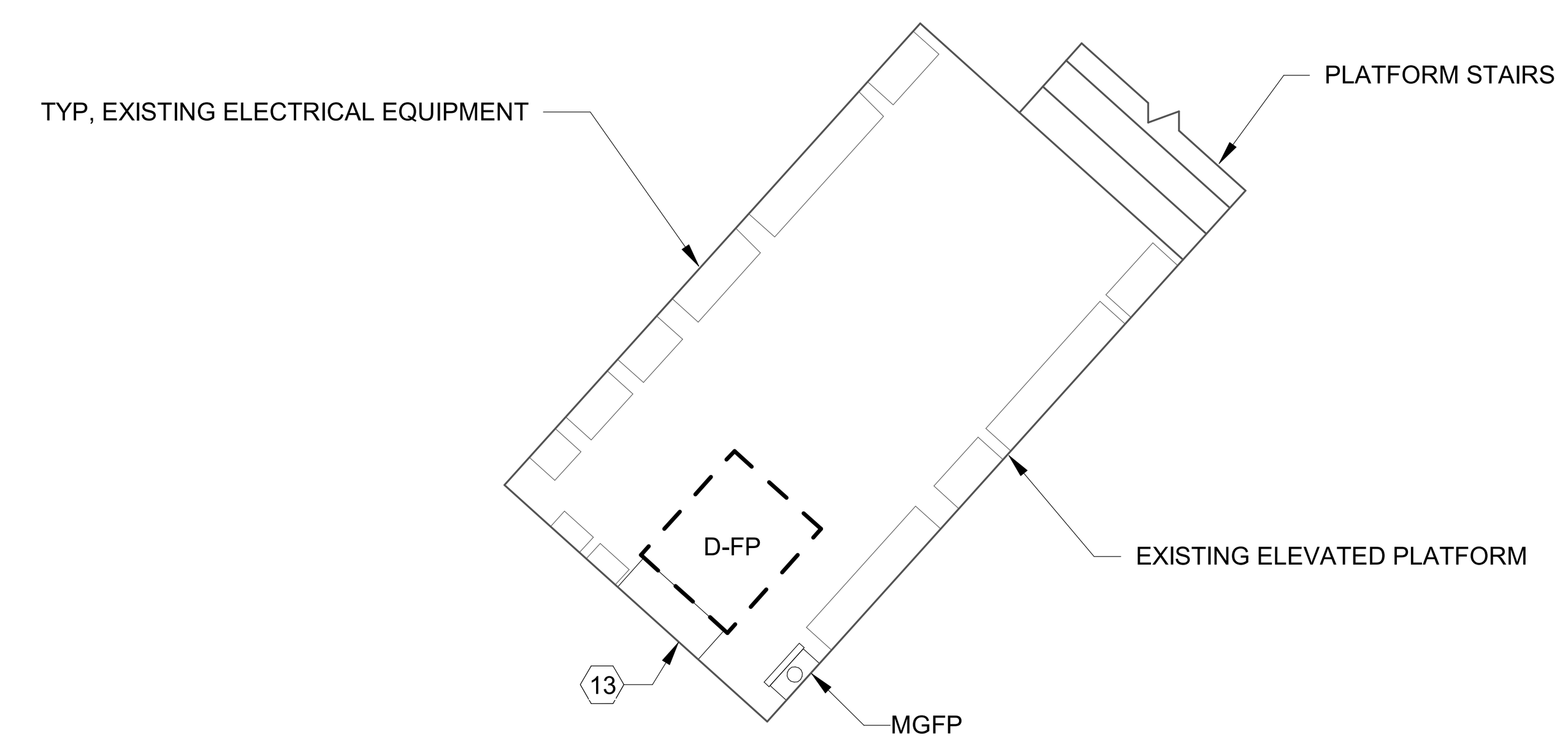
9 NEW CONTROLLER FOR RELOCATED FIRE PUMP. COORDINATE CONTROL WIRING FOR FIRE PUMP WITH CONTROLLER MANUFACTURER.

10 INSTALL HEAT TRACE PIPING FOR WET SYSTEM FROM NEW FIRE PUMP ROOM TO EXISTING SHIP STORE. HEAT TRACE SHALL BE RAYCHEM WINTERGARD H312100 WITH H908 GROUND FAULT ACCESSORY OR APPROVED EQUAL.

11 ROUTE 1-1/2" CONDUIT FROM PUBLIC TELEPHONE ENCLOSURE AT BUILDING EXTERIOR TO THE INTERIOR OF THE BUILDING. CONDUIT SHALL BE STUBBED OUT 6" INTO BUILDING INTERIOR AS PRACTICAL. OUTSIDE CONDUIT PENETRATION SHALL BE SEALED AS REQUIRED. COORDINATE WITH LOCATION OF TELEPHONE.

12 UNDERGROUND CONDUIT SHALL STUB OUT FROM EXISTING RIP RAP. PPC SHALL RUN ABOVE GRADE AFTER LEAVING CONDUIT.

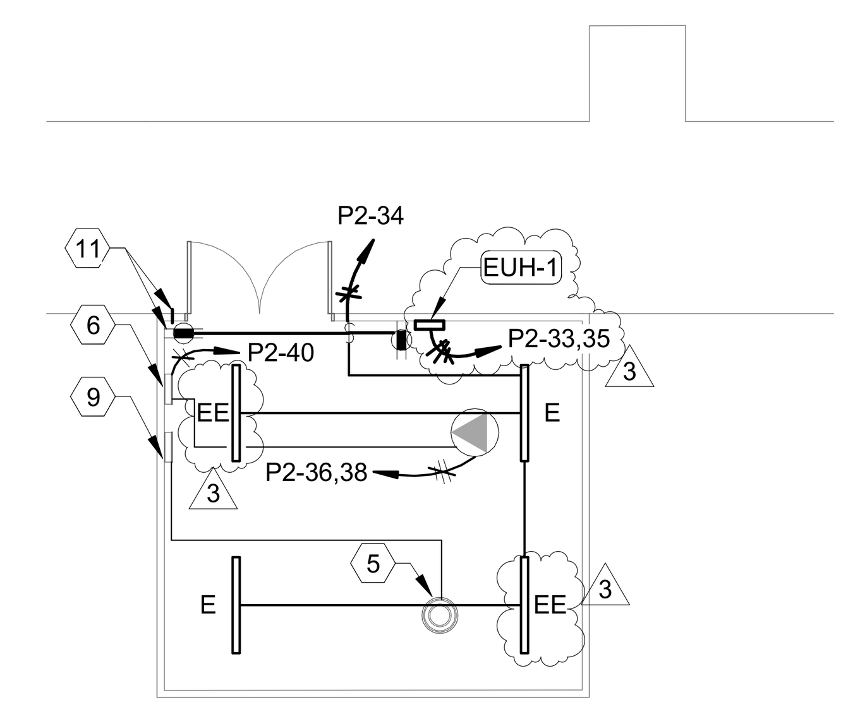
13 FIRE PUMP SHALL HAVE A SEPARATE DISCONNECT INDEPENDENT OF ANY OTHER EQUIPMENT. LOCATE THE FIRE PUMP DISCONNECT ON THE EXISTING ELEVATED PLATFORM ABOVE THE HIGH WATER MARK AND ABOVE THE ELECTRICAL DATUM PLANE. THE APPROCHING FACE OF THE DISCONNECTING MEANS SHALL BE PAINTED RED WITH 1.5" HIGH WHITE LETTERS STATING "FIRE PUMP DISCONNECT". SEE RISER DIAGRAM, ONE-LINE DIAGRAM, AND EQUIPMENT SCHEDULES FOR ADDITIONAL INFORMATION.



4 / E1.0 ENLARGED ELECTRICAL PLATFORM

SCALE: 1/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

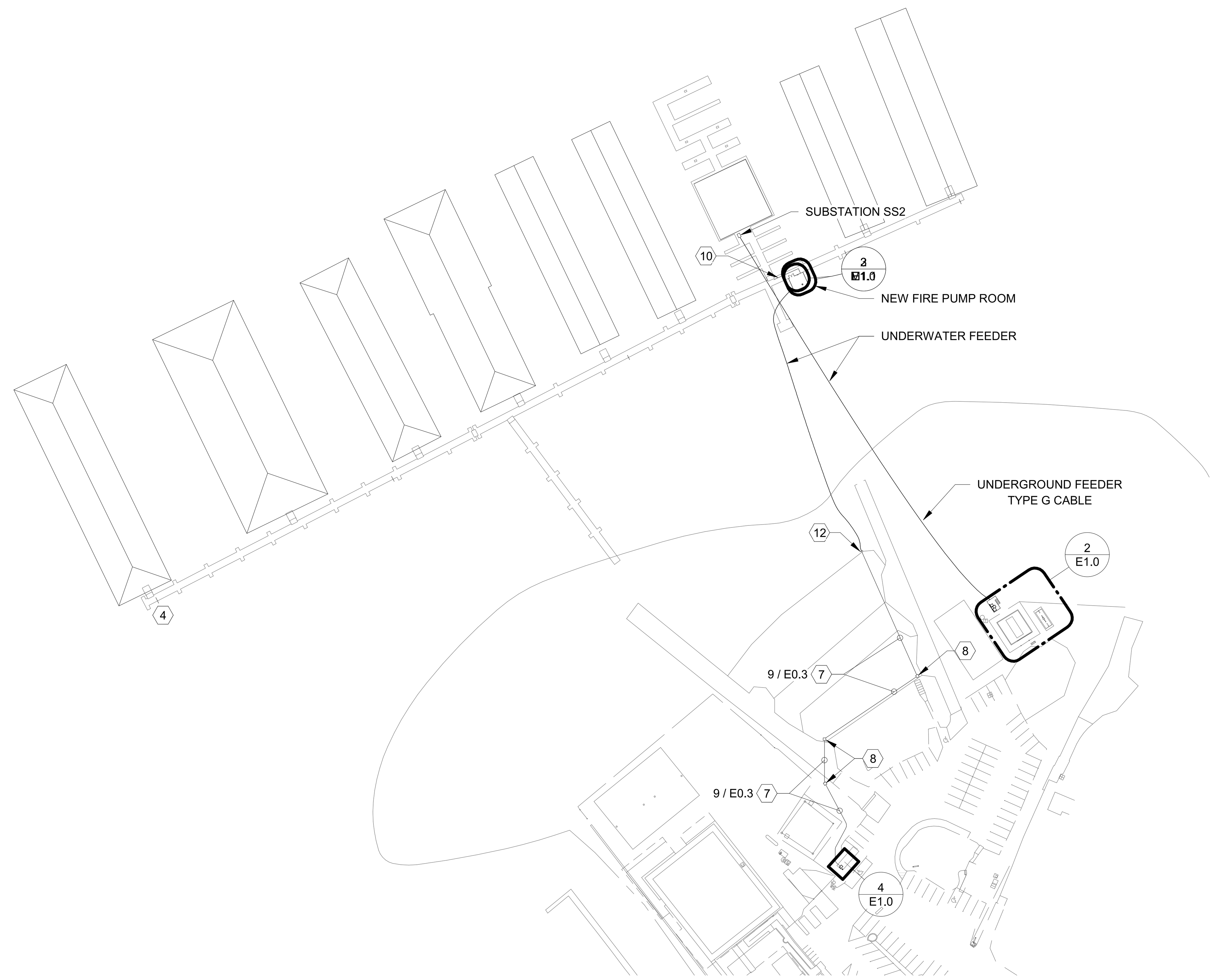
0' 2' 4' 8' 16'



3 / E1.0 FIRE PUMP ROOM POWER PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

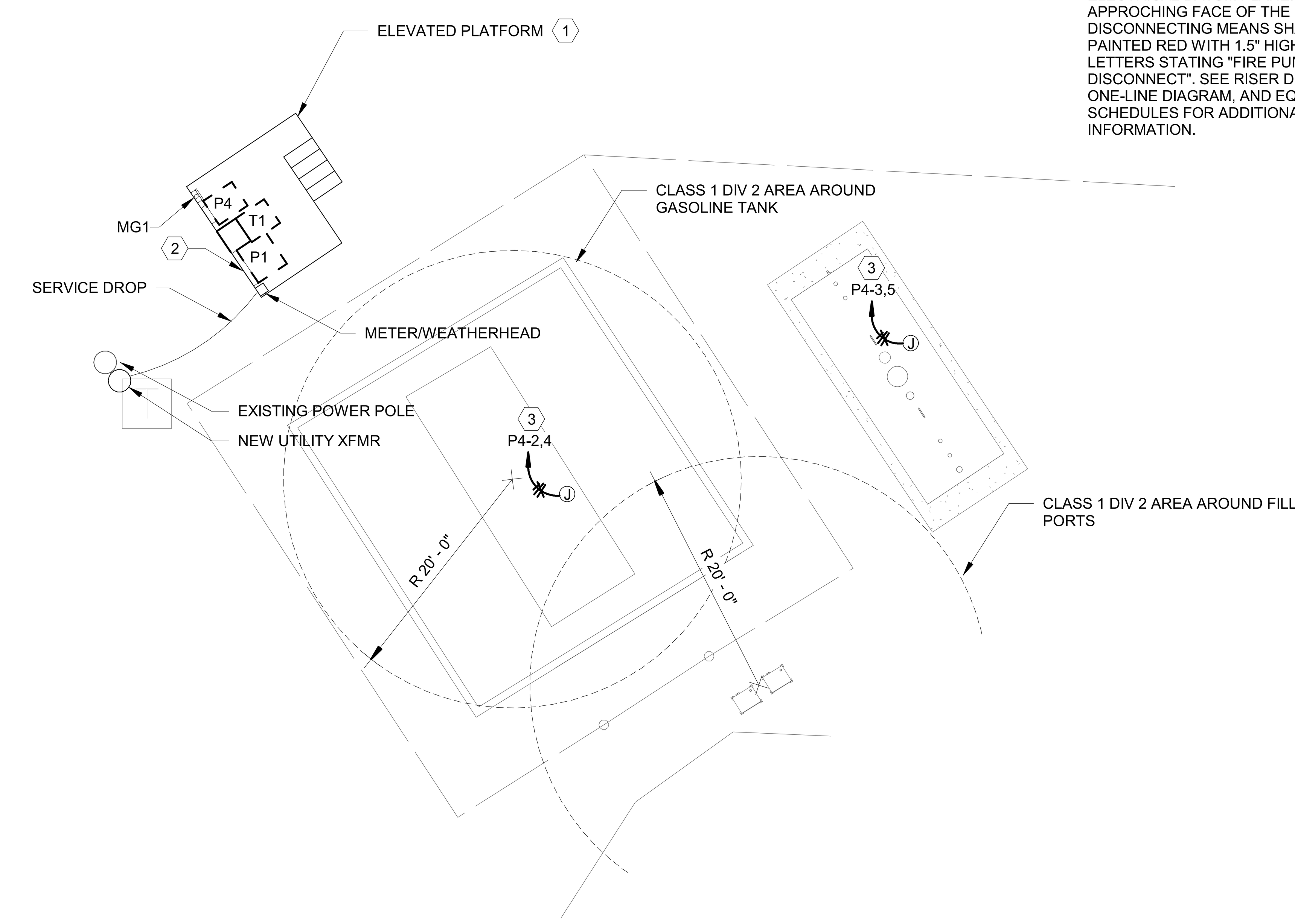
0' 4' 8' 16' 32'



1 / E1.0 ELECTRICAL SITE PLAN

SCALE: 1" = 100'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 50' 100' 200' 400'



2 / E1.0 ENLARGED ELECTRICAL PLATFORM AND FUEL TANKS

SCALE: 1" = 10'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 5' 10' 20' 40'

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No.	Date	Description
2	03/09/23	REVISION 2
3	04/20/23	PERMIT RESP

SHEET: E1.0

TITLE: ELECTRICAL SITE PLAN

JOB NO: 21094 DATE: 6-10-22

DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
136175
6-10-22
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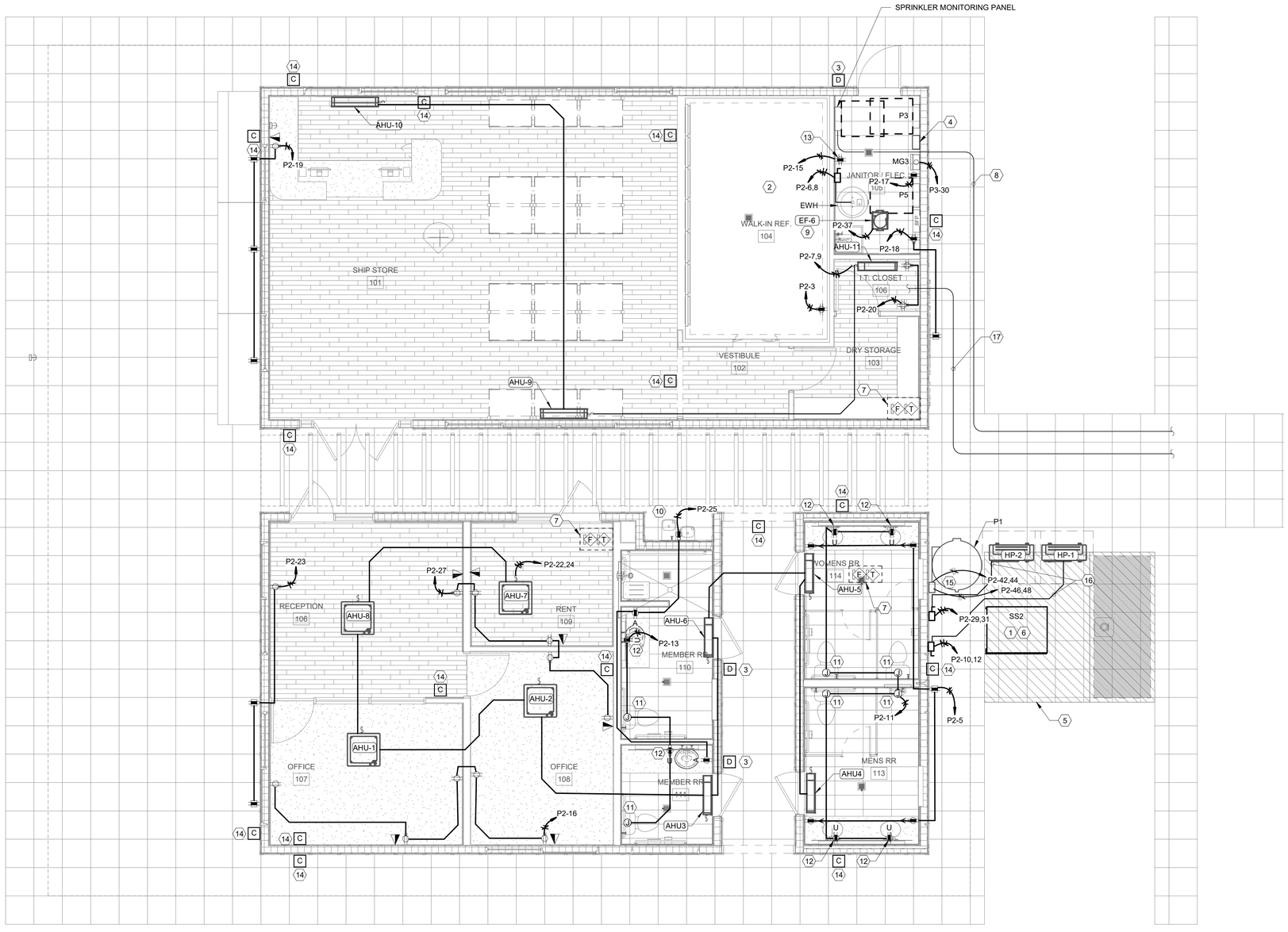

ELECTRICAL NOTES

NUMBERED NOTES

1. SHIP STORE SUBSTATION SS2. SS2 CONSISTS OF THE FOLLOWING:
   -480V 1Φ MOLDED CASE SWITCH M2
   -480V-120/240V 1Φ TRANSFORMER T2
   -120/240V 1Φ PANEL P2
   -GROUND FAULT MONITOR
2. COORDINATE EXACT CONNECTION REQUIREMENTS FOR WALK-IN REFRIGERATOR WITH MANUFACTURER.
3. DOOR ACCESS CARD READER MOUNTED 42" AFF. INSTALL BOX AND 3/4" CONDUIT FROM SECURITY CONTROL PANEL LOCATED IN JANITOR / ELEC (105).
4. PV GATEWAY AND AUTOMATIC SHUTDOWN BUTTON FOR PV SYSTEM.
5. COORDINATE FLOATATION REQUIREMENTS OF PLATFORM WITH SUBSTATION MANUFACTURER.
6. COORDINATE MECHANICAL UNIT LOCATIONS AND LOCATION OF DRY STANDPIPE STAGING AREA PRIOR TO INSTALLATION OF SUBSTATION.
7. COORDINATE EXACT QUANITITY AND LOCATIONS OF TAMPER AND FLOW SWITCHES WITH FIRE PROTECTION DRAWINGS. CONTRACTOR TO PROVIDE 24VDC CONNECTION IN 3/4" CONDUIT AS REQUIRED TO SPRINKLER MONITORING PANEL.
8. CONTRACTOR TO ROUTE (1) 1" PVC CONDUIT BELOW DECK TO UPLAND FOR CONNECTION TO REMOTE SPRINKLER/FIRE ALARM MONITORING. CONTRACTOR TO COORDINATE EXACT REQUIREMENTS WITH OWNER.
9. EXHAUST FAN TO BE CONTROLLED VIA THERMOSTAT.
10. COORDINATE RECEPTACLE MOUNTING WITH DRINKING FOUNTAIN ENCLOSURE.
11. INSTALL JUNCTION BOX WITHIN 12" OF SENSOR PER MANUFACTURER'S REQUIREMENTS. SIZE JUNCTION BOX PER MANUFACTURER RECOMMENDATIONS.
12. MOUNT RECEPTACLE FOR HARDWIRED FAUCETS BELOW SINK BUT AS HIGH AS PRACTICAL
13. PROVIDE DEDICATED 120V RECEPTACLE FOR SECURITY CONTROL PANEL.
14. CAMERA MOUNTED AT 10' AFF. INSTALL BOX AND 3/4" CONDUIT FROM SECURITY CONTROL PANEL IN JANITOR / ELEC. (105).
15. COORDINATE GRINDER PUMP ALARM WIRING WITH MANUFACTURER.
16. UNDER DECK WIRING.
17. CONTRACTOR SHALL COORDINATE INSTALLATION, ROUTING, MOVEMENT/FLUCTUATION OF THE MARINA, AND FINAL STUB UP LOCATION ON LAND OF THE COMMUNICATIONS CONDUITS WITH THE ENGINEER, OWNER, AND EXISTING CONDITIONS.

1 / E1.1 ELECTRICAL POWER PLAN

SCALE: 1/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 2' 4' 8' 16'

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No.	Date	Description
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SHEET: E1.1

TITLE: ELECTRICAL POWER PLAN

DATE: 6-10-22

JOB NO.: 21094

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6-10-22
136175
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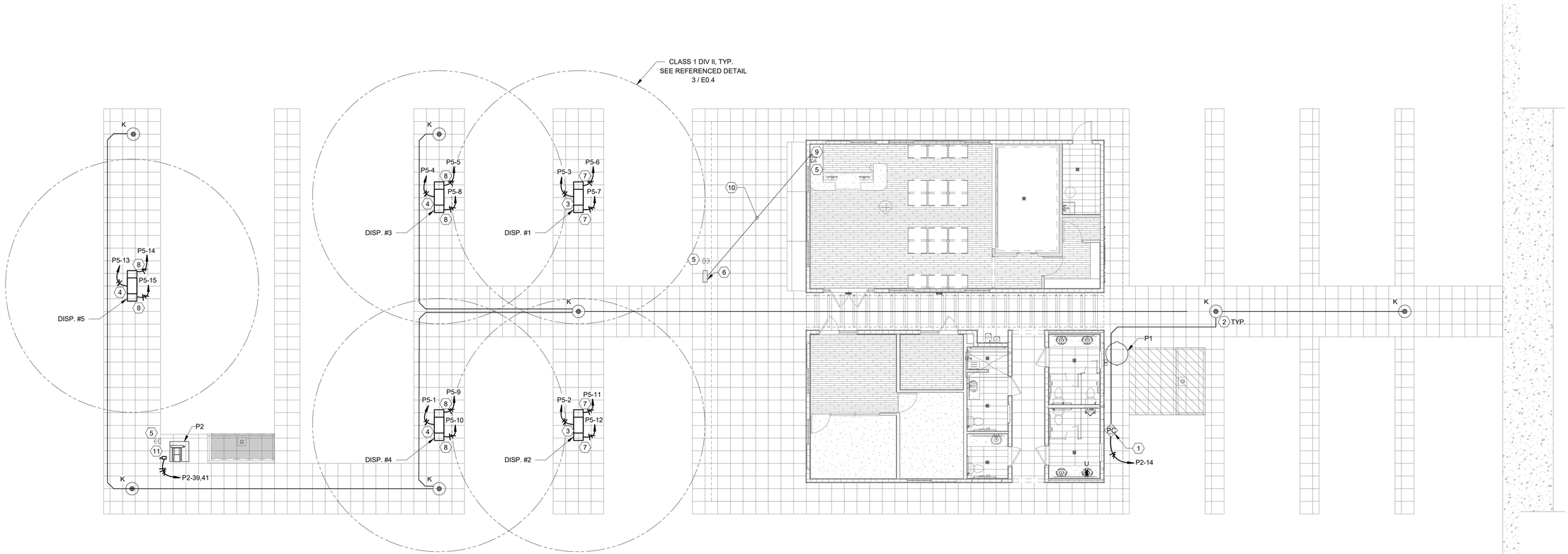
⟨#⟩ ELECTRICAL NOTES

NUMBERED NOTES

1. POLE MOUNTED LIGHTING TO BE CONTROLLED VIA PHOTOCELL.
2. COORDINATE MOUNTING OF POST TOP SITE LIGHTS WITH DOCK MANUFACTURER.
3. GASOLINE FUEL DISPENSER. DISPENSER SHALL BE DUAL SIDED, SINGLE PRODUCT. COORDINATE MANUFACTURER AND STYLE WITH OWNER.
4. GASOLINE AND DIESEL FUEL DISPENSER. DISPENSER SHALL BE DUAL SIDED, DOUBLE PRODUCT. COORDINATE MANUFACTURER AND STYLE WITH OWNER.
5. E-STOP FOR FUELING SYSTEM. BUTTON SHALL BE A MOMENTARY PUSH. RUN A30 FEED TO PUMP'S SHUNT TRIP BREAKER. COORDINATE MOUNTING, CIRCUITRY, AND OTHER INSTALLATION REQUIREMENTS.
6. NEW POINT OF SALE (POS). POS SHALL BE FREE STANDING FUEL MASTER 3500T. ROUTE SHIELDED AND WET LISTED CAT6 CABLE IN 3/4" CONDUIT TO POS FROM SHIP STORE.
7. MOTORIZED HOSE REEL. (2) 3/4" DIAMETER FUEL HOSES, 50' LENGTH.
8. MOTORIZED HOSE REEL. (1) 1" DIAMETER FUEL HOSE, 50' LENGTH AND (1) 1" DIAMETER FUEL HOSE 100' LENGTH.
9. NEW VEEDER ROOT T0S 4I MODEL.
10. CONTRACTOR SHALL ROUTE (1) 1" PVC CONDUIT TO FUEL POS.
11. DISCONNECT SWITCH TO BE MOUNTED TO UNISTRUT.

GENERAL NOTES

A. REFER TO SHEET E0.1 FOR LIGHTING FIXTURE SCHEDULE.



1 E1.2 ELECTRICAL PLAN - DOCK

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

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Revisions: No.	Date	Description

SHEET: E1.2

TITLE: ELECTRICAL DOCK PLAN

JOB NO. 21094 | DATE: 6-10-22

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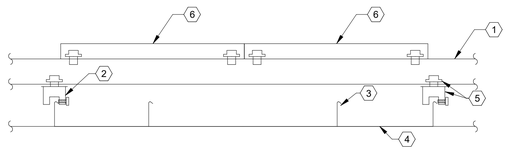


ELECTRICAL NOTES

NUMBERED NOTES

1 ROOF MOUNT PV RAIL, TYPICAL. BASIS OF DESIGN IRONRIDGE.

2 STAND SEAM U CLAMP FOR PV MODULE MOUNTING. BASIS OF DESIGN: S-5-U. INSTALL PER MANUFACTUER RECOMMENDATION.

3 3" STANDING SEAM, TYPICAL.

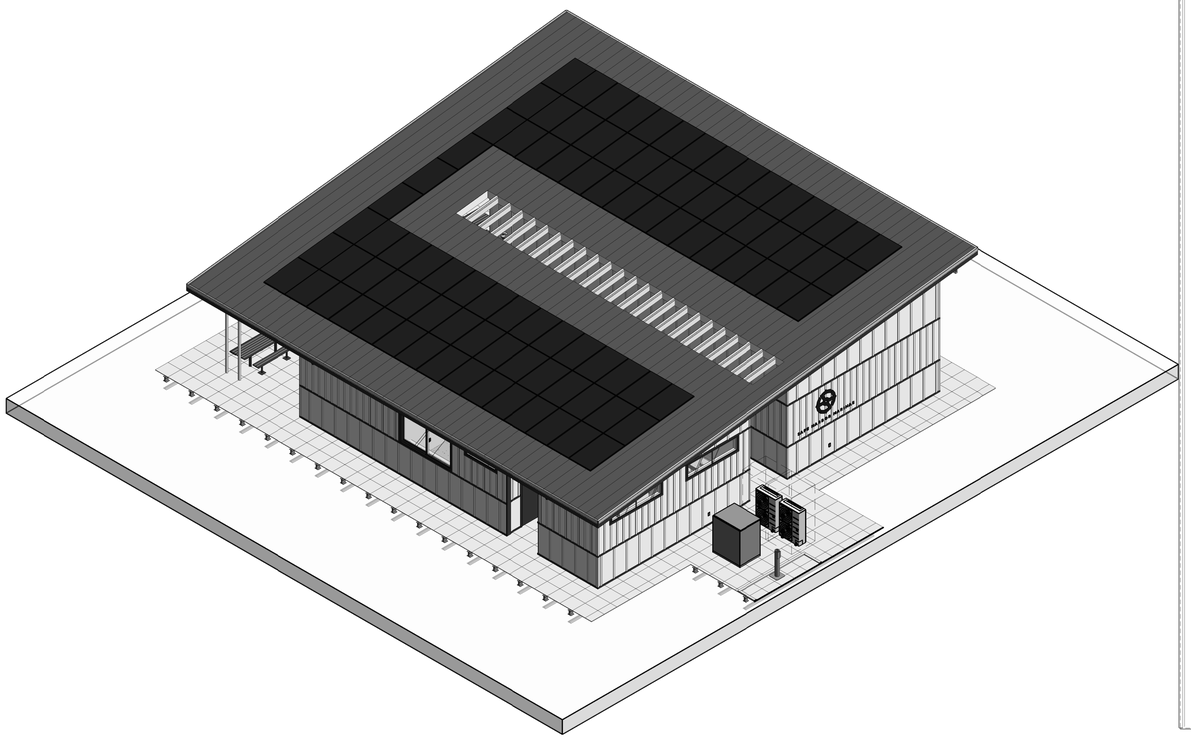
4 ROOF STRUCTURE.

5 SCREW HARDWARE PROVIDED WITH CLAMP, TYPICAL.

6 PV MODULE MOUNTED TO RAIL. COORDINATE INSTALLATION WITH MANUFACTUER.

1 / E1.3 SLOPE ROOF PV MOUNTING DTL, TYPICAL

NOT TO SCALE



2 / E1.3 ROOF PV ISOMETRIC

NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES

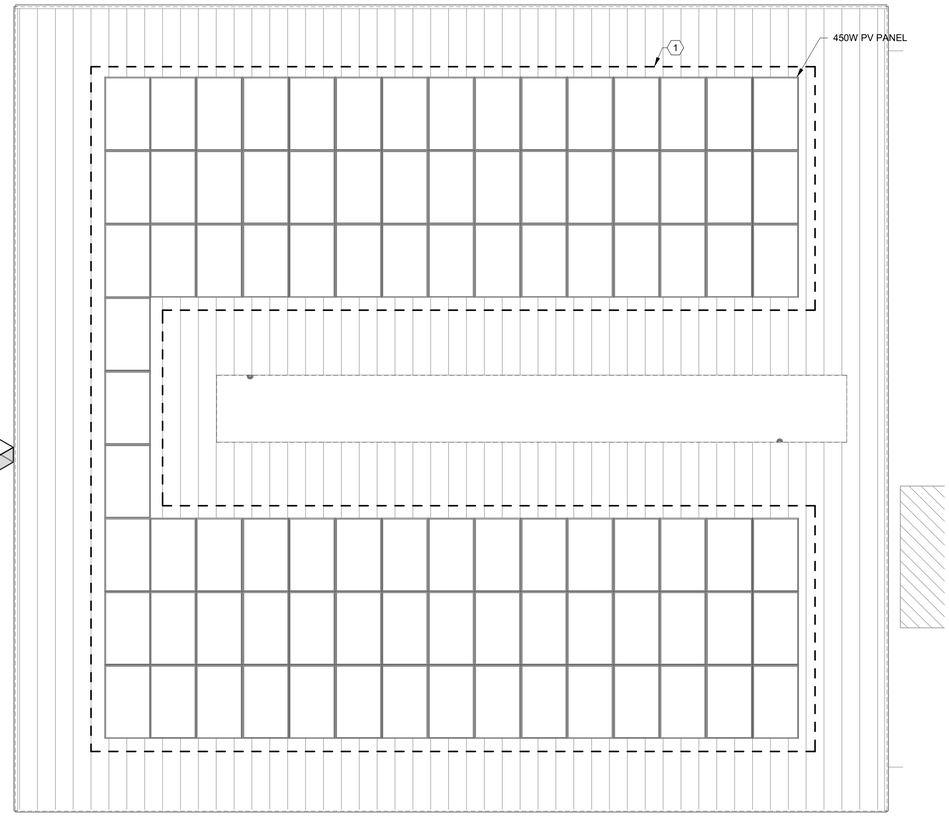
1 ALL PV PANELS LOCATED ON ROOF TO BE CONNECTED AS SHOWN ON SHEET E3.3. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.

2 MINIMUM CLEARANCE OF 3'-0" BETWEEN SOLAR PANELS AND EDGE OF SLOPED ROOF.

GENERAL NOTES

A 450W PANEL BASIS OF DESIGN IS BOVIET.

B 5 DEGREE RACKING SYSTEM BASIS OF DESIGN IS PANELCLAW.



3 / E1.3 FIRST FLOOR POWER PLAN

SCALE: 3/16" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 5'-4" 10'-8" 16'-0"

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SHEET: E1.3

TITLE: ELECTRICAL ROOF PLAN

JOB NO: 21094

DATE: 6-10-22

DWN BY: AJG

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6-10-22
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1 E1.4 PV SOLAR ARRAY
NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES

1. BOVIET BVM6612M9-450S-H-HC 450W PANEL. TYPICAL.
2. AP SYSTEMS DS 3 MICRO-INVERTER MOUNTED ON BACK OF SOLAR MODULE. COORDINATE MOUNTING. EACH INVERTER HAS A MAXIMUM OUTPUT POWER OF 640W AT 240V. (8) MICRO-INVERTERS COULD PRODUCE A MAXIMUM OF 5120 WATTS PER CIRCUIT. AT 240V 1Φ, EACH CIRCUIT COULD PRODUCE A MAXIMUM OF 22 AMPS. TYPICAL.
3. 120V 20A DUPLEX OUTLET. COORDINATE MOUNTING LOCATION.
4. 2 POLE 30A CIRCUIT BREAKER PER BRANCH CIRUIT, TYPICAL.
5. 200A 240V 1Φ SQUARE D NQ PANEL.
6. ENVOY COMMUNICATIONS GATEWAY.
7. ETHERNET CONNECTION TO BROADBAND ROUTER BY OTHERS.
8. RAPID SHUTDOWN SWITCH. INSTALL SIGNAGE PER NEC 690 PART XI.

SHIP STORE FOR
SAFE HARBOR EMERALD POINT
5973 HILINE ROAD
AUSTIN, TX

MAFFETT LOFTIS ENGINEERING, LLC
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TEL: (931) 526-5143
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Revisions indicated w/ △

Revisions:

No.	Date	Description

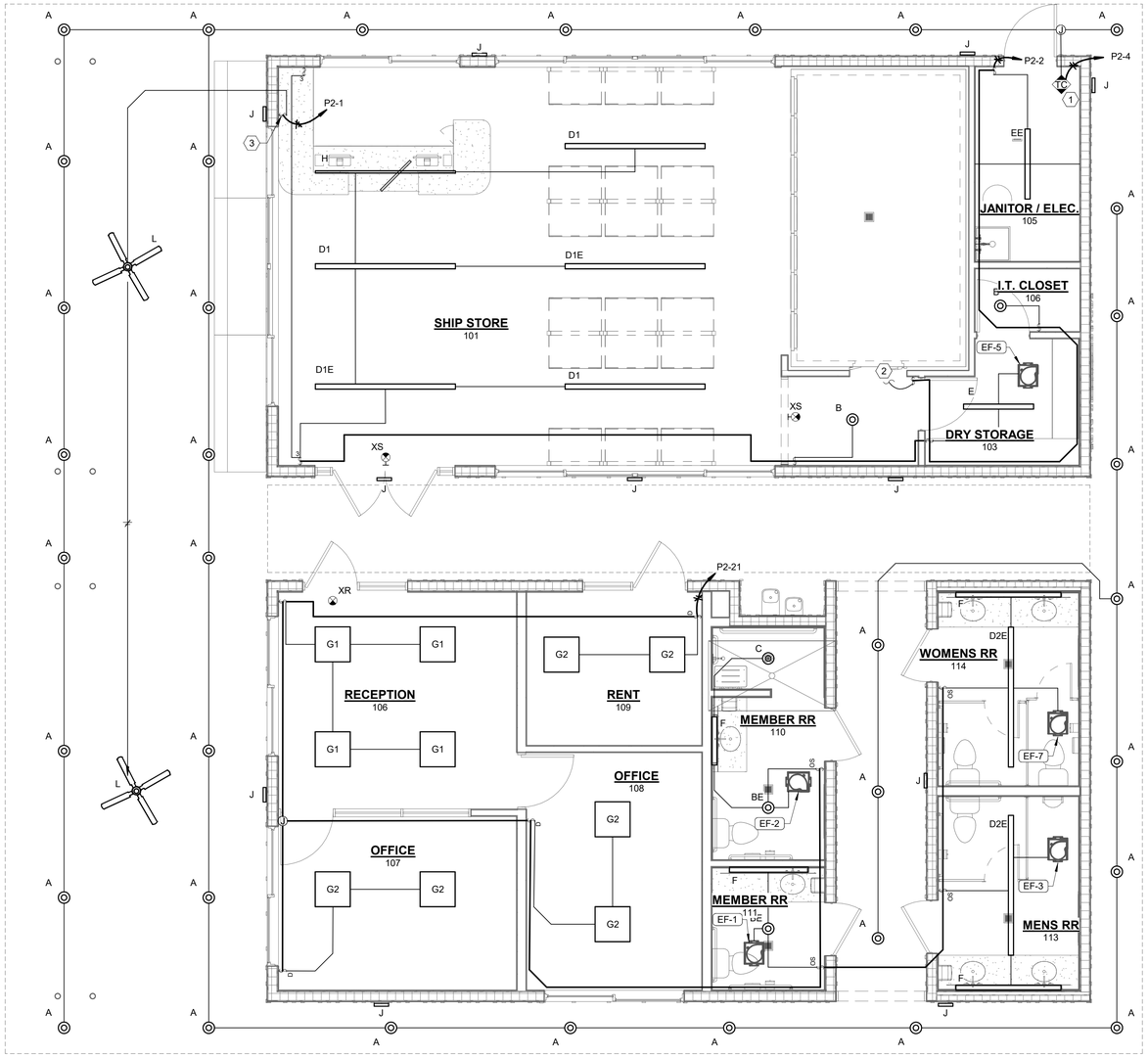
SHEET: E1.4

TITLE: ELECTRICAL SOLAR PV ARRAY DIAGRAM

JOB NO: 21094 DATE: 6-10-22

DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
136175
LICENSED PROFESSIONAL ENGINEER
6-10-22



2 FIRST FLOOR LIGHTING PLAN

E2.1

SCALE: 1/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 2' 4' 8' 16'

ELECTRICAL NOTES

NUMBERED NOTES

1. ALL EXTERIOR LIGHTING CIRCUITS TO BE CONTROLLED VIA ASTRONOMICAL TIME CLOCK EQUAL TO TORK DWZ200B LOCATED IN JANITOR / ELEC ROOM.
2. COORDINATE WALK-IN COOLER LIGHTING WITH MANUFACTURER.
3. PROVIDE FAN SPEED CONTROLLER FROM SAME MANUFACTURER AS CEILING FANS.

GENERAL NOTES

- A REFER TO SHEET E0.1 FOR LIGHTING FIXTURE SCHEDULE.
- B PROVIDE UNSWITCHED HOT CONDUCTOR TO ALL EXIT SIGNS , E4, AND J FIXTURES FROM CIRCUIT WITHIN THE SAME SPACE.

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Revisions indicated w/ △

Revisions:

No.	Date	Description

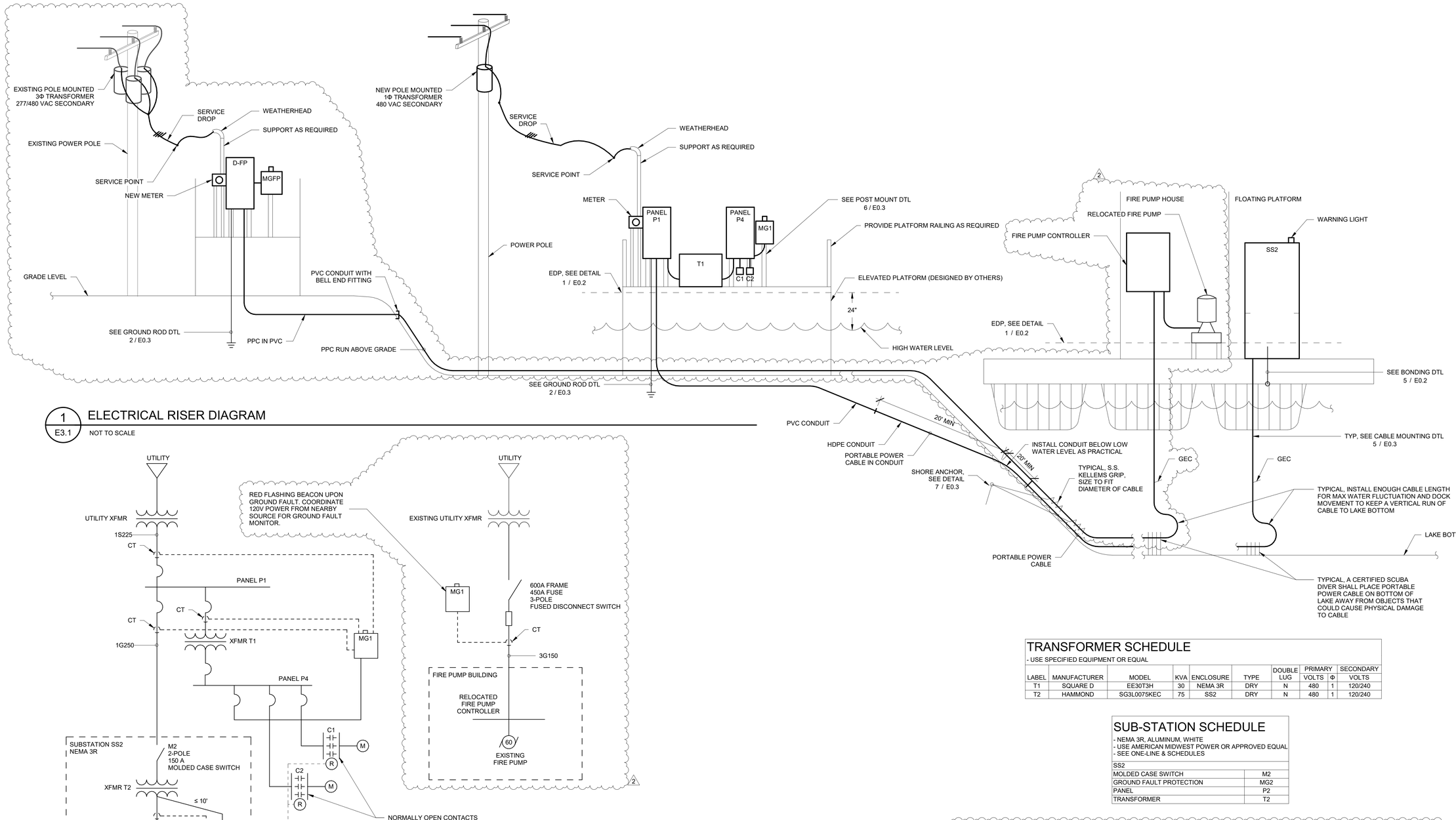
SHEET: E2.1

TITLE: ELECTRICAL LIGHTING PLAN

JOB NO: 21094 DATE: 6-10-22

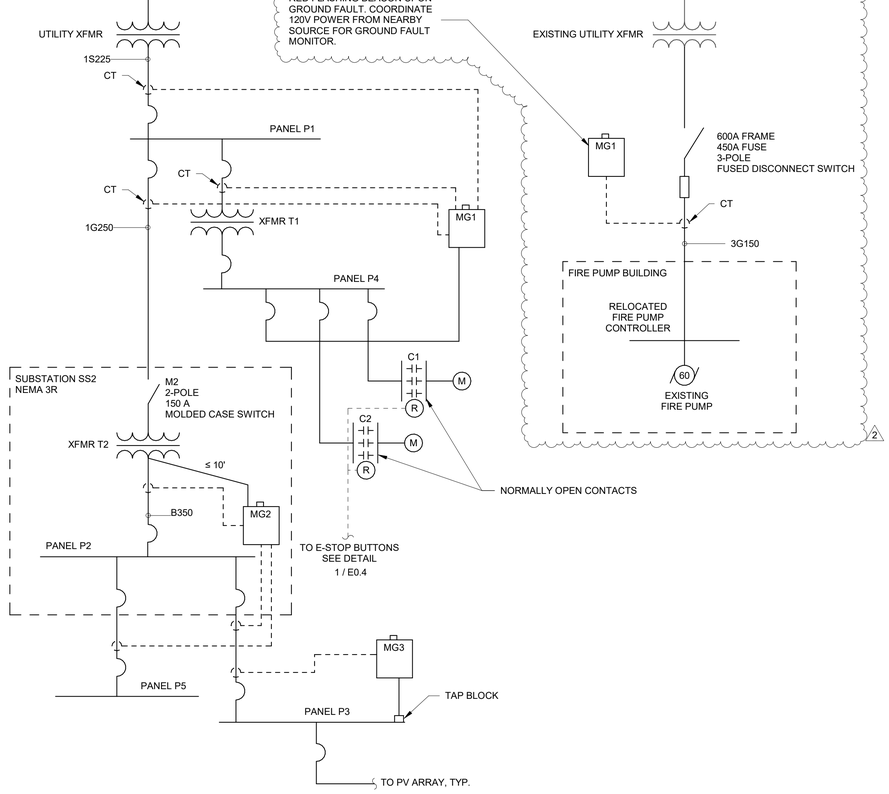
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



1 E3.1 ELECTRICAL RISER DIAGRAM

NOT TO SCALE



2 E3.1 ELECTRICAL ONE-LINE DIAGRAM

NOT TO SCALE

TRANSFORMER SCHEDULE

- USE SPECIFIED EQUIPMENT OR EQUAL

LABEL	MANUFACTURER	MODEL	KVA	ENCLOSURE	TYPE	DOUBLE LUG	PRIMARY VOLTS	PRIMARY Φ	SECONDARY VOLTS
T1	SQUARE D	EE30T3H	30	NEMA 3R	DRY	N	480	1	120/240
T2	HAMMOND	SG3L0075KEC	75	SS2	DRY	N	480	1	120/240

SUB-STATION SCHEDULE

- NEMA 3R, ALUMINUM, WHITE
- USE AMERICAN MIDWEST POWER OR APPROVED EQUAL
- SEE ONE-LINE & SCHEDULES

SS2	
MOLDED CASE SWITCH	M2
GROUND FAULT PROTECTION	MG2
PANEL	P2
TRANSFORMER	T2

DISCONNECT SCHEDULE

- USE SPECIFIED EQUIPMENT OR EQUAL
- LOCKABLE DOOR

LABEL	FRAME	FUSE RATING	ENCLOSURE	VOLTS	Φ	POLES	NOTES
D-FP	600	450	TYPE 3R	480 V	3	3	SERVICE ENTRANCE RATED

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	VD (%)	GFPE TRIP (mA)	GFPE TIME (ms)
1,3,5	FIRE PUMP	2.43	90-100	100-250

2

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Revisions indicated w/ △

Revisions: No.	Date	Description
2	03/09/23	REVISION 2

SHEET: E3.1
TITLE: ELECTRICAL RISER AND ONE-LINE DIAGRAM
DATE: 6-10-22
JOB NO: 21094
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER

BRANCH PANEL: P1

LOCATION: ELEVATED PLATFORM
SUPPLY FROM: UTILITY
MOUNTING: SURFACE
ENCLOSURE: TYPE 3R

TYPE: SQUARE D I-LINE
VOLTS: 240/480 Single
PHASES: 1
WIRES: 3

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RAITING: 225 A (SHUNT TRIP)

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
50 A	2	B50	3	T1	1	0.0 kVA	0.0 kVA			2	T2	3	1G250	2	150 A
					3			0.0 kVA	0.0 kVA	4					
--	1		--	Space	5	--	--			6	Space	--		1	--
--	1		--	Space	7			--	--	8	Space	--		1	--
--	1		--	Space	9	--	--			10	Space	--		1	--
--	1		--	Space	11			--	--	12	Space	--		1	--
				Total Load:		0.0 kVA		0.0 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
Non-Continuous	0.0 kVA	0.00%	0.0 kVA		
				TOTAL CONN. LOAD (kVA):	0.0 kVA
				TOTAL EST. DEMAND (kVA):	0.0 kVA
				TOTAL CONN.:	0 A
				TOTAL EST. DEMAND:	0 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP
4. 30mA GFP
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	GFPE TRIP (mA)	GFPE TIME (ms)
1,3	T1	100	200
2,4	T2	100	200

BRANCH PANEL: P2

LOCATION: SS2
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: SS2

TYPE: SQUARE D NQ
VOLTS: 120/240 Single
PHASES: 1
WIRES: 3

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB
MAINS RATING: 400 A
MCB RAITING: 300 A

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
20 A	1	A20	4	CEILING FANS	1	0.1 kVA	0.4 kVA			2	LIGHTING	4	A20	1	20 A
20 A	1	A20	4	WALK-IN COOLER RECPT.	3			0.4 kVA	0.8 kVA	4	LIGHTING	4	A20	1	20 A
20 A	1	A20	4	BATHROOM RECEPT.	5	0.9 kVA	2.3 kVA			6	D-WH	3	B30	2	30 A
15 A	2	B20	3	AHU 9-11	7			1.0 kVA	2.3 kVA	8					
20 A	1	A20	4	ELECTRIC FAUCETS / TOILETS	9	1.0 kVA	2.3 kVA			10	D-CU-2	3	B50	2	40 A
20 A	1	A20	4	ELECTRIC FAUCETS / TOILETS	11			0.5 kVA	2.3 kVA	12					
20 A	1	A20	4	SECURITY CONTROL PANEL	13	0.4 kVA	0.7 kVA			14	DOCK LIGHTING	4	A20	1	20 A
20 A	1	A20	4	COMMUNICATIONS GATEWAY RECEPTACLE	15			0.4 kVA	0.9 kVA	16	OFFICE RECEPT.	4	A20	1	20 A
20 A	1	A20	4	SHIP STORE REC.	17	0.2 kVA	0.5 kVA			18	JANITOR RECPT.	4	A20	1	20 A
20 A	1	A20	4	LIGHTING	19			0.7 kVA	0.7 kVA	20	RECEPTACLE	4	A20	1	20 A
20 A	1	A20	4	RECEPTION RECEPT.	21	0.6 kVA	0.2 kVA			22	AHU UNITS	3	B20	2	20 A
20 A	1	A20	4	BATHROOM RECEPT.	23			0.5 kVA	0.2 kVA	24					
20 A	1	A20	4	OFFICE RECEPT.	25	0.5 kVA	3.6 kVA			26	P5	3	B100	2	100 A
50 A	2	B50	3	D-CU-1	27			0.9 kVA	3.4 kVA	28					
					29	0.0 kVA	0.0 kVA			30	SPRINKLER MONITORING PANEL	4	B20	2	20 A
20 A	2	B30	4	EUH-1	31			0.0 kVA	0.0 kVA	32					
					33	1.5 kVA	0.3 kVA			34	FIRE PUMP ROOM LIGHTS AND RECEPTACLE	4	A20	1	20 A
15 A	1	A20	4	EF-6	35			1.5 kVA	1.0 kVA	36	JOCKEY PUMP	4	B20	2	15 A
					37	0.0 kVA	1.0 kVA			38					
50 A	2	B50	4	P-2 PUMP	39			3.4 kVA	0.4 kVA	40	JOCKEY PUMP CONTROLLER	4	A20	1	20 A
					41	3.4 kVA	1.4 kVA			42	DUPLEX GRINDER PUMP	4	B30	2	30 A
					43			1.4 kVA		44					
					45		1.4 kVA			46	DUPLEX GRINDER PUMP	4	B30	2	30 A
					47			1.4 kVA		48					
					49					50					
200 A	2	B200	2,3	PV ARRAY (P3) SUBMOUNT	51			0.1 kVA		52					
					53	0.0 kVA				54					
				Total Load:		22.6 kVA		24.1 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
HVAC	6.9 kVA	100.00%	6.9 kVA		
Receptacle	7.7 kVA	100.00%	7.7 kVA	**TOTAL CONN. LOAD (kVA):**	46.6 kVA
Continuous	2.7 kVA	125.00%	3.3 kVA	**TOTAL EST. DEMAND (kVA):**	47.3 kVA
Non-Continuous	29.3 kVA	100.00%	29.3 kVA	**TOTAL CONN.:**	194 A
				TOTAL EST. DEMAND:	197 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP
4. 30mA GFP
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY
B. HOSPITAL-GRADE

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	GFPE TRIP (mA)	GFPE TIME (ms)
6,8	D-WH	100	200
7,9	AHU 9-11	100	200
10,12	D-CU-2	100	200
22,24	AHU UNITS	100	200
26,28	P5	100	200
29,31	D-CU-1	100	200
51,53	PV ARRAY (P3) SUBMOUNT	100	200

BRANCH PANEL: P3

LOCATION: JANITOR / ELEC. 105
SUPPLY FROM: P2
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

TYPE: SQUARE D NQ
VOLTS: 120/240 Single
PHASES: 1
WIRES: 3

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB
MAINS RATING: 200 A
MCB RAITING: 200 A (SHUNT TRIP)

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
30 A	2	B30		PV ARRAY	1	0.0 kVA	0.0 kVA			2	PV ARRAY		B30	2	30 A
					3			0.0 kVA	0.0 kVA	4					
30 A	2	B30		PV ARRAY	5	0.0 kVA	0.0 kVA			6	PV ARRAY		B30	2	30 A
					7			0.0 kVA	0.0 kVA	8					
30 A	2	B30		PV ARRAY	9	0.0 kVA	0.0 kVA			10	PV ARRAY		B30	2	30 A
					11			0.0 kVA	0.0 kVA	12					
30 A	2	B30		PV ARRAY	13	0.0 kVA	0.0 kVA			14	PV ARRAY		B30	2	30 A
					15			0.0 kVA	0.0 kVA	16					
30 A	2	B30		PV ARRAY	17	0.0 kVA	0.0 kVA			18	PV ARRAY		B30	2	30 A
					19			0.0 kVA	0.0 kVA	20					
30 A	2	B30		PV ARRAY	21	0.0 kVA	0.0 kVA			22	Spare			2	30 A
					23			0.0 kVA	0.0 kVA	24					
30 A	2	B30		PV ARRAY	25	0.0 kVA				26					
					27			0.0 kVA		28					
20 A	1			Spare	29	0.0 kVA	0.1 kVA			30	MG3	5	A20	1	20 A
--	1		--	Space	31			--	--	32	Space	--		1	--
--	1		--	Space	33	--	--			34	Space	--		1	--
--	1		--	Space	35			--	--	36	Space	--		1	--
--	1		--	Space	37	--	--			38	Space	--		1	--
--	1		--	Space	39			--	--	40	Space	--		1	--
--	1		--	Space	41	--	--			42	Space	--		1	--
				Total Load:		0.1 kVA		0.0 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
				TOTAL CONN. LOAD (kVA):	0.0 kVA
				TOTAL EST. DEMAND (kVA):	0.0 kVA
				TOTAL CONN.:	0 A
				TOTAL EST. DEMAND:	0 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP
4. 30mA GFP
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY

BRANCH PANEL: P4

LOCATION: ELEVATED PLATFORM
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: TYPE 3R

TYPE: SQUARE D NQ
VOLTS: 120/240 Single
PHASES: 1
WIRES: 3

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RAITING: 100 A

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
20 A	1	A20		MG1	1	0.1 kVA	1.4 kVA			2	GAS FUEL PUMP	3	B30	2	20 A
20 A	2	B30	3	DEISEL FUEL PUMP	3			1.4 kVA	1.4 kVA	4					
					5	1.4 kVA	0.0 kVA			6	Spare			1	20 A
20 A	1			Spare	7			0.0 kVA	0.0 kVA	8	Spare			1	20 A
20 A	1			Spare	9	0.0 kVA	0.0 kVA			10	Spare			1	20 A
20 A	1			Spare	11			0.0 kVA	0.0 kVA	12	Spare			1	20 A
20 A	1			Spare	13	0.0 kVA	0.0 kVA			14	Spare			1	20 A
--	1		--	Space	15			--	--	16	Space	--		1	--
--	1		--	Space	17	--	--			18	Space	--		1	--
--	1		--	Space	19			--	--	20	Space	--		1	--
--	1		--	Space	21	--	--			22	Space	--		1	--
--	1		--	Space	23			--	--	24	Space	--		1	--
				Total Load:		2.9 kVA		2.8 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
Motor	5.6 kVA	112.50%	6.3 kVA		
				TOTAL CONN. LOAD (kVA):	5.6 kVA
				TOTAL EST. DEMAND (kVA):	6.3 kVA
				TOTAL CONN.:	23 A
				TOTAL EST. DEMAND:	26 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP
4. 30mA GFP
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	GFPE TRIP (mA)	GFPE TIME (ms)
2,4	GAS FUEL PUMP	100	200
3,5	DEISEL FUEL PUMP	100	200

BRANCH PANEL: P5

LOCATION: JANITOR / ELEC. 105
SUPPLY FROM: P2
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

TYPE: SQUARE D NQ
VOLTS: 120/240 Single
PHASES: 1
WIRES: 3

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RAITING: 100 A (SHUNT TRIP)

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
20 A	1	A30		FUEL DISPENSER #4	1	0.2 kVA	0.2 kVA			2	FUEL DISPENSER #2		A30	1	20 A
20 A	1	A30		FUEL DISPENSER #1	3			0.2 kVA	0.2 kVA	4	FUEL DISPENSER #3		A30	1	20 A
20 A	1	A30		FUEL HOSE REEL	5	0.6 kVA	0.6 kVA			6	FUEL HOSE REEL		A30	1	20 A
20 A	1	A30		FUEL HOSE REEL	7			0.6 kVA	0.6 kVA	8	FUEL HOSE REEL		A30	1	20 A
20 A	1	A30		FUEL HOSE REEL	9	0.6 kVA	0.6 kVA			10	FUEL HOSE REEL		A30	1	20 A
20 A	1	A30		FUEL HOSE REEL	11			0.6 kVA	0.6 kVA	12	FUEL HOSE REEL		A30	1	20 A
20 A	1	A30		FUEL DISPENSER #5	13	0.2 kVA	0.6 kVA			14	FUEL HOSE REEL		A30	1	20 A
20 A	1	A30		FUEL HOSE REEL	15			0.6 kVA	0.0 kVA	16	E-STOP CIRCUIT		A20	1	20 A
20 A	1			Spare	17	0.0 kVA	0.0 kVA			18	Spare			1	20 A
20 A	1			Spare	19			0.0 kVA	0.0 kVA	20	Spare			1	20 A
--	1		--	Space	21	--	--			22	Space	--		1	--
--	1		--	Space	23			--	--	24	Space	--		1	--
--	1		--	Space	25	--	--			26	Space	--		1	--
--	1		--	Space	27			--	--	28	Space	--		1	--
--	1		--	Space	29	--	--			30	Space	--		1	--
				Total Load:		3.6 kVA		3.4 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
Non-Continuous	7.0 kVA	100.00%	7.0 kVA		
				TOTAL CONN. LOAD (kVA):	7.0 kVA
				TOTAL EST. DEMAND (kVA):	7.0 kVA
				TOTAL CONN.:	29 A
				TOTAL EST. DEMAND:	29 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP
4. 30mA GFP
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY

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15 JEFFERSON AVE, STE 101
COLORADO, TX 79501
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Revisions indicated w/ △

Revisions: No.	Date	Description
3	04/20/23	PERMIT RESP

SHEET: E3.2
TITLE: ELECTRICAL PANEL SCHEDULES
DATE: 6-10-22
JOB NO: 21094
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER

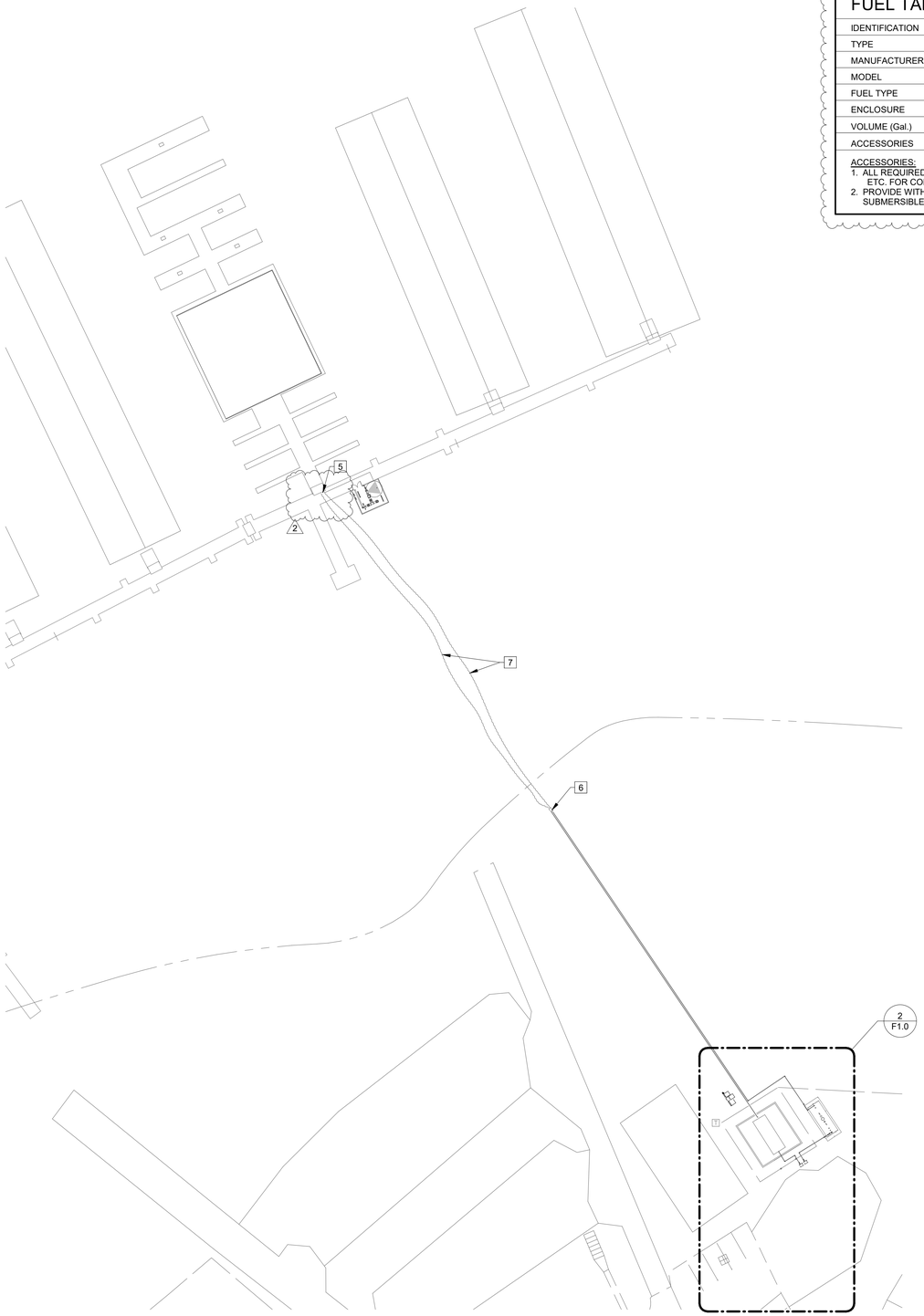
FUEL TANK SCHDULE

IDENTIFICATION	FT-1
TYPE	DOUBLE WALL
MANUFACTURER	MODERN WELDING CO.
MODEL	FIREGUARD
FUEL TYPE	DIESEL
ENCLOSURE	UL 2085
VOLUME (Gal.)	8,000
ACCESSORIES	1,2

ACCESSORIES:
1. ALL REQUIRED CONNECTIONS, VENTS, VALVES, CONTROLS, ETC, FOR COMPLTE DIESEL FUEL SYSTEM.
2. PROVIDE WITH A 2 HP REDJACKET (OR EQUAL) SUBMERSIBLE TURBINE PUMP.

FUEL NUMBERED NOTES

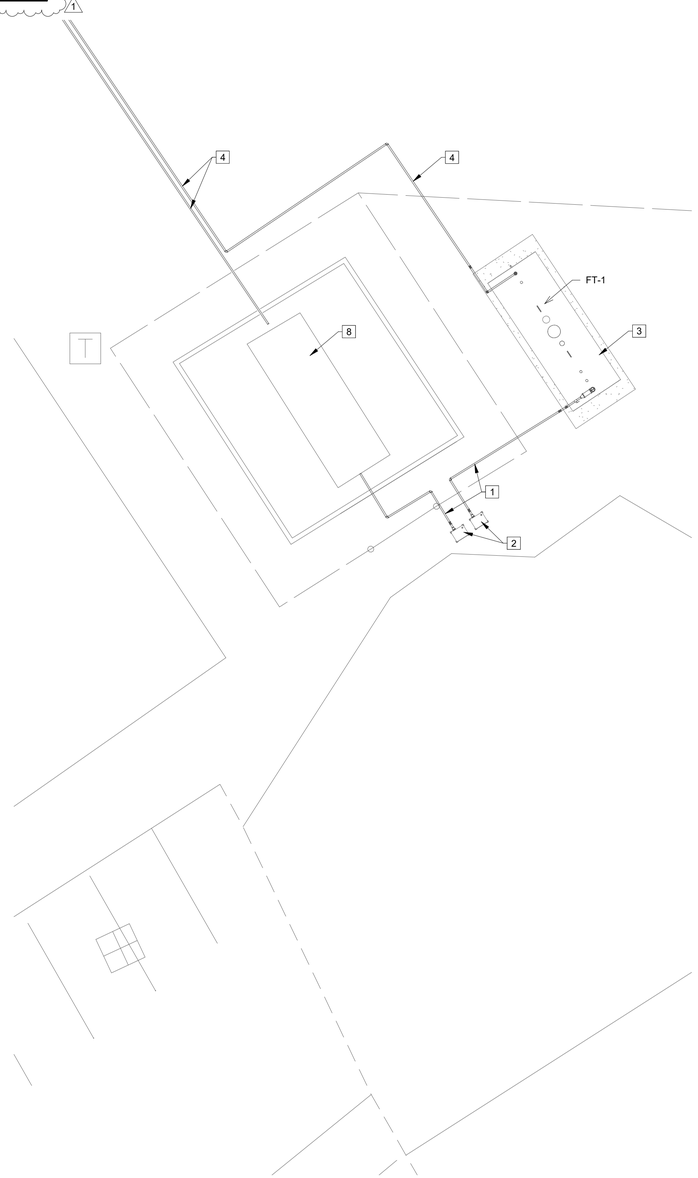
NUMBERED NOTES
1. TANK FILL PIPING FROM ABOVE GROUND CONTAINMENT CABINET.
2. ABOVE GROUND FILLING CONTAINMENT CABINET. COORDINATE LOCATION WITH OWNERS.
3. 8,000 gal. ABOVE GROUND DOUBLE WALL DIESEL TANK.
4. ABOVE GROUND FUEL LINE FROM TANK TO ON SHORE TRANSITION BOX.
5. SEE SHEET F1.1 FOR CONTINUATION.
6. ON SHORE TRANSITION BOX WITH SHUT-OFF AND DOUBLE BREAK-AWAY SAFETY VALVES. LOCATE ABOVE HIGH WATER LAKE LEVEL.
7. DOUBLE-WALLED FLEXIBLE FUEL HOSE ROUTED ON LAKE BOTTOM. PROVIDE SANDBAG WEIGHTS AS NEEDED. PROVIDE FUEL LINE FOR LAKE ELEVATION CHANGE.
8. EXISTING ABOVE GROUND GASOLINE TANK.



1 F1.0 OVERALL SITE FUEL PLAN

SCALE: 1" = 40'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 20' 40' 80' 160'



2 F1.0 ENLARGED FUEL SITE PLAN

SCALE: 1" = 10'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 5' 10' 20' 40'

SHIP STORE FOR SAFE HARBOR EMERALD POINT
5973 HILINE ROAD
AUSTIN, TX

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Revisions indicated w/ △

Revisions: No.	Date	Description
1	12/30/22	REVISION 1
2	03/09/23	REVISION 2

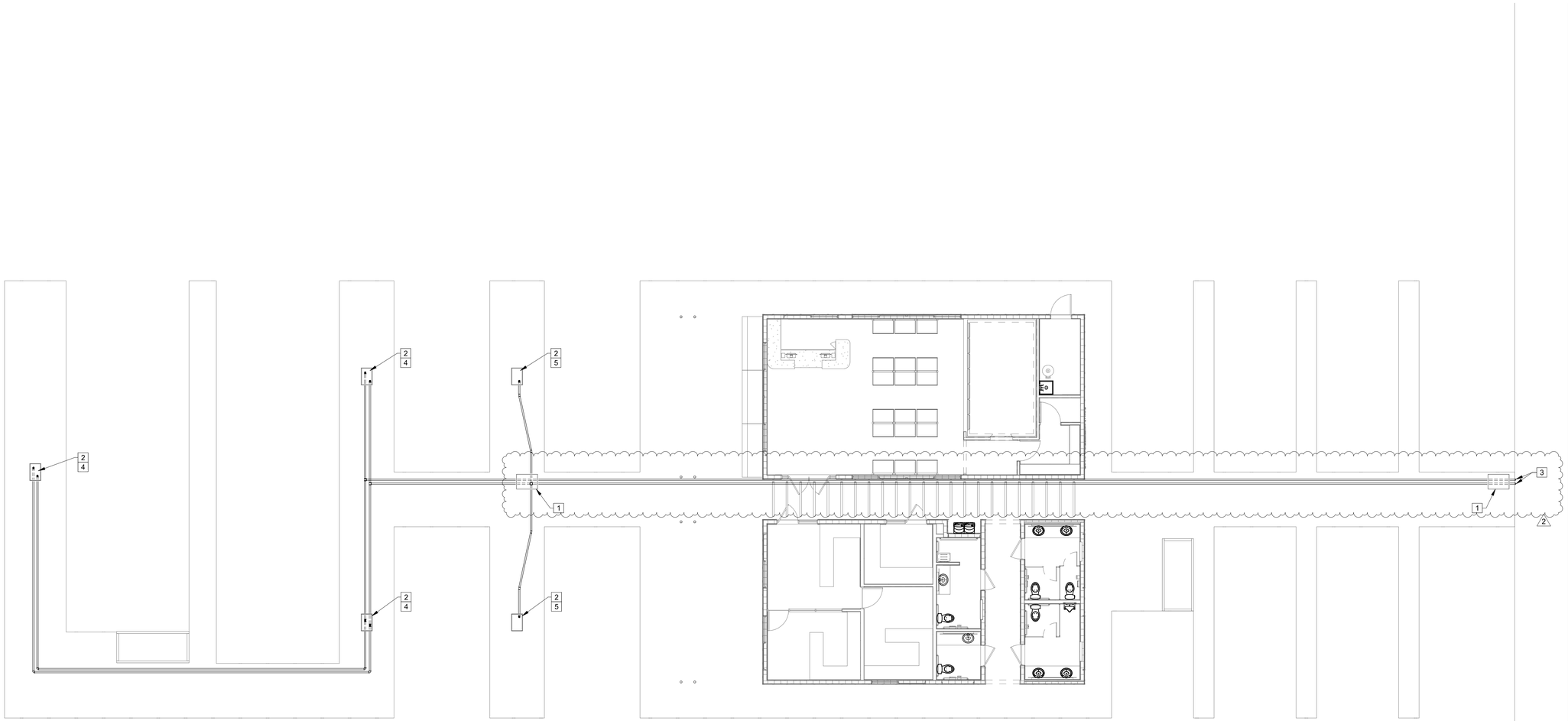
SHEET: F1.0

TITLE: FUEL SITE PLAN

JOB NO: 21094 DATE: 6-10-22

DWN BY: WAB

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



FUEL NUMBERED NOTES

NUMBERED NOTES

1. TRANSITION BOX WITH SHUT-OFF AND DOUBLE BREAK-AWAY SAFETY VAVLES. COORDINATE MOUNTING WITH ALL OTHER TRADES, OWNERS, AND DOCK MANUFACTURER.
2. NEW FUEL DISPENSER WITH TRANSITION BOX BELOW. COORDINATE LOCATION WITH OWNERS AND DOCK MANUFACTURER.
3. SEE SHEET F1.0 FOR CONTINUATION. COORDINATE.
4. NEW GASOLINE/DIESEL DISPENSER - PMC MODEL # CMDR2000 OR EQUAL.
5. NEW GASOLINE DISPENSER - PMC MODEL # CMDR2000 OR EQUAL.

1

1 / F1.1 FUEL PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

NORTH

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Revisions indicated w/ △

Revisions: No.	Date	Description
1	12/30/22	REVISION 1
2	03/09/23	REVISION 2

SHEET: F1.1
TITLE: FUEL PLAN
DATE: 6-10-22
JOB NO: 21094
DWN BY: WAB

STATE OF TEXAS
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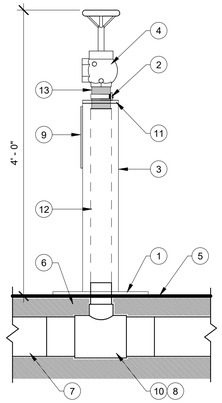
NUMBERED NOTES:

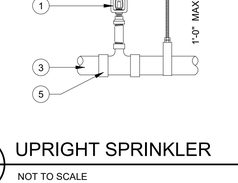


1. 16" x16" x 1/2" 304 STAINLESS STEEL BASE PLATE. SECURE TO DOCK STRUCTURE OR CONCRETE PAD.
2. STAINLESS STEEL PIPE CLAMP WITH SS BOLTS. WELD TO 6"Ø PIPE CAP.
3. 6"Ø SCHEDULE 80 STAINLESS STEEL 304 PIPE.
4. 2 1/2"Ø HOSE VALVE. COORDINATE WITH LOCAL FIRE DEPARTMENT.
5. DOCK FINISH SURFACE.
6. DOCK STRUCTURE.
7. 6"Ø HDPE FIRE LINE (FP) BLACK, UV STABLE FM APPROVED, CLASS 200, DR-9 PIPE AND FITTINGS. SUPPORT FROM DOCK STRUCTURE. COORDINATE.
8. COORDINATE ROUTING OF PIPE THRU DOCK STRUCTURE. OVERSIZE OPENING FOR EXPANSION AND CONTRACTION OF PIPE.
9. SIGNAGE. COORDINATE WITH LOCAL FIRE DEPARTMENT AND OWNER.
10. ALL FITTINGS SHALL BE RATED AND INSTALLED TO WITHSTAND THE FULL WORKING PRESSURE RATING OF THE PIPE.
11. CAP 6"Ø PIPE WITH 1/2" STAINLESS STEEL PLATE. WELD ALL AROUND.
12. ROUTED WITHIN 6"Ø SS PIPE.
13. HDPE TO 304 STAINLESS STEEL TRANSITION FITTING.

1 STANDPIPE DETAIL

FP0.1

NOT TO SCALE



NUMBERED NOTES

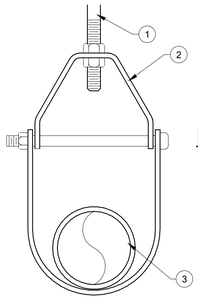
1. SPRINKLER PIPING
2. REDUCING COUPLING
3. CHROME FINISH
4. SEMI-RECESSED SPRINKLER
5. ACOUSTIC TILE CEILING

NOTE:
INSTALL ALL SPRINKLERS PER LISTING AGENCY AND MANUFACTURERS EQUIREMENTS.

2 TYPICAL PENDANT SPRINKLER DETAIL

FP0.1

NOT TO SCALE



NUMBERED NOTES

1. HANGER ROD, UP TO STRUCTURE ABOVE
2. CLEVIS HANGER
3. PIPE

3 PIPE HANGER DETAIL

FP0.1

NOT TO SCALE

NUMBERED NOTES

1. UPRIGHT SPRINKLER
2. ROOF / FLOOR ABOVE
3. SPRINKLER PIPING SYSTEM
4. HANGER AS REQUIRED
5. REDUCING TEE

4 UPRIGHT SPRINKLER

FP0.1

NOT TO SCALE

DESIGN INTENT CALCULATION

REMOTE AREA: ROOMS 106, 107, 108, 109, 110, 111, 113, 114

1. DESIGN DENSITY:

   LIGHT HAZARD

2. FLOW DEMAND:

0.10 GPM/S.F. x 1143 S.F.	=	114 gpm
HOSE DEMAND	=	-- gpm
LOSS FACTOR	=	58 gpm
TOTAL FLOW DEMAND	=	172 gpm

3. PRESSURE DEMAND:

LOSS THROUGH CITY METER	=	0 psi (NO METER)
LOSS THROUGH FIRE LINE	=	6 psi (60 FT)
ELEV. DIFF. MAIN TO RISER	=	1 psi (2 FT)
LOSS THROUGH BACKFLOW	=	-- psi (NO RPBP)
ELEVATION OF MAIN RISER	=	8 psi (12 FT)
DISTRIBUTION PIPING LOSS	=	12 psi
PRESSURE REQUIRED BY HEAD	=	17 psi
TOTAL	=	44 psi

4. PUMP FLOW DATA:

STATIC PRESSURE	=	120 psi
RESIDUAL PRESSURE	=	100 psi
FLOW	=	500 psi

PRESSURE AVAILABLE AT REQUIRED FLOW: 85 psi AT 500 gpm

5. AVAILABLE PRESSURE 0F 85 psi EXCEEDS DEMAND OF 44 psi BY 41 psi.
6. ZONE AREA SERVED: FIRST FLOOR

NOTE:
PUMP FLOW DATA TO BE UPDATED ONCE PUMP HAS BEEN SLECTED.

PIPE MATERIAL - WET SYSTEM

2" AND SMALLER:

- CPVC PIPING, UL LISTED FOR FIRE SPRINKLER USE

2 1/2" AND LARGER:

- SCHEDULE 10 ROLL-GROOVE STEEL PIPE
- ASTM A135 FITTINGS

PIPE MATERIAL - STANDPIPE SYSTEM

ALL SIZES:

- HDPE BLACK, UV STABLE, FM APPROVED, CLASS 200, DR-9 PIPE AND FITTINGS

SPECIFIC SPRINKLER NOTES:

1. AUTOMATIC SPRINKLER SYSTEM TO BE DESIGNED AND INSTALLED PER 2010 NFPA 13.
2. INSTALLATION FOR THE BUILDING SHALL BE A WET PIPE SYSTEM. STANDPIPE SYSTEM TO BE DRY.
3. UNLESS NOTED OTHERWISE, DESIGN DENSITY FOR THE SPRINKLER SYSTEM IS "LIGHT HAZARD " AS DEFINED BY NFPA 13. (0.10 GPM/SF OVER 1500 SF).
4. "ORDINARY HAZARD" AREAS NOTED BY "**ORD**".
5. SPRINKLER SYSTEM PIPING AND FITTINGS TO BE UL LISTED STEEL PIPE OR LISTED CPVC PER SCHEDULE.
6. LOCATE SPRINKLER "CENTER OF TILE" WITHIN AREAS WITH ACOUSTICAL TILE CEILINGS. COORDINATE WITH ARCHITECTURAL AND WITH CEILING INSTALLATION.
7. WHERE RISER PIPING PASSES THRU HOLES IN PLATFORMS, FOUNDATIONS, WALLS, OR FLOORS, THE HOLE SHALL BE SIZED SUCH THAT THE DIAMETER OF THE HOLE IS 2" LARGER FOR PIPES BETWEEN 2 - 3 1/2" INCHES IN DIAMETER AND 4" LARGER FOR PIPES THAT ARE 4" IN DIAMETER OR LARGER. FILL CLEARANCE WITH A FLEXIBLE MATERIAL SUCH AS MASTIC.

SPRINKLER LEGEND

SYMBOL	MAKE	MODEL	SIN#	STYLE	FINISH	THREAD SIZE	K-FACTOR	TEMP	MAX. SPACING	COVERAGE AREA	FLOW	PRESSURE	REMARKS
●	RELIABLE	F1	R1715	PENDANT	CHROME	1/2"	5.6	155	12' x 12'	144 sf	13 gpm	17 psi	RECESSED, STANDARD RESPONSE
○	RELIABLE	F1	R1725	UPRIGHT	BRASS	1/2"	5.6	155	12' x 12'	144 sf	13 gpm	17 psi	STANDARD RESPONSE
▷	RELIABLE	F3	R5734	HORIZ. SIDEWALL	CHROME	1"	5.6	155	12' x 12'	144 sf	13 gpm	17 psi	RECESSED, STANDARD RESPONSE

FIRE PROTECTION EQUIPMENT SCHEDULE

MARK	ITEM	MFG.	MODEL NO.	SIZE	REMARKS
AB	ALARM BELL	POTTER	PBD-DC	--	UTILIZE DEVICE COMPATIBLE WITH BUILDING FAP
T&D	TEST & DRAIN	AGF. MANUF.	MODEL 1000	LINE SIZE	WITH SIGHT GLASS
SWC	SPARE SPRINKLER CABINET	--	--	--	WITH SPARES OF EACH TYPE SPRINKLER AND WRENCH

BUILDING INFORMATION:

1. BUILDING USE:

   OFFICE, BATHROOM, RETAIL

2. BUILDING CLASSIFICATIONS:

   LIGHT HAZARD

3. STRUCTURE:

FLOOR - CEILING:	WOOD
ROOF STRUCTURE:	WOOD
EXTERIOR WALLS:	WOOD
INTERIOR WALLS:	WOOD

4. INTERIOR FINISHES:

WALLS:	GYPSUM BOARD
CEILINGS:	GYPSUM BOARD

5. ELEVATIONS:

FINISH EXTERIOR GRADE:	-2'-0"
NEAREST FIRE HYDRANT:	--
FIRST FLOOR:	0'-0"
EAVE:	11'-0"
RIDGE:	19'-8"

6. ROOF SLOPE:

   1.5 : 12, SINGLE SLOPE

7. FLOOR AREAS:

   2020 SQ. FT.

GENERAL SPRINKLER NOTES:

1. SPRINKLER SYSTEMS SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART SUCH WORK FOR FULLY OPERATIONAL, COMPLETE, AND CODE COMPLIANT SYSTEMS. PROVIDE AND INSTALL ALL PIPING, EQUIPMENT, CONNECTIONS, VALVES, FITTINGS, ETC. AS REQUIRED.
2. PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEMS. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION. ANY GROSS INTERFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.
3. PLAN SCALES NOTED, IF ANY, ARE ONLY APPLICABLE TO PLANS PLOTTED AT FULL SIZE. CONTRACTOR IS CAUTIONED WHEN USING PLANS PLOTTED AR REDUCED SIZES. REGARDLESS, CONTRACTOR SHALL NOT SCALE PLANS, BUT SHALL REFER TO NOTED DIMENSIONS. FOR DIMENSIONS NOT NOTED, CONTRACTOR SHALL REFER TO ACTUAL FIELD CONDITIONS AND/OR DIMENSIONED ARCHITECTURAL, STRUCTURAL, OR CIVIL PLANS.
4. LOCATE AND INSTALL ALL EQUIPMENT CONSIDERING MANUFACTURER'S RECOMMENDED CLEARANCES.
5. INSTALL ALL SERVICEABLE EQUIPMENT, VALVES, SWITCHES, ETC. IN ACCESSIBLE LOCATIONS.
6. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS AND COORDINATE WITH ELECTRICAL INSTALLATION.
7. ALL EQUIPMENT AND COMPONENTS SHALL BEAR UL AND FM LABEL OR MARKINGS.
8. FIRE STOPPING SYSTEM SHALL BE INSTALLED AT ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS OR CONSTRUCTION.
9. COORDINATE ROUTING OF SPRINKLER MAIN AND BRANCH PIPING WITH MECHANICAL, ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL INSTALLATION.
10. ALL PIPING SHALL BE SUPPORTED AS REQUIRED BY CODE AND THE PIPE MANUFACTURER. PIPE HANGER MATERIAL SHALL BE UL AND FM LISTED. INSTALL BRACING AS REQUIRED.
11. FOR PROPER DRAINAGE, PITCH BRANCH PIPING TOWARD MAINS AND MAINS TOWARD RISER AND AUXILIARY DRAINS AS PRACTICAL. INSTALL AUXILIARY DRAINS FOR PIPING SECTIONS THAT CANNOT BE DRAINED BACK TO MAIN.
12. UNLESS NOTED OTHERWISE, ALL WET PIPING SHALL BE INSTALLED CONCEALED WITHIN THE THERMAL ENVELOPE OF THE BUILDING.
13. AL CONTROL VALVES TO HAVE TAMPER SWITCHES CONNECTED TO FIRE ALARM PANEL.
14. LABEL ALL VALVES WITH ZONE CONTROLLED.
15. ALL EXPOSED PIPING SHALL BE PAINTED AND LABELED "FIRE". PAINT COLOR SHALL BE PER ARCHITECTURAL.
16. SEE SITE UTILITY SHEET FOR SPRINKLER ENTRANCE PIPING, POST INDICATOR VALVE AND FIRE HYDRANT LOCATIONS.
17. ALL SPRINKLER SYSTEM PIPING FROM "POINT OF SERVICE" NOTED SHALL BE INSTALLED BY A REGISTERED SPRINKLER CONTRACTOR.
18. PORTABLE FIRE EXTINGUISHERS SHALL BE LOCATED PER ARCHITECTURAL.

GENERAL STANDPIPE FIRE PROTECTION NOTES:

A. STANDPIPE SYSTEMS SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART SUCH WORK FOR FULLY OPERATIONAL, COMPLETE, AND CODE COMPLIANT SYSTEMS. PROVIDE AND INSTALL ALL PIPING, EQUIPMENT, CONNECTIONS, VALVES, FITTINGS, ETC. AS REQUIRED.

B. PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEMS. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION. ANY GROSS INTERFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.

C. PLAN SCALES NOTED, IF ANY, ARE ONLY APPLICABLE TO PLANS PLOTTED AT FULL SIZE. CONTRACTOR IS CAUTIONED WHEN USING PLANS PLOTTED AR REDUCED SIZES. REGARDLESS, CONTRACTOR SHALL NOT SCALE PLANS, BUT SHALL REFER TO NOTED DIMENSIONS. FOR DIMENSIONS NOT NOTED, CONTRACTOR SHALL REFER TO ACTUAL FIELD CONDITIONS AND/OR DIMENSIONED ARCHITECTURAL, STRUCTURAL, OR CIVIL PLANS.

D. LOCATE AND INSTALL ALL EQUIPMENT CONSIDERING MANUFACTURER'S RECOMMENDED CLEARANCES.

E. INSTALL ALL SERVICEABLE EQUIPMENT, VALVES, ETC. IN ACCESSIBLE LOCATIONS.

F. INSTALL ALL PLASTIC PIPING SO TO BE SHIELDED FROM DIRECT SUNLIGHT AND UV RADIATION.

G. ALL EQUIPMENT AND COMPONENTS SHALL BEAR UL AND FM LABEL OR MARKINGS.

H. COORDINATE ROUTING OF MAIN AND BRANCH PIPING WITH OTHER TRADES AND STRUCTURAL INSTALLATION.

I. ALL PIPING SHALL BE SUPPORTED AND BRACED AS REQUIRED BY CODE AND THE PIPE MANUFACTURER. PIPE HANGER MATERIAL SHALL BE AS APPROVED BY AHJ.

J. FOR PROPER DRAINAGE, PITCH BRANCH PIPING TOWARD MAINS AND MAINS TOWARD RISER AND AUXILIARY DRAINS AS PRACTICAL. INSTALL AUXILIARY DRAINS FOR PIPING SECTIONS THAT CANNOT BE DRAINED BACK TO MAIN.

K. ALL EXPOSED METALLIC PIPING SHALL BE PAINTED RED.

L. ALL STANDPIPE SYSTEM PIPING FROM "POINT OF SERVICE" NOTED SHALL BE INSTALLED BY A REGISTERED SPRINKLER CONTRACTOR.

M. PORTABLE FIRE EXTINGUISHERS SHALL BE LOCATED PER ARCHITECTURAL.

N. PRESSURE TEST ALL PIPING AND FITTINGS PER CODE AND TO THE OPERATIONAL RATING OF THE PIPING: 200psi.

O. CONFIGURE SYSTEM SO TO ALLOW FOR 6" EXPANSION / CONTRACTION EVERY 100'-0" OF PIPE.

P. COORDINATE ROUTING OF PIPE THRU DOCK STRUCTURE. OVERSIZE OPENINGS FOR EXPANSION AND CONTRACTION OF PIPE.

Q. COORDINATE ROUTING OF PIPE WITH OTHER TRADES.

R. ALLOW FOR LAKE ELEVATION CHANGE IN ALL PIPES CONNECTION TO SHORE.

S. SYSTEM SHALL MEET THE REQUIREMENTS OF THE APPLICABLE PORTIONS OF THE FOLLOWING (LATEST ADOPTED VERSIONS - NOT ALL-INCLUSIVE LIST - SYSTEMS SHALL MEET LL CODES AND REGULATIONS ENFORCED AT THE PROJECT SITE):

   INTERNATIONAL FIRE CODE (EXCLUDING CHAPTER 1)
   NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS

   NFPA 14 STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS

   NFPA 25 STANDARD FOR THE INSPECTION, TESTING AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS

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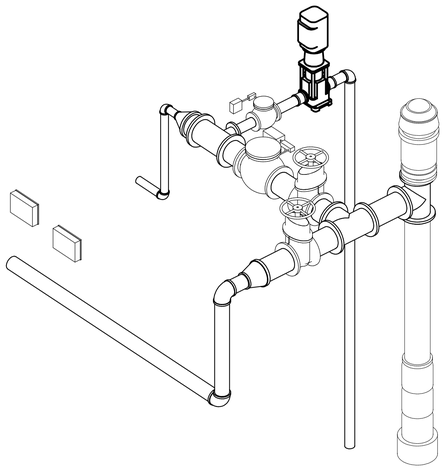
Revisions:

No.	Date	Description
△		Revisions indicated w/

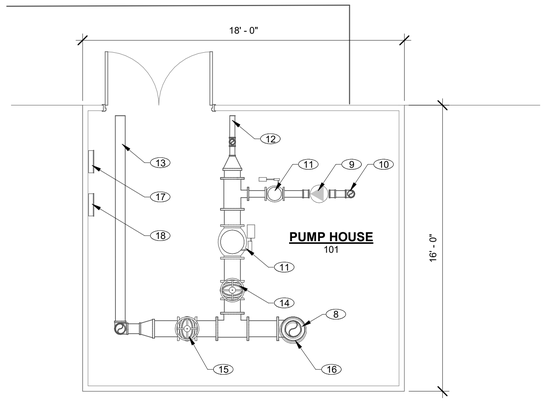
SHEET: FP0.1
TITLE: FIRE PROTECTION NOTES AND SCHEDULES
DATE: 6-10-22
JOB NO: 21094
DWN BY: WAB

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



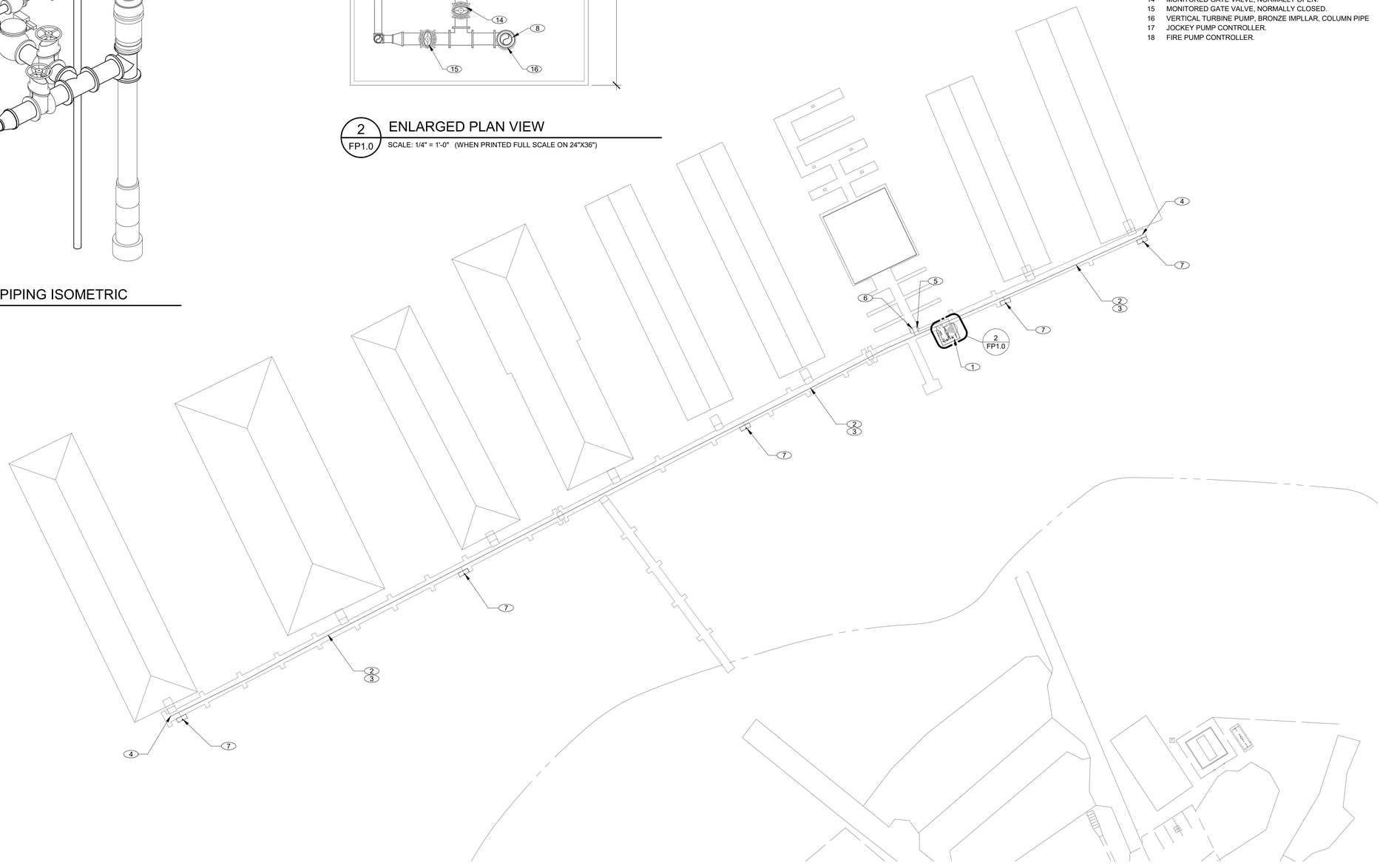
3 FP1.0 PUMP HOUSE PIPING ISOMETRIC

NOT TO SCALE



2 FP1.0 ENLARGED PLAN VIEW

SCALE: 1/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")



1 FP1.0 OVERALL FIRE PROTECTION PLAN

SCALE: 1" = 50'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 20' 50' 100' 200'

FIRE PROTECTION NOTES

GENERAL NOTES

- A FIRE LINE TO BE HDPE BLACK, UV STABLE, FM APPROVED, CLASS 200, DR-9 PIPE AND FITTINGS.
- B PROVIDE FLEXIBLE HOSE CONNECTION AS REQUIRED.

NUMBERED NOTES

1. NEW 18'-0" x 16'-0" x 8'-0" FLOATING FIRE PUMP BUILDING.
2. NEW 6"Ø DRY FIRE LINE FOR NEW STANDPIPE SYSTEM.
3. ROUTE WITHIN DOCK STRUCTURE. COORDINATE.
4. CONNECT NEW 6"Ø FIRE LINE TO EXISTING FIRE LINE. COORDINATE.
5. CONNECT TO 3"Ø WET FIRE MAIN TO SHIP STORE.
6. CONNECT TO 4"Ø DRY SHIP STORE STANDPIPES.
7. NEW STANDPIPE w/ NEW 4'-0" x 10'-0" STAGING DOCK. LOCATED 300'-0" ON CENTER. CONNECT TO DRY 6"Ø FIRE MAIN. SEE SHEET FP0.1, DETAIL 1.
8. RELOCATED EXISTING UL LISTED EMERSON 60 HP, 1775 RPM, 460V, 71A, 3Φ FIRE PUMP MOTOR.
9. JOCKEY PUMP.
10. JOCKEY PUMP INTAKE w/ SCREEN, FROM LAKE.
11. CHECK VALVE.
12. 3"Ø FIRE LINE TO SHIP STORE SYSTEM.
13. 6"Ø FIRE LINE TO DRY STANDPIPE SYSTEM.
14. MONITORED GATE VALVE, NORMALLY OPEN.
15. MONITORED GATE VALVE, NORMALLY CLOSED.
16. VERTICAL TURBINE PUMP, BRONZE IMPLLAR, COLUMN PIPE
17. JOCKEY PUMP CONTROLLER.
18. FIRE PUMP CONTROLLER.

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Revisions:

No.	Date	Description
		Revisions indicated w/ △

SHEET: FP1.0

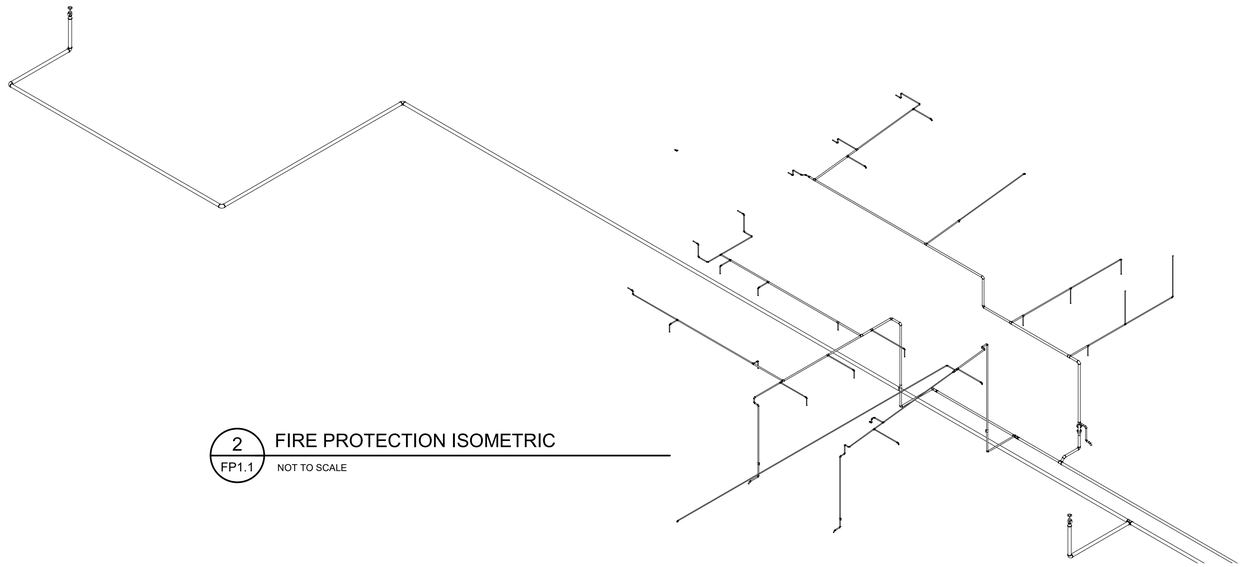
TITLE: FIRE PROTECTION SITE PLAN

JOB NO: 21094

DATE: 6-10-22

DWN BY: WAB

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED
PROFESSIONAL ENGINEER



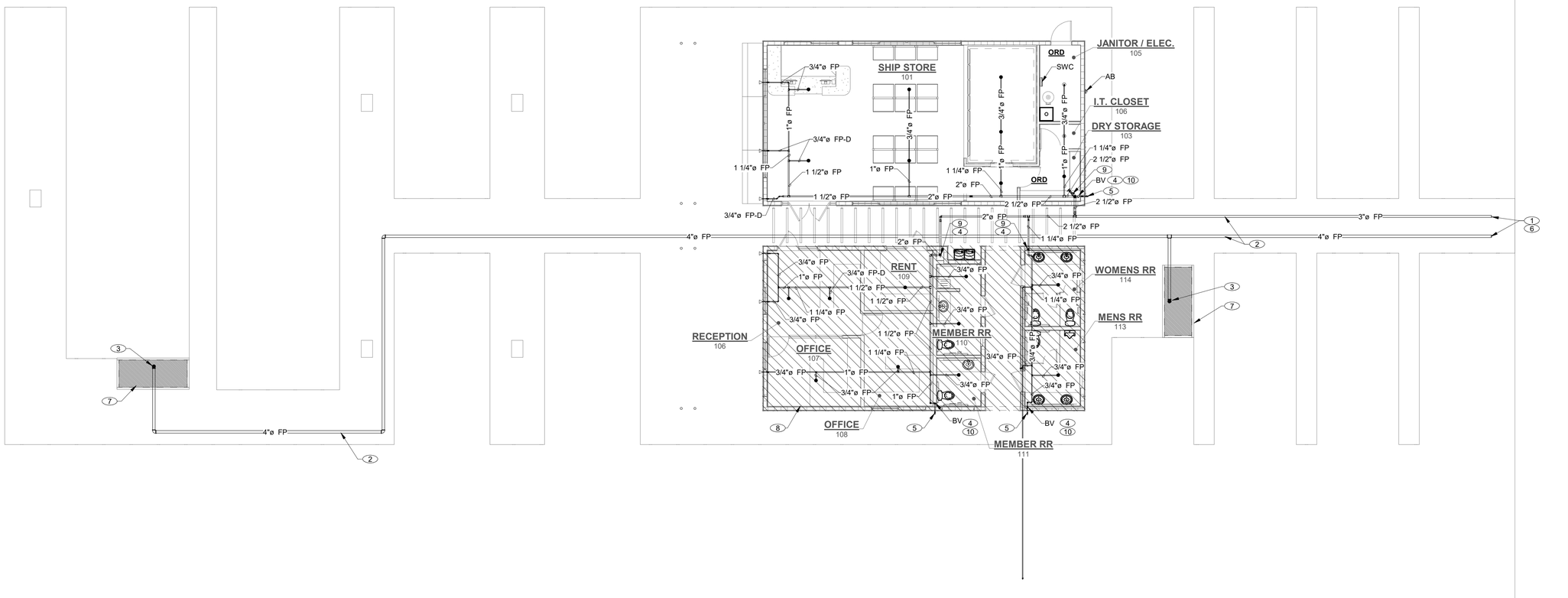
2 FP1.1 FIRE PROTECTION ISOMETRIC

NOT TO SCALE

FIRE PROTECTION NOTES

NUMBERED NOTES

1. CONTINUE TO NEW FIRE PUMP ROOM.
2. FIRE LINE ROUTED BELOW DOCK SURFACE. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES. FIRE LINE TO BE HDPE BLACK, UV STABLE FM APPROVED, CLASS 200, DR-9 PIPE AND FITTINGS.
3. STANDPIPE WITH 2 1/2"Ø HOSE VALVE. COORDINATE WITH LOCAL FIRE DEPARTMENT.
4. PROVIDE ACCESS PANEL TO VALVE.
5. SYSTEM DRAIN.
6. PROVIDE FLEXIBLE PIPE CONNECTION AT GANGWAY.
7. 10'-0" x 4'-0" EMERGENCY EQUIPMENT STAGING AREA WITH 4" CURB.
8. REMOTE AREA.
9. MONITORED VALVE.
10. WITH TEST & DRAIN (TD).



1 FP1.1 FIRE PROTECTION PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

NORTH

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Revisions: Revisions indicated w/ △

No.	Date	Description

SHEET: FP1.1

TITLE: FIRE PROTECTION PLAN

JOB NO: 21094

DATE: 6-10-22

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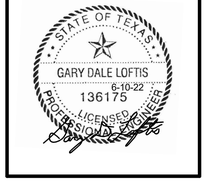

HVAC MATERIALS SCHEDULE

DESCRIPTION	MATERIAL	STANDARDS	REMARKS
CONCEALED RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A EXTERNALLY INSULATED
EXPOSED RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A UNINSULATED UNLESS OTHERWISE NOTED
CONCEALED ROUND METAL DUCT	26 GAUGE MINIMUM GALVANIZED STEEL LONGITUDAL SEAM	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 2" WG SEAL - CLASS A EXTERNALLY INSULATED
EXPOSED ROUND METAL DUCT	28 GAUGE MINIMUM GALVANIZED STEEL SPIRAL SEAM	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 2" WG SEAL - CLASS A UNINSULATED
EXTERIOR TO BUILDING RECTANGULAR METAL DUCT	24 GAUGE MINIMUM GALVANIZED STEEL SHEET METAL	G-60 GALV ASTM A653 & A924	PRESSURE CLASS - 1" WG SEAL - CLASS A RIGID INSULATION, VENTURE CLAD WEATHER TIGHT WRAP
FLEXIBLE AIR DUCT	TYPE NM-IL	CLASS 1 ASTM B209	8' MAXIMUM LENGTH INSULATION R-VALUE = R-4.2 WHERE ROUTED WITHIN THERMAL ENVELOPE R-8 WHERE ROUTED OUTSIDE THERMAL ENVELOPE
FLEXIBLE EXHAUST DUCT	TYPE M-UN CORRUGATED ALUMINUM	CLASS 1	8' MAXIMUM LENGTH UNINSULATED
DUCT SEALANT	SURE-GRIP 404	ASTM D-2202	GRAY, SOLVENT BASED, SYNTHETIC RUBBER RESIN, SMACNA PRESSURE CLASSES 1/2 - 10" WG SMACNA SEAL CLASSES A, B, C,
DUCT JOINT TAPE	ECO-DUCT SEAL		3" MINIMUM FOIL FACED
DUCT INSULATION EXTERNAL WRAP	2" THICK FIBERGLASS BLANKET	ASTM C 553-92 ASTM C 1290	FOIL SCRIM KRAFT FACED, VAPOR SEAL R= 5.6 HR FT² °F / BTU
DUCT INSULATION INTERNALLY LINED	1" THICK ELASTOMERIC DUCT LINER	ASTM C 411 ASTM C 1071	R=4.3 HR FT² °F / BTU CLOSED CELL ELASTOMERIC INSULATION ARMAFLEX OR EQUAL.
REFRIGERANT PIPING	COPPER	TYPE ACR ASTM B280	SIZE PER MANUFACTURER WITH 1/2" MINIMUM ARMAFLEX INSULATION. INSULATE LIQUID AND VAPOR LINES SEPARATELY. ALL EXTERIOR LINES SHALL BE ROUTED CONCEALED AND / OR COVERED WITH 26 GA GALVANIZED SHEET METAL.
THERMOSTAT AND CONTROL WIRING	COPPER	18 GA. SHIELDED	ROUTE REMOTE FROM LINE VOLTAGE WIRING
EXHAUST HOOD MATERIALS	REFER TO PLANS		

NOTES:
1) ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B AND SMACNA.
2) ALL METALLIC MATERIALS SHALL BE UL 181 CLASS 0 (NO FLAME SPREAD OR SMOKE DEVELOPMENT)
3) ALL NON-METALLIC MATERIALS SHALL BE UL 181 CLASS 1 (25 FLAME SPREAD AND 50 SMOKE DEVELOPMENT)
4) DUCTING NOTED TO BE INTERNALLY INSULATED SHALL NOT REQUIRE EXTERNAL INSULATION
5) ALL DIMENSIONS NOTED ARE INSIDE CLEAR DIMENSIONS. SIZE INTERNALLY LINED DUCTS ACCORDINGLY

EXHAUST FAN SCHEDULE

IDENTIFICATION	EF-1,5	EF-2	EF-3,4	EF-6
TYPE	CEILING	CEILING	CEILING	CEILING
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	CSP-A250	CSP-A250	CSP-A250	CSP-A250
CFM	75	125	150	75
STATIC PRESSURE	0.3"	0.3"	0.3"	0.3"
MOTOR HP / WATTS	-- / 13.2	-- / 21.94	-- / 29.59	-- / 13.2
VOLTAGE	115/1/60	115/1/60	115/1/60	115/1/60
ACCESSORIES	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,5

ACCESSORIES:
1. FACTORY MOUNTED DISCONNECT SWITCH
2. BACKDRAFT DAMPER
3. SPEED CONTROL, CHASSIS MOUNTED, FOR BALANCING
4. POWERED WITH LIGHTS
5. LINE VOLTAGE THERMOSTAT

ELECTRIC HEATER SCHEDULE

IDENTIFICATION	EUH-1	
TYPE	WALL MOUNT	
MANUFACTURER	MARKEL	
MODEL	3420	
CAPACITY - MBH	10.2	
KW	3.0	
VOLTAGE	240/1/60	
ACCESSORIES	1,2	

ACCESSORIES:
1. UNIT MOUNTED THERMOSTAT
2. UNIT MOUNTED DISCONNECT

3

MINI-SPLIT SYSTEM HEAT PUMP SCHEDULE

SYSTEM	HP-1								HP-2		
NOMINAL PERFORMANCE	5 TON								3 TON		
MINIMUM SEER / EER	18.9								17		
MANUFACTURER	LG								LG		
INDOOR UNIT	AHU-1	AHU-2	AHU-3	AHU-4	AHU-5	AHU-6	AHU-7	AHU-8	AHU-9	AHU-10	AHU-11
MODEL NO.	ARNU053TRD4	ARNU053TRD4	ARNU053SJA4	ARNU053SJA4	ARNU053SJA4	ARNU053SJA4	ARNU053TRD4	ARNU053TRD4	ARNU243SKA4	ARNU243SKA4	ARNU053SJA4
CONFIGURATION	CASSETTE	CASSETTE	WALL	WALL	WALL	WALL	CASSETT	CASSETT	WALL	WALL	WALL
HEATING CAPACITY (HEAT PUMP CYCLE)	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	25,600	6,100
FAN CFM (HIGH - LOW)	265-212	265-212	240-208	240-208	240-208	240-208	265-212	265-212	537-371	537-371	240-208
VOLTAGE	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60
MINIMUM CIRCUIT AMPS (MCA)	0.2	0.2	0.25	0.25	0.25	0.25	0.2	0.2	0.52	0.52	0.25
MAXIMUM OVERCURRENT (MOCP)	15	15	15	15	15	15	15	15	15	15	15
COOLING CAPACITY (BTU/h)	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	24,200	17,231	5,500
SENSIBLE COOLING CAPACITY (BTU/H)	3,900	3,900	4,900	4,900	4,900	4,900	3,900	3,900	17,231	17,231	4,900
ENTERING AIR DB / WB (°F)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67
NOMINAL UNIT DIMENSIONS (L-W-H)	24"x24"x10"	24"x24"x10"	31"x6"x13"	31"x6"x13"	31"x6"x13"	31"x6"x13"	24"x24"x10"	24"x24"x10"	37"x7"x14	37"x7"x14"	31"x6"x13"
NOMINAL OPERATING WEIGHT (LB)	29	29	18.5	18.5	18.5	18.5	29	29	26.9	26.9	18.5
OUTDOOR UNIT	HP-1								HP-2		
MODEL NO.	ARUN060GSS4								ARUN048GSS4		
REFRIGERANT	R-410A								R-410A		
VOLTAGE	208/1/60								208/1/60		
MINIMUM CIRCUIT AMPS (MCA)	25								30		
MAXIMUM OVERCURRENT (MOCP)	40								50		
NOMINAL UNIT DIMENSIONS (L-W-H)	38"x13"x55"								38"x13"x55"		
NOMINAL OPERATING WEIGHT (LB)	260								207		
ACCESSORIES (SEE BELOW)	1,2,3,4,5,6								1,2,3,4,5,6		

REMARKS:
1. AMBIENT OUTDOOR AIR CONDITIONS - 95°F DB / 78°F WB

ACCESSORIES:
1. FILTERS - MERV 8
2. PROGRAMMABLE THERMOSTAT
3. OVERFLOW DRAIN PAN WITH AUTOMATIC SHUT-OFF FLOAT SWITCH AND DRAIN.
4. COIL HAIL GUARDS
5. CONDENSATE PUMP
6. LOW AMBIENT CONTROLS

MECHANICAL LEGEND

- SUPPLY DIFFUSER
- RETURN AIR GRILLE
- SUPPLY / RETURN SIDEWALL GRILLE
- CONNECTION SIZE
- DIFFUSER / GRILLE CALLOUT (X" x X" A / XXX CFM)
- AIRFLOW IN CFM
- FD — FIRE DAMPER - FUSABLE LINK @ 165°F
- XX-1 — SCHEDULED ITEM LABEL
- T — THERMOSTAT
- SUPPLY DUCT
- RETURN DUCT
- FLEX DUCT
- MANUAL DAMPER

MECHANICAL MAINTENANCE CONTRACT NOTE:

1. FOR THE PERIOD OF ONE-YEAR AFTER SUBSTANTIAL COMPLETION, THE MECHANICAL CONTRACTOR SHALL PROVIDE MAINTENANCE SERVICES AS NEEDED TO ENSURE OPTIMUM PERFORMANCE OF THE MECHANICAL SYSTEMS. THESE SERVICES SHALL BE IN ADDITION TO ANY WARRANTIES SPECIFIED ELSEWHERE. MAINTENANCE SERVICES SHALL INCLUDE BUT ARE NOT LIMITED TO:
   A. PROVIDING AND CHANGING FILTERS EVERY THREE MONTHS (MINIMUM)
   B. CLEAN ALL AIR COILS EVERY SIX MONTHS (MINIMUM)
   C. BALANCING OF AIRFLOWS AS PRACTICAL TO MATCH OWNER'S NEEDS
   D. VERIFYING OPERATION OF VENTILATION AIR EQUIPMENT (ERVs, OA DAMPERS)
   E. MAINTAINING REFRIGERANT CHARGE PER MANUFACTURER'S RECOMMENDATIONS
   F. PROGRAMMING OF THERMOSTATS AND CONTROLS
   G. SEASONAL CHANGEOVERS
   H. MAKING CONTROL ADJUSTMENTS AS PRACTICAL TO ADDRESS HUMIDITY CONCERNS
   I. CLEANING CONDENSATE TRAPS
   J. TESTING OF ALL SENSORS AND SWITCHES (SMOKE DETECTOR, OVERFLOW PAN FLOAT SWITCH, ETC.)
2. ALL SERVICES SHALL BE COORDINATED WITH THE OWNER SO TO MAXIMIZE TRAINING OPPORTUNITIES.
3. ALL WORK SHALL BE PERFORMED BY PERSONNEL WHO ARE FACTORY AUTHORIZED BY THE MANUFACTURER OF THE EQUIPMENT BEING SERVICED.

BASIS OF DESIGN NOTES:

1. MANUFACTURERS AND EQUIPMENT MODEL NUMBERS ARE SCHEDULED TO SPECIFY DESIGN INTENT AND BASIS OF DESIGN.
2. REQUESTS FOR ALTERNATE MANUFACTURERS AND EQUIPMENT SHALL BE CONSIDERED.
3. REQUESTS SHALL UTILIZE SUBSTITUTION REQUEST FORMS AND PROCEDURES PROVIDED IN THE PROJECT MANUAL.
4. REQUESTED ALTERNATE EQUIPMENT SHALL BE EQUAL OR BETTER THAN SCHEDULED EQUIPMENT.
5. APPROVAL OF SUBSTITUTION REQUEST IS NOT GUARANTEED BUT IS THE RIGHT OF THE OWNER AND DESIGNER.
6. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL TRADES AFFECTED BY AND ASSOCIATED WITH SUBSTITUTION INCLUDING ELECTRICAL SERVICES.
7. CONTRACTOR IS RESPONSIBLE TO ENSURE SUBSTITUTION WILL FIT IN AVAILABLE SPACE INCLUDING SERVICE ACCESS REQUIREMENTS.

AIR BALANCE NOTES:

1. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL MEASURE AIR FLOW AT EACH LOUVER, REGISTER, AND GRILLE.
2. THE CONTRACTOR SHALL BALANCE EACH DUCT SYSTEM AND MAKE ADJUSTMENTS AS NECESSARY SO THAT THE AIR FLOWS ARE CONSISTENT WITH THAT NOTED ON THE PLANS AND WITH THE OVERALL DESIGN INTENT. ADJUSTMENTS SHALL INCLUDE DAMPER SETTINGS AND FAN SPEEDS.
3. CONTRACTOR SHALL PRODUCE A RECORD DOCUMENT THAT IDENTIFIES ALL MEASURED AIR FLOWS, FANS SPEEDS, AND DAMPER SETTINGS. TWO COPIES OF THE RECORD DOCUMENT SHALL BE PROVIDED - ONE FOR THE OWNER AND ONE FOR THE DESIGNER.
4. AIR FLOWS THAT DEVIATE FROM THE DESIGN INTENT MORE THAN 10% SHALL BE HIGHLIGHTED AND BROUGHT TO SPECIAL ATTENTION OF THE DESIGNER FOR FURTHER INVESTIGATION.

GENERAL HVAC NOTES:

1. APPLICABLE CODES INCLUDE, BUT ARE NOT LIMITED TO, THE LATEST ADOPTED VERSION OF:
   IBC INTERNATIONAL BUILDING CODE
   IFC INTERNATIONAL FIRE CODE
   IMC INTERNATIONAL MECHANICAL CODE
   NFPA 90A AIR CONDITIONING AND VENTILATION CODE
   NFPA 90B AIR CONDITIONING AND VENTILATION CODE
   SMACNA HVAC DUCT CONSTRUCTION MATERIALS
   IECC INTERNATIONAL ENERGY CONSERVATION CODE
2. HVAC SYSTEM SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART OF SUCH WORK FOR FULLY OPERATIONAL, COMPLETE AND CODE COMPLIANT SYSTEMS. PROVIDE AND INSTALL ALL EQUIPMENT, DUCTING, DAMPERS, DIFFUSERS, LOUVERS, GRILLES, ETC. AS REQUIRED.
3. PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEMS. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION ANY GROSS INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.
4. PLAN SCALES NOTED, IF ANY, ARE ONLY APPLICABLE TO PLANS PLOTTED AT FULL SIZE. CONTRACTOR IS CAUTIONED WHEN USING PLANS PLOTTED AT REDUCED SIZES. REGARDLESS, CONTRACTOR SHALL NOT SCALE PLANS, BUT SHALL REFER TO NOTED DIMENSIONS. FOR DIMENSIONS NOT NOTED, CONTRACTOR SHALL REFER TO ACTUAL FIELD CONDITIONS AND/OR DIMENSIONED ARCHITECTURAL, STRUCTURAL, OR CIVIL PLANS.
5. SUBMITTAL REQUIREMENTS: CONTRACTORS SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL DETAILED PRODUCT INFORMATION ON ALL EQUIPMENT PROPOSED FOR USE. SUBMITTAL SHALL BE PROVIDED AND ENGINEER SHALL REVIEW AND APPROVE, PRIOR TO EQUIPMENT PURCHASE. SUBMITTALS SHALL BE SUBMITTED IN ELECTRONIC (PDF) FORMAT. PRIOR TO SUBMITTAL CONTRACTOR SHALL REVIEW AND CERTIFY BY SIGNATURE THAT SUBMITTED EQUIPMENT MEETS SPECIFICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, FITTING, AND CONSTRUCTION FEATURES RELATIVE TO EQUIPMENT. APPROVAL OF SUBMITTAL INFORMATION BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR'S OBLIGATION TO PROVIDE CODE COMPLIANT SYSTEMS.
6. ALL SERVICEABLE EQUIPMENT, VALVES, UNIONS, FIRE DAMPERS, CONTROLS, ETC. SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
7. LOCATE AND INSTALL ALL EQUIPMENT CONSIDERING MANUFACTURERS CLEARANCES, MANUFACTURERS INSTALLATION INSTRUCTIONS, AND LISTING AGENCY CERTIFICATIONS.
8. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS. COORDINATE WITH ELECTRICAL CONTRACTOR.
9. FIRE STOPPING SYSTEM SHALL BE INSTALLED AT ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS OR CONSTRUCTION.
10. A FIRE DAMPER SHALL BE INSTALLED IN EACH AIR DUCT AS IT PENETRATES FIRE RATED WALLS OR FLOORS.
11. PROVIDE AND INSTALL ALL HANGERS AND SUPPORTS PER CODE AND SMACNA RECOMMENDATIONS.
12. THERMOSTATS SHALL BE PROGRAMMABLE TYPE COMPATIBLE WITH MECHANICAL EQUIPMENT SERVED.
13. ALL DUCT WORK DIMENSIONS SHOWN ARE INSIDE CLEAR. FABRICATE DUCT SO TO MAINTAIN CLEARANCE SPECIFIED. INTERNALLY LINED DUCTS SHALL BE OVERSIZED SO TO ACCOMMODATE THICKNESS OF INSULATION.
14. SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH INSULATION AS NOTED ON THE PLANS AND MATERIALS SCHEDULES.
15. LOCATE ALL CEILING MOUNTED REGISTERS, GRILLES, DIFFUSERS, FANS, ETC. PER REFLECTED CEILING PLAN. COORDINATE WITH ELECTRICAL AND FINISH CEILING INSTALLATION.
16. ALL TRANSVERSE JOINTS TO BE SEALED WITH APPROVED DUCTSEALER.
17. TURNS IN DUCTWORK SHALL HAVE 1.5 MINIMUM RADIUS RATIO WHENEVER POSSIBLE, OTHERWISE TURNING VANES SHALL BE INSTALLED WITHIN DUCT.
18. EVERY SUPPLY DIFFUSER SHALL BE INDIVIDUALLY CONTROLLED BY A DAMPER PLACED AT THAT DIFFUSER'S SUPPLY DUCT TAKEOFF.
19. INSTALL FLEXIBLE VIBRATION ISOLATION DUCT SECTIONS AT BOTH SUPPLY AND RETURN DUCT CONNECTIONS TO THE FURNACE / AIR HANDLER.
20. ALL OUTDOOR AIR INTAKE LOUVERS SHALL BE 10'-0" MINIMUM DISTANCE AWAY FROM SEWER OR COMBUSTION EXHAUST VENTS.
21. THE PLANS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED WITH THE INTENT TO BE AS ACCURATE AND COMPLETE AS PRACTICAL, BUT ERRORS, OMISSIONS, AND CONFLICTS MAY EXIST. PRIOR TO SUBMITTING A BID FOR CONSTRUCTING THE WORK, THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS IN DETAIL. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTING A BID. BY SUBMITTING A BID FOR THE WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, UNDERSTANDS THE DESIGN INTENT, AND DOES NOT HAVE ANY FURTHER QUESTIONS OR COMMENTS.

SPECIFIC HVAC NOTES:

1. INDOOR SUMMER DESIGN TEMPERATURE - 72°F
   INDOOR WINTER DESIGN TEMPERATURE - 68°F
   OUTDOOR SUMMER DESIGN TEMPERATURE - 95°F DB / 78°F WB
   OUTDOOR WINTER DESIGN TEMPERATURE - 0°F
   VENTILATION PER ASHRAE 62
2. A SMOKE DETECTOR DESIGNED TO SHUT DOWN THE SUPPLY FAN IN CASE OF FIRE SHALL BE INSTALLED IN EACH AIR HANDLER RETURN DUCT. UNITS OVER 2,000 CFM SHALL HAVE SUPPLY DUCT DETECTORS.
3. DUCT SMOKE DETECTORS SHALL BE SUPPLIED BY THE FIRE ALARM CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. IF THE BUILDING DOES NOT HAVE A CENTRAL FIRE ALARM SYSTEM, AND THE DUCT SMOKE DETECTORS ARE STAND ALONE UNITS FOR FAN SHUT DOWN ONLY, THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE DETECTORS.
4. ALL EXPOSED REFRIGERATION PIPING SHALL BE COVERED AND PROTECTED WITH ALUMINUM OR GALV SHEET METAL CLADDING.
5. ROUTE REFRIGERANT PIPING CONCEALED AS PRACTICAL. WHEN EXPOSED, ROUTE PIPING IN A NEAT, SQUARE, AND TRUE FASHION.
6. INSTALL REFRIGERATION PIPING CONSIDERING MANUFACTURERS RECOMMENDATIONS. SIZE AND DEVELOPED LENGTH OF PIPING SHALL BE CONSISTENT WITH MANUFACTURERS ALLOWANCE. TAKE HEIGHT AND RELATIONSHIP OF INDOOR AND OUTDOOR UNITS INTO CONSIDERATION.

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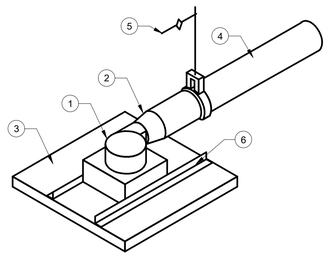
Revisions indicated w/ △

Revisions: No.	Date	Description
3	04/20/23	PERMIT RESP

SHEET: M0.1
TITLE: MECHANICAL NOTES AND SCHEDULES
DATE: 6-10-22
JOB NO: 21094
DWN BY: AJG

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER

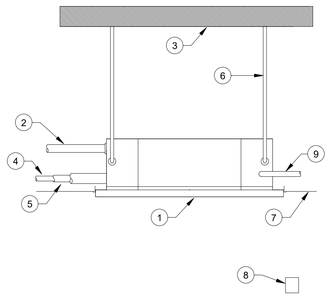


NUMBERED NOTES:

1. CEILING EXHAUST FAN
2. PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED
3. CEILING PAD OR HARD CEILING
4. ROUTE DUCT TO WALL CAP OR ROOF CAP AS REQUIRED
5. SUPPORT DUCT TO PREVENT SAG OR SWAY
6. SUPPORT FAN FROM CEILING

1 / M0.2 CEILING EXHAUST FAN DETAIL

NOT TO SCALE

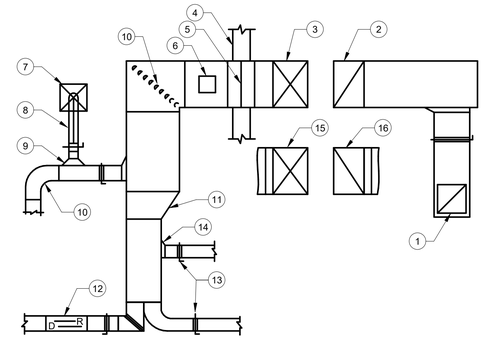


NUMBERED NOTES:

1. CEILING MOUNTED FAN COIL - INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS
2. CONDENSATE PIPING - ROUTE TO DISCHARE UNDER DOCK STRUCTURE
3. CEILING STRUCTURE
4. INSULATED REFRIGERANT SUCTION PIPING. ROUTE IN PLUMB AND SQUARE FASHION. CONFIGURE SO TO MINIMIZE LENGTH OF PIPING.
5. INSULATED REFRIGERATN LIQUID PIPING. ROUTE IN PLUMB AND SQUARE FASHION. CONFIGURE SO TO MINIMIZE LENGTH OF PIPING.
6. HANGING BRACKER AS PER MANUFACTURER'S RECOMMENDATIONS.
7. EXISTING FINISHED CEILING - REWORK AS REQUIRED
8. REMOTE CONTROLLER - MOUNT 48" AFF. AVOID DIRECT SUNLIGHT OR AIRFLOW FROM INDOOR UNIT.
9. ELECTRIC CIRCUIT - COORDINATE WITH ELECTRICAL.

3 / M0.2 CEILING MOUNTED DETAIL

NOT TO SCALE



NUMBER NOTES:

1. RETURN OR EXHAUST REGISTER
2. RETURN OR EXHAUST DUCT UP TO ABOVE
3. SUPPLY DUCT UP TO ABOVE
4. RATED WALL - SEE PLANS FOR TYPE
5. FIRE DAMPER - SEE PLANS FOR TYPE
6. FIRE DAMPER ACCESS DOOR IN ACCESSIBLE LOCATION
7. SUPPLY AIR DIFFUSER
8. INSULATED FLEX DUCT
9. BELL MOUTH FITTING OR SPIN-IN, WITH MANUAL VOLUME DAMPER
10. FULL RADIUS ELL OR SQUARE ELL WITH TURNING VANES
11. TRANSITION
12. RISE OR DROP
13. OPPOSED BLADE MANUAL BALANCING DAMPER - TYPICAL EACH BRANCE TAKE-OFF OR RUN OUT
14. 45 DEGREE TEE FITTING - "SHOE" TYPE
15. SUPPLY DUCT DOWN TO BELOW
16. RETURN DUCT OR EXHAUST DUCT DOWN TO BELOW

2 / M0.2 TYPICAL DUCT CONSTRUCTION DETAIL

NOT TO SCALE

NUMBERED NOTES:

1. WALL MOUNED INDOOR UNIT - LOCATE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. WALL STRUCTURE
3. INSULATED REFRIGERANT SUCTION PIPING. ROUTE IN PLUMB AND SQUARE FASHION. CONFIGURE SO TO MINIMIZE LENGTH OF PIPING.
4. INSULATED REFRIGERANT LIQUID PIPING. ROUTE IN PLUMB AND SQUARE FASHION. CONFIGURE SO TO MINIMIZE LENGTH OF PIPING.
5. WALL BRACKET.
6. REMOTE THERMOSTAT - MOUNT 48" AFF. AVOID DRIECT SUNLIGHT OR AIRFLOW FROM INDOOR UNIT.
7. ELECTRICAL CIRCUIT FROM OUTDOOR UNIT - COORDINATE WITH ELECTRICAL.
8. CONDENSATE PIPING - ROUTE INTERIOR TO THERMAL ENVELOPE FOR FREEZE PROTECTION AS PRACTICAL. ROUTE TO DISCHARGE UNDER DOCK STRUCTURE.

4 / M0.2 WALL MOUNTED DUCTLESS MINI SPLIT SYSTEM

NOT TO SCALE

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Revisions indicated w/ △

Revisions: No.	Date	Description

M0.2

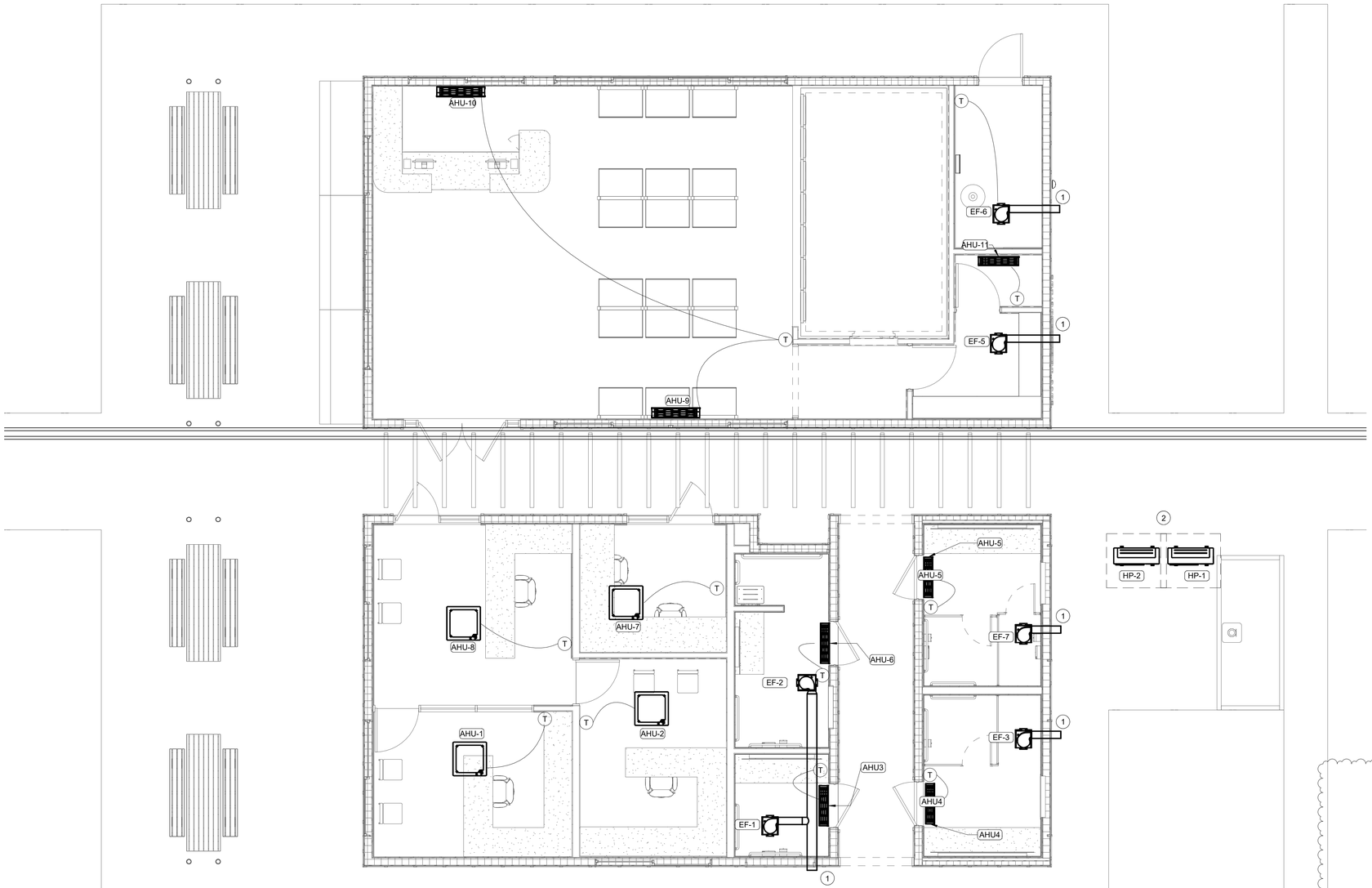
SHEET: MECHANICAL DETAILS

TITLE:

JOB NO. 21094 | DATE: 6-10-22

DWN BY: JSS

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



MECHANICAL NOTES

NUMBERED NOTES

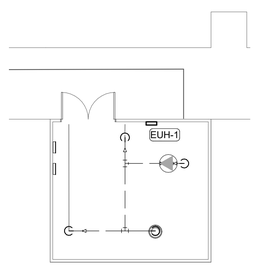
1 WALL CAP.

2 MOUINT CONDENSING UNIT 12" ABOVE DOCK STRUCTURE. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

1 / M1.1 MECHANICAL PLAN

SCALE: 1/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 2' 4' 8' 16'



2 / M1.1 FIRE PUMP ROOM MECHANICAL PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

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Revisions:

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3	04/20/23	PERMIT RESP

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SHEET: M1.1

TITLE: MECHANICAL PLAN

JOB NO. 21094

DATE: 6-10-22

DWN BY: AJG

STATE OF TEXAS
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6-10-22
136175
LICENSED PROFESSIONAL ENGINEER

PIPING MATERIALS SCHEDULE

DESCRIPTION	MATERIAL	STANDARDS	REMARKS
DOMESTIC WATER SERVICE PIPE	TYPE K SOFT COPPER TUBE	ASTM B88	
	SDR PRESS. RATED PVC	ASTM D2241 IPS SDR 26	CLASS 200
(MIN. 160 PSI @ 73.4 F)	PVC	ASTM D1785	SCHEDULE 80 EQUIV.
	FITTINGS	ASTM D2464	SOLVENT JOINT
	CPVC	ASTM D1784	FLOW GUARD GOLD OR EQUIV. SOLVENT JOINT OR THREADED (DO NOT USE COMPRESSION)
(UNDERGROUND OUTSIDE OF BUILDING)	FITTINGS	ASTM D2846	
	PEX	ASTM F876 ASTM F877	UPONOR, WIRSBO, AQUAPEX OR EQUIV.
	FITTINGS	ASTM F1960	COLD EXPANSION - PEX REINF.
DOMESTIC WATER DISTRIBUTION PIPE	COPPER TUBE	ASTM B88 ASTM B828 ASTM B32	UNDERGROUND - SOFT TYPE K ABOVEGROUND - HARD TYPE L
	WROUGHT COPPER FITTINGS	ANSI B16.22	LEAD FREE SOLDER
(MIN. 100 PSI @ 180 F)	CPVC (2 1/2" DIA. OR LARGER ONLY)	ASTM D1784	CORZAN
	FITTINGS	ASTM D2846	SOLVENT JOINT OR THREADED (DO NOT USE COMPRESSION)
(INSIDE OF BUILDING)	PEX	ASTM F876 ASTM F877	UPONOR, WIRSBO, AQUAPEX OR EQUIV.
	FITTINGS	ASTM F1960	COLD EXPANSION - PEX REINF.
	INSULATION HW: UP TO 1 1/2" DIA. ALL MATERIALS		1" ELASTOMERIC
	HW: 1 1/2" DIA. AND ABOVE ALL MATERIALS		2" ELASTOMERIC
	CW: COPPER		1/2" ELASTOMERIC
	CW: PEX AND CPVC		NONE UNLESS OTHERWISE NOTED
GRAVITY DRAIN, WASTE, & VENT PIPING	SCHEDULE 40 PVC (SOLID WALL)	ASTM D2665	SOLVENT JOINT
	SCHEDULE 40 PVC (CELLULAR CORE)	ASTM F891	SOLVENT JOINT (SEE NOTE 10)
FORCED SEWER PIPING	SCHEDULE 40 PVC (SOLID WALL)	ASTM D2665	SOLVENT JOINT
	HDPE (DRISCOPLEX)	ASTM F714	SOLVENT JOINT
HANGERS	COPPER TUBE	PER CODE	1/2" - 3/4" : 5'-0" O.C. MAX. 1" : 6'-0" O.C. MAX. 1 1/2" - 2" : 8'-0" O.C. MAX. 2 1/2" : 9'-0" O.C. MAX. 3" : 10'-0" O.C. MAX.
	CPVC (2 1/2" OR LARGER ONLY)	PER CODE	COLD WATER : 6'-0" O.C. MAX. HOT WATER : 5'-0" O.C. MAX.
	PEX	PER CODE	2'-8" O.C. MAX.
	SCHEDULE 40 PVC	PER CODE	4'-0" O.C. MAX.

NOTES:

1. WITHOUT EXCEPTION, ALL EXPOSED DOMESTIC PIPING SHALL BE COPPER AND ADEQUATELY BRACED.
2. DOMESTIC PIPE SIZES NOTED ON PLANS ARE FOR COPPER PIPE. IF ALTERNATE MATERIALS ARE USED, CONTRACTOR SHALL INCREASE PIPE SIZE AS NECESSARY TO MATCH COPPER INTERIOR DIAMETER.
3. WITHOUT EXCEPTION, ALL WATER PIPING WITHIN 10'-0" OF WATER HEATING EQUIPMENT SHALL BE COPPER.
4. INSTALL ALL MATERIALS CONSISTENT WITH CODES, LISTING AGENCIES, AND MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR MUST BE TRAINED AND MANUFACTURER CERTIFIED FOR THE MATERIALS UTILIZED.
6. ALL DOMESTIC WATER PIPING SHALL CONFORM WITH NSF 14.
7. ALL PLASTIC DOMESTIC WATER PIPING SHALL CONFORM WITH NSF 14.
8. CELLULAR CORE PVC MAY BE USED ONLY FOR ABOVE SLAB SEWER PIPING AND VENTING.
9. WITHOUT EXCEPTION, ONLY PLUMBING COMPONENTS THAT HAVE BEEN CERTIFIED AS "LEAD FREE" SHALL BE ALLOWED TO BE INSTALLED ON POTABLE WATER SYSTEMS. REFERENCE NSF/ANSI 371.
10. ALL FIXTURE STUB-OUTS TO BE COPPER.
11. ALL PIPING UNDER DOCK SHALL BE SLEEVED PEX. FOR APPROVED SLEEVE, REFER TO MANUFACTURER.

WATER HAMMER ARRESTER SCHEDULE

LINE SIZE	CONNECTION SIZE	LENGTH	DIAMETER	CUBIC INCH VOLUME
1/2" - 3/4"	1/2"	8 1/4"	1 3/8"	5
1"	3/4"	10"	1 3/8"	7
1 1/4"	1"	11"	2 1/8"	20
1 1/2"	1"	13 1/2"	2 1/8"	29
2"	1"	16"	2 1/8"	36

NOTES:
1. MOUNT ARRESTERS IN ACCESSIBLE LOCATION.
2. LOCATE ARRESTERS AT HIGHEST POINT OF PIPING.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	SERVICES C.W.	H.W.	S.S.	V.	REMARKS
HCWC	H.C. WATER CLOSET, MADERA FLUSH VALVE - SENSOR - AC POWER SEAT	AMERICAN STANDARD AMERICAN STANDARD AMERICAN STANDARD	3043.001 606B.121 5901.100	1"		4"	2"	FLOOR MOUNTED, 16 1/2" RIM HT. A.F.F., VITREOUS CHINA, ENLONGATED BOWL, ADA EXPOSED, PK00.HAC POWER KIT, 1.28 GPF, UTILIZE CHROME SPLIT RING PIPE SUPPORT OPEN FRONT, LESS COVER
WC	WATER CLOSET, MADERA FLUSH VALVE - SENSOR - AC POWER SEAT	AMERICAN STANDARD AMERICAN STANDARD AMERICAN STANDARD	2234.001 606B.121 5901.100	1"		4"	2"	FLOOR MOUNTED, 15" A.F.F., VITREOUS CHINA, ENLONGATED BOWL EXPOSED, PK00.HAC POWER KIT, 1.28 GPF, UTILIZE CHROME SPLIT RING PIPE SUPPORT OPEN FRONT, LESS COVER
UR	URINAL, ALLBROOK FLUSH VALVE - SENSOR - AC POWER WALL CARRIER	AMERICAN STANDARD AMERICAN STANDARD JAY R. SMITH	6550.001 606B.051 0616	3/4"		2"		VITREOUS CHINA, LOW-CONSUMPTION, FLUSHING RIM @ 17" A.F.F. FOR ADA EXPOSED, PK00.HAC POWER KIT, 0.5 GPF, UTILIZE CHROME SPLIT RING PIPE SUPPORT LABOR SAVER URINAL SUPPORT WALL HANGER w/ HANGER PLATE
MS	MOP SINK FAUCET 2" TRAP	FLORESTONE T&S BRASS ---	MSR-2424 B-0662 ---	1/2"	1/2"	2"	1 1/2"	MOLDED, ONE PIECE FLOOR MOUNTED MOP SINK, 24" x 24" x 10" 8" WALL SUPPORTED CEILING MOUNT, TWO HANDLE, 3/4" HOSE THREADED OUTLET, PAIL HOOK, WALL BRACE SCHEDULE 40 PVC
LAV	LAVATORY, STUDIO, ADA FAUCET - SENSOR - AC POWER, ADA GRID DRAIN 1 1/4" TRAP SUPPLIES STOPS HC GUARDING THERMOSTATIC MIXING VALVE SOAP DISPENSER - AC POWER	AMERICAN STANDARD SLOAN AMERICAN STANDARD McGUIRE LSP AQUAFLO WATTS TRUEBRO ZURN / WILKINS SLOAN	0614.300 SF-2300 -- 8872 SERIES SFC KWIKSTOP LAVGUARD2 ZW3870XLT ESD-400-CP	1/2"	1/2"	1 1/2"	1 1/4"	UNDERMOUNT, WHITE, VITREOUS CHINA, FRONT OVERFLOW, ADA COMPLIANT ADAPTER POWER WITH BATTERY BACKUP, 4" CENTERSET, CAST BRASS, POLISHED CHROME 17 ga CHROME PLATED, CAST BRASS 17 ga CHROME PLATED, CAST BRASS w/ CLEAN OUT PLUG STAINLESS STEEL CONNECTORS 1/4 TRUN CHROME PLATED, SOLID BRASS BODY INTERNAL FASTENERS, MOLDED VINYL, PAINTABLE, SUPPLIES, STOPS, AND DRAIN NICKEL PLATED, INTERNAL BRASS BODY, POLYSUFONE PISTON, OUTLET TEMP. RANGE 95-115°F, FIELD TEST TEMPERATURE ELECTRONC, CHROME PLATED, DIE CAST BODY
SWR	SHOWER FAUCET GRID DRAIN	--- DELTA SIOUX CHIEF	--- T13H153 825 SERIES	1/2"	1/2"	2"	1 1/2"	REFER TO OWNER / ARCHITECTURAL HANDSHOWER w/ CHECK VALVES, S.S. ADA SLIDE BAR, LEVER BLADE HANDLE SCHEDULE 40 HUB CONNECTION, PVC, SCREW ON STRAINER, BRASS INSERTS
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	WILKINS	975XL	1 1/2"				BRONZE, 180°F RATED, SEAT RING & INTERNAL POLYMERS TO BE NSF LISTED NORYL SEAT DISC ELASTOMERS TO BE SILICONE, FULL PORT BALL VALVES AIR GAP CONNECTION, INLET/OUTLET PRESSURE GAUGES
HB	HOSE BIBB	ZURN	Z1320-CXL	3/4"				ECOLOTROL WALL HYDRANT, ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING
EWH	ELECTRIC WATER HEATER 50 gal.	LOCHINVAR	LSJ050KD	3/4"	3/4"			ROUTE DRAIN LINE TO MOP SINK OR FLOOR DRAIN 4.5 KW, 208V, 1PH
ET	EXPANSION TANK	AO SMITH	PMC-10	3/4"				POTABLE WATER, DRAWN STEEL, BUTYL DIAPHRAGM, LEAD FREE, 15" x 15", 9.21 gal, SUPPORT AS PER MANUFACTURER
HCDF	BI-LEVEL WATER COOLER WALL CARRIER SUPPLY STOP	HALSEY TAYLOR HALSEY TAYLOR LSP AQUAFLO WATTS	HAC-8FS-BL-Q MLP200 SFC KWIKSTOP	1/2"		1 1/2"	1 1/4"	WALL HUNG, BI-LEVEL, SEAT RING & INTERNAL POLYMERS TO BE NSF LISTED NORYL MOUNT ORIFICE HEIGHT AT 33" A.F.F. FOR ADA COMPLIANCE IN WALL, FLOOR MOUNTED, HEAVY GAUGE STEEL STAINLESS STEEL CONNECTOR 1/4 TURN CHROME PLATED, SOLID BRASS BODY
WHA	WATER HAMMER ARRESTOR	SIOUX CHIEF	650 SERIES	1/2"	1/2"			COPPER BODY w/ PERMANENTLY SEALED PRE-CHARGED PISTON, SIZE PER SCHEDULE
PSP	PUMPOUT STANCHION PESESTAL	SANISAILOR	STB201					HEAVY DUTY ALUMINUM, HOSE HANGER, LOW VOLTAGE ON/OFF CONTROLS
FD	FLOOR DRAIN (HALO) TRAP SEALER	SIOUX CHIEF RECTOR SEAL	822 SERIES SS3009V			3"		SIZE PER LINE, METAL DECK FLANGE, PVC HOUSING, BRASS COVER, ADJUSTABLE WATERLESS INLINE DRAIN TRAP SEAL, HEAVY DUTY SILICONE DIAPHRAGM, SOFT RUBBER SEALING GASKET
BV	BALL VALVE	NIBCO	PC-FP-600A-D-LF					SIZE PER LINE, TWO-PIECE BALL VALVE WITH DRAIN, LEAD FREE BRASS, FULL PORT, PRESS END CONNECTIONS, 250psi

PUMP SCHEDULE

DESIGNATION	P1	P2
SERVICE	RESTROOM & DOCK	BOAT HOLDING PUMP OUT
TYPE	DUPLEX GRINDER PACKAGE	PERISTALTIC
APPROX. IMPELLER SIZE	SPEC	SPEC
GPM	50	40-50
TDH (FT H_2O)	40'	29'
NPSH	SPEC	SPEC
TEMPERATURE	275	203
CASING WORKING PRESSURE	--	--
POWER	(2) 2 HP	5 HP
VOLTAGE / PHASE	208-230 V - 1 PHASE	--
RPM	VARIABLE	VARIABLE
POWER TYPE	CORDED	NORMAL
MANUFACTURER	LIBERTY PUMPS	SANISAILOR
MODEL NUMBER	D3648LSG - 36 x 48	CVX400
ACCESSORIES:	1, 2, 3	1, 2
NOTES:	--	1

P1 REMARKS:
1. WEIGHT - 480 lbs. EMPTY, 2,240 lbs. FILLED
2. DIMENSIONS - 42"Ø x 48"H
3. 211 gal. WOUND FIBERGLASS TANK w/ STEEL COVER
4. STAINLESS STEEL GUIDE RAIL SYSTEM.
5. CONSTRUCT DOCK STRUCTURE TO HOLD 480 lbs. AT TANK LOCATION. SEE PLAN.
6. PROVIDE CONCRETE BALLAST OF 4'-0" x 4'-0" x 0'-8" w/ TWO LAYERS OF 6 x 6 W2.9 WWF EQUALLY SPACED. ATTACH TO BOTTOM OF BASIN USING STAINLESS STEEL HARDWARE. MAINTAIN WATERTIGHT BASIN AT CONNECTION POINTS.

P2 REMARKS:
1. WEIGHT - 425 lbs.
2. DIMENSIONS - 34" L x 24" W x 46" H
3. PROVIDE SUCTION HOSE, HOSE STAND, AND INTAKE FITTINGS PER PUMP MANUFACTURER.

ACCESSORIES:
1. REFER TO DETAILS AND SPECIFICATIONS FOR ACCESSORIES.
2. ALARM MODULE.
3. NEMA 4X DUPLEX

NOTES:
1. PROVIDE ANTI-VIBRATION PADS.

PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
BV	BALL VALVE
CV	CHECK VALVE
CW	COLD WATER
CWB	CLOTHES WATER BOX
CWUFB	COLD WATER UP FROM BELOW
CWUTA	COLD WATER UP TO ABOVE
DCS	DOUBLE COMPARTMENT SINK
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GI	GREASE INTERCEPTOR
GV	GATE VALVE
GWH	GAS WATER HEATER
HB	HOSE BIBB
HCWC	HANDICAPPED WATER CLOSET
HW	HOT WATER
HWDFA	HOT WATER DOWN FROM ABOVE
HWDTB	HOT WATER DOWN TO BELOW
HWRUFB	HOT WATER RETURN UP FROM BELOW
HWRUTA	HOT WATER RETURN UP TO ABOVE
HWUFB	HOT WATER UP FROM BELOW
HWUTA	HOT WATER UP TO ABOVE
LAV	LAVATORY
MS	MOP SINK
ODEWH	ON DEMAND ELECTRIC WATER HEATER
PSP	PUMPOUT STANCHION PEDESTAL
RP	RECIRCULATING PUMP
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
SCS	SINGLE COMPARTMENT SINK
SD	STORM DRAIN
SDDFA	STORM DRAIN DOWN FROM ABOVE
SDDTB	STORM DRAIN DOWN TO BELOW
SS	SANITARY SEWER
SSDFA	SANITARY SEWER DOWN FROM ABOVE
SSDTB	SANITARY SEWER DOWN TO BELOW
SWR	SHOWER
TP	TRAP PRIMER
TPDU	TRAP PRIMER DISTRIBUTION UNIT
UR	URINAL
V	VENT
VB	VALVE BOX
VTR	VENT THRU ROOF
VUFB	VENT UP FROM BELOW
VUTA	VENT UP TO ABOVE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WHA	WATER HAMMER
YCO	YARD CLEAN OUT
YCO (TR)	YARD CLEAN OUT - TRAFFIC RATED

PLUMBING LEGEND

- SANITARY SEWER
- VENT AND/OR DRAIN ABOVE
- COLD WATER DISTRIBUTION
- HOT WATER DISTRIBUTION
- HOT WATER RETURN
- WATER SERVICE PIPING
- G — G : GAS PIPING
- CA — CA : COMPRESSED AIR PIPING
- RISER DOWN
- RISER UP
- SINGLE LINE RISER DOWN
- SINGLE LINE RISER UP
- SINGLE LINE TEE DOWN
- SINGLE LINE TEE UP
- BALL VALVE
- -1'-2" : INVERT ELEVATION POINT WITH DIMENSION RELATIVE TO FINISH FLOOR

GENERAL PLUMBING NOTES:

1. APPLICABLE CODE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED VERSIONS OF:
   2012 IBC INTERNATIONAL BUILDING CODE
   2012 IFC INTERNATIONAL FIRE CODE
   2012 NFPA 101 LIFE SAFETY CODE
   2012 IPC INTERNATIONAL PLUMBING CODE
2. PLUMBING SYSTEMS SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART OF SUCH WORK FOR FULLY OPERATIONAL, COMPLETE, AND CODE COMPLIANT SYSTEMS. PROVIDE AND INSTALL ALL PIPING, CONNECTIONS, VALVES, FITTINGS, AND FIXTURES COMPLETE WITH TRAPS, SUPPLIES, STOPS, ETC. AS REQUIRED.
3. PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEMS. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION. ANY GROSS INTERFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.
4. PLAN SCALES NOTED, IF ANY, ARE ONLY APPLICABLE TO PLANS PLOTTED AT FULL SIZE. CONTRACTOR IS CAUTIONED WHEN USING PLANS PLOTTED AT REDUCED SIZES. REGARDLESS, CONTRACTOR SHALL NOT SCALE PLANS, BUT SHALL REFER TO ACTUAL FIELD CONDITIONS AND/OR DIMENSIONED ARCHITECTURAL, STRUCTURAL, OR CIVIL PLANS.
5. SUBMITTAL REQUIREMENTS: CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL DETAILED PRODUCT INFORMATION ON ALL EQUIPMENT PROPOSED FOR USE. SUBMITTAL SHALL BE APPROVED, AND ENGINEER SHALL REVIEW AND APPROVE PRIOR TO EQUIPMENT PURCHASE. SUBMITTALS SHALL BE SUBMITTED IN ELECTRONIC (PDF) FORMAT WITH THE FILES NAMED WITH THE RELEVANT SPEC SECTION NUMBERING. PRIOR TO SUBMITTAL CONTRACTOR SHALL REVIEW AND CERTIFY BY SIGNATURE THE SUBMITTED EQUIPMENT MEET SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, FITTINGS, AND CONSTRUCTION FEATURES RELATIVE TO EQUIPMENT. APPROVAL OF SUBMITTAL INFORMATION BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR'S OBLIGATION TO PROVIDE CODE COMPLIANT SYSTEMS.
6. LOCATE AND INSTALL ALL EQUIPMENT CONSIDERING MANUFACTURER'S RECOMMENDED CLEARANCES, MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND LISTING AGENCY CERTIFICATIONS.
7. INSTALL ALL SERVICEABLE EQUIPMENT, VALVES, UNIONS, CLEAN OUTS, ETC. IN ACCESSIBLE LOCATIONS.
8. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS. COORDINATE WITH ELECTRICAL CONTRACTOR.
9. FIRE STOPPING SYSTEM SHALL BE INSTALLED AT ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, OR CONSTRUCTION.
10. PROVIDE AND INSTALL ALL HANGERS AND SUPPORTS AS REQUIRED BY CODE CONSISTENT WITH THE MATERIAL OR EQUIPMENT SUPPORTED.
11. SLEEVE ALL PENETRATIONS THROUGH MASONRY OR CONCRETE FLOOR SLABS, WALLS, OR FOOTINGS.
12. THE PLANS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED WITH THE INTENT TO BE AS ACCURATE AND COMPLETE AS PRACTICAL, BUT ERRORS, OMISSIONS, AND CONFLICTS MAY EXIST. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION THE WORK, THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS IN DETAIL. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTING A BID. BY SUBMITTAL A BID FOR THE WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, UNDERSTANDS THE DESIGN INTENT, AND DOES NOT HAVE ANY FURTHER QUESTIONS OR COMMENTS.
13. WITHOUT EXCEPTION, ONLY PLUMBING COMPONENTS THAT HAVE BEEN CERTIFIED AS "LEAD FREE" SHALL BE ALLOWED TO BE INSTALLED ON POTABLE WATER SYSTEMS. REFERENCE NSF/ANSI 372.

SANITARY SEWER NOTES:

1. SLOPE INTERNAL HORIZONTAL WASTE LINES 1/4" PER FOOT MINIMUM UNLESS OTHERWISE NOTED.
2. SLOPE EXTERNAL HORIZONTAL WASTE LINES 1/8" PER FOOT MINIMUM UNLESS OTHERWISE NOTED.
3. SLOPE HORIZONTAL VENT LINES 1/4" PER FOOT MINIMUM BACK TO FIXTURE DRAIN.
4. ALL HORIZONTAL SWEEPS IN SEWER PIPING SHALL INCORPORATE 45º WYE FITTINGS.
5. MINIMUM INVERT OF ANY WASTE LINE SHALL BE AT 18" BELOW FINISH FLOOR UNLESS OTHERWISE NOTED.
6. VENT TERMINATIONS SHALL BE 10'-0" MINIMUM DISTANCE AWAY FROM AIR INTAKES OR WINDOWS.
7. LOCATE VENT TERMINATIONS SO TO MINIMIZE THE ABILITY FOR THEM TO BE SEEN FROM THE STREET LEVEL. COORDINATE LOCATIONS WITH ENGINEER.
8. TEST GRAVITY SEWER PIPING WITH 10' MINIMUM WATER HEAD PRESSURE FOR 24 HOURS AND MAINTAIN UNTIL AFTER BACKFILL IN COMPLETE.
9. TEST FORCE MAIN TO 5 psi GREATER THAN THE PUMP RATING FOR FOUR HOURS.
10. ALL FLOOR DRAINS, CLEAN OUTS, VALVE BOXES, AND SIMILAR STRUCTURES LOCATED IN PARKING LOTS, ROADWAYS, SIDEWALKS, ETC. WHERE VEHICLE TRAFFIC IS EXPECTED TO BE TRAFFIC RATED.

DOMESTIC WATER NOTES:

1. ROUTE ALL DOMESTIC WATER PIPING WITHIN THE THERMAL ENVELOPE OF BUILDING. PIPING IN EXTERIOR WALLS AND ATTICS SHALL BE AVOIDED. PIPING SHOWN ROUTED IN EXTERIOR WALLS SHALL BE INSIDE OF WALL INSULATION. PIPING SHOWN ROUTED OVERHEAD SHALL BE BENEATH THE ATTIC INSULATION.
2. INSULATE ALL DOMESTIC HOT AND COLD WATER PIPING PER THE PLUMBING MATERIALS SCHEDULE.
3. INSTALL CHROME PLATED ESCUTCHEON PLATES AT ALL PIPING PENETRATIONS THROUGH FINISH FLOORS, WALLS, OR CEILINGS.
4. FLUSH AND CLEAN DOMESTIC WATER LINES BEFORE CONNECTION FIXTURES.
5. TEST WATER PIPING TO 100 psi HYDROSTATIC PRESSURE FOR FOUR HOURS MINIMUM BEFORE BACK FILLING OR CONCEALMENT.
6. ALL CLEAN OUTS, VALVE BOXES, METER BOXES, AND SIMILAR STRUCTURES LOCATED IN PARKING LOTS, ROADWAYS, SIDEWALKS, INTERIOR GARAGES, ETC. WHERE VEHICLE TRAFFIC IS EXPECTED TO BE TRAFFIC RATED.
7. ROUTE ALL PIPING OVERHEAD UNLESS NOTED OTHERWISE.
8. PIPING NOTED TO BE ROUTED UNDERSLAB SHALL CONSIST OF CONTINUOUS PEX PIPE RUNS. ROUTE WITHIN MANUFACTURER APPROVED SLEEVE. DO NOT INSTALL FITTINGS UNDERSLAB.
9. INSTALL WATER HAMMER ARRESTORS PER DETAILS.
10. ALL FIXTURE STUB-OUTS TO BE COPPER.

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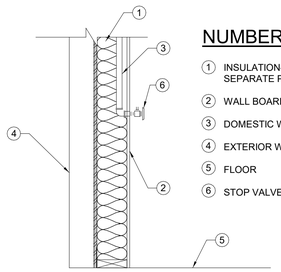
Revisions:
No.	Date	Description
		Revisions indicated w/ △

SHEET: P0.1
TITLE: PLUMBING NOTES AND SCHEDULES
DATE: 6-10-22
JOB NO: 21094
DWN BY: BAE

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER

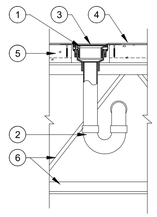


NUMBERED NOTES

1. INSULATION- DO NOT ALLOW INSULATION TO SEPARATE PIPING FROM HEATED SPACE.
2. WALL BOARD
3. DOMESTIC WATER PIPING
4. EXTERIOR WALL
5. FLOOR
6. STOP VALVE

1 P0.2 EXTERIOR WALL PIPE INSTALLATION

NOT TO SCALE

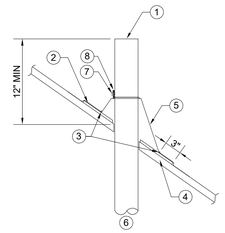


NUMBERED NOTES

1. ADJUSTABLE FLOOR DRAIN ASSEMBLY w/ TRAP PRIMER CONNECTION, SEE SCHEDULE, COORDINATE ELEVATION w/ STRUCTURAL AND ARCHITECTURAL, COORDINATE FLOOR FINISH
2. PVC P-TRAP
3. BRASS COVER AND RING
4. PROVIDE POSITIVE FLOOR SLOPE, COORDINATE
5. CONCRETE SLAB, REFERENCE ONLY
6. METAL BARJOIST, REFERENCE ONLY

2 P0.2 FLOOR DRAIN (FD)

NOT TO SCALE

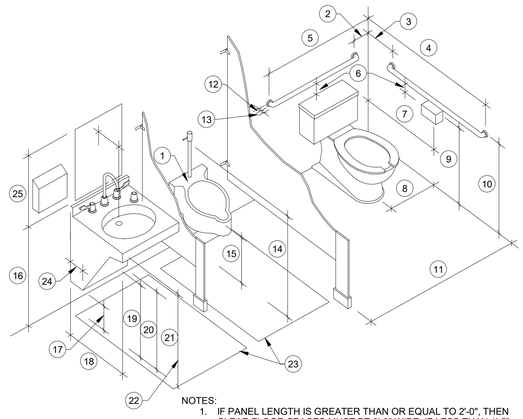


NUMBERED NOTES

1. VENT PIPE
2. COORDINATE FLASHING INTO ROOF SYSTEM
3. SEAL ALL EDGES OF ROOF COLLAR WITH SEALANT
4. ROOF DECK
5. IPS WATERTIGHT ROOF FLASHING COLLAR OR EQUAL
6. VENT DOWN TO BELOW AS REQUIRED
7. STAINLESS STEEL CLAMP RING
8. WATER CUT OFF MASTIC

3 P0.2 ROOF VENT PENETRATION

NOT TO SCALE



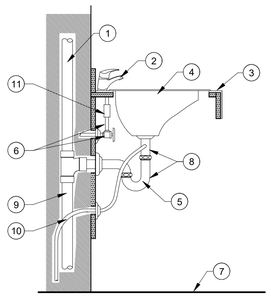
NOTES:
1. IF PANEL LENGTH IS GREATER THAN OR EQUAL TO 2'-0", THEN CLEAR FLOOR SPACES MUST BE 3'-0" WIDE. IF LESS THAN 1'-5" THEN THE URINAL CLEAR FLOOR SPACE MAY BE 2'-5" WIDE.
2. DEPENDING UPON CONFIGURATION OF CLEAR FLOOR SPAVE, MAXIMUM HEIGHT OF CONTROLS RANGES FROM 3'-8" TO 4'-8" AND THE MINIMUM HEIGHT RANGES FROM 0'-9" TO 2'-10".
3. FLUSH VALVE HANDLES LOCATED PER ADA REQUIREMENTS. TO WIDE SIDE OF STALL.

NUMBERED NOTES

1. ELONGATED TYPE
2. 6" MAXIMUM
3. 1'-0" MAXIMUM
4. 4'-6" MINIMUM
5. 3'-6" MINIMUM
6. 1 1/2" MINIMUM CLEAR
7. 3'-0" MAXIMUM
8. 1'-6"
9. 1'-7" MINIMUM
10. 2'-9" TO 3'-0"
11. 5'-0" CLEAR
12. 1 1/2"
13. 1 1/4" TO 1 1/2"
14. 3'-8" MAXIMUM
15. 1'-5" MAXIMUM
16. 3'-4" MAX. TO REFLECTING SURFACE
17. 9" MINIMUM
18. 1'-5" MINIMUM
19. 2'-3" MINIMUM
20. 2'-5" MINIMUM
21. 2'-10" MAXIMUM
22. BOWL AND PIPES MUST BE CONTAINED WITHIN THIS AREA
23. CLEAR FLOOR SPACE, 2'-6" x 4'-0" MINIMUM
24. 6" MINIMUM
25. 3'-0"

4 P0.2 TYPICAL H.C. TOILET ELEVATIONS

NOT TO SCALE



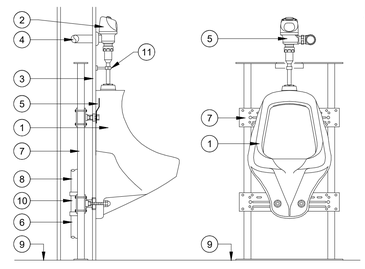
NUMBERED NOTES

1. VENT TO ABOVE
2. FAUCET - SEE SCHEDULE
3. COUNTERTOP - REF. ONLY
4. SINGLE COMPARTMENT SINK SEE SCHEDULE
5. P-TRAP
6. DOMESTIC WATER SUPPLIES AND STOPS, ON COPPER STUB-OUTS
7. FINISH FLOOR
8. PROTECT w/ LAVATORY SHIELD
9. DRAIN LINE TO BELOW
10. DRAIN LINE FROM TRAP PRIMER TAIL PIECE TO FLOOR DRAIN
11. THERMOSTATIC MIXING VALVE

NOTES:
1. SEE PLUMBING FIXTURE SCHEDULE.
2. FOR FIXTURE SPECIFICATIONS.
3. CONFIRM FIT WITHIN CASEWORK PRIOR TO ORDERING.

5 P0.2 DROP-IN LAVATORY (LAV)

NOT TO SCALE

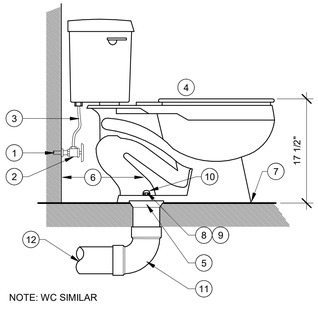


NUMBERED NOTES:

1. URINAL, SEE SCHEDULE
2. SENSOR FLUSH VALVE, SEE SCHEDULE
3. FINISH WALL
4. 3/4"Ø CW SUPPLY LINE
5. HANGER
6. DRAIN LINE DOWN TO BELOW
7. WALL CARRIER, SEE SCHEDULE
8. VENT LINE UP TO ABOVE
9. FINISH FLOOR
10. SANITARY TEE PVC FITTING
11. CHROME SPLIT RING PIPE SUPPORT

6 P0.2 URINAL (UR)

NOT TO SCALE



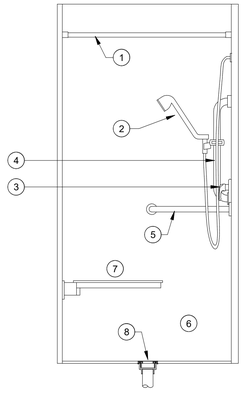
NUMBERED NOTES

1. 1/2" COLD WATER LINE
2. 1/4 TURN STOP VALVE
3. STAINLESS STEEL CONNECTOR
4. FLUSH TANK TOILET AND SEAT SEE FIXTURE SCHEDULE
5. 4" CLOSET FLANGE w/ STAINLESS STEEL, COORDINATE ELEVATION w/ FLOOR FINISH
6. VERIFY ROUGH-IN DIMENSION PRIOR TO ROUGH-IN
7. SEAL w/ PUTTY, CAULKING, OR GROUT TO MATCH FLOOR FINISH
8. TAPERED WASHER - TYPICAL
9. UTILIZE NON-CORROSIVE FASTENERS THROUGHOUT
10. BOLT CAP
11. 4"Ø ELL
12. 4"Ø WASTE LINE

NOTE: WC SIMILAR

7 P0.2 HANDICAPPED WATER CLOSET (HCWC)

NOT TO SCALE



NUMBERED NOTES

1. SHOWER CURTAIN ROD, REF. ONLY
2. HANDSHOWER (PER SCHEDULE)
3. SINGLE LEVER WATER CONTROL (PER SCHEDULE)
4. SLIDE BAR (PER SCHEDULE)
5. GRAB BAR
6. SHOWER (SEE ARCHITECTURAL)
7. SEAT (SEE ARCHITECTURAL)
8. SHOWER DRAIN, REF. ONLY

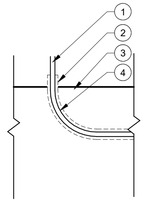
NOTES:

1. MUST BE ADA COMPLIANT.

ELEVATION VIEW

9 P0.2 ADA SHOWER (SWR)

NOT TO SCALE



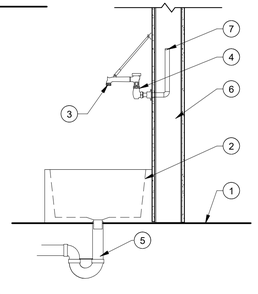
NUMBERED NOTES

1. ALL PEX DOMESTIC WATER PIPING
2. SLEEVE, INSTALL PER MANUFACTURER RECOMMENDATION, EXTEND ABOVE FLOOR 2" MIN.
3. FINISH FLOOR, FOR REFERENCE ONLY
4. SEE MANUFACTURER RECOMMENDATION FOR BENDING RADIUS

NOTE:
1. ALL SLEEVES ABOVE SLAB TO BE RIGID.
2. PROTECT PEX PIPING FROM UV AT ALL TIMES.

10 P0.2 SLEEVED PEX PIPING

NOT TO SCALE

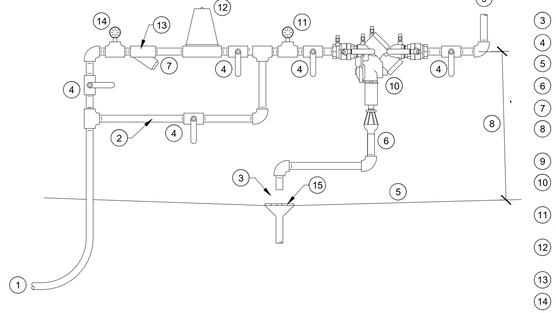


NUMBERED NOTES

1. FINISH FLOOR
2. MOP SINK, SEE SCHEDULE
3. THREADED SPOUT w/ PAIL HOOK
4. HEAVY DUTY WALL MOUNTED FAUCET w/ VACUUM BREAKER, PROVIDE WALL BRACING AS REQUIRED, SEE SCHEDULE
5. DRAIN ASSEMBLY w/ P-TRAP
6. WALL ASSEMBLY, SEE ARCHITECTURAL
7. HOT AND COLD WATER SUPPLY

11 P0.2 MOP SINK (MS)

NOT TO SCALE

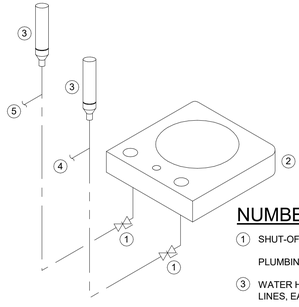


NUMBERED NOTES

1. WATER SERVICE FROM STREET
2. FULL SIZE BY-PASS REQUIRED w/ REDUCING VALVE
3. AIR GAP
4. BALL SHUTOFF VALVE
5. FINISH FLOOR
6. DRAIN LINE, REQUIRED
7. ALLOW SPACE FOR STRAINER REMOVAL
8. INSTALL UNIT w/ CENTERLINE A MAXIMUM OF 4'-6" A.F.F.
9. TO BUILDING SYSTEM
10. REDUCED PRESSURE BACK-FLOW PREVENTER w/ AIR GAP
11. 10-150 lb. GAUGE REQUIRED w/ REDUCING VALVE
12. PRESSURE REDUCING VALVE REQUIRED IF ENTRANCE PRESSURE EXCEEDS 80 psi
13. STRAINER w/ BLOW-OFF, REQUIRED
14. 0-200 lb. GAUGE REQUIRED w/ REDUCING VALVE
15. FLOOR DRAIN

8 P0.2 REDUCED PRESSURE BACKFLOW PREVENTER (RPBP)

NOT TO SCALE



NUMBERED NOTES

1. SHUT-OFF VALVE

PLUMBING FIXTURE, SEE SCHEDULE

3. WATER HAMMER ARRESTER AT HOT & COLD LINES, EACH FIXTURE, SIZE PER LINE SIZE
4. FROM HOT WATER SUPPLY
5. FROM COLD WATER SUPPLY

12 P0.2 WATER HAMMER ARRESTER SCHEMATIC (WHA)

NOT TO SCALE

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Revisions:

No.	Date	Description

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P0.2

SHEET: PLUMBING DETAILS

TITLE:

DATE: 6-10-22

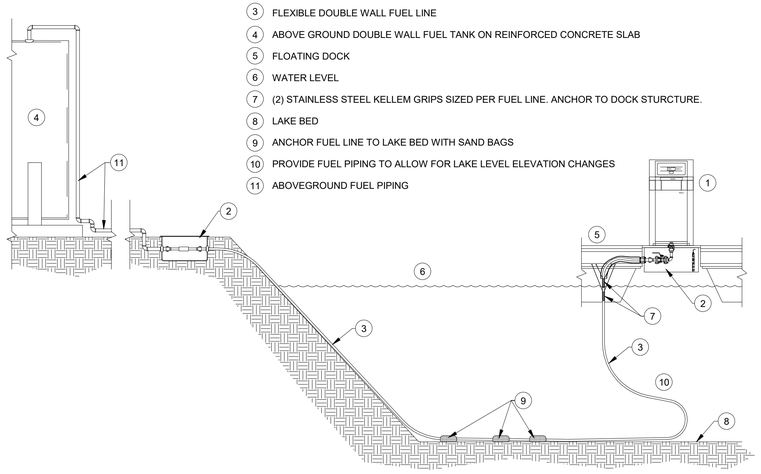
JOB NO: 21094

DWN BY: BAE

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED
PROFESSIONAL ENGINEER

NUMBERED NOTES:

1. FUEL DISPENCER
2. CONTAINMENT SUMP
3. FLEXIBLE DOUBLE WALL FUEL LINE
4. ABOVE GROUND DOUBLE WALL FUEL TANK ON REINFORCED CONCRETE SLAB
5. FLOATING DOCK
6. WATER LEVEL
7. (2) STAINLESS STEEL KELLEM GRIPS SIZED PER FUEL LINE. ANCHOR TO DOCK STURCTURE.
8. LAKE BED
9. ANCHOR FUEL LINE TO LAKE BED WITH SAND BAGS
10. PROVIDE FUEL PIPING TO ALLOW FOR LAKE LEVEL ELEVATION CHANGES
11. ABOVEGROUND FUEL PIPING

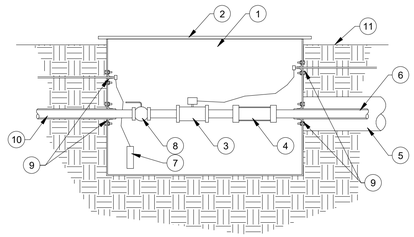


1 / P0.3 SHORE TO DOCK FUEL PIPING DETAIL

NOT TO SCALE

NUMBERED NOTES:

1. TRANSITION SUMP
2. WATER TIGHT COVER
3. SOLENOID VALVE w/ INTERNAL RELIEF
4. SAFETY BREAK
5. PIPE CHASE
6. DOUBLE-WALL PIPE TO DOCK DISPENCER
7. LIQUID SENSOR
8. BALL VALVE
9. ENTRY BOOT, COORDINATE w/ TRANSITION BOX
10. DOUBLE-WALLED PIPE TO STORAGE TANK
11. GRADE



2 / P0.3 ON SHORE TRANSITION BOX

NOT TO SCALE

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Revisions:

No.	Date	Description
		Revisions indicated w/ △

SHEET: P0.3

TITLE: PLUMBING DETAILS

JOB NO: 21094 DATE: 6-10-22

DWN BY: WAB

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
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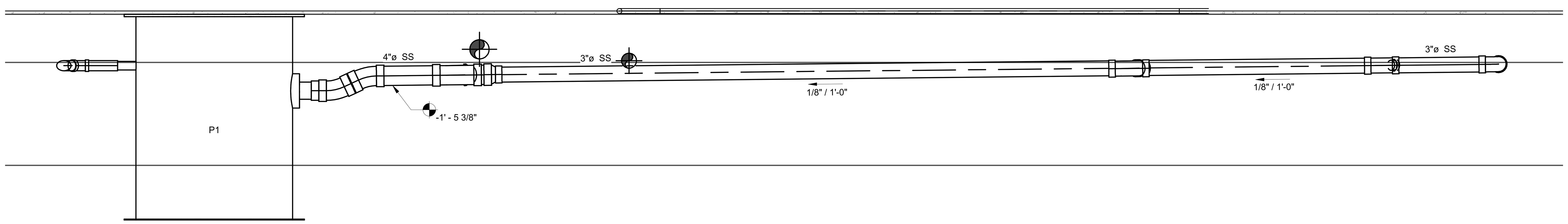


2 P1.1 SANITARY SEWER SECTION VIEW

SCALE: 3/4" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

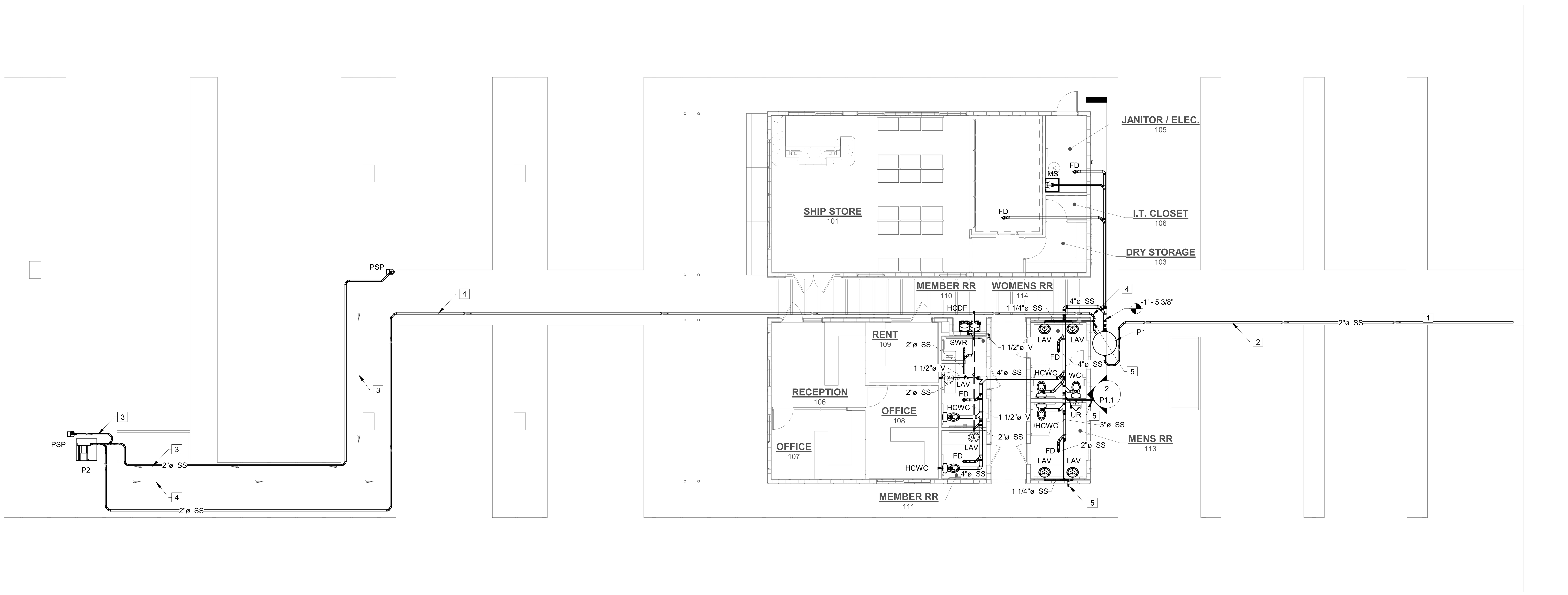
PLUMBING NOTES

GENERAL NOTES

- A SEE SANITARY SEWER ISOMETRIC FOR PIPE SIZES NOT SHOWN.
- B ALL FLOOR DRAINS TO BE SUPPLIED WITH WATER FROM TRAP PRIMER TAILPIECE FROM A LAVATORY OR TRAP PRIMER.
- C COORDINATE ROUTING OF PIPE WITH OTHER TRADES.

NUMBERED NOTES

1. 2"Ø FORCED SANITARY SEWER LINE TO MANHOLE. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.
2. 2"Ø FORCED SANITARY SEWER LINE TO MANHOLE. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.
3. 2"Ø FORCED SANITARY SEWER LINE FROM PUMPOUT STANCHION PEDESTAL (PSP) TO P2. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.
4. 2"Ø FORCED SANITARY SEWER LINE FROM P2 TO P1. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.
5. ROUTE VENT PIPE UP TO WITHIN 4" OF FINISHED SOFFIT.



1 P1.1 SANITARY SEWER PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

NORTH

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Revisions:

No.	Date	Description

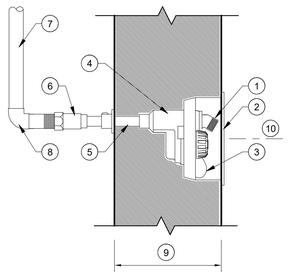
SHEET: P1.1

TITLE: SANITARY SEWER PLAN

JOB NO: 21094 DATE: 6-10-22

DWN BY: BAE

STATE OF TEXAS
GARY DALE LOFTIS
136175
LICENSED PROFESSIONAL ENGINEER
6-10-22

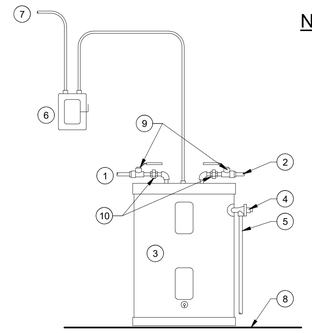


NUMBERED NOTES

1. CHROME PLATED VACUUM BREAKER WITH HOSE THREADS
2. FLUSH MOUNTED WALL BOX WITH LOCKING COVER
3. DRAIN
4. VALVE HEAD
5. ORDER LENGTH AS REQUIRED - COORDINATE WITH ARCHITECTURAL
6. FREEZE-PROOF VALVE BODY INSIDE THERMAL ENVELOPE OF BUILDING
7. TO BUILDING PIPING, SEE PLANS
8. COPPER ELL
9. SEE ARCHITECTURAL DRAWINGS FOR WALL DIMENSIONS
10. 18" ABOVE FINISH GRADE, AS PRACTICAL

2 P2.1 HOSE BIBB (HB)

NOT TO SCALE



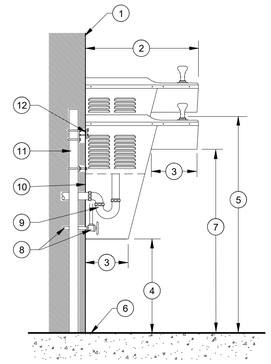
NUMBERED NOTES

1. FROM WATER SUPPLY
2. TO BUILDING HOT WATER SYSTEM
3. ELECTRICAL WATER HEATER SEE FIXTURE SCHEULDE
4. A.S.M.E. COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVE
5. FULL SIZE DISCHARGE, EXTEND AND SPILL INTO FLOOR DRAIN
6. ELECTRIC DISCONNECT, BY OTHERS
7. TO ELECTRIC PANEL, BY OTHERS
8. FINISH FLOOR
9. BALL VALVE
10. DIELECTRIC UNION

NOTE:
1. UTILIZE EXPANSION TANK (ET) AS SHOWN ON PLANS.

3 P2.1 ELECTRIC WATER HEATER (EWH)

NOT TO SCALE



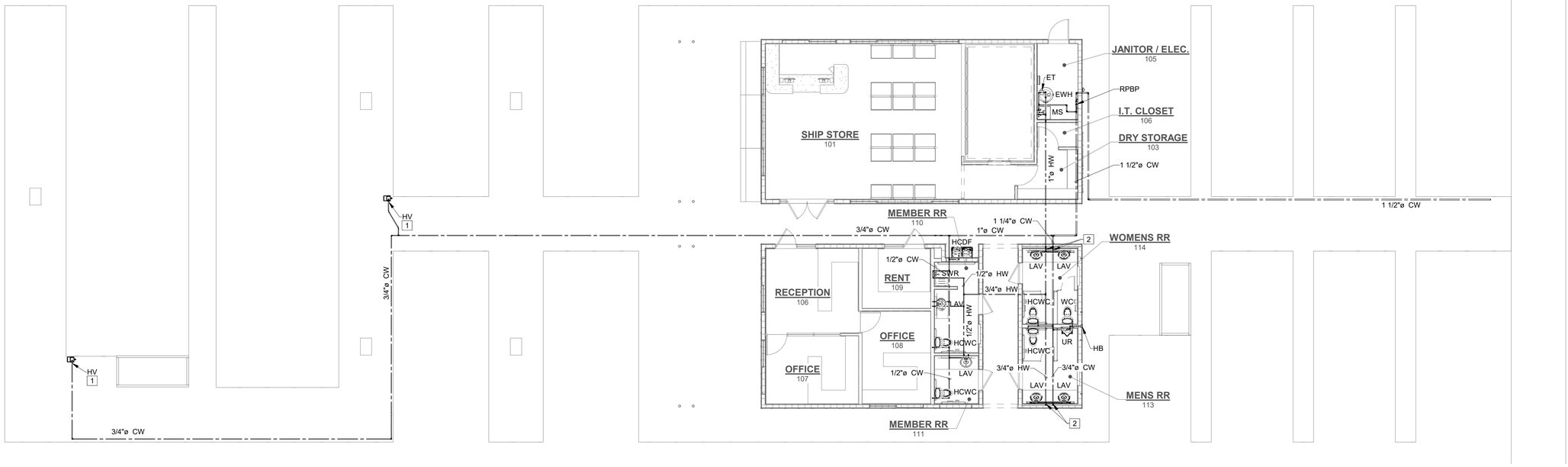
NUMBERED NOTES

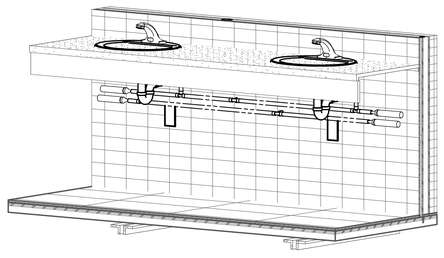
1. FINISHED WALL
2. 17" TO 19"
3. 6" MIN.
4. 9" MIN.
5. 36" MAX. ORIFICE HEIGHT (ADULT) 33" MAX. ORIFICE HEIGHT (CHILD)
6. FINISH FLOOR
7. 27" FOR ADULT HEIGHT ADA, 24" FOR CHILD ADA (ADJUST OTHER MEASUREMENTS ACCORDINGLY)
8. 1/2" WATER LINE w/ STOP
9. 1 1/4" P-TRAP
10. ELECTRICAL POWER OUTLET
11. BLOCKING - COORDINATE w/ ARCHITECTURAL UTILIZE WALL CARRIER IF LISTED IN PLUMBING FIXTURE SCHEDULE
12. HANGER BRACKET BY MANUFACTURE

NOTE: VERIFY MOUNTING HEIGHT w/ ARCHITECTURAL PRIOR TO ROUGH-IN

4 P2.1 HANDICAP DRINKING FOUNTAIN (HCDF)

NOT TO SCALE





5 P2.1 LAVATORY ISOMETRIC

NOT TO SCALE

1 P2.1 DOMESTIC WATER PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

NORTH

PLUMBING NOTES

GENERAL NOTES
- A SEE DOMESTIC WATER ISOMETRIC FOR PIPE SIZES NOT SHOWN.
- B COORDINATE ROUTING OF PIPE WITH OTHER TRADES.
- C ROUTE ALL DOMESTIC WATER LINES WITHIN THERMAL ENVELOPE OF BUILDING.
- D ALL EXPOSED WATER LINES TO BE COPPER.

NUMBERED NOTES
- 1 COORDINATE MOUNTING OF HOSE VALVE (HV) WITH PUMPOUT STANSION PEDESTAL.
- 2 STUB-OUT HOT AND COLD DOMESTIC WATER LINES HIGH AS PRACTICAL. ROUTE LINES TO LAVATORIES EXPOSED, HIGH AS PRACTICAL, BELOW COUNTERTOP. SEE ISOMETRIC VIEW 5, THIS SHEET.

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Revisions:

No.	Date	Description
		Revisions indicated w/ △

SHEET: P2.1

TITLE: DOMESTIC WATER PLAN

DATE: 6-10-22

JOB NO.: 21094

DWN BY: BAE

STATE OF TEXAS
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6-10-22
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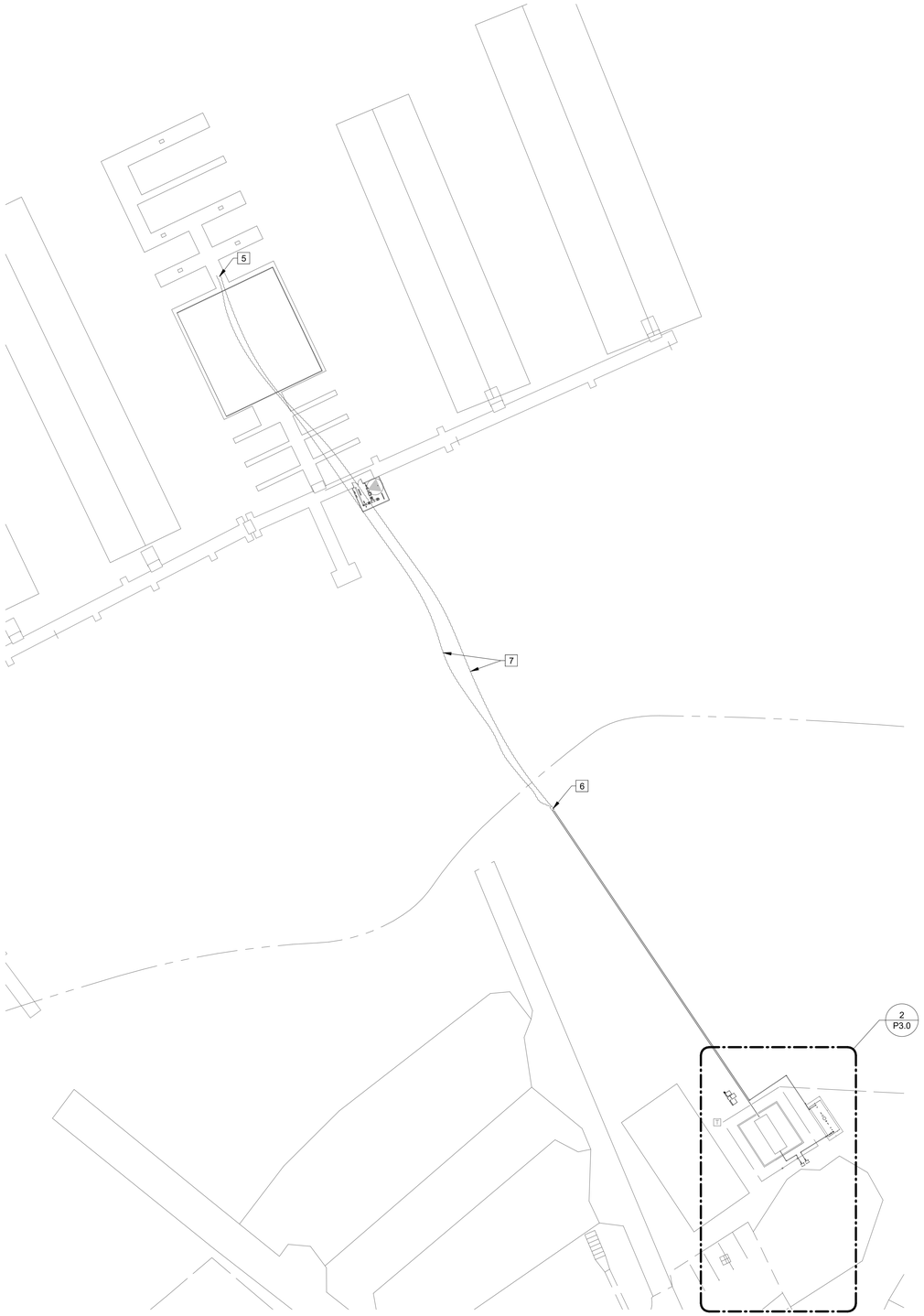


1 P3.0 OVERALL SITE FUEL PLAN

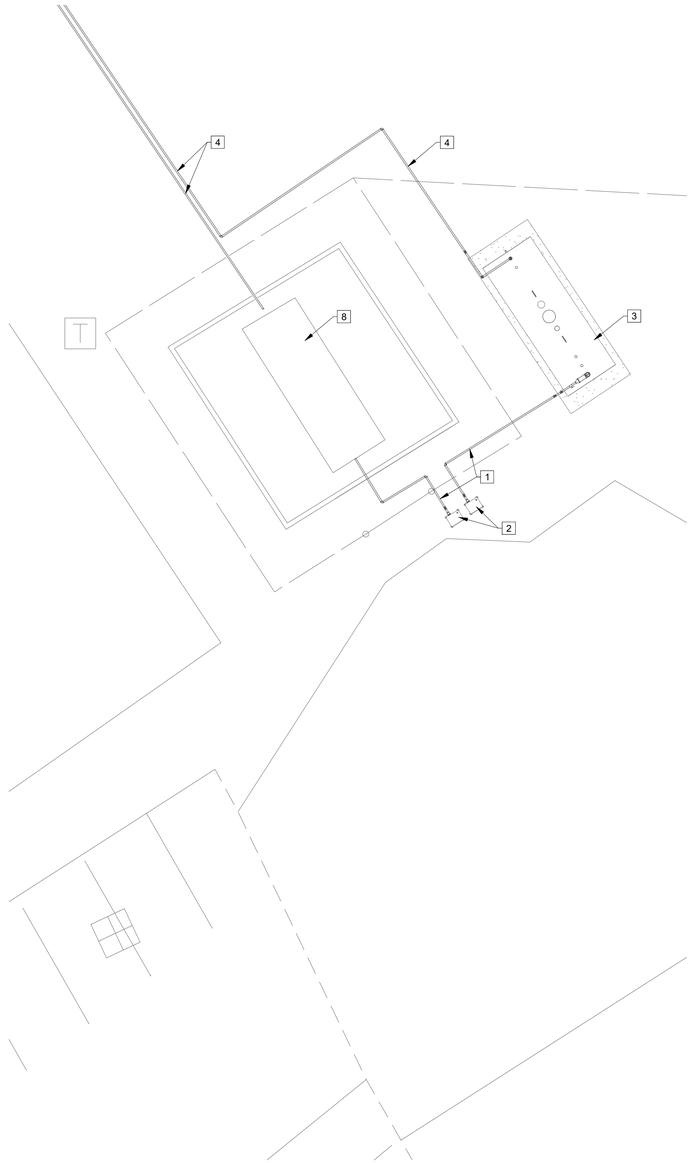
SCALE: 1" = 40'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 20' 40' 80' 160'

FUEL NUMBERED NOTES

NUMBERED NOTES

1. TANK FILL PIPING FROM ABOVE GROUND CONTAINMENT CABINET.
2. ABOVE GROUND FILLING CONTAINMENT CABINET. COORDINATE LOCATION WITH OWNERS.
3. 8,000 gal. ABOVE GROUND DOUBLE WALL DIESEL TANK.
4. ABOVE GROUND FUEL LINE FROM TANK TO ON SHORE TRANSITION BOX.
5. SEE SHEET P3.1 FOR CONTINUATION.
6. ON SHORE TRANSITION BOX. LOCATE ABOVE HIGH WATER LAKE LEVEL.
7. DOUBLE-WALLED FLEXIBLE FUEL HOSE ROUTED ON LAKE BOTTOM. PROVIDE SANDBAG WEIGHTS AS NEEDED. PROVIDE FUEL LINE FOR LAKE ELEVATION CHANGE.
8. EXISTING ABOVE GROUND GASOLINE TANK.



2 P3.0 ENLARGED FUEL SITE PLAN

SCALE: 1" = 10'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 5' 10' 20' 40'

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Revisions:

No.	Date	Description
Revisions indicated w/ △		

SHEET: P3.0

TITLE: FUEL SITE PLAN

JOB NO: 21094

DATE: 6-10-22

DWN BY: WAB

STATE OF TEXAS
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6-10-22
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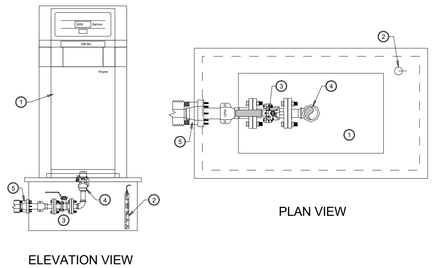


ELEVATION VIEW

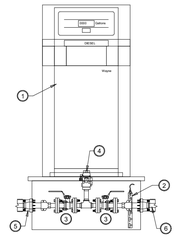
PLAN VIEW

NUMBERED NOTES:

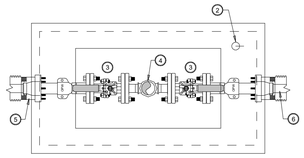
1. FUEL DISPENSER
2. VEEDER ROOT SENSOR
3. BALL VALVE
4. SHEAR VALVE
5. OPW BOOT

2 P3.1 FUEL DISPENSER w/ CONTAINMENT

NOT TO SCALE



ELEVATION VIEW



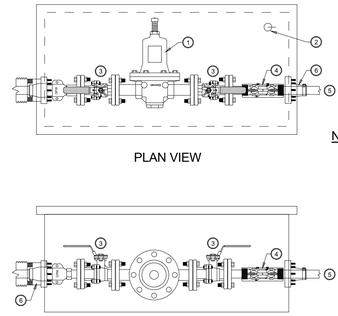
PLAN VIEW

NUMBERED NOTES:

1. FUEL DISPENSER
2. VEEDER ROOT SENSOR
3. BALL VALVE
4. SHEAR VALVE
5. OPW BOOT
6. 2" FUEL HOSE

3 P3.1 FUEL DISPENSER w/ CONTAINMENT FLOW THRU

NOT TO SCALE



PLAN VIEW

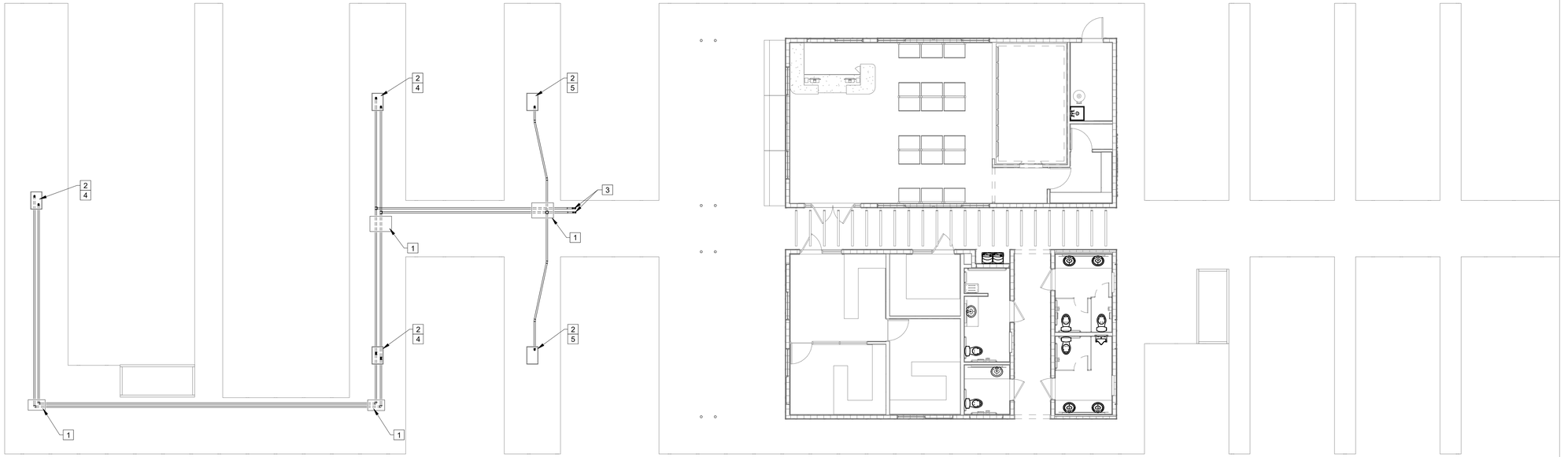
ELEVATION VIEW

NUMBERED NOTES:

1. PRESSURE REDUCING REGULATOR WHERE NOTED
2. VEEDER ROOT
3. BALL VALVE
4. OPW 66SP HIGH VOLUME BREAKAWAY
5. DOCK CONNECTOR
6. OPW BOOT

4 P3.1 FUEL LINE TRANSITION BOX

NOT TO SCALE



FUEL NUMBERED NOTES

NUMBERED NOTES

1. TRANSITION BOX. COORDINATE MOUNTING WITH ALL OTHER TRADES, OWNERS, AND DOCK MANUFACTURER.
2. NEW FUEL DISPENSER WITH TRANSITION BOX BELOW. COORDINATE LOCATION WITH OWNERS AND DOCK MANUFACTURER.
3. SEE SHEET P3.0 FOR CONTINUATION. COORDINATE.
4. PROVIDE GASOLINE AND DIESEL AT THIS DISPENSER.
5. PROVIDE GASOLINE AT THIS DISPENSER.

1 P3.1 FUEL PLAN

SCALE: 1/8" = 1'-0" (WHEN PRINTED FULL SCALE ON 24"X36")

0' 4' 8' 16' 32'

NORTH

SHIP STORE FOR SAFE HARBOR EMERALD POINT

5973 HILINE ROAD
AUSTIN, TX

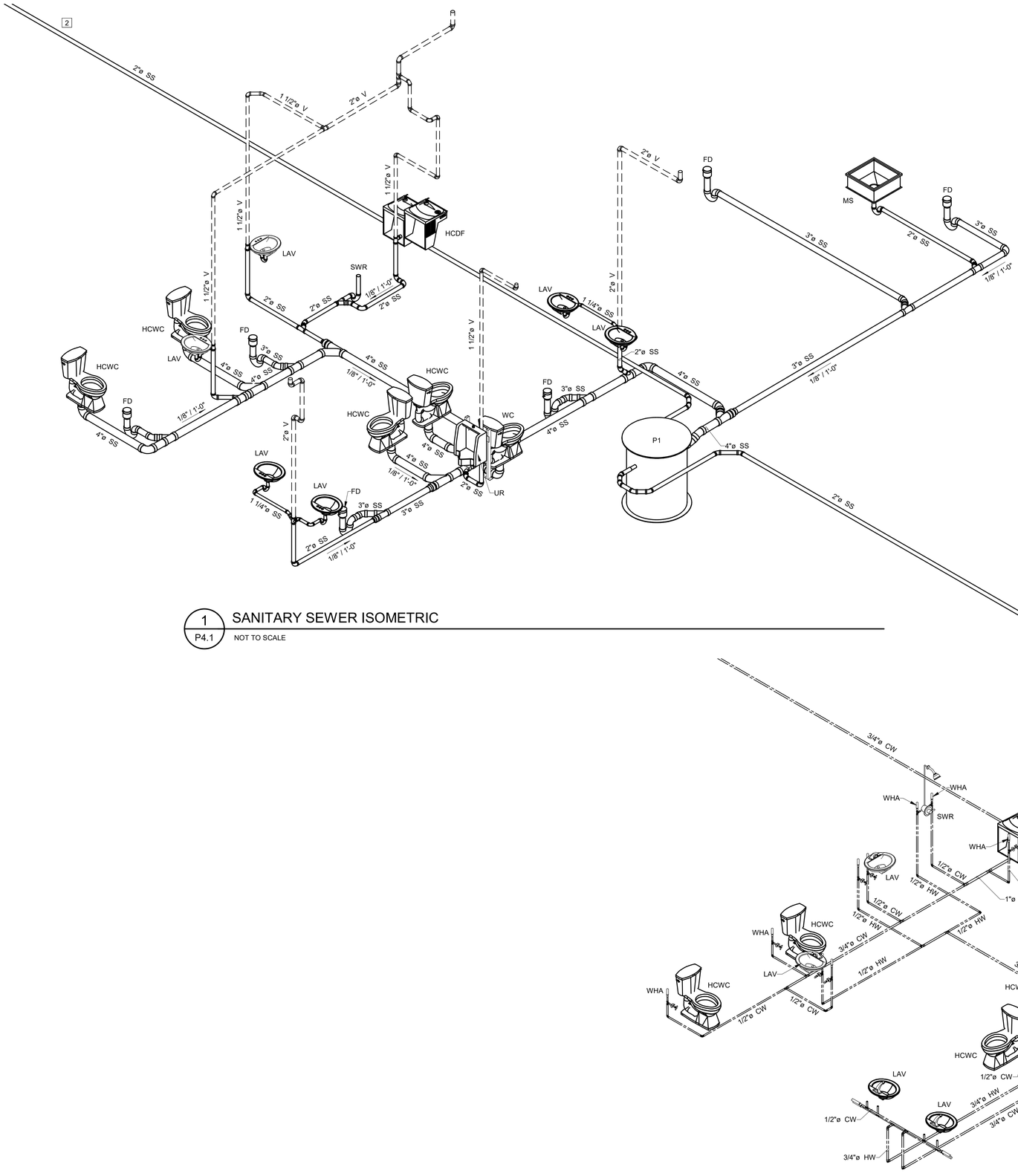
MAFFETT LOFTIS ENGINEERING, LLC
13 JEFFERSON AVE, STE 101
COOKEVILLE, TN 38501
TEL: (931) 528-5143
www.maffett-loftis.com

Revisions indicated w/ △

Revisions: No.	Date	Description

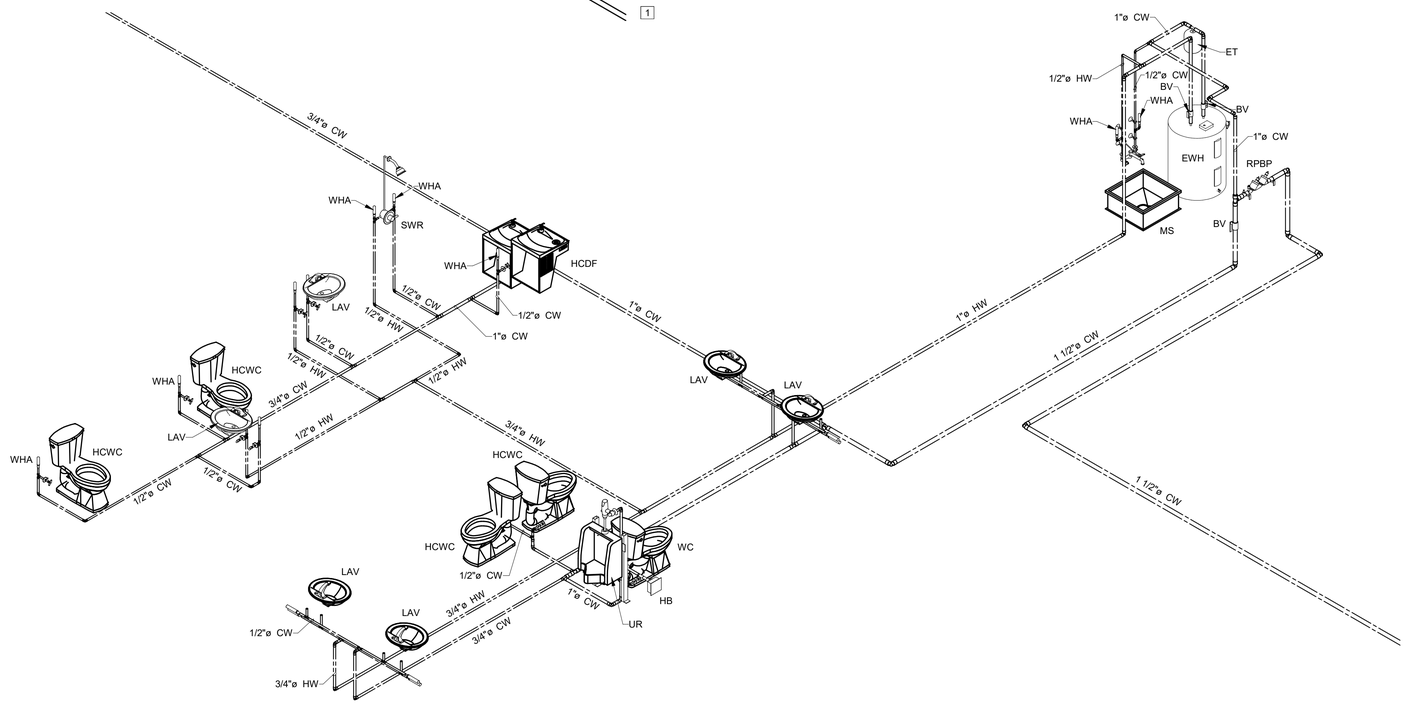
SHEET: P3.1
TITLE: FUEL PLAN
DATE: 6-10-22
JOB NO: 21094
DWN BY: WAB

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED PROFESSIONAL ENGINEER



1 P4.1 SANITARY SEWER ISOMETRIC

NOT TO SCALE



2 P4.1 DOMESTIC WATER ISOMETRIC

NOT TO SCALE

PLUMBING NUMBERED NOTES

GENERAL NOTES

A COORDINATE ROUTING OF PIPE WITH OTHER TRADES.

NUMBERED NOTES

1 2"Ø FORCED SANITARY SEWER LINE TO MANHOLE. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.

2 2"Ø FORCED SANITARY SEWER LINE FROM P2 TO P1. COORDINATE ROUTING WITH DOCK STRUCTURE AND OTHER TRADES.

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Revisions: Revisions indicated w/ △

No.	Date	Description

SHEET: P4.1

TITLE: PLUMBING ISOMETRICS

JOB NO: 21094

DATE: 6-10-22

DWN BY: BAE

STATE OF TEXAS
GARY DALE LOFTIS
6-10-22
136175
LICENSED
PROFESSIONAL ENGINEER

GENERAL CONDITIONS & DESIGN LOADS

A. BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE
B. RISK CATEGORY: II
C. DEAD LOADS
   I. ROOF: 15 PSF
   II. FLOOR: 15 PSF
D. LIVE LOADS
   I. ROOF: 20 PSF
   II. FLOOR: 50 PSF
E. ROOF SNOW LOAD DATA
   I. GROUND SNOW LOAD, P_g: 5.0 PSF
   II. FLAT-ROOF SNOW LOAD, P_f: 3.5 PSF
   III. SNOW EXPOSURE FACTOR, C_e: 1.0
   IV. SNOW LOAD IMPORTANCE FACTOR, I_s: 1.0
   V. THERMAL FACTOR, C_t: 1.0
F. WIND DESIGN DATA
   I. ULTIMATE DESIGN WIND SPEED, V_{ult}: 115 MPH
   II. NOMINAL DESIGN WIND SPEED, V_{asd}: 89.1 MPH
   III. WIND IMPORTANCE FACTOR, I_w: 1.0
   IV. WIND EXPOSURE: C
   V. INTERNAL PRESSURE COEFFICIENT +/- 0.18
G. STRUCTURAL STEEL
   I. STRUCTURAL STEEL PROPERTIES:

SHAPE	ASTM DESIGNATION	F_y (KSI)	F_u (KSI)
HSS RECTANGULAR	A500 Gr. C	50	62
HSS ROUND	A500 Gr. C	40	62

   II. ALL WELDS SHALL BE MADE USING E70 ELECTRODES
   III. ALL STEEL SHALL BE HOT DIP GALVANIZED

WALL LOAD SCHEDULE

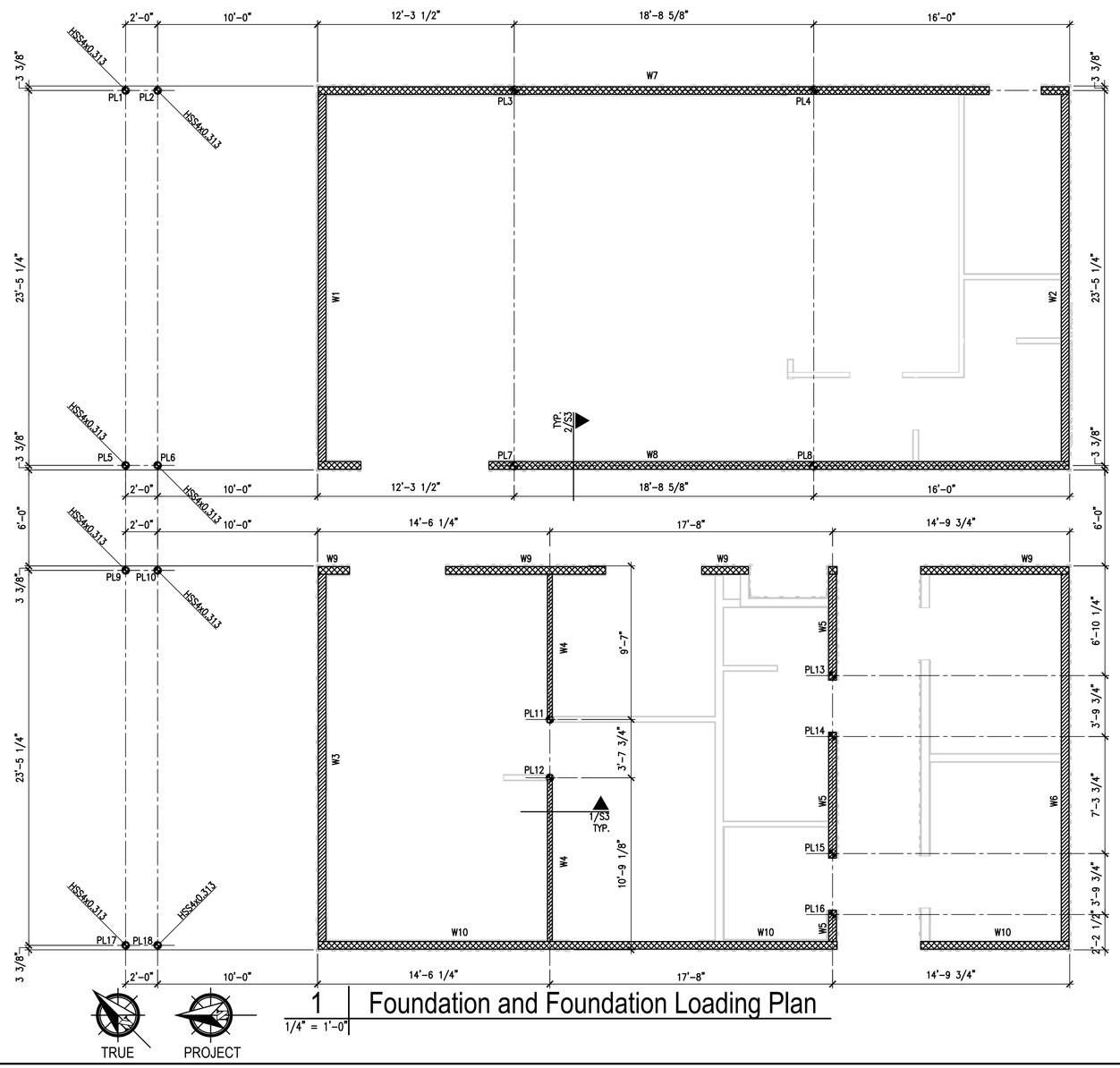
MARK	GRAVITY LOADS D (LB/FT)	L_r (LB/FT)	S (LB/FT)	W (LB/FT)	LATERAL LOADS W (LB/FT)	Wall Type
W1	155	138	35	-86	125	SIP
W2	215	191	55	-52	125	SIP
W3	234	204	61	-86	125	SIP
W4	400	233	117	0	0	STUD
W5	294	232	81	0	0	SIP
W6	206	185	52	-52	125	SIP
W7	50	0	0	-52	40	SIP
W8	50	0	0	-52	43	SIP
W9	50	0	0	-52	58	SIP
W10	50	0	0	-52	42	SIP

1. TABULATED VALUES ARE ULTIMATE LOADS AND HAVE NOT BEEN FACTORED.
2. POSITIVE VALUES INDICATE LOAD IS IN DOWNARD DIRECTION WHILE NEGATIVE VALUES INDICATE UPLIFT.
3. LATERAL LOAD OCCURS IN BOTH NORTH & SOUTH DIRECTIONS FOR NORTH-SOUTH WALLS AND BOTH EAST & WEST DIRECTIONS FOR EAST-WEST WALLS.

[1,2]POINT LOAD SCHEDULE

MARK	D (LB)	L_r (LB)	S (LB)	W (LB)
PL1	883	1,178	294	-1,013
PL2	1,325	1,766	442	-1,519
PL3	3,422	4,434	1,141	0
PL4	3,833	4,827	1,278	0
PL5	883	1,178	294	-1,013
PL6	1,325	1,766	442	-1,519
PL7	3,422	4,434	1,141	0
PL8	3,833	4,827	1,278	0
PL9	883	1,178	294	-1,013
PL10	1,325	1,766	442	-1,519
PL11	427	570	142	0
PL12	427	570	142	0
PL13	464	619	155	0
PL14	464	619	155	0
PL15	464	619	155	0
PL16	464	619	155	0
PL17	883	1,178	294	-1,013
PL18	1,325	1,766	442	-1,519

1. TABULATED VALUES ARE ULTIMATE LOADS AND HAVE NOT BEEN FACTORED.
2. POSITIVE VALUES INDICATE LOAD IS IN DOWNARD DIRECTION WHILE NEGATIVE VALUES INDICATE UPLIFT.



1 Foundation and Foundation Loading Plan
1/4" = 1'-0"

FOUNDATION AND FOUNDATION LOADING PLAN NOTES:
1. ◆ – INDICATES LOCATION OF POINT LOAD. REFER TO POINT LOAD SCHEDULE FOR LOADING VALUES.
2. ▨ – INDICATES EAST-WEST LOAD BEARING WALL. REFER TO WALL LOAD SCHEDULE FOR LOADING VALUES
3. ▨ – INDICATES NORTH-SOUTH LOAD BEARING WALL. REFER TO WALL LOAD SCHEDULE FOR LOADING VALUES.
4. COLUMNS ARE NOTES ON PLAN THUS: HSS4x0.313 ← COLUMN SIZE (STD. PIPE U.N.O.)
5. REFER TO S3 FOR DETAILS NOT NOTED ON PLAN.

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817-332-1944
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Fort Worth, TX 76104
Texas Firm Reg. No. F-296

STATE OF TEXAS
FRANK WEST NEAL
42435
LICENSED
PROFESSIONAL ENGINEER
JAN 20 2022

Project Number: 22105606
Issue Date: 01/20/22

Revisions:

EMERALD POINT
5973 HILINE RD.
AUSTIN, TEXAS

Project Engineer: F.N.
Project Draftsman: R.H.

Sheet Title
Foundation and Foundation Loading Plan

S1

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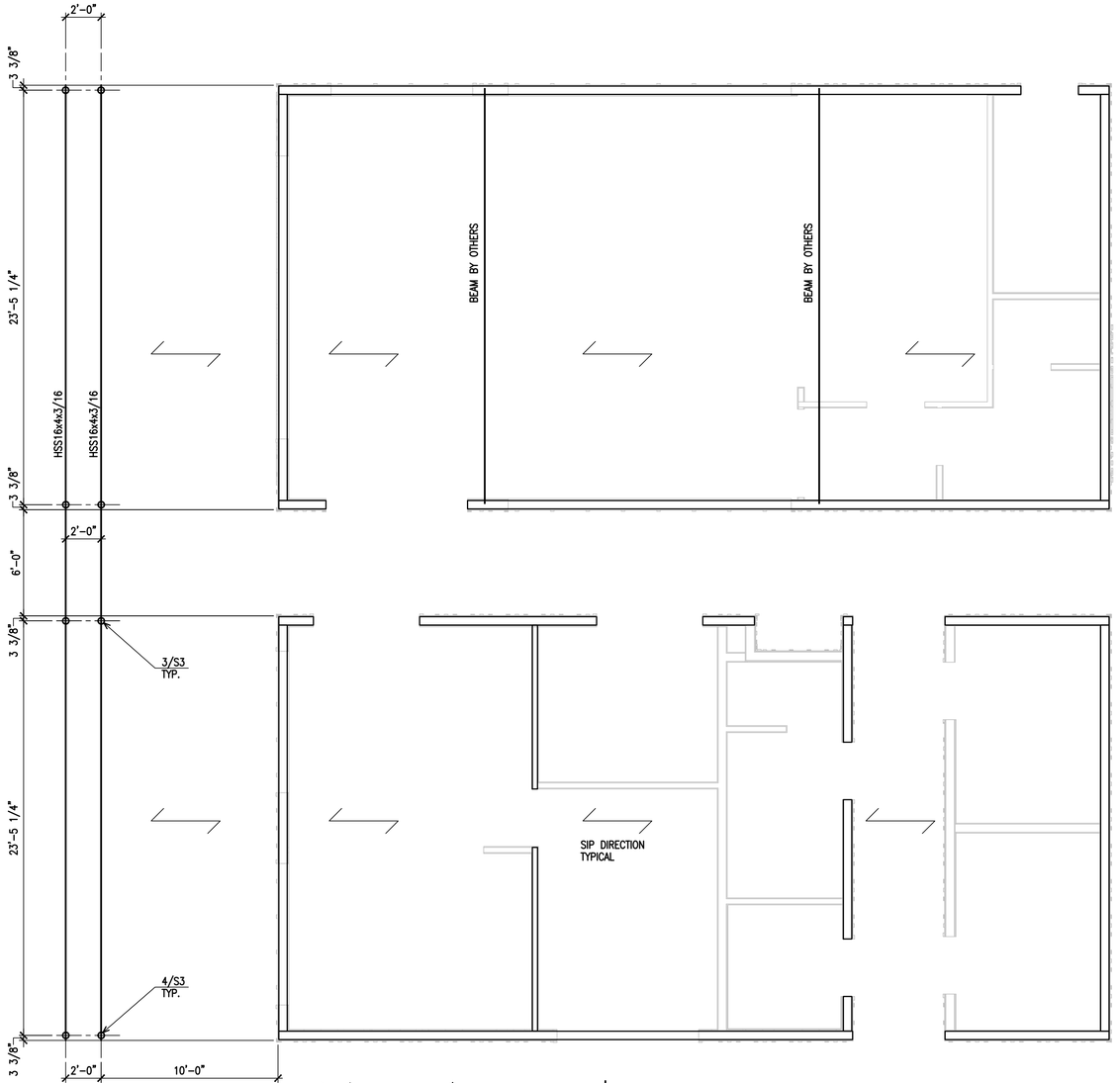

TRUE PROJECT

1 Roof Framing Plan
1/4" = 1'-0"

ROOF FRAMING PLAN NOTES:
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO SHEET S1 FOR GENERAL NOTES.
3. REFER TO SHEET S3 FOR DETAILS NOT NOTED ON PLAN.

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Sheet Title
Roof Framing Plan

S2

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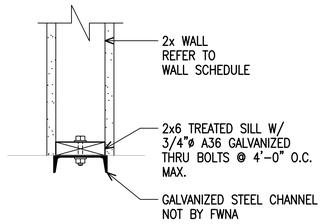
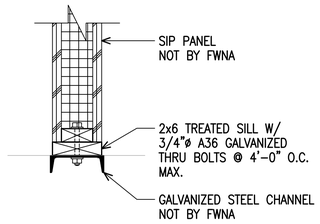


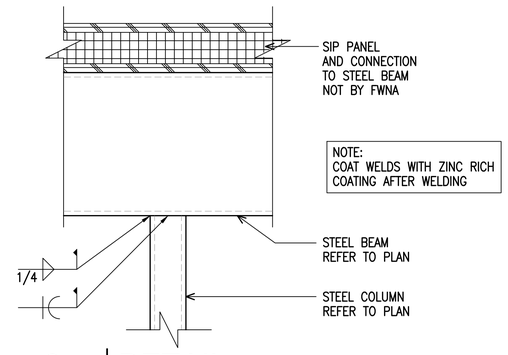
1 DETAIL

1 1/2" = 1'-0" | STUD WALL TO STEEL CHANNEL CONNECTION



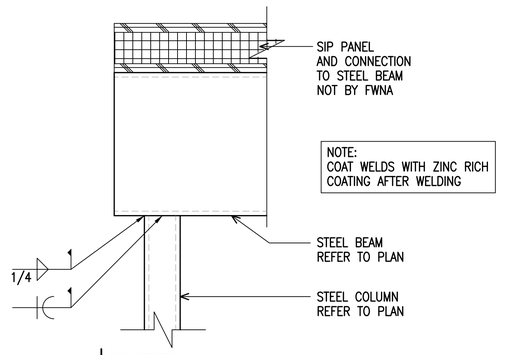
2 DETAIL

1 1/2" = 1'-0" | SIP TO STEEL CHANNEL CONNECTION



3 DETAIL

1 1/2" = 1'-0" | STEEL BEAM TO STEEL COLUMN CONNECTION



4 DETAIL

1 1/2" = 1'-0" | STEEL BEAM TO STEEL COLUMN CONNECTION

LOAD BEARING WALL SCHEDULE

LEVEL MARK	INTERIOR	STUD SPECIES
FIRST	2x4 @ 12" O.C.	DOUGLAS FIR SOUTH #2

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Sheet Title

DETAILS

S3

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