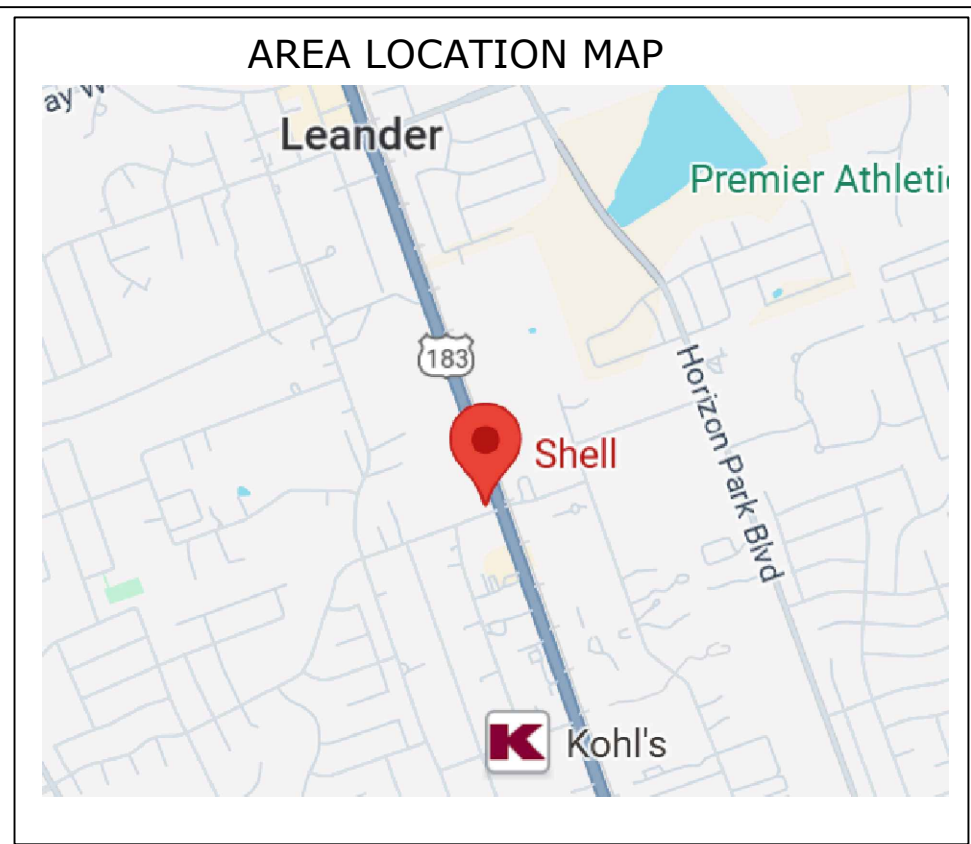


# THE SHOPS AT MONARCH

## RETAIL CENTER, SHELL BUILDING

### LEANDER, TEXAS 78641

CONTACT LIST	
<u>OWNER/DEVELOPER</u>	<u>CIVIL CONSULTANT</u>
SWEETWATER INVESTMENTS LLC, 5304 CIPRIANO DR, AUSTIN, TX 78738 PHONE: (972) 358 1857 CONTACT: VENKAT DUBHAKULA	BAXTER & WOODMAN ENGINEERS 301 DENALI PASS DR, SUITE 3 CEDAR PARK, TX 78613 PHONE: (737)-358-8012 CONTACT: KERRI PENA
<u>GEOTECHNICAL ENGINEER</u>	<u>SURVEYOR</u>
TERRADYNE ENGINEERING, LLC, 1608 ROYSTON LANE, BLDG 2 ROUND ROCK, TX 78664 PHONE: (512)-252-1218 CONTACT: JOHN. A. GUNTER	BRUCE BRYAN BRYAN TECHNICAL SERVICES 911N MAIN TAYLOR, TX 76051 CONTACT: BRUCE BRYAN PHONE: (512) 352 9090 BRUCEBRYANTECHNICALSERVICES.COM
<u>ARCHITECT</u>	<u>STRUCTURAL CONSULTANT</u>
<u>MEP CONSULTANT</u>	<u>LANDSCAPE CONSULTANT</u>



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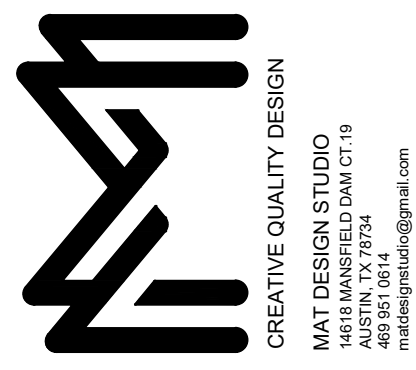
CODE DATA				
GENERAL INFORMATION:				
PROJECT DESCRIPTION: THE BUILDING DEPICTED IN THESE CONSTRUCTION DOCUMENTS IS A ONE STORY SHELL BUILDING FOR A NEW APPROX. 8,874 SFT OFFICE/GENERAL RETAIL USE ON 1.21 ACRE LOT AT US 183 HWY AND CR 276 IN LEANDER				
GOVERNING CODES: CODE TYPE ALL CURRENT LOCAL AMENDMENTS ARE ALSO PART OF EACH OF THE FOLLOWING CODES:				
BUILDING CODE		IBC 2015		
PLUMBING CODE		IPC 2015		
MECHANICAL CODE		MCC 2015		
FIRE CODE		IFC 2015		
ELECTRICAL CODE		NEC 2014		
ENERGY CODE		IECC 2015		
ACCESSIBILITY CODE		TAS 2012		
OCCUPANCY TYPES: IBC GROUP B - BUSINESS - IBC 304.1				
TYPE OF CONSTRUCTION: IBC TYPE V-B				
SHELL FLOOR AREA: 8,874 SF				
OCCUPANT LOAD FACTOR: 1 PER 150 S.F. PER IBC 2021				
SPRINKLER SYSTEM: PROVIDE SPRINKLER SYSTEM IN ACCORDANCE WITH ALL LOCAL CODES.				
ALLOWABLE AREAS: 6,000 S.F. PER FLOOR MAX. ALLOWABLE PER IBC TABLE 903				
MINIMUM FIRE FLOW AS DEFINED BY THE IFC: 2,500 GPM - MEASURED AT 20 psi				
ALLOWABLE AREA AS DEFINED BY THE IFC FIRE FLOW TABLE: APPENDIX B - TABLE B105.1				
TYPE V-B				
2,500 GPM = 7,701 SF - 9,400 SF				
ACTUAL HEATED AREA: 8,858 SF TOTAL				
ACTUAL SLAB AREA: 8,874 SF TOTAL				
BUILDING HEIGHT: 27' BUILDING HEIGHT(AT HIGHEST POINT OF ROOF PLANE)				
ALLOWABLE HEIGHT: 2 STORY/40 FEET				
OCCUPANT LOAD: BUSINESS AT 1/150 = $\frac{8874}{150}$ = 60 OCCUPANTS PER BUILDING				
EGRESS SYSTEM: MINIMUM HALL WIDTHS: 0.2" X OCCUPANT LOAD				
BUILDING		BLDG. SQ.FT.	TOTAL OCCUPANCY	EXIT WIDTH REQ'D
BUILDING		8,874	60	12"
				EXIT WIDTH PROV'D
				36"
TBD DURING TENANT FINISHOUT STAGE				
BUILDING AREA AND EXIT REQUIREMENTS:				
SPACE WITH ONE EXIT, OCCUPANCY B, PER 1015.1.1 THREE OR MORE EXITS, OCC LOAD OF 501 TO 1000= 3 EXITS				
NUMBER OF EXITS REQUIRED = 2 EXITS				
NUMBER OF EXITS PROVIDED = 14 EXITS				
COMMON PATH OF EGRESS TRAVEL SHALL NOT EXCEED 75 FT.				
MAXIMUM TRAVEL DISTANCE TO EXIT (FT.) (W/ SPRINKLE SYSTEM) 300 FT.				
MAXIMUM TRAVEL DISTANCE TO EXIT (FT.) (WO/ SPRINKLE SYSTEM) 200 FT.				
MAXIMUM DEAD END CORRIDOR LENGTH (FT.) 20 FT.				
MINIMUM CORRIDOR/AISLE WIDTH (IN.) 44 IN.				
PLUMBING FIXTURE REQUIREMENTS			TOTAL OCCUPANCY: 60	
TABLE 403.1 IPC 2021			MALE OCCUPANCY: 30	
			FEMALE OCCUPANCY: 30	
BUSINESS CLASSIFICATION	OCCUPANCY	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAIN
		REQUIRED MALE/FEMALE	REQUIRED MALE/FEMALE	REQUIRED
B	1 PER 25 FOR THE FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50	1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80	1 PER 100	1 SERVICE SINK
		TBD DURING TENANT FINISHOUT STAGE		
***INDIVIDUAL LEASE SPACES TO PROVIDE RESTROOMS AS REQUIRED				

DEFERRED SUBMITTALS	
1.	BUILDING SIGNAGE/MONUMENT SIGN IS A DEFERRED SUBMITTAL, DESIGNED AND SUBMITTED BY THE SIGNAGE CONTRACTOR.
2.	BUILDING SIGNAGE
3.	FIRE SPRINKLER SYSTEM

GENERAL NOTES	
1. THE CONTRACTOR SHALL VISIT THE PROJECT SITE, INVESTIGATE, AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE PROJECT. ADDITIONAL COSTS WILL NOT BE AWARDED FOR EXISTING CONDITIONS WHICH ARE VISIBLE AND/OR CAN BE REASONABLY ANTICIPATED.	20. ALL EXPOSED EXTERIOR WALL MOUNTED CONDUITS, BUSS GUTTERS, JUNCTION BOXES, PANEL BOXES, METERS, PIPES, ETC. ARE TO BE THREE (3) COAT PAINTED WITH COLOR TO BE SELECTED BY THE ARCHITECT. ALL EXPOSED CONDUIT PIPES, JUNCTION BOXES, ROOF SCUTTLIES ETC. ABOVE THE ROOF BOTH IN MID FIELD AREAS AND ON BACKS OF PARAPETS ARE TO BE THREE (3) COATS PAINTED; COLOR TO BE SELECTED BY THE ARCHITECT.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, SITE GRADES, ETC. PRIOR TO CONSTRUCTION, AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES THAT COULD AFFECT THE DESIGN AND FINISH-OUT OF THE PROJECT.	21. ALL EXITS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY. SALES-AREA-ENTRANCE-DOORS SHALL HAVE AL-SIGN-STATING-THOSE-DOORS-SHALL-REMAIN-UNLOCKED DURING-BUSINESS-HOURS- IN-ONE-INCH-(1")-HIGH-LETTERS MIN-OR-AS-REQUIRED-BY-CODE-.
3. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE CITY AND STATE CODES AND STANDARDS.	22. MOUNTING HEIGHTS: WHERE MOUNTING HEIGHTS ARE NOT INDICATED, INSTALL COMPONENTS AT MOUNTING HEIGHTS REQUIRED BY THE MOST RECENT ISSUE OF THE AMERICANS WITH DISABILITIES ACT FOR ANY PARTICULAR APPLICATION INDICATED. REFER ANY QUESTIONABLE MOUNTING HEIGHT DECISIONS TO THE ARCHITECT FOR FINAL DECISION.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL UTILITY COMPANIES AND PERFORMING ALL WORK REQUIRED BY THEM.	23. CONTRACTOR IS TO REFER TO M.E.P. DRAWING AND PROJECT MANUAL (IF ANY) FOR ANY HINGED ACCESS PANELS NOT INDICATED IN ARCH. DWGS AND PROJ. MANUAL. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL ACCESS PANEL LOCATIONS FOR DRYWALL, TILE, E.L.F.S., AND PLASTER WORK WITH ALL TRADES.
5. THE CONTRACTOR SHALL PICK-UP ALL REQUIRED PERMITS AND CERTIFICATE OF OCCUPANCY. TAP FEES & ANY OTHER FEES SHALL BE PAID BY THE CONTRACTOR. THE OWNER SHALL PAY FOR THE PERMITS & CERTIFICATE OF OCCUPANCY.	24. HAZARDOUS MAT'L'S. MAY NOT BE STORED, USED OR DISPENSED.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSURING PROPER FILLING AND COMPACTION OF UTILITY COMPANY TRENCHES, BOTH INTERIOR & EXTERIOR.	25. SIGN CONTRACTOR SHALL OBTAIN SEPARATE APPROVALS AND PERMITS FROM OWNER AND APPLICABLE JURISDICTIONS PRIOR TO INSTALLATION OF ANY SIGN
7. CONTRACTOR TO PROTECT ALL EXISTING BUILDINGS AND ALL EXISTING ABOVE AND BELOW GRADE UTILITIES. CONTRACTOR WILL REPAIR ALL DAMAGE TO EXISTING CONDITIONS.	26. WOOD PRODUCTS THAT ARE USED IN NON-COMBUSTIBLE BLDGS. SHALL BE PRESSURE-TREATED WITH AN APPROVED FIRE RETARDANT IN ACCORDANCE WITH THE 1997 UBC CODE.
8. ALL EXCAVATION, TRENCHING, ETC. REQUIRED IN ROCK SUBGRADE TO BE PART OF CONTRACT, EXCEPT AS RELATING TO SITE WORK. SHORE AND BRACE ALL EXCAVATIONS IN ACCORDANCE WITH CITY, STATE AND O.S.H.A. REQUIREMENTS.	27. PROVIDE AN APPROVED FIRE SPRINKLER SYSTEM PER NFPA STANDARDS AND THE APPLICABLE ABUILDING CODE AND AS REGULATED BY LOCAL CITY AUTHORITIES. SUBMIT DRAWINGS FOR APPROVAL PRIOR TO COMMENCING WORK (IF SPRINKLER SYSTEM IS A CODE REQUIREMENT FOR THIS PROJECT).
9. ALL ACCESSIBLE ROUTES SHALL BE SLOPED 4.75% MAX. IN THE DIRECTION OF TRAVEL AND 1.75% ON CROSS SLOPES. ALL LANDINGS SHALL NOT EXCEED 1.75% IN ALL DIRECTIONS.	28. "TYPICAL" NOTES APPLY TO ALL SIMILAR CONDITIONS. TYPICAL DETAILS ARE COMMON CONSTRUCTION CONDITIONS AND APPLY TO ALL CIRCUMSTANCES UNLESS NOTED OTHERWISE.
10. CONTRACTOR TO EXERCISE EXTREME CARE IN CONSTRUCTION TO OR ADJACENT TO EXISTING BUILDINGS. PROVIDE ALL SHORING OR OTHER PROTECTION NECESSARY TO PREVENT DISTURBING BUILDING SUBGRADE OR FOUNDATIONS.	29. THE DRAWINGS AND THE PROJECT IS CONSIDERED PARTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE REVIEW AND CONFORMANCE TO ALL CONTRACT DOCUMENTS. IN THE CASE OF APPARENT CONFLICTS AND DISCREPANCIES WITHIN THE DRAWING, CONTRACTOR IS TO NOTIFY ARCHITECT IN WRITING OF SUCH APPARENT CONFLICTS AND REQUEST CLARIFICATION FROM THE ARCHITECT. NO ADDITIONAL COSTS OR DELAYS IN SCHEDULE WILL BE ACCEPTED DUE TO CONTRACTOR'S MISINTERPRETATIONS AND FAILURES TO REQUEST CLARIFICATIONS.
11. CONTRACTOR IS TO INSTALL RAMPS AND SIGNAGE FOR ACCESSIBILITY PER CITY, STATE, AND A.D.A. REQUIREMENTS. ALL CURB AND EXIT DOOR RAMPS, INTERIOR & EXTERIOR, ARE TO HAVE HEAVY BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL.	30. FOR CONSTRUCTION ADMINISTRATION PURPOSES, PROVIDE A PRODUCT DATA SUBMITTAL FOR ALL PRODUCTS SPECIFIED AND BEING INSTALLED IN THIS PROJECT.
	31. FOR CONSTRUCTION ADMINISTRATION PURPOSES, PROVIDE A SAMPLE SUBMITTAL FOR ALL FINISH PRODUCTS SPECIFIED AND BEING INSTALLED IN THIS PROJECT. MINIMUM SAMPLE SIZE TO BE 4" X 4".

GRAPHIC LEGEND	
	PARTITION TYPE SYMBOL & LETTER
	ELEVATION REFERENCE
	ROOM NAME ROOM NUMBER
	WALL SECTION REFERENCE
	DETAIL SECTION REFERENCE
	DETAIL CALL OUT
	KEYNOTE CALL-OUT
	LEVEL DATUM AND ELEVATION POINT
	WINDOW TYPE SYMBOL
	LARGE SCALE DETAIL PLAN, PLAN SECTION, OR VERTICAL SECTION REFERENCE
	DOOR NUMBER
	TRUE NORTH
	PLAN NORTH
	SHEET NUMBERING
	DETAIL NUMBERING
	REFERENCE DETAIL NUMBER ON SHEET CHAPTER LETTER
	REVISION NUMBER/LETTER AND DELTA SYMBOL
	"CLOUDED" AREA REVISED
	ELEVATION NUMBERS ON SHEET NUMBER
	NOTE REFERENCE ON SHEET
	TAG NUMBERS ON SHEETS

REVISION	TRADE	INDEX TO DRAWINGS:	
		SHEET	DESCRIPTION
		A100-1	COVER SHEET, CONTACTS & INDEX
	ARCHITECTURAL	A101	SITE PLAN
		A102	ADA SHEET
		A103	LIFE SAFETY PLAN
		A104	REFERENCE PLAN
		A105	DIMENSION PLAN
		A106	ROOF PLAN
		A107	ROOF DETAILS AND ACCESS LADDER DETAILS
		A108	REFLECTED CEILING PLAN
		A109	BUILDING ELEVATIONS
		A110	BUILDING SECTIONS
		A111	DOOR AND WINDOW SCHEDULE
		A112	DUMPSTER DETAIL
		A113	WATERPROOFING/DEMISING WALL DETAIL
		A114	NOT USED
		A115	NOT USED
		A116	ENLARGED DETAILS
		A117	NOT USED
		A118	WALL SECTIONS
		A119	WALL SECTIONS
		A120	WALL SECTIONS
		A121	SPECIFICATIONS
		A122	SPECIFICATIONS
		A123	SPECIFICATIONS
		A124	SPECIFICATIONS
		A125	SPECIFICATIONS
		A126	SPECIFICATIONS
		A127	SPECIFICATIONS
		A127-1	SPECIFICATIONS
		A128	SPECIFICATIONS
	STRUCTURAL	M 100	MECHANICAL FLOOR PLAN AND GENERAL NOTES
		P 100	PLUMBING LEGEND - NOTES AND SCHEDULE
		P 200	PLUMBING FLOOR PLAN
		P100	PLUMBING SITE PLAN
	MECH. & PLUMBING	E 100	ELECTRICAL LEGEND-NOTES AND SCHEDULE
		EU100	SITE PLAN-ELECTRICAL
		F 200	FLOOR PLAN-LIGHTING AND POWER
		F 300	ELECTRICAL RISER DIAGRAM
		F 400	ELECTRICAL SPECIFICATIONS
	ELECTRICAL	E 100	ELECTRICAL LEGEND-NOTES AND SCHEDULE
		EU100	SITE PLAN-ELECTRICAL
		F 200	FLOOR PLAN-LIGHTING AND POWER
		F 300	ELECTRICAL RISER DIAGRAM
		F 400	ELECTRICAL SPECIFICATIONS



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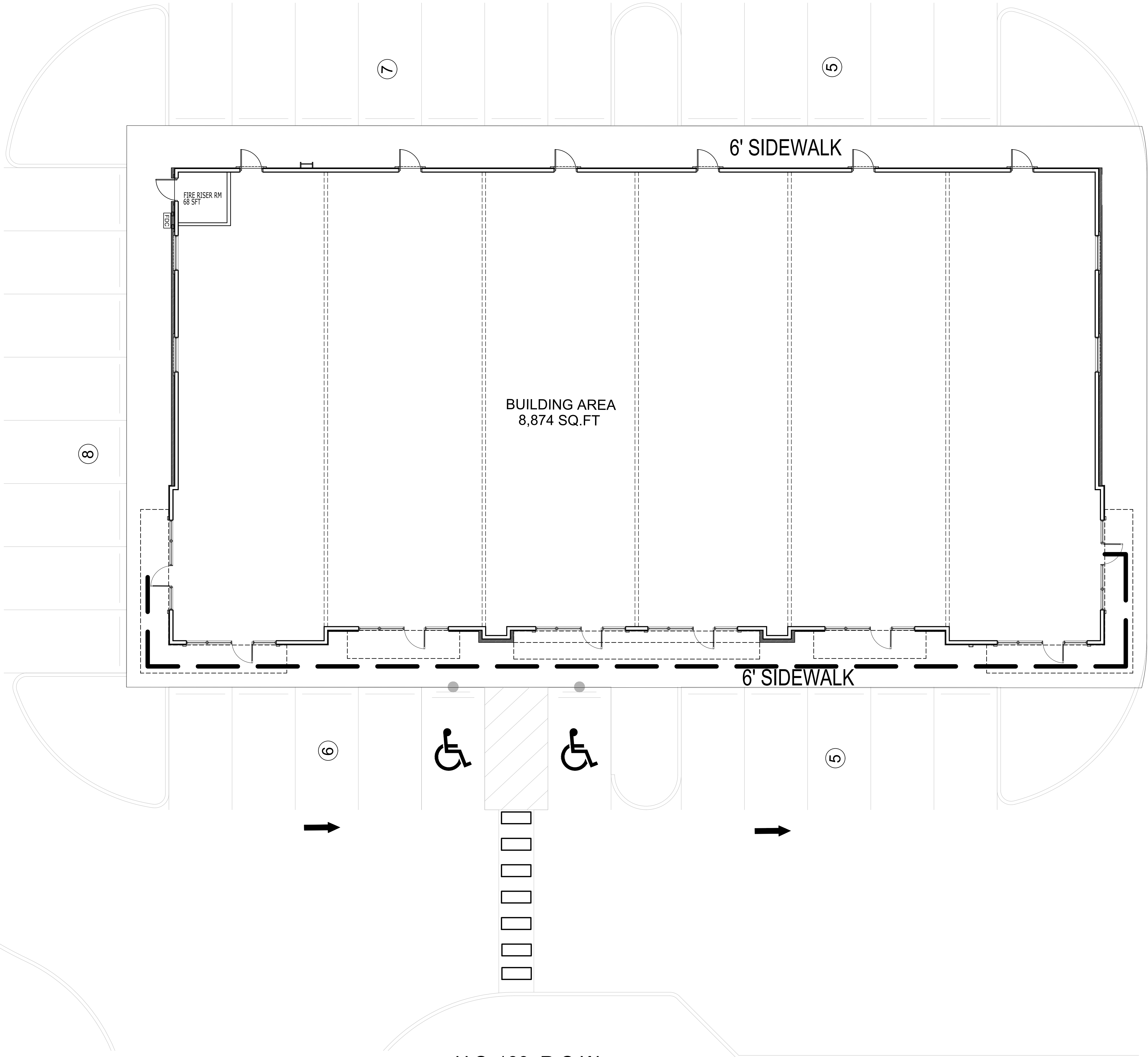
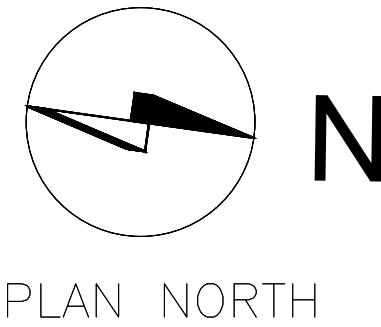
THE SHOPS AT MONARCH  
RETAIL CENTER, SHELL BUILDING  
LEANDER, TEXAS 78641

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Sheet Number:
A100-1
Project Number:
24-015



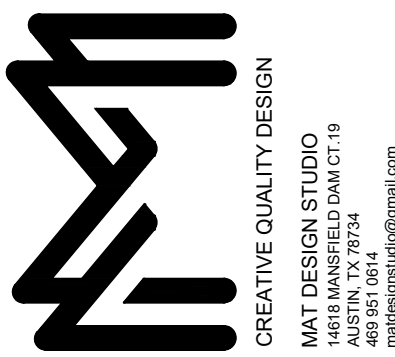
THIS ARCHITECTURAL SITE PLAN IS TO SHOW DIMENSIONS BETWEEN BUILDINGS AND PROPERTY LINES AS WELL AS BASIC SITE IMPROVEMENTS. FOR A DETAILED SITE PLAN SHOWING ALL SITE CONDITIONS, I.E., EXISTING STRUCTURES, IMPROVEMENTS AND INFRASTRUCTURE PLEASE REFER TO THE CIVIL SITE PLAN.



**DIMENSION SITE PLAN**

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

**01**



Original Date:  
00/00/2025  
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**THE SHOPS AT MONARCH**  
RETAIL CENTER, SHELL BUILDING  
LEANDER, TEXAS 78641

THE SHOPS AT MONARCH  
RETAIL CENTER, SHELL BUILDING  
LEANDER, TEXAS 78641

Sheet Number:  
**A101**  
Project Number:  
24-015



1. GRAB BARS AND UNWIND THEM AT 1 1/4" TO 1 1/2"  
 2. SWIMMER'S HEAD MUST BE FLUSH AGAINST THE LOCATION  
 3. GRAB BARS. REST. UNWIND BARS AT 1 1/4" TO 1 1/2"  
 4. ALL TOILET STALLS THAT HAVE ONE TOILET PAPER  
 DISPENSER WITH REGRADING IN PAPER MUST  
 REQUIRE FOR RETAILATION.  
 5. ALL TOILET STALLS THAT HAVE TWO OR MORE TOILET  
 DISPENSERS WITH REGRADING IN PAPER MUST  
 REQUIRE FOR RETAILATION.  
 6. WHERE ONLY ONE DISPENSER OF TWO IS PROVIDED  
 MUST AT ACCEPTABLE.  
 7. ALL ACCESSORIES AND HOOKING HOODS SHALL  
 COMPLY WITH ALL APPLICABLE CITY AND STATE  
 CODES. ACCESSORIES SHALL BE AS WELL AS THE  
 HOOKING HOODS. ALL DISINFECTANT COT OF 1980  
 REGULATIONS. ALL DISINFECTANT HOODS SHALL  
 BE THE ADHESIVE FOR FINAL DESIGN.  
 8. ALL ACCESSORIES MUST BE USED. THEY MUST  
 BE USED TO PROTECT AND TOILET PAPER  
 DISPENSERS.  
 9. OBJECTS PROJECTING FROM WALLS WITH THEIR LEADING EDGES  
 MUST BE PROTECTED. ALL TOILET PAPER DISPENSERS  
 MUST BE PROTECTED. ALL TOILET PAPER DISPENSERS  
 MUST BE PROTECTED.  
 10. ALL ACCESSORIES MUST COMPLY WITH THE FOLLOWING:  
 11. CONTROLLED. ALL ACCESSORIES MUST COMPLY WITH THE  
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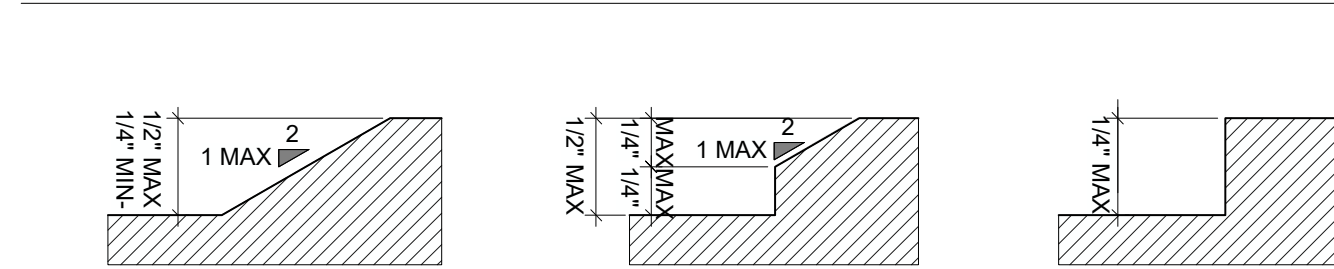
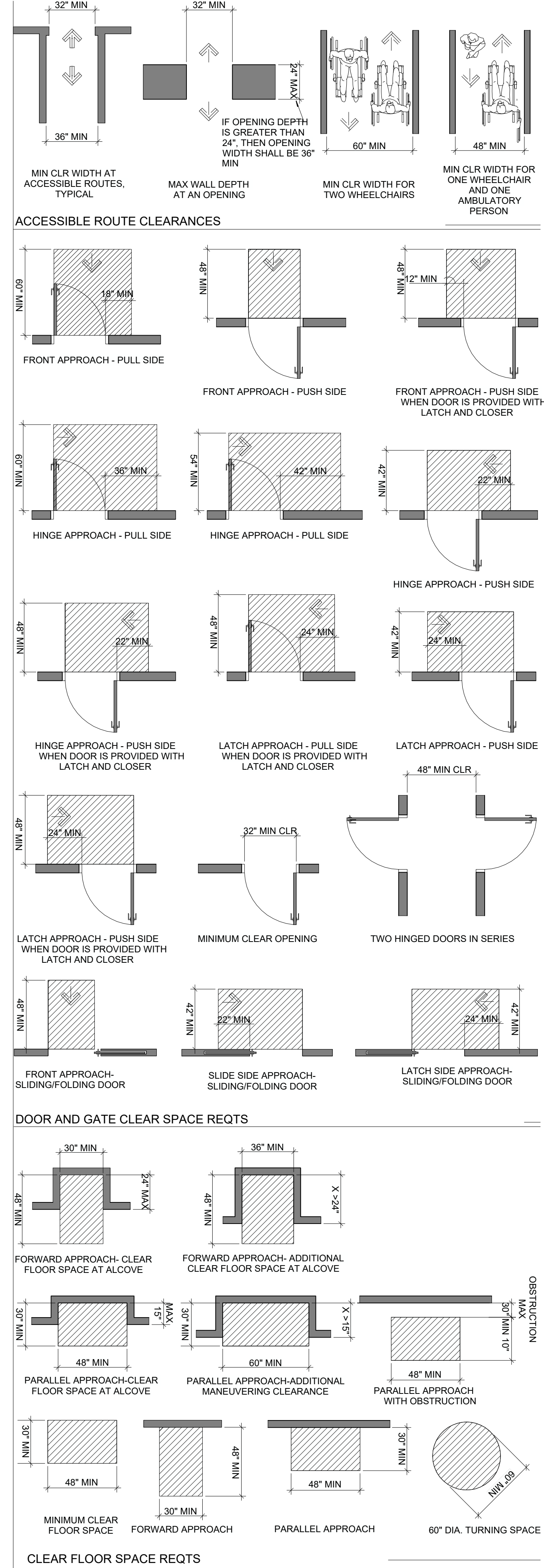
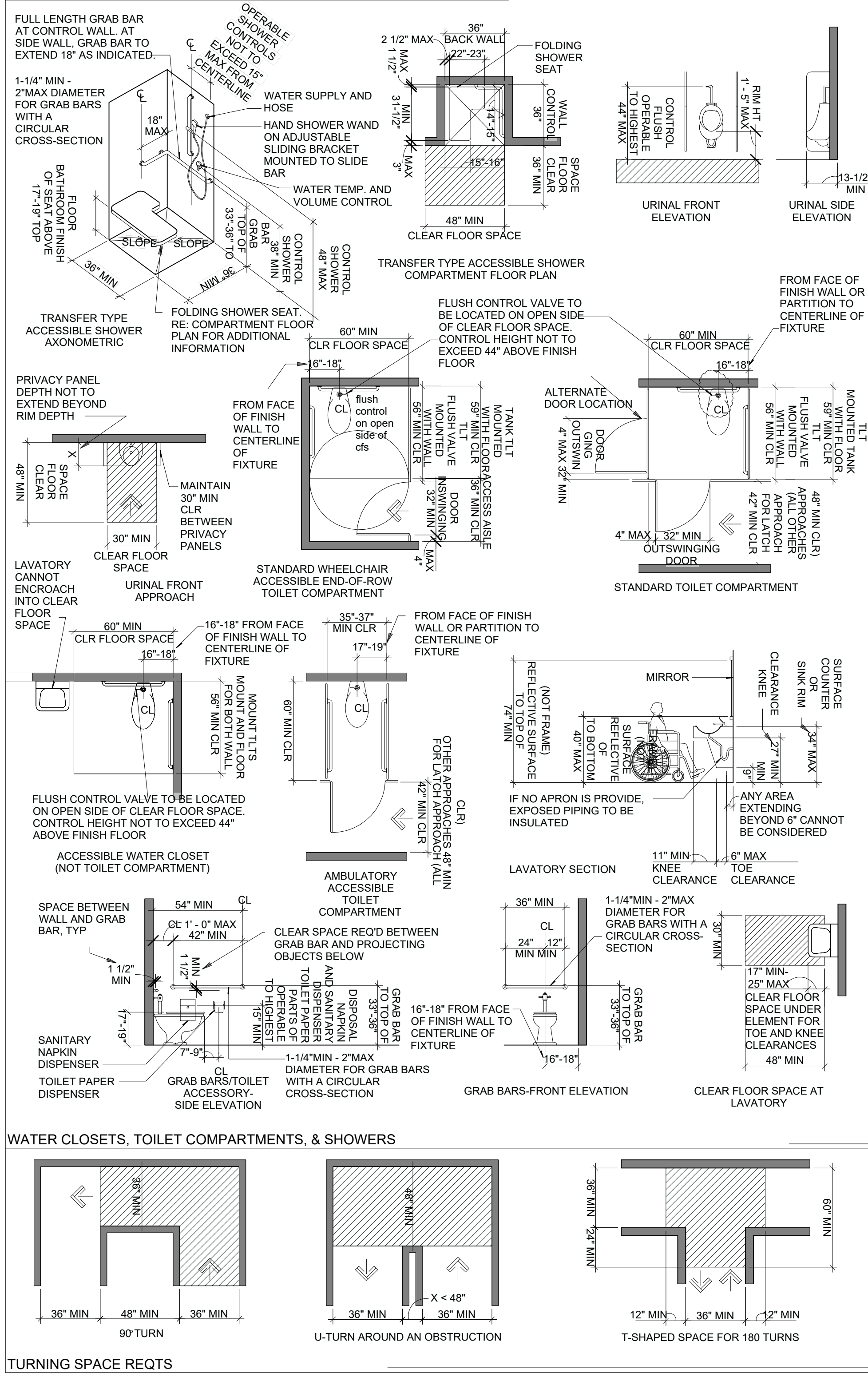


Diagram 1: Walking Parallel/Perpendicular to a Wall. A person is walking parallel/perpendicular to a wall. The wall height is labeled "ANY AMOUNT". The wall width is labeled "4\" MAX". The person's height is labeled "27\" MAX".

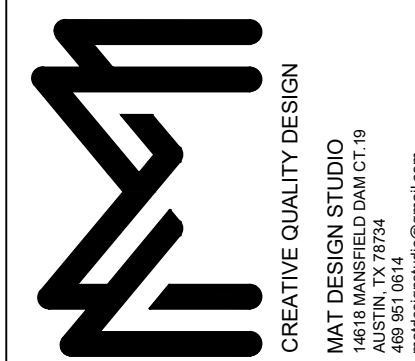
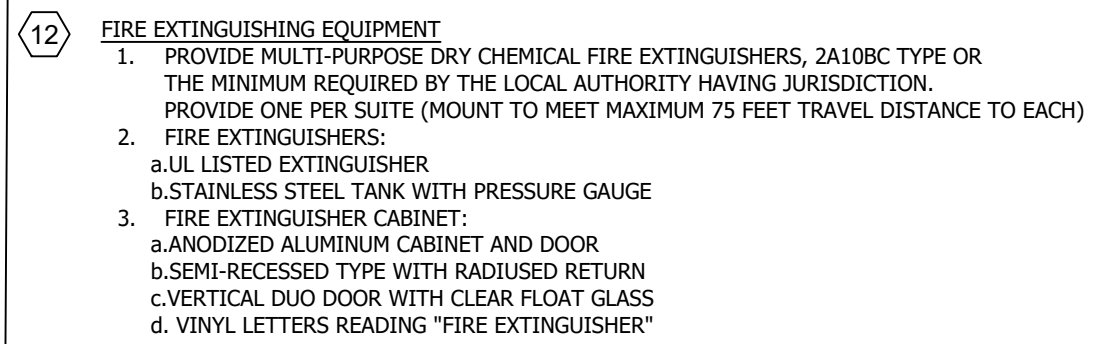
Diagram 2: Walking Parallel/Perpendicular to a Wall. A person is walking parallel/perpendicular to a wall. The wall height is labeled "80\" MAX". The wall width is labeled "4\" MAX". The person's height is labeled "27\" MAX".

Diagram 3: Walking Parallel/Perpendicular to a Wall. A person is walking parallel/perpendicular to a wall. The wall height is labeled "80\" MIN". The wall width is labeled "4\" MAX". The person's height is labeled "27\" MAX".

[illegible]

Sheet Number:  
**A102**  
Project Number:  
**24-035**






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THE SHOPS AT MONARCH  
RETAIL CENTER SHELL BUILDING

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24-015



PLAN NORTH

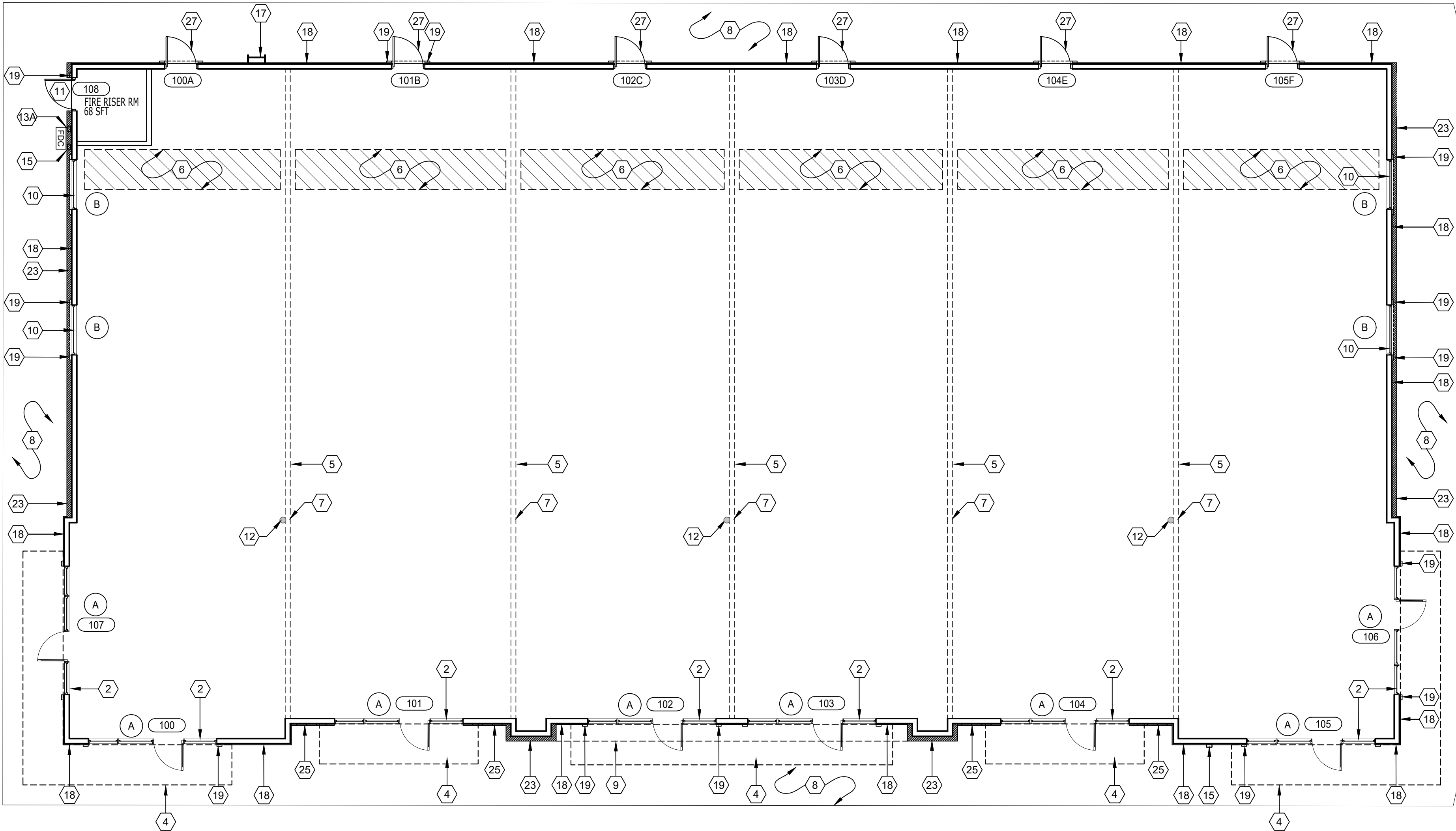
01

# LIFE SAFETY PLAN

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

BUILDING AREA  
8,874SFT





#### GENERAL NOTES

- CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS THAT AFFECT THE NEW WORK PRIOR TO BIDDING. ANY SITE DISCREPANCIES FOUND DURING CONSTRUCTION SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- REFER STRUCTURAL DRAWINGS FOR STUD SIZE.
- ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL, AND NATIONAL CODES (CURRENT EDITIONS AS ACCEPTED BY THE CITY AND/OR GOVERNING BODY). ALL WORK SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT ("ADA") AND TEXAS ACCESSIBILITY STANDARDS ("T.A.S.") AS APPLICABLE.
- ALL DIMENSIONS ARE TO FACE OF STUD, GRID CENTERLINE OR FACE OF BLOCK UNLESS NOTED OTHERWISE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING ANY WORK OR FABRICATION.
- GENERAL CONTRACTOR SHALL COORDINATE AND VERIFY ALL PIPE AND CONDUIT LOCATIONS IN CONCRETE SLAB WITH ALL RELATIVE SUBCONTRACTORS.
- FRAMING CONTRACTOR SHALL PROVIDE SOLID WOOD BLOCKING AT ALL WALL MOUNTED FIXTURES, INCLUDING, BUT NOT LIMITED TO - WALL MOUNTED SHELVING, BASE AND UPPER CABINETS, CUBBIES, CLOSET SHELVING AND ROOS, AT EXTERIOR SIGNAGE LOCATIONS, WALL MOUNTED DOOR STOPS, TOILET ROOM PARTITIONS, LAVS, GRAB BARS, MIRRORS, SOAP DISPENSERS, WASTE RECEPTACLES, TOILET PAPER DISPENSERS, MOP SINK, EXTERIOR LIGHTING AND ACCESSORIES. ALL WOOD TO BE USED FOR BLOCKING & NAILERS SHALL BE TREATED (WOLMANIZED OR EQUAL). CONTRACTOR TO PROVIDE CEMENTITIOUS BACKER BOARD ON ALL WET WALLS, AND ON ALL WALLS THAT RECEIVE WALL TILE.
- A MIN. CLEAR AREA OF 18" IS REQUIRED TO THE SIDE OF EACH DOOR STRIKE JAMB ON THE PULL SIDE. REFER TO THE TEXAS ACCESSIBILITY STANDARDS.
- IF BUILDING HAS A FIRE SPRINKLER SYSTEM, LOCATE SPRINKLER HEADS PER FIRE DEPARTMENT REQUIREMENTS.
- PROVIDE ADDRESS AND OR SUITE LETTERS/NUMBERS (2" HIGH MIN.) ON EACH EXTERIOR DOOR OF SET OF DOORS, AS WELL AS ON THE ELECTRICAL DISCONNECT.
- PROVIDE ADDRESS LETTERS (6" HIGH MIN.) ON THE SIDE OF THE BUILDING THAT FRONTS THE STREET. ADDRESS MUST BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET. MUST HAVE A STROKE WIDTH OF NOT LESS THAN 1/4". NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. FIRE CODE OFFICIAL CAN FIELD LOCATE WITH CONTRACTOR IF NECESSARY.
- DOORS TO MECHANICAL ROOMS, ELECTRICAL ROOMS, AUTOMATIC SPRINKLER SYSTEMS AND FIRE ALARM CONTROL PANELS SHALL BE LABELED WITH A DURABLE, ALL-WEATHER SIGN, I.E., "ELECTRICAL ROOM", "MECHANICAL ROOM", "FACP", AND "SPRINKLER RISER".
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 3A:10B:C WITHIN 75 FEET FROM ANY POINT IN THE BUILDING.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 3A:10B:C WITHIN 30 FEET OF COMMERCIAL COOKING APPLIANCES.

#### LEGEND

- KEYNOTE CALL-OUT**
- 100** DOOR NUMBER - REFER TO DOOR/WINDOW SCHEDULE DRAWING
- A** WINDOW /STOREFRONT TYPE - REFER TO WINDOW/DOOR SCHEDULES DRAWING
- PROPOSED DEMISING WALLS BY TENANT. 6" WD. STUDS AT 16" O.C. 1 HOUR FIRE RATED
- 6" WD. STUDS AT 16" O.C. 1 HOUR FIRE RATED
- BRICK/ STUCCO
- 2** DETAIL SECTION
- 12** BUILDING SECTION
- 3** DETAIL CALL OUT

#### RATED ASSEMBLY LEGEND

- 1** UL# P522 = ONE-HOUR CLG./ROOF ASSEMBLY (LEASE SPACE / GYP. BD. CLG & WD. ROOF TRUSS)
- 2** UL# U305 = 1-HOUR TYP. INTERIOR 6" STUD WALL  
UL# U336 = 1-HOUR TYP. EXTERIOR 6" STUD WALL

#### KEYNOTE LEGEND

- 1** NOT USED.
- 2** GLAZED ALUMINUM STORE FRONT PER DOOR AND WINDOW SCHEDULE.
- 3** METAL BRACKET, EXTERIOR SHEATHING AND STANDING SEAM SLOPING CANOPY ON TOP, 4" DEEP. REFER ELEVATIONS FOR HEIGHTS. CANOPY SCOPE WILL BE DESIGN BUILD BY CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING.
- 4** DEEP CANOPY IN ALUMINUM WITH HANGER ROOS DESIGN. REFER ELEVATION FOR HEIGHTS. CANOPY SCOPE TO BE DESIGN BUILD BY THE CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING FOR REVIEW.
- 5** PROPOSED DEMISING WALL LOCATIONS BY TENANT. ACTUAL LOCATION SHALL BE DETERMINED PER TENANT LEASE AGREEMENT.
- 6** PROVIDE PLUMBING LEAVE-OUT PER BLDG. SPECS. COORDINATE LOCATION WITH PLUMBING PLANS.
- 7** COLUMNS PER STRUCTURAL DRAWINGS
- 8** CONCRETE SIDEWALK PER CIVIL.
- 9** LINE OF SOFFIT ABOVE - NOT USED.

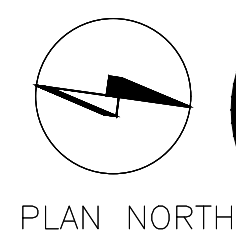
- 10** FIXED GLAZED ALUMINUM WINDOW PER DOOR SCHEDULE.
- 11** FIRE RISER ROOM DOOR.
- 12** FIRE EXTINGUISHER. REFER TO SPECS ON SHEET A 104.
- 13** FIRE DEPARTMENT APPROVED KNOX-KEY BOX (4400 SERIES-RECESSED INTO THE MASONRY. MOUNT AT 60" HT. (MINIMUM)) CONTRACTOR SHALL FIELD LOCATE WITH FIRE CODE OFFICIAL BEFORE INSTALLATION.
- 13A** FIRE DEPARTMENT APPROVED KNOX-KEY-BOX (3200 SERIES-RECESSED INTO THE MASONRY. MOUNT AT 60" HT. (MINIMUM)) CONTRACTOR SHALL FIELD LOCATE WITH FIRE CODE OFFICIAL BEFORE INSTALLATION.
- 15** PROVIDE AN APPROVED FIRE DEPARTMENT CONNECTION PER FIRE DEPT. CODES AND SPECS. REFER TO CIVIL PLANS FOR EXACT LOCATION. ALL FIRE DEPARTMENT CONNECTIONS FOR AUTOMATIC FIRE SPRINKLERS WILL REQUIRE LOCKING KNOX FDC CAPS. CONTRACTOR TO COORDINATE THE FDC LOCATION WITH CIVIL PLANS. THE FIRE DEPARTMENT CONNECTION (FDC) NEEDS A SIGN TO ASSIST WITH IDENTIFYING ITS LOCATION. IT SHALL HAVE A RED BACKGROUND WITH 6" WHITE LETTERS THAT READ "FDC". IT SHALL BE MOUNTED HIGH ABOVE THE CONNECTION AS TO NOT BE OBSTRUCTED BY VEHICLES, LANDSCAPING, ETC.
- 16** NOT USED.
- 17** ROOF ACCESS LADDER. (SEE ELEVATION). AIR & WEATHER BARRIER TO BE PROPERLY DETAILED AROUND LADDER WALL ANCHORS PER AIR BARRIER MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
- 18** 3 COAT 3/4" STUCCO FINISH OVER METAL LATHE ON FELT PAPER.
- 19** 6" STUCCO TOP TRIM W/ 6" SIDE TRIM. (SEE ELEVATION)
- 22** BREAK METAL CLADDING 18 GAUGE COPING CAP; REFER ELEVATIONS
- 23** MANUFACTURED STONE STACKED - VERIFY STYLE & COLOR W/ OWNER. (REF. ELEV. FOR HTS.)
- 25** ARCHITECTURAL WOOD PANEL; REFER ELEVATIONS FOR LOCATION
- 27** REAR/SIDE DOORS PER DOOR SCHEDULE - NOT USED
- 30** NOT USED

#### NOTE:

- THE MEANS OF EGRESS INCLUDING EXIT DISCHARGE SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED. CONTRACTOR TO PROVIDE EXTERIOR EMERGENCY ILLUMINATION WITH BATTERY BACK UP AT EACH EXIT DISCHARGE. FUTURE EGRESS LIGHTING IS TO BE PROVIDED BY TENANT FINISH OUT.
- 1-HR TENANT DEMISING WALL TO EXTEND FROM SLAB TO UNDERSIDE OF THE ROOF DECK. TYPICAL COORDINATE REQUIREMENT OF TENANT DEMISING WALL WITH AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.

#### FIRE EXTINGUISHING EQUIPMENT

- PROVIDE MULTI-PURPOSE DRY CHEMICAL FIRE EXTINGUISHERS, 2A10BC TYPE OR THE MINIMUM REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. PROVIDE ONE PER SUITE (MOUNT TO MEET MAXIMUM 75 FEET TRAVEL DISTANCE TO EACH)
- FIRE EXTINGUISHERS:
  - UL LISTED EXTINGUISHER
  - STAINLESS STEEL TANK WITH PRESSURE GAUGE
  - FIRE EXTINGUISHER CABINET:
    - ANODIZED ALUMINUM CABINET AND DOOR
    - SEMI-RECESSED TYPE WITH RADIUSED RETURN
    - VERTICAL DUO DOOR WITH CLEAR FLOAT GLASS
    - VINYL LETTERS READING "FIRE EXTINGUISHER"

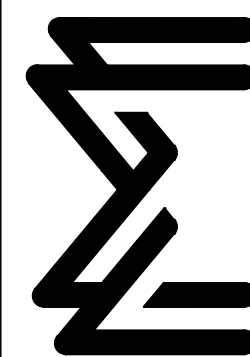


01

## REFERENCE PLAN

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

**BUILDING AREA**  
**8,874SFT**



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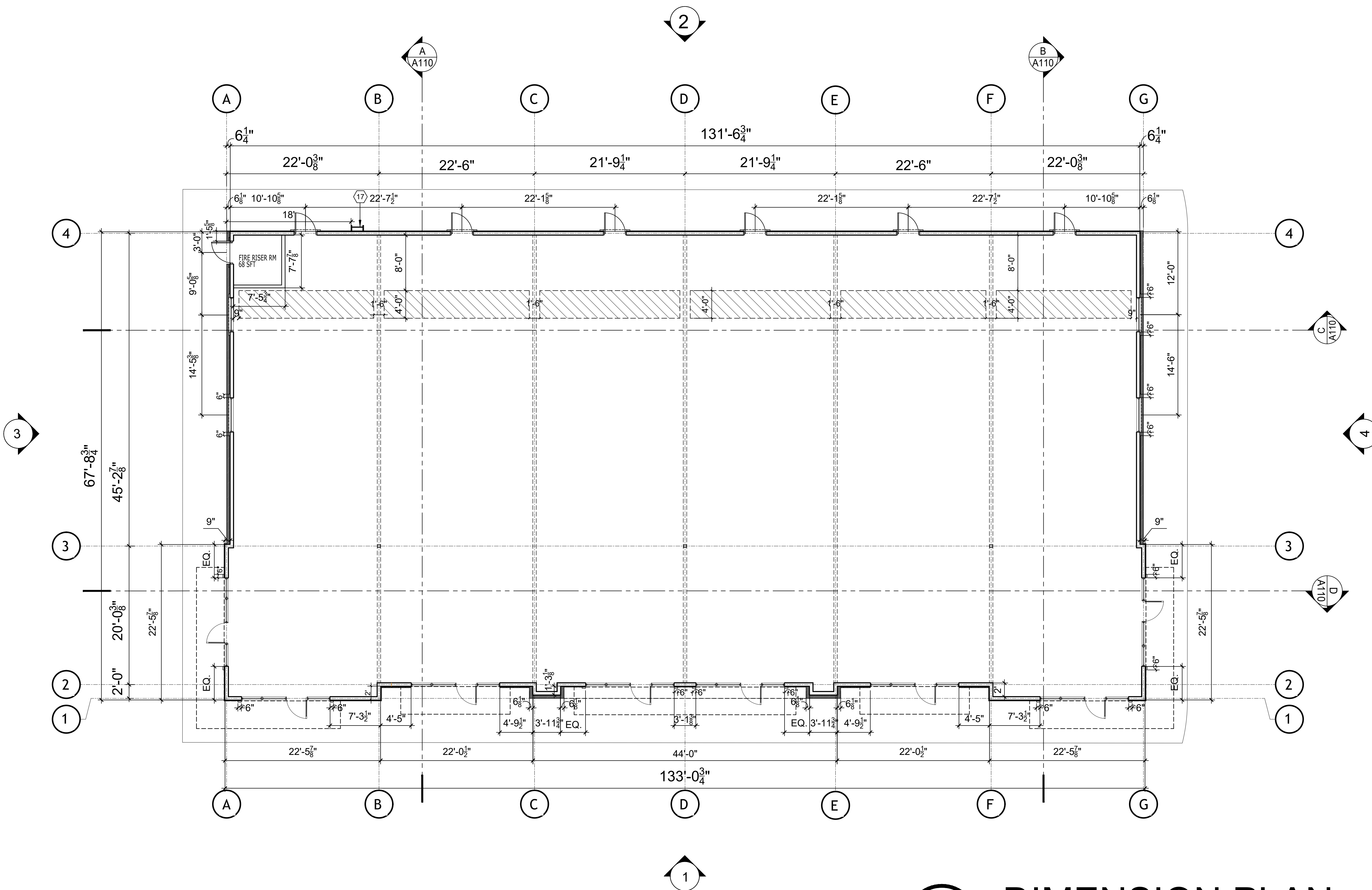
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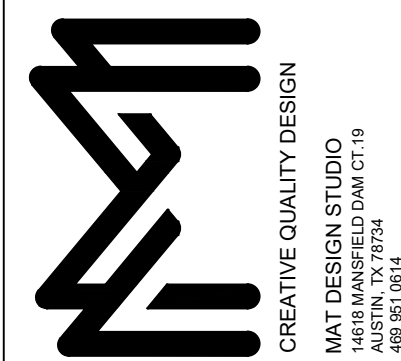


01

# DIMENSION PLAN

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

BUILDING AREA:8,874SFT



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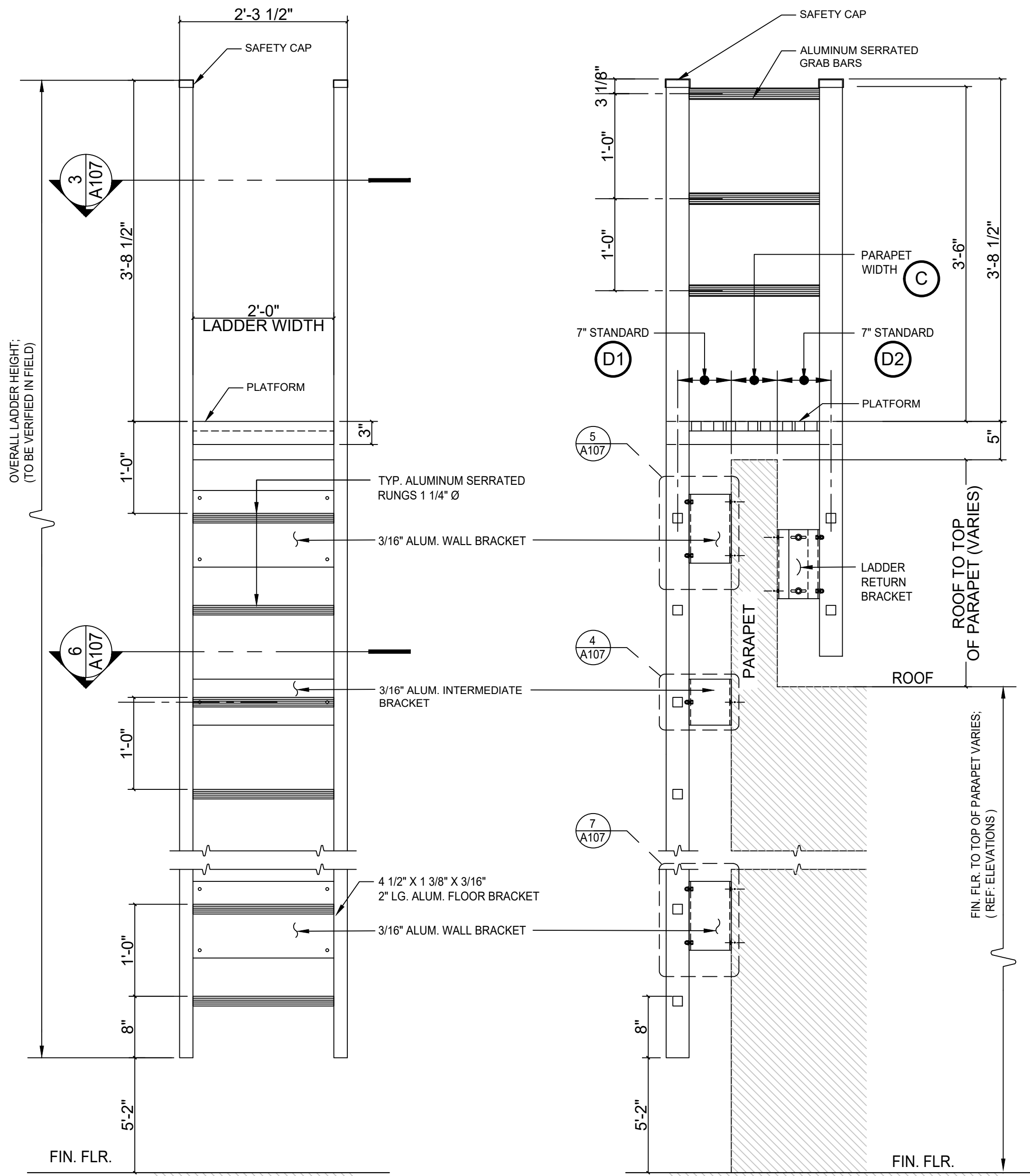
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Project Number:  
24-015



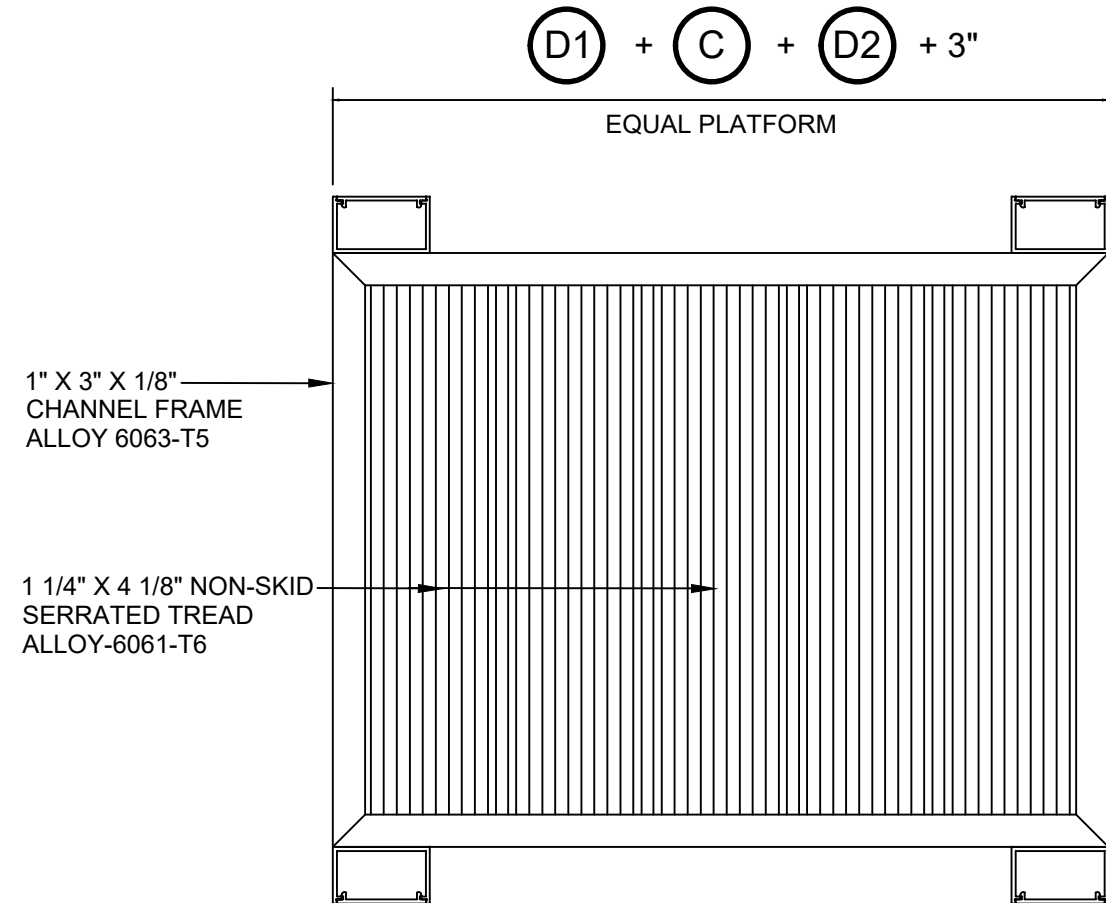




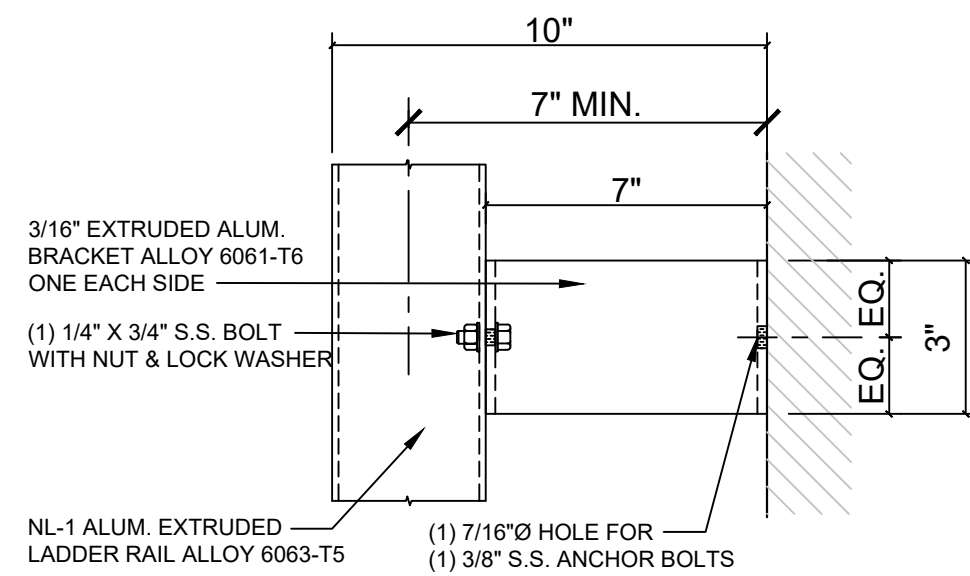


1 FRONT ELEVATION  
SCALE: N.T.S.

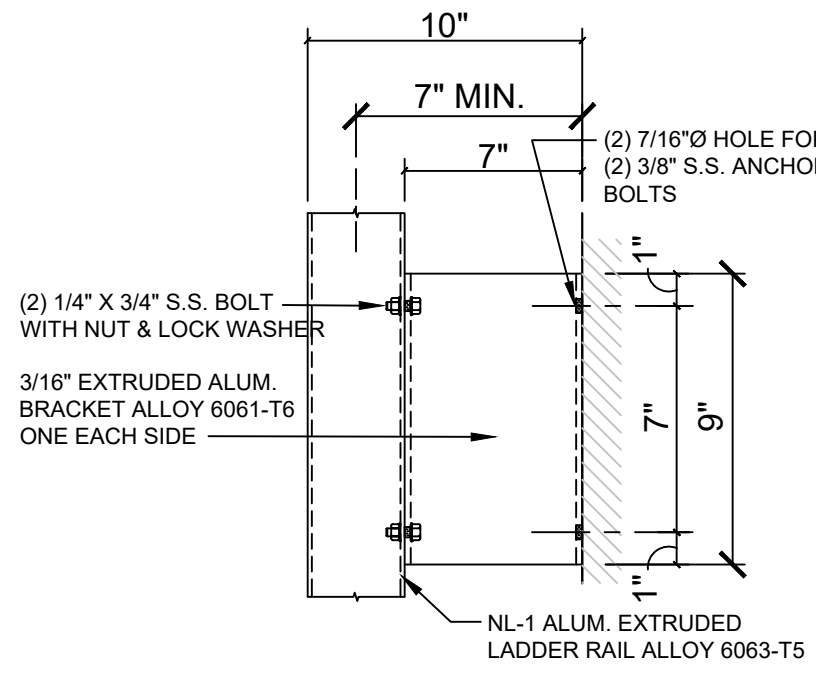
2 SIDE ELEVATION  
SCALE: N.T.S.



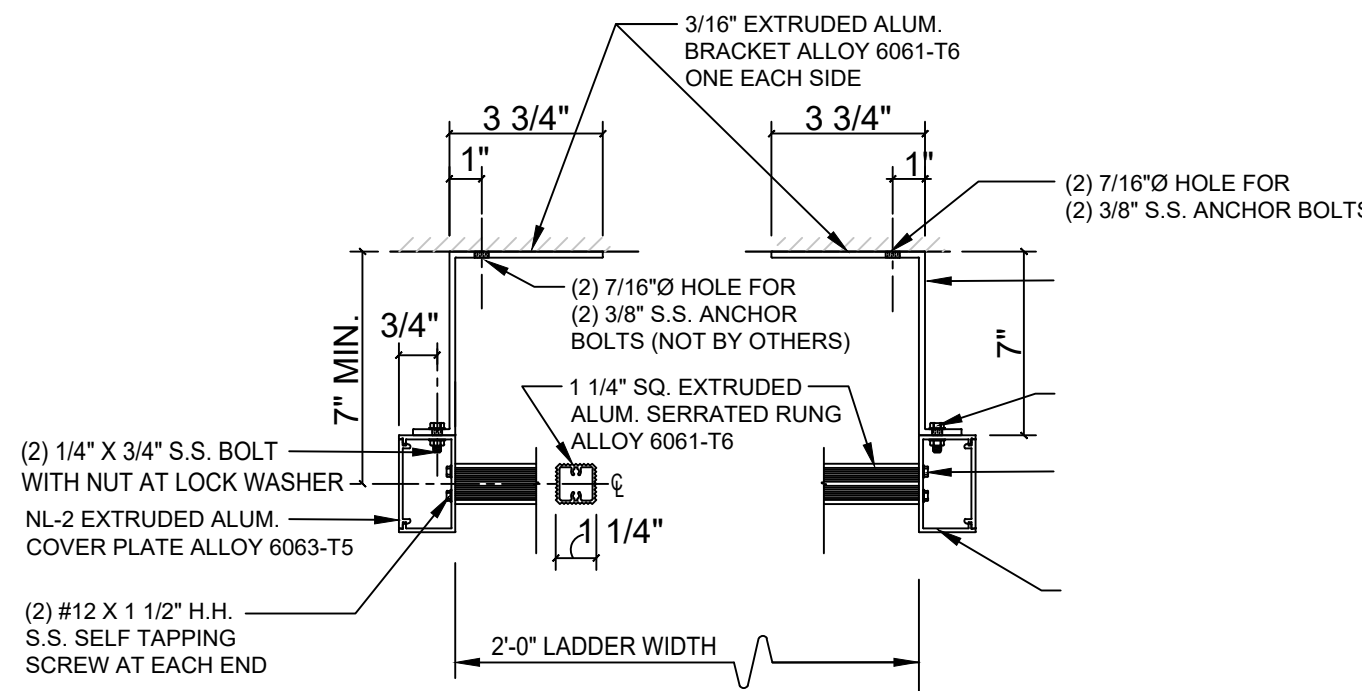
3 PLATFORM PLAN  
SCALE: N.T.S.



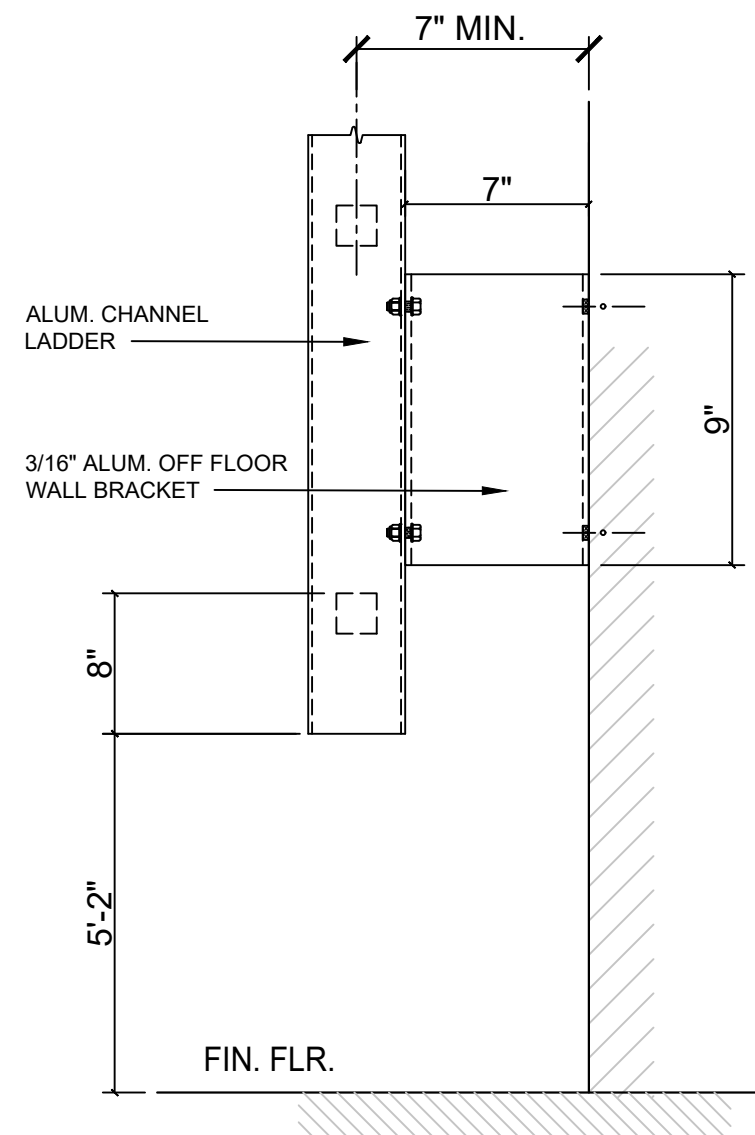
4 INTERMEDIATE BRACKET SIDE VIEW  
SCALE: N.T.S.



5 TOP BRACKET SIDE VIEW  
SCALE: N.T.S.

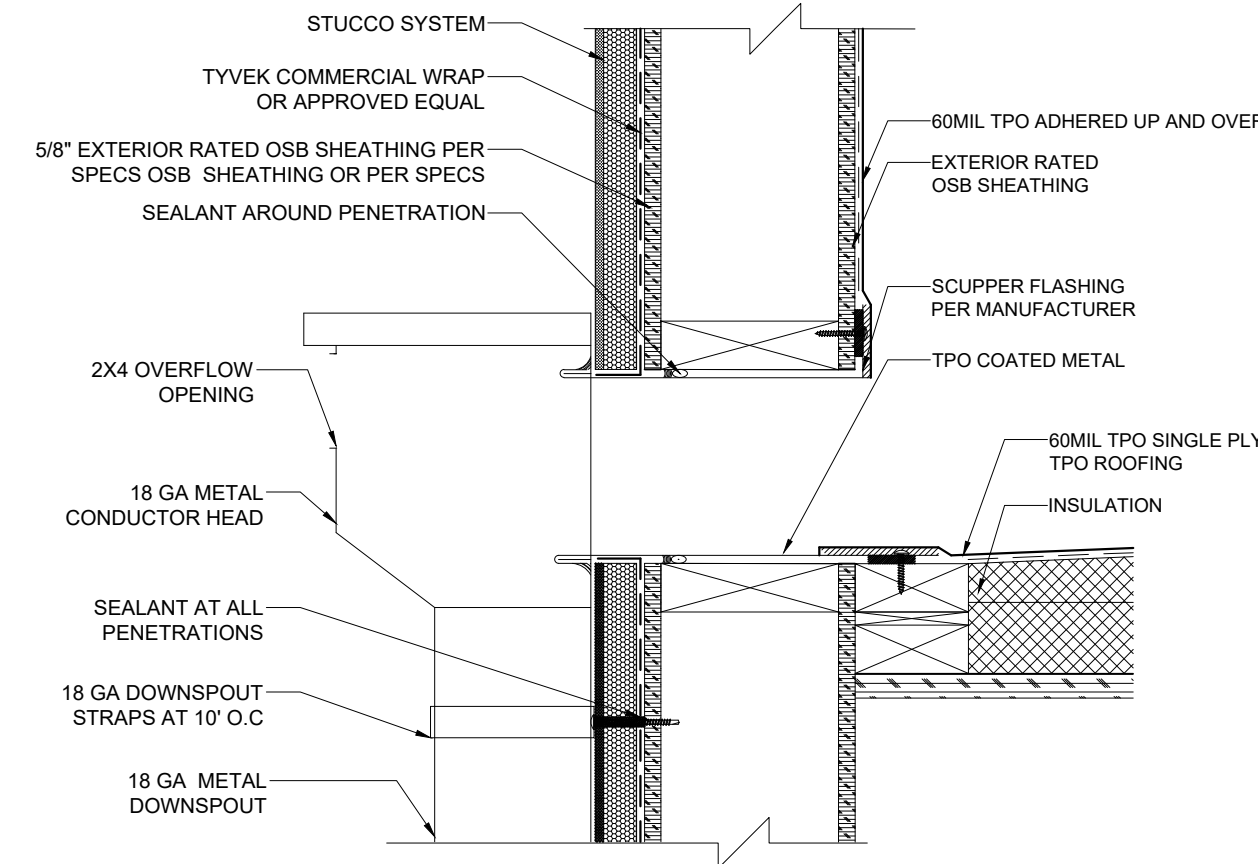


6 TOP BRACKET PLAN VIEW  
SCALE: N.T.S.

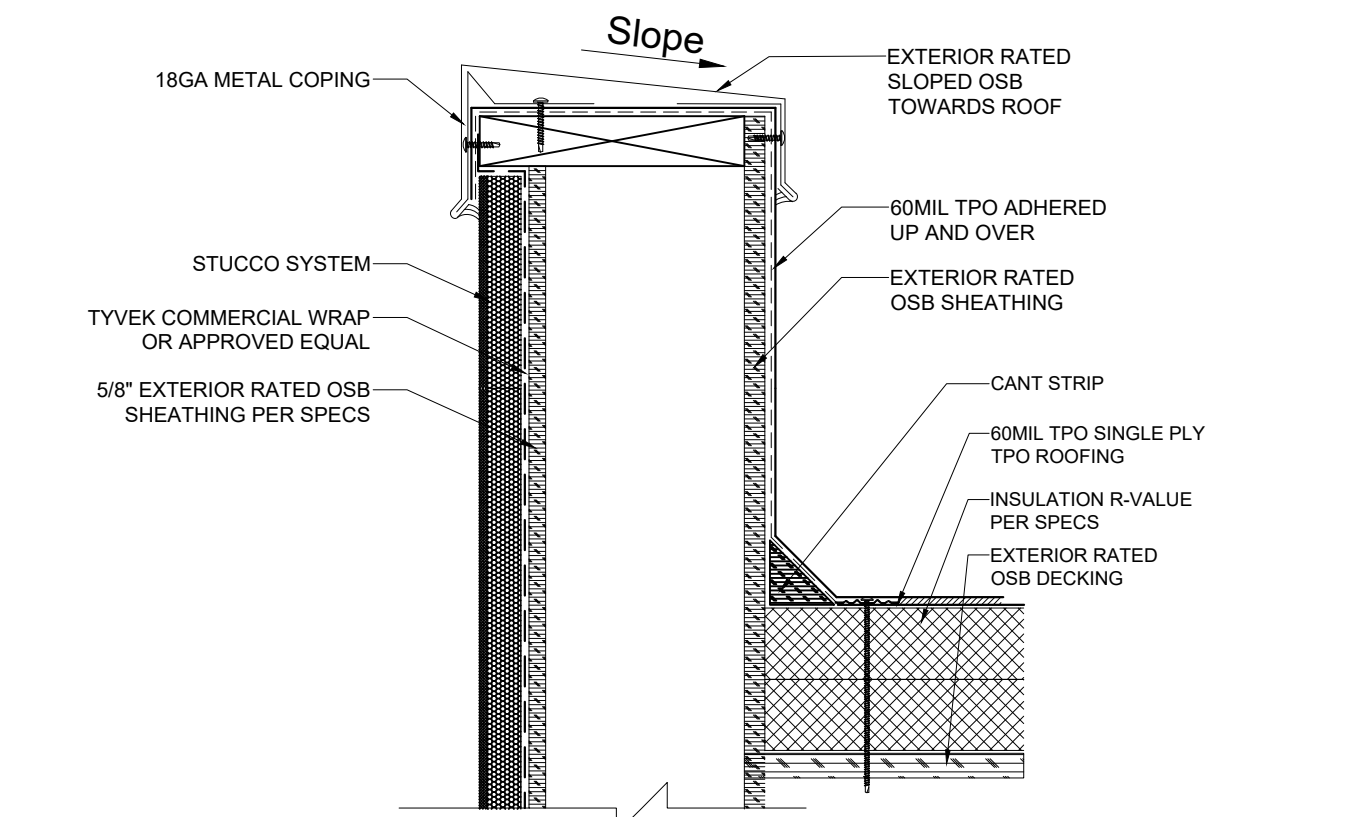


7 OFF FLOOR SUPPORT BRACKET  
SCALE: N.T.S.

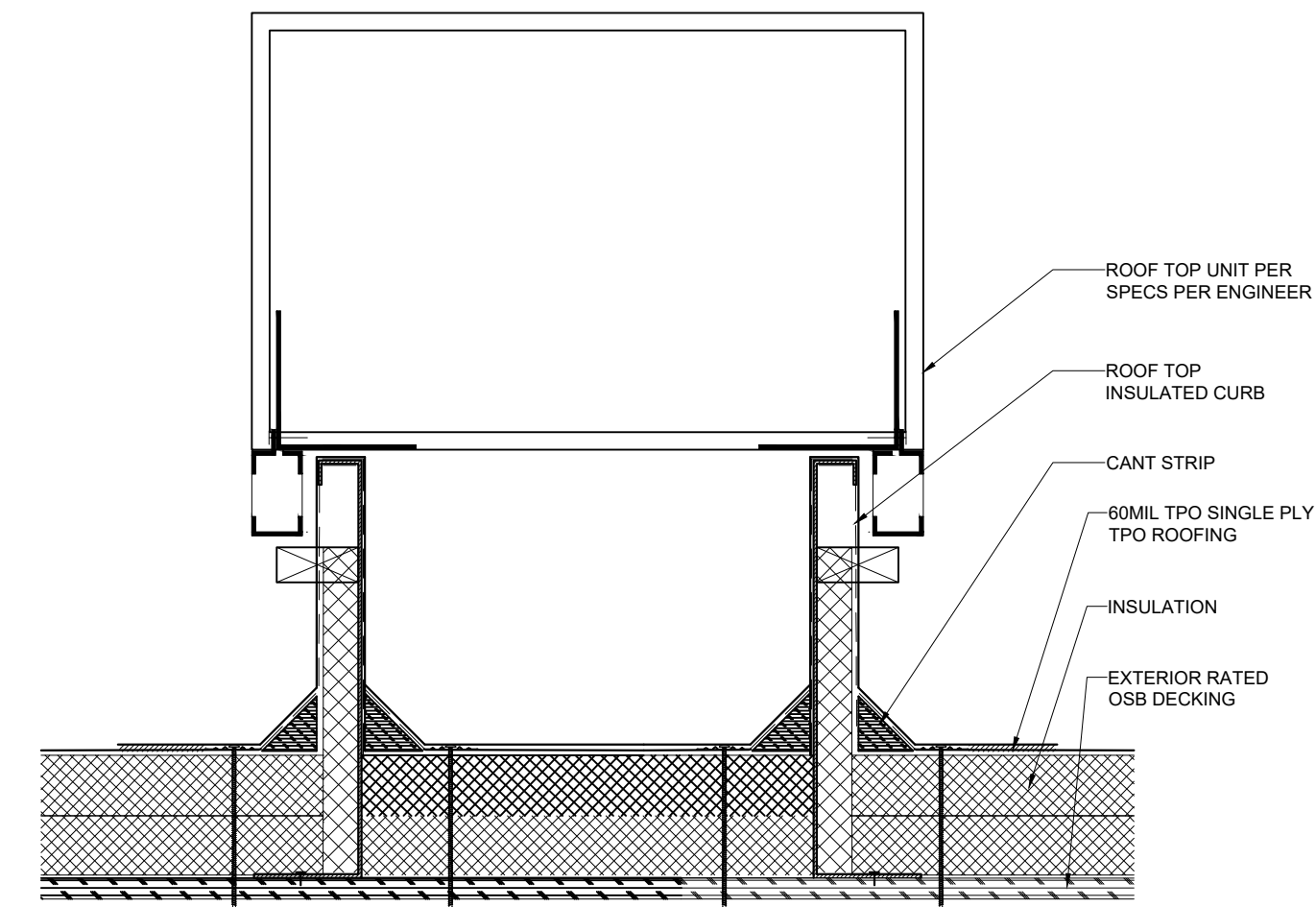
- NOTES:
1. TO ENSURE A CONTINUOUS AIR & WEATHER BARRIER ACROSS THE BUILDING ENVELOPE, A CONTINUOUS AIR& WEATHER SEAL SHOULD BE MADE AT EACH SUBSTRATE CHANGE, JOINTS/GAPS, PENETRATIONS & DISSIMILAR MATERIAL TERMINATIONS PER MANUFACTURER'S RECOMMENDED DETAILING. ALWAYS POSITIVELY SHINGLE AIR & WEATHER BARRIER/ FLASHING TO ELIMINATE WATER LEAKS. USE MANUFACTURER RECOMMENDED DETAILS.
  2. ROOF ACCESS LADDER TO BE USED AT USER'S OWN RISK AND DISCRETION.
  3. TO ANCHOR ROOF ACCESS LADDER TO BUILDING, FOLLOW MANUFACTURER'S AIR BARRIER PATCH METHODS FOR INSTALLATION OF LADDER ANCHOR AND SUPPORTS.
  4. IF ANY ANCHOR OR SCREW IS INSTALLED ON STUCCO INTO THE AIR WEATHER BARRIER DO NOT BACK IT OUT, BACKING IT OUT WILL CAUSE AIR & MOISTURE LEAKAGE.



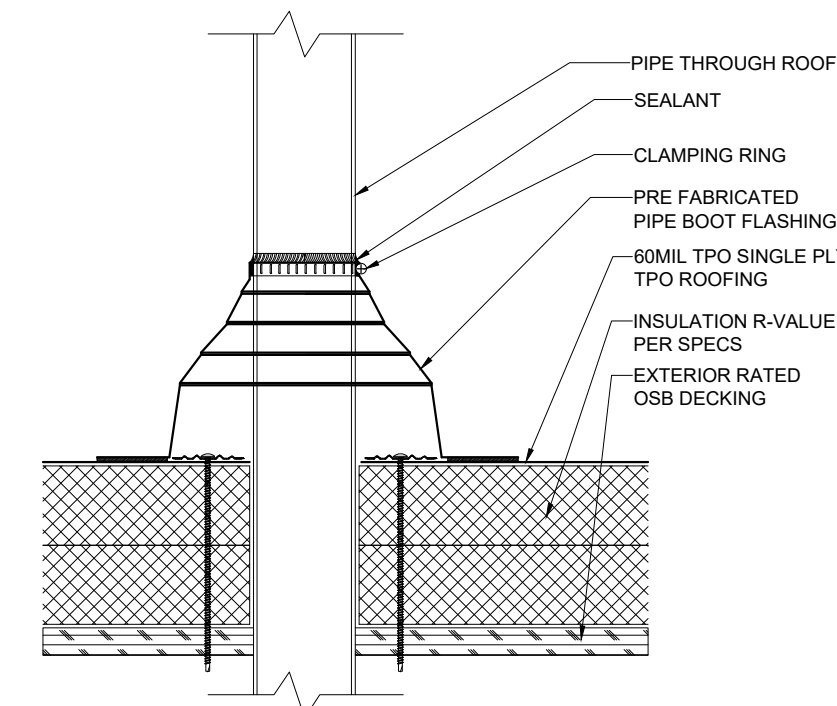
1 CONDUCTOR HEAD FLASHING  
SCALE: N.T.S.



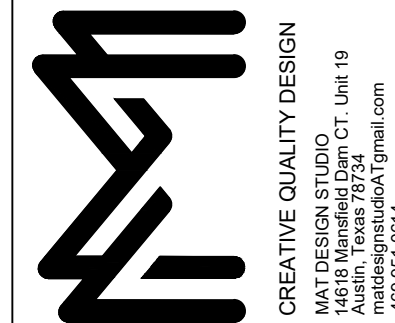
2 COPING AT STUCCO WALL  
SCALE: N.T.S.



3 ROOF TOP UNIT FLASHING DETAIL  
SCALE: N.T.S.



4 ROOF PIPE PENETRATION DETAIL  
SCALE: N.T.S.



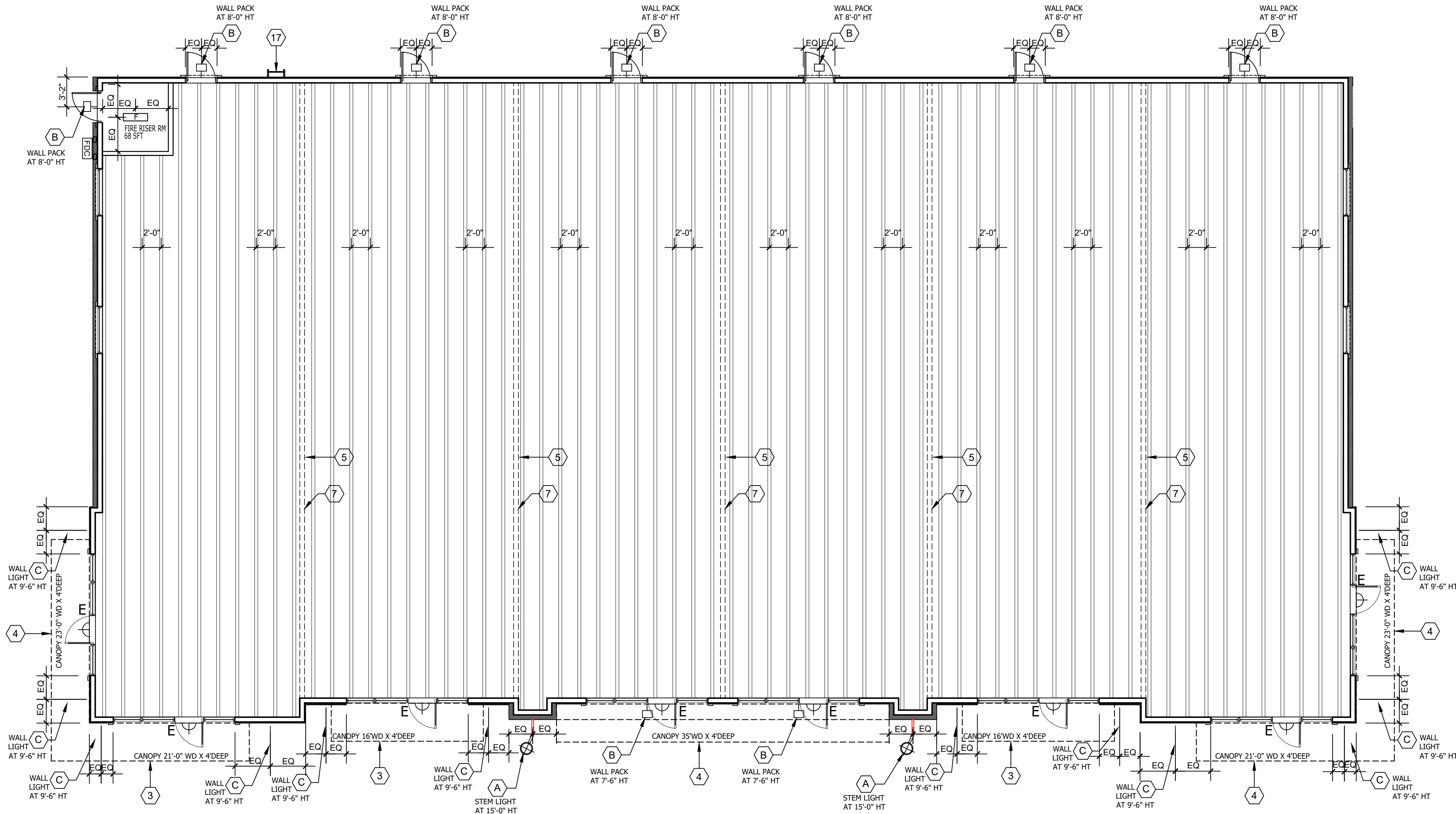
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LEANDER, TEXAS 78641

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24-035





## KEYNOTE LEGEND

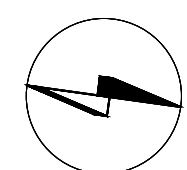
REFER TO ELECTRICAL DRAWINGS FOR A,B,C,D FIXTURE TYPES AND SPECS

- 1 NOT USED.
- 3 METAL BRACKET, EXTERIOR SHEATHING AND STANDING SEAM SLOPING CANOPY ON TOP, 4' DEEP. REFER ELEVATIONS FOR HEIGHTS. CANOPY SCOPE TO BE DESIGN BUILD BY THE CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING FOR REVIEW.
- 4 4' DEEP CANOPY DESIGN IN ALUMINUM DESIGN. REFER ELEVATION FOR HEIGHTS. CANOPY SCOPE TO BE DESIGN BUILD BY THE CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING FOR REVIEW.
- 5 PROPOSED DEMISING WALL LOCATIONS BY TENANT. ACTUAL LOCATION SHALL BE DETERMINED PER TENANT LEASE AGREEMENT.
- 7 COLUMNS PER STRUCTURAL DRAWINGS
- 9 LINE OF SOFFIT ABOVE.
- 17 ROOF ACCESS LADDER W/ SECURITY DOOR

## LEGEND

- OPEN TO STRUCTURE
- DRYWALL CEILING
- CANOPY OVERHANG
- A STEM LIGHT, ABOVE THE CANOPY  
REFER ELECTRICAL DRAWINGS.
- B WALL PACK- REFER ELECTRICAL DRAWINGS.
- C WALL LIGHT .
- E WALL LIGHT UNDER THE CANOPY.  
REFER ELECTRICAL DRAWINGS.
- F CEILING MOUNTED SURFACE LIGHT IN FIRE RISER ROOM. REFER ELECTRICAL LIGHTING PLAN.

NOTE:  
1. THE MEANS OF EGRESS INCLUDING EXIT DISCHARGE SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED. CONTRACTOR TO PROVIDE EXTERIOR EMERGENCY ILLUMINATION WITH BATTERY BACK UP AT EACH EXIT DISCHARGE. FUTURE EGRESS LIGHTING IS TO BE PROVIDED BY TENANT FINISH OUT.  
2. 1-HR TENANT DEMISING WALL TO EXTEND FROM SLAB TO UNDERSIDE OF THE ROOF DECK, OR PER CITY OF CEDAR PARK REQUIREMENTS. TENANT DEMISING WALLS TO BE FINISHED BY TENANTS DURING INTERIOR FINISH OUTS.

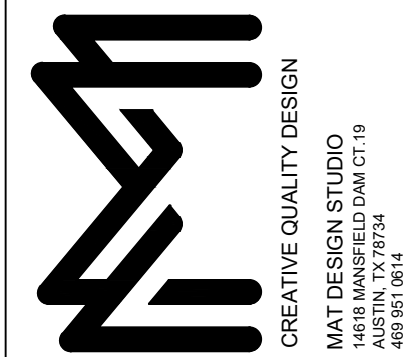


PLAN NORTH

01

# REFLECTED CEILING PLAN

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



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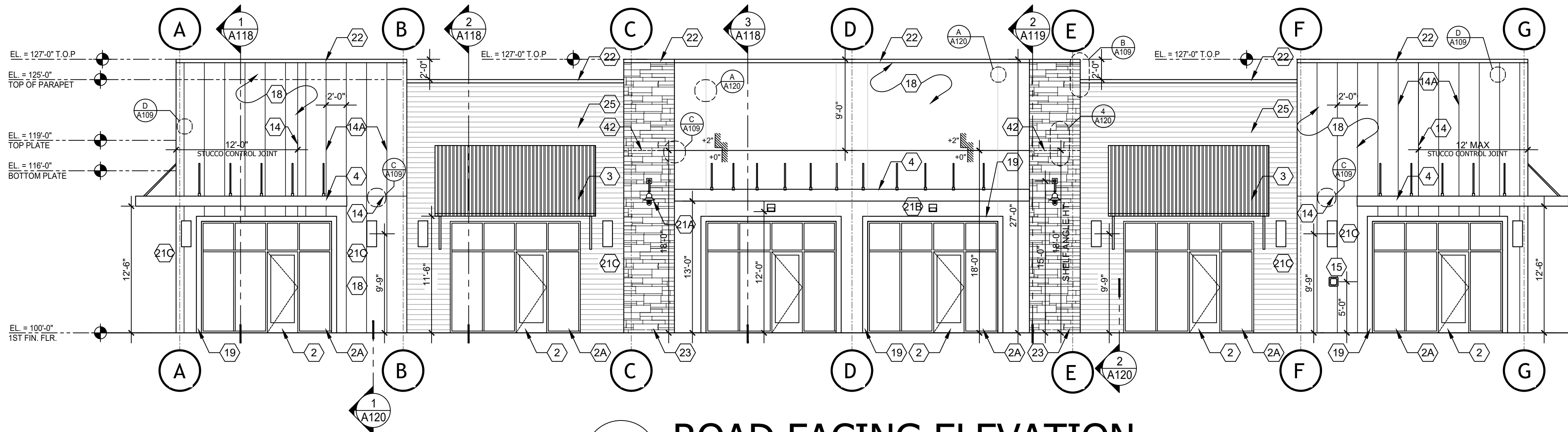
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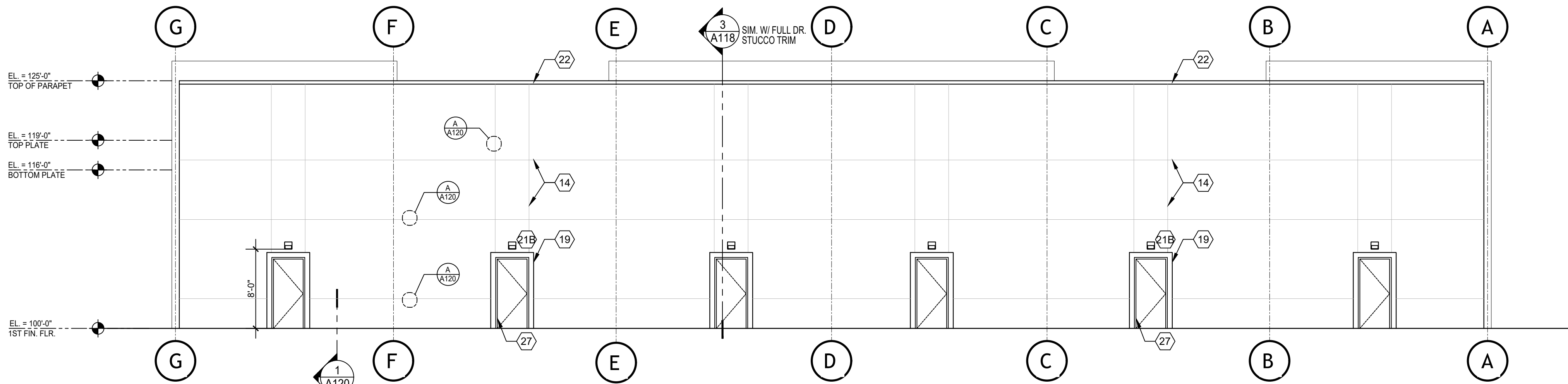
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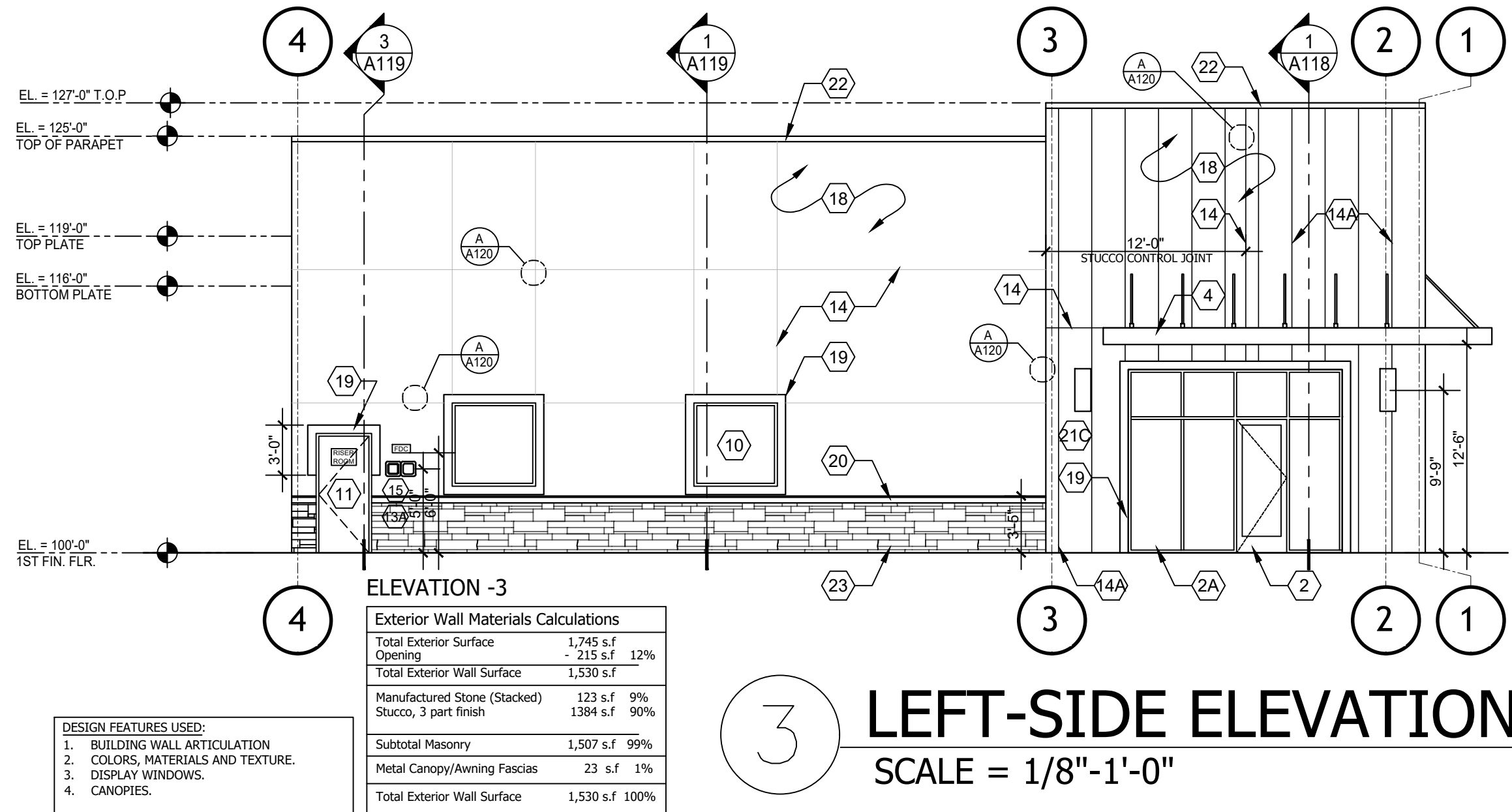




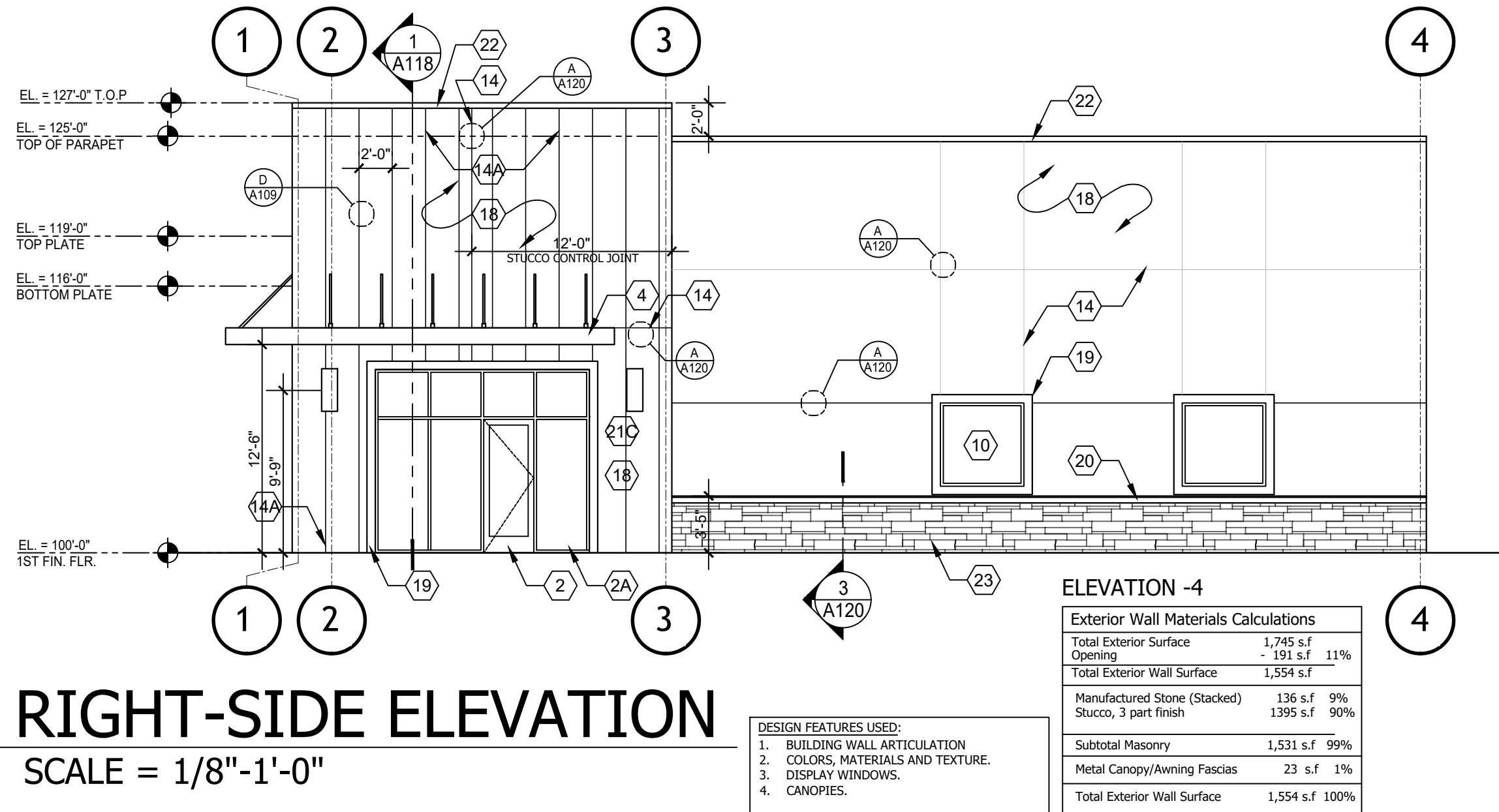
1 ROAD FACING ELEVATION  
SCALE = 1/8"-1'-0"



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



3 LEFT-SIDE ELEVATION  
SCALE = 1/8"-1'-0"

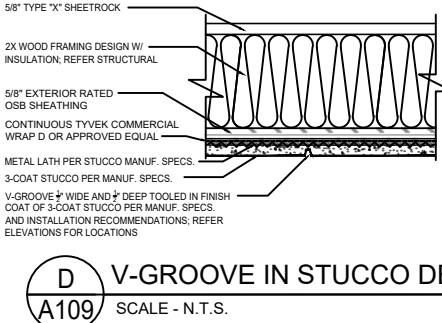


4 RIGHT-SIDE ELEVATION  
SCALE = 1/8"-1'-0"

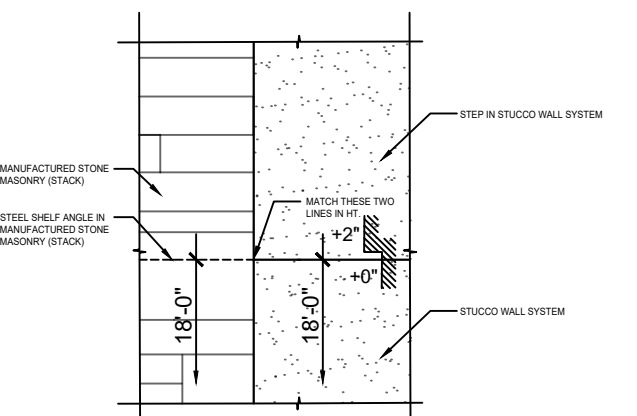
ELEVATION - 1

Exterior Wall Materials Calculations		
Total Exterior Surface	3,514 s.f	
Opening	- 846 s.f	24%
Total Exterior Wall Surface	2,668 s.f	
Manufactured Stone (Stacked)	270 s.f	10%
Stucco, 3 part finish	1519 s.f	57%
Architectural Wood Panels	788 s.f	30%
Subtotal Masonry	2,577 s.f	97%
Metal Canopy/Awning Fascias	91 s.f	3%
Total Exterior Wall Surface	2,668 s.f	100%

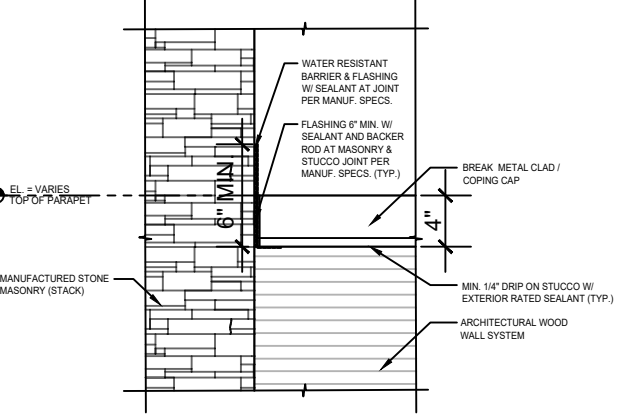
DESIGN FEATURES USED:  
1. BUILDING WALL ARTICULATION  
2. COLORS, MATERIALS AND TEXTURE.  
3. DISPLAY WINDOWS.  
4. CANOPIES.



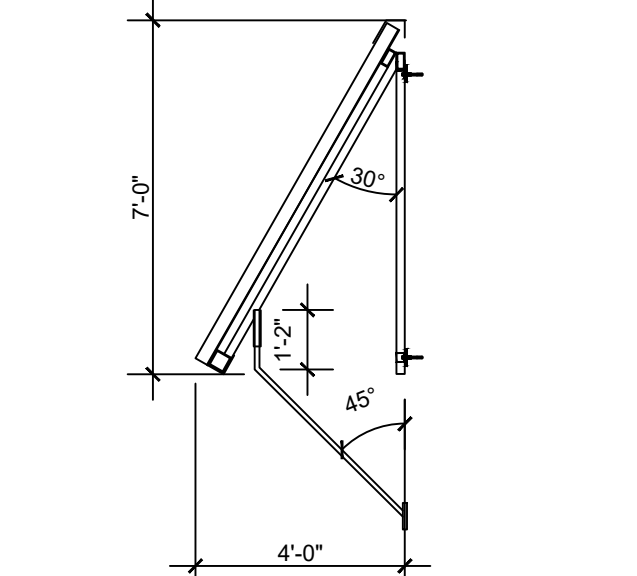
D V-GROOVE IN STUCCO DETAIL  
SCALE - N.T.S.



C ENLARGED STONE/STUCCO ELEVATION  
SCALE - N.T.S.



B ENLARGED PARAPET ELEVATION  
SCALE - N.T.S.



A ENLARGED AWNING ELEVATION  
SCALE - N.T.S.

ELEVATION - 2

Exterior Wall Materials Calculations		
Total Exterior Surface	3,296 s.f	
Window/Door Opening	- 144 s.f	4%
Total Exterior Wall Surface	3,152 s.f	
Manufactured Stone (Stacked)	315 s.f	9%
Stucco, 3 part finish	3,152 s.f	96%
Subtotal Masonry	3,152 s.f	96%
Total Exterior Wall Surface	3,152 s.f	100%

KEYNOTE LEGEND

- NOT USED.
- GLAZED ALUMINUM STOREFRONT PER DOOR SCHEDULE.
- GLAZED ALUMINUM STOREFRONT PER WINDOW SCHEDULE.
- METAL BRACKET, EXTERIOR SHEATHING AND STANDING SEAM SLOPING CANOPY ON TOP, 4" DEEP WITH SUPPORT BRACKETS. REFER ELEVATIONS FOR HEIGHTS. CANOPY SCOPE WILL BE DESIGN BUILT BY CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING.
- HEIGHTS. CANOPY SCOPE TO BE DESIGN BUILT BY THE CANOPY SUBCONTRACTOR. PROVIDE TEXAS RPE SIGNED AND SEALED SHOP DRAWING FOR REVIEW.
- FIXED GLAZED ALUMINUM WINDOW PER DOOR SCHEDULE.
- FIRE RISER ROOM DOOR.
- NOT USED.
- FIRE DEPARTMENT APPROVED KNOX KEY-BOX (1400 SERIES) RECESSED INTO THE WALL SYSTEM. MOUNT AT 60" HT. (MINIMUM). CONTRACTOR SHALL FIELD LOCATE WITH FIRE CODE OFFICIAL BEFORE INSTALLATION.
- FIRE DEPARTMENT APPROVED KNOX KEY-BOX (3200 SERIES) - RECESSED INTO THE WALL SYSTEM. MOUNT AT 60" HT. (MINIMUM). CONTRACTOR SHALL FIELD LOCATE WITH FIRE CODE OFFICIAL BEFORE INSTALLATION.
- STUCCO CONSTRUCTION JOINTS PER MANUF. SPECS. IN STUCCO ON LATH. AT A MAX. SPACING OF 18 FT. O.C. BOTH HORIZ. & VERT. ENCLOSING AN AREA NO MORE THAN 144 SQ. FT. VERTICAL JOINT SHOULD REMAIN CONTINUOUS AND UNBROKEN AT JOINT INTERSECTIONS. REFER MANUF. RECOMMENDATIONS.
- STUCCO VERTICAL V-GROOVES 2" WIDE AND 2" DEEP AT 2'-0" O.C. PER MANUF. SPECS. REFER DETAIL D.
- PROVIDE AN APPROVED FIRE DEPARTMENT CONNECTION PER FIRE DEPT. CODES AND SPECS. REFER TO CIVIL PLANS FOR EXACT LOCATION. ALL FIRE DEPARTMENT CONNECTIONS FOR AUTOMATIC FIRE SPRINKLERS WILL REQUIRE LOCKING KNOX FDC CAPS. CONTRACTOR TO COORDINATE THE FDC LOCATION WITH CIVIL PLANS. THE FIRE DEPARTMENT CONNECTION (FDC) NEEDS A SIGN TO ASSIST WITH IDENTIFYING ITS LOCATION. IT SHALL HAVE A RED BACKGROUND WITH 6" WHITE LETTERS THAT READ "FDC". IT SHALL BE MOUNTED HIGH ABOVE THE CONNECTION AS TO NOT BE OBSTRUCTED BY VEHICLES, LANDSCAPING, ETC.
- NOT USED.
- ROOF ACCESS LADDER PER BUILDER'S SPECS. AIR & WEATHER BARRIER TO BE PROPERLY DETAILED AROUND LADDER WALL ANCHORS PER AIR BARRIER MANUFACTURER'S RECOMMENDATIONS AND DETAILS.
- COAT 3/4" STUCCO FINISH OVER METAL LATH ON FELT PAPER. STUCCO ON WALLS WITH JOINTS PER MANUF. SPECS.
- STUCCO TOP TRIM W/ 6" SIDE TRIM AS PER ELEVATION.
- STUCCO BOOT, SLOPE AWAY FROM WALL FOR WATER DRAINAGE.
- STEM LIGHT FIXTURE PER ELECTRICAL. REFER REFLECTED CEILING PLAN FOR FIXTURE HEIGHTS.
- WALL-PACK LIGHT FIXTURE PER ELECTRICAL. REFER REFLECTED CEILING PLAN FOR FIXTURE HEIGHTS.
- DECORATIVE WALL LIGHT FIXTURE PER ELECTRICAL. REFER REFLECTED CEILING PLAN FOR FIXTURE HEIGHTS.
- BREAK METAL CLADDING 18 GAUGE CORP. GAP. CONTRACTOR TO PROVIDE ENOUGH BACKING/SUPPORT TO GAUGE METAL TO PREVENT OIL CANNING.
- MANUFACTURED STONE STACKED (STACK BLOCK). REFER ELEVATION DWG A109-1 FOR SPECS.
- VERIFY STYLE & COLOR W/ OWNER. PROVIDE WEEP HOLES AT LUG PER CODE. PROVIDE VERT. & HOR. REINF. PER ENGINEER. MORTAR COLOR TO BE APPROVED BY DESIGN TEAM (REF. ELEV. FOR HTS.).
- ARCHITECTURAL WOOD PANEL.
- REAR/SIDE DOORS PER DOOR SCHEDULE.
- 18 GA CONDUCTOR HEAD AND DOWNSPOUT AND OVERFLOW SCUPPER DISCHARGE AT GRADE - SEE PLUMBING DRAWINGS.
- PROVIDE A SHELVE ANGLE. REFER TO ELEV. FOR HTS.; REFER TO STRUCTURAL DRAWINGS FOR SHELVE ANGLE INSTALLATION DETAILS.

**ALUMINUM STOREFRONT**

CRL U.S. ALUMINUM SERIES  
400SF CENTER GLAZED STOREFRONT OR  
APPROVED EQUAL.

**GLASS**

KILNEN GLASS OR APPROVED EQUAL  
(254) 526-4157

**METAL COPING**

COLOR: SLATE GRAY 22-18 GAUGE  
UNA CLAD OR APPROVED EQUAL  
P: (800) 426-7757

**PAINT**

STUCCO COLORS  
COLOR A T8D  
COLOR B T8D  
COLOR C T8D

**STUCCO**

3-PART STUCCO FINISH SYSTEM

**ARCHITECTURAL WOOD PANELS**

VINTAGEWOOD CEDAR AWP1818  
NICHIIHA FIBER CEMENT

**MANUFACTURED STONE (STACKED)**

MANUFACTURER: CULTURED STONE  
PATTERN: COUNTRY LEDGESTONE  
COLOR: ECHO RIDGE

**METAL AWNING**

LAWRENCE FABRIC AND METAL  
STRUCTURES INC. OR APPROVED EQUAL  
LFS-SLP: Sloping Metal Canopy,  
Standing Seam Steel, Color Light Brown  
P: (800) 527-3840  
PROVIDE SAMPLES FOR APPROVAL

**NOTES**

PAINTS AND GLAZING ARE SUBJECT TO THE APPROVAL OF THE  
OWNER. G.C. TO PROVIDE SAMPLE OF ALL PAINT COLOR TO THE  
OWNER BEFORE PURCHASING ANY PAINT. G.C. TO MAKE A MOCK  
UP SAMPLE OF ALL PAINT AND GET APPROVAL OF THE OWNER  
PRIOR TO APPLICATION.

NOTE:  
i. All permanent exterior lighting shall be non-flashing and shielded such that the light sources is not visible from the public right-of-way or adjacent residential uses at the property line. Wall pack lighting and other lighting that directs the light in a horizontal direction without an adequate shield is not permitted if there are streets or residential uses in the direction of the light.  
ii. All site utility lines are proposed to be located underground.  
iii. Windows shall have a maximum exterior reflectivity of twenty (20%) percent.

FIRE DEPARTMENT CONNECTION NOTES:  
• FDC nozzle cap shall be 36" above finished grade  
• Each FDC shall be a 5" Store on a 30" elbow with a KNOX locking cap  
• Hydrant will be located within 100 feet of FDC

NOTE:  
1. Please Ensure the address is visible on the exterior of the building. Please see Article 505.1 in the Leander Code of Ordinance for more information. Building numbers and unit addressing shall be visible from the Fire Lane. Illuminated and contrasting in color from the background. The following criteria shall be applied for proper sizing and is based on the distance from the fire lane: 4" MIN. Height; Up to 50' = 4" MIN. Height 51' - 100'. Inspector will verify addressing for the building upon inspection.  
2. Provide a minimum 36-inch horizontal and 72-inch vertical clearance around all electrical panels.

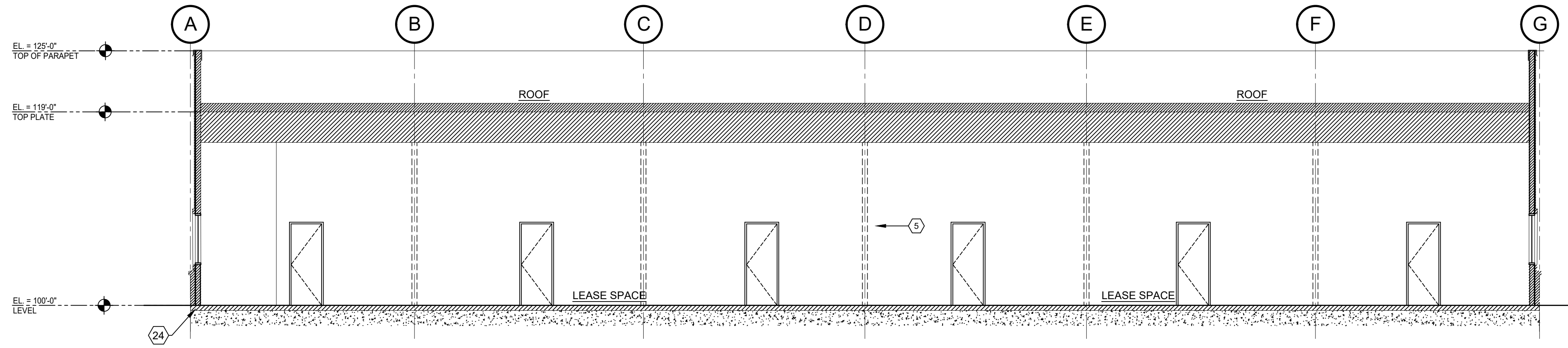


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00/00/2025  
Issue Log  
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ISSUED FOR CONSTRUCTION: 00/00/2025  
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MA/RB  
CHECKED BY:  
MA

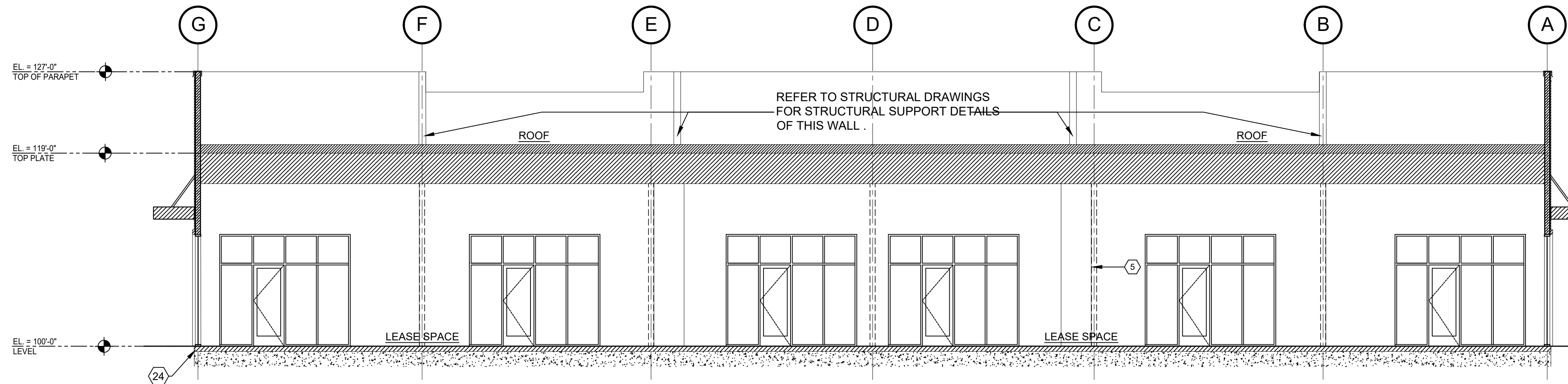
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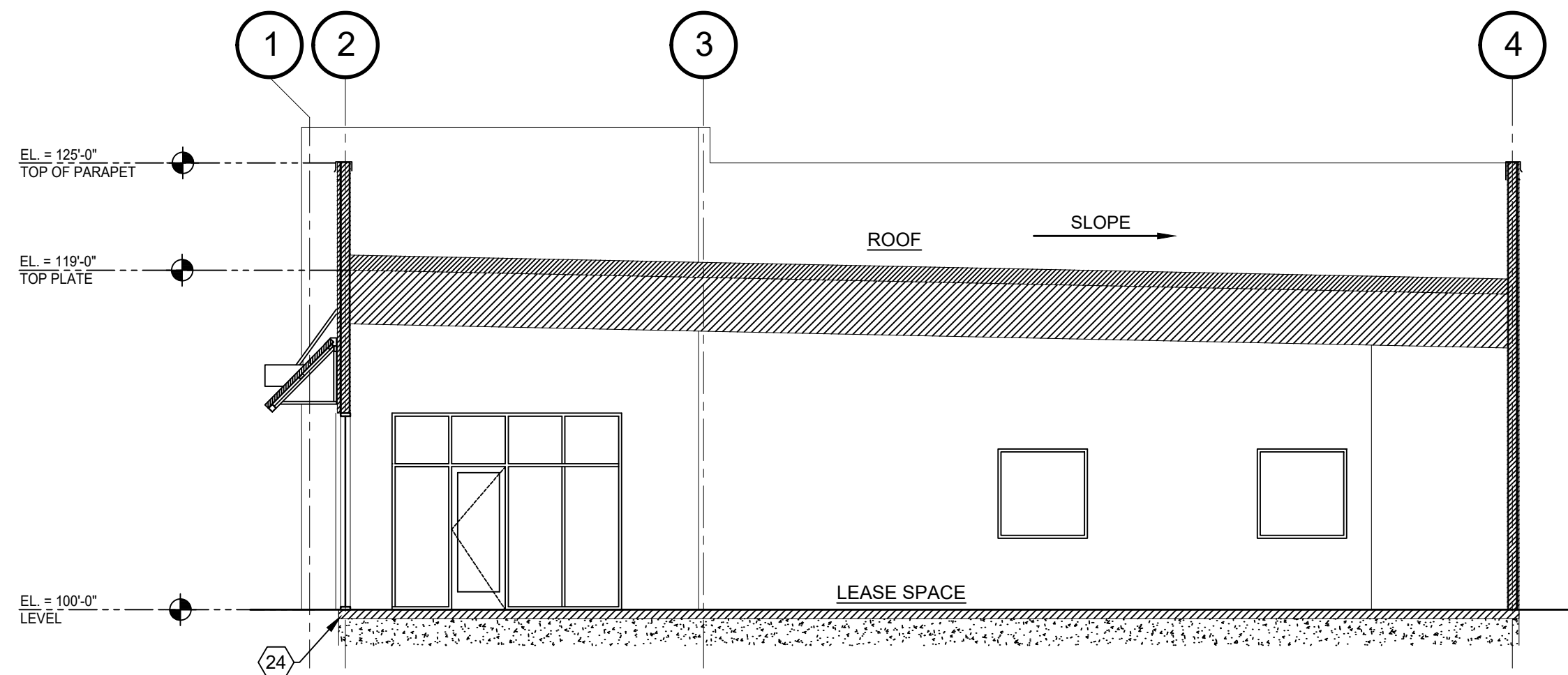
Sheet Number:  
A109  
Project Number:  
24-015



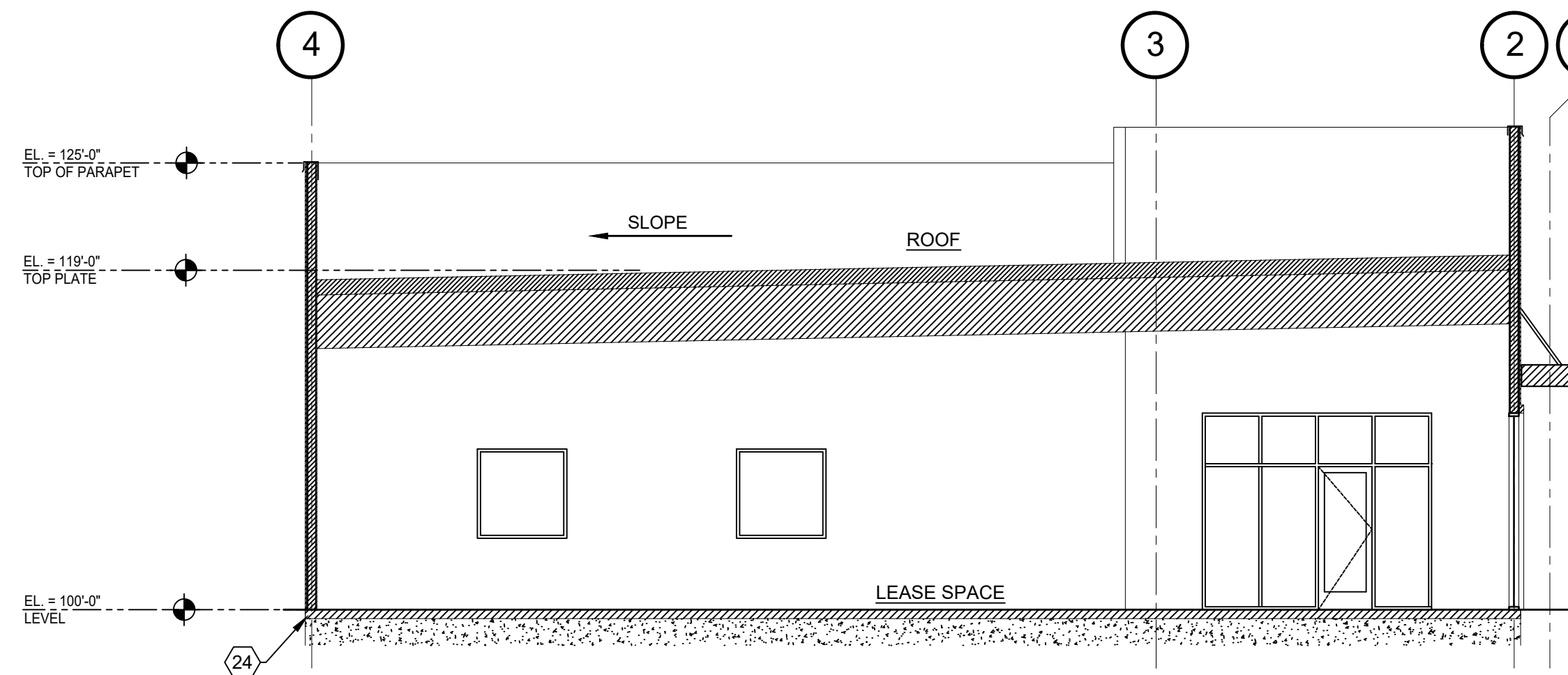
**C LONGITUDINAL SECTION**  
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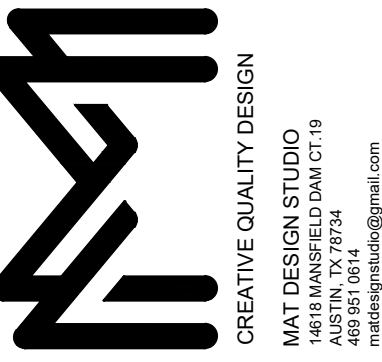
**D LONGITUDINAL SECTION**  
SCALE = 1/8"-1'-0"



**A CROSS-SECTION**  
SCALE = 1/8"-1'-0"



**B CROSS-SECTION**  
SCALE = 1/8"-1'-0"



Original Date: 00/00/2025  
Issue Log  
ISSUED FOR PERMIT: 00/00/2025  
ISSUED FOR CONSTRUCTION: 00/00/2025

DRAWN BY: MA/RB  
CHECKED BY: MA

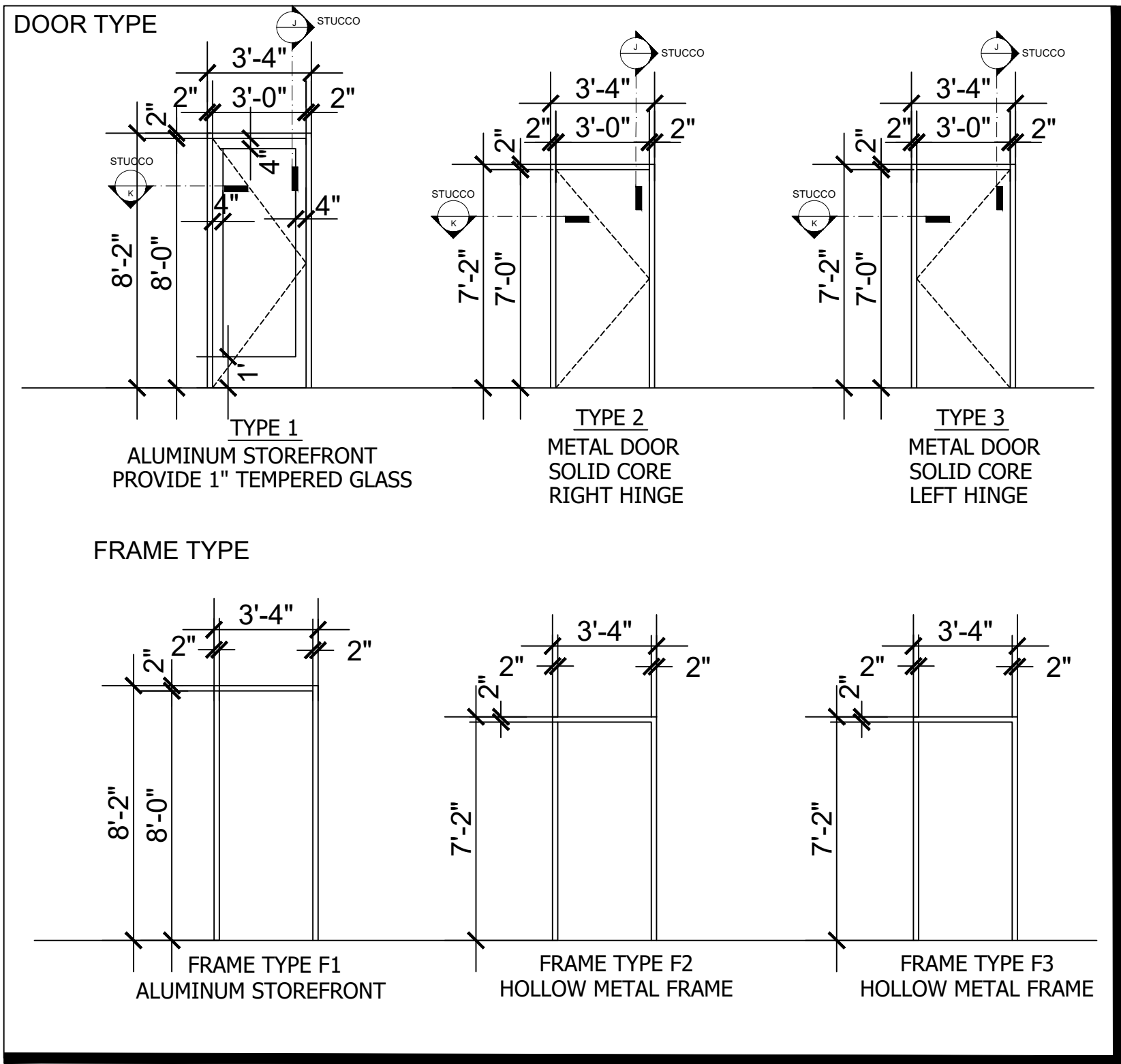
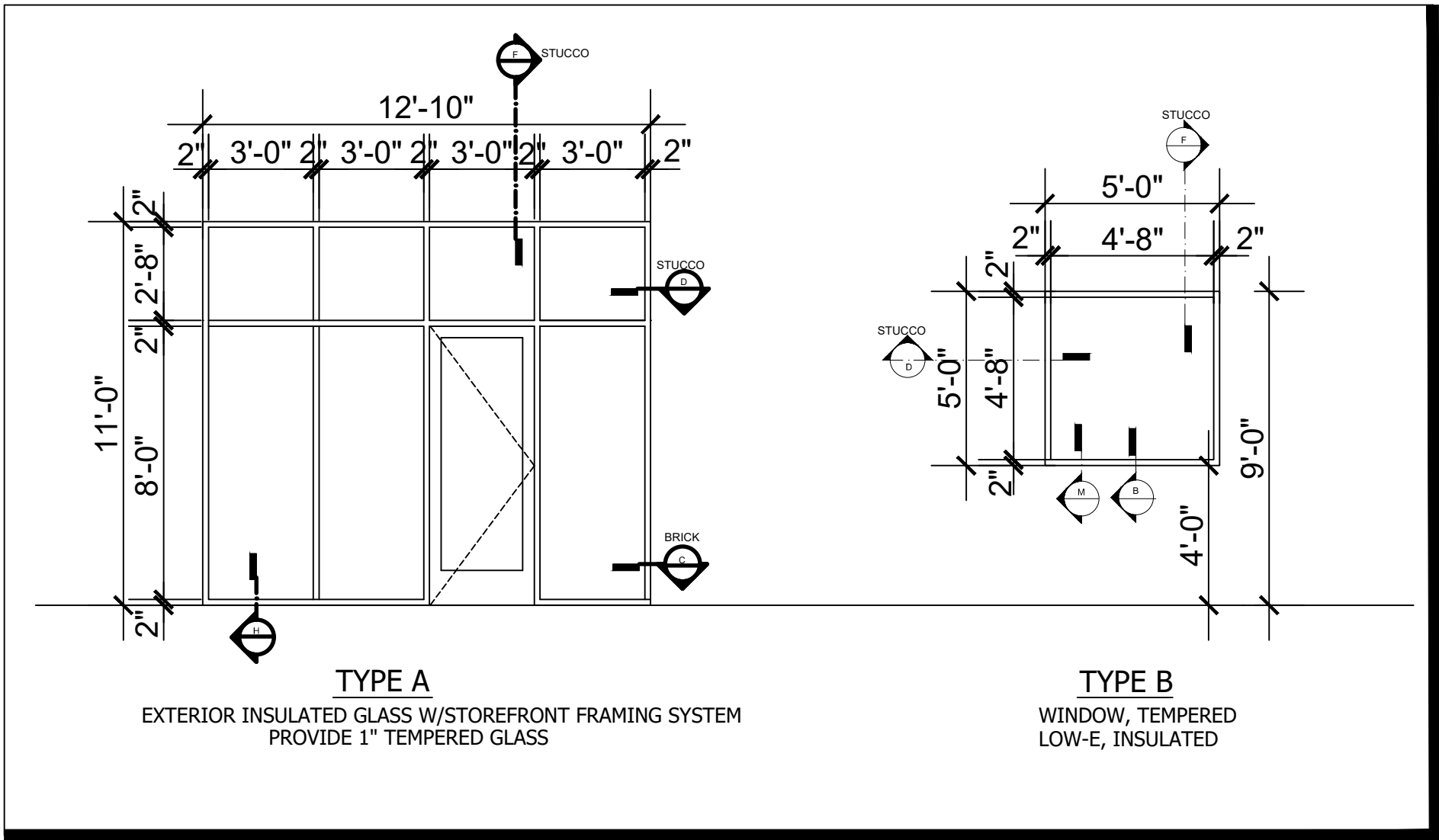
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Sheet Number: A110  
Project Number: 24-015





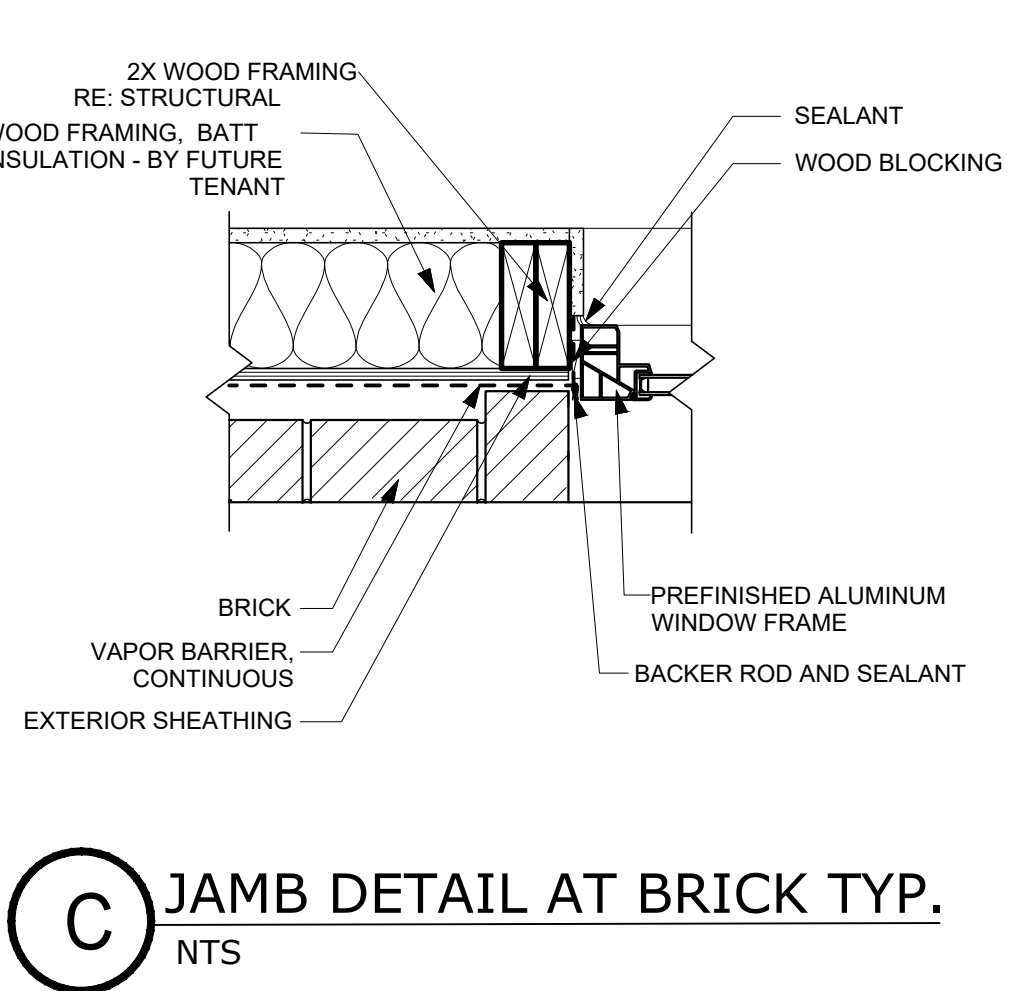
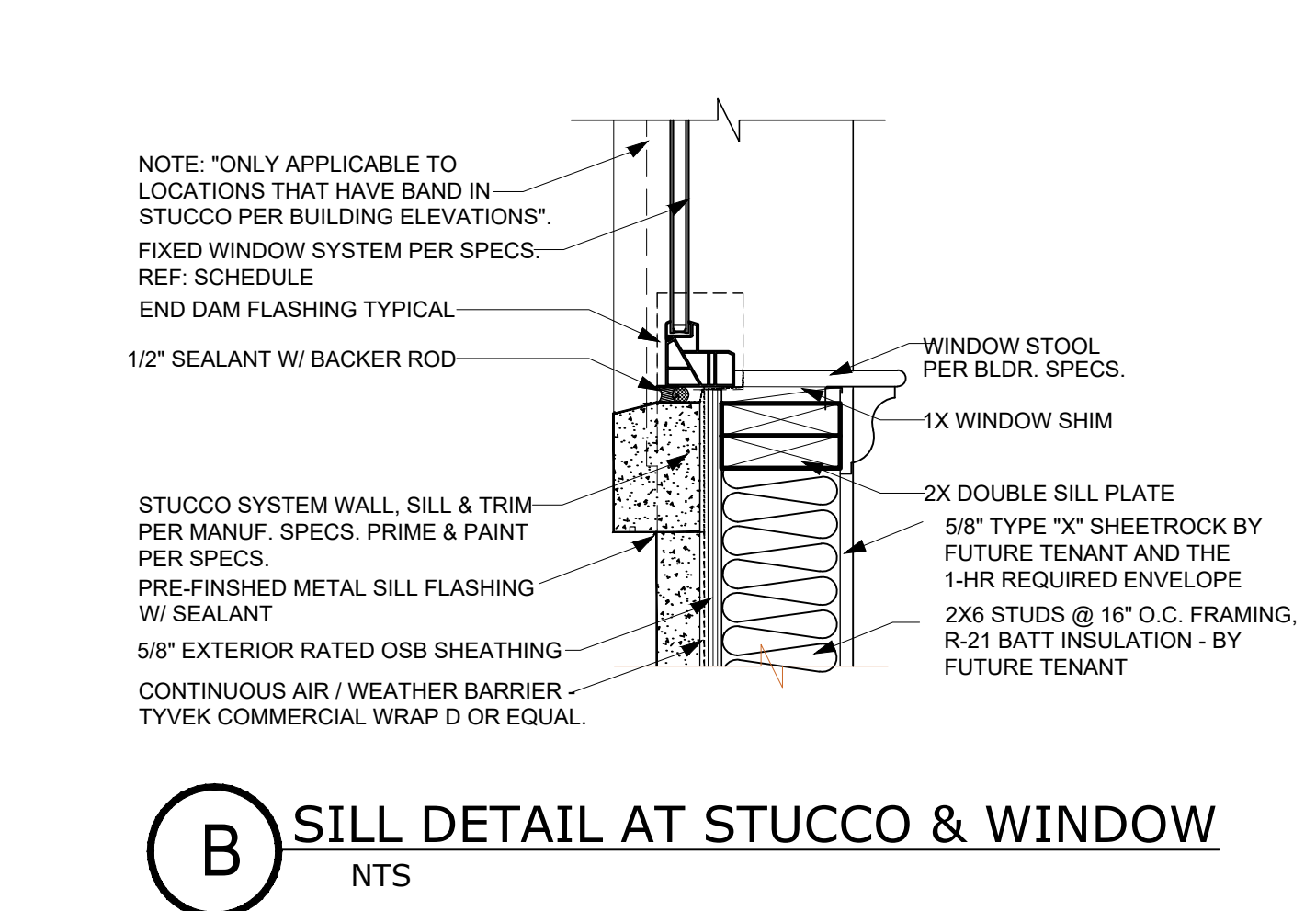
DOOR SCHEDULE											
NO.	DOOR				FRAME			FIRE RATING	HDW SETS	THRESHOLD	REMARKS
	SIZE	TYPE	MAT'L	FINISH	TYPE	MAT'L	FINISH				
100,101,102,103,104,105,106,107	3'-0" X 8'-0"	1	GLASS / AL	DARK BRONZE FINISH	F1	AL	DARK BRONZE FINISH	-	1		PROVIDE TINTED GLASS CHECK WITH OWNER
100A,101B, 102C,103D,104E, 105F	3'-0" X 7'-0"	2	HM	PAINTED (TYPICAL BLACK, SEE SPEC)	F2	HM	PAINTED (TYPICAL BLACK, SEE SPEC)	-	2		
108	3'-0" X 7'-0"	3	HM	PAINTED (TYPICAL BLACK, SEE SPEC)	F3	HM	PAINTED (TYPICAL BLACK, SEE SPEC)	1 HR. RATED	2		1 HR. RATED

ABBREVIATIONS: MC = INSULATED METAL CLAD; AL = ALUMINUM; HM = HOLLOW METAL

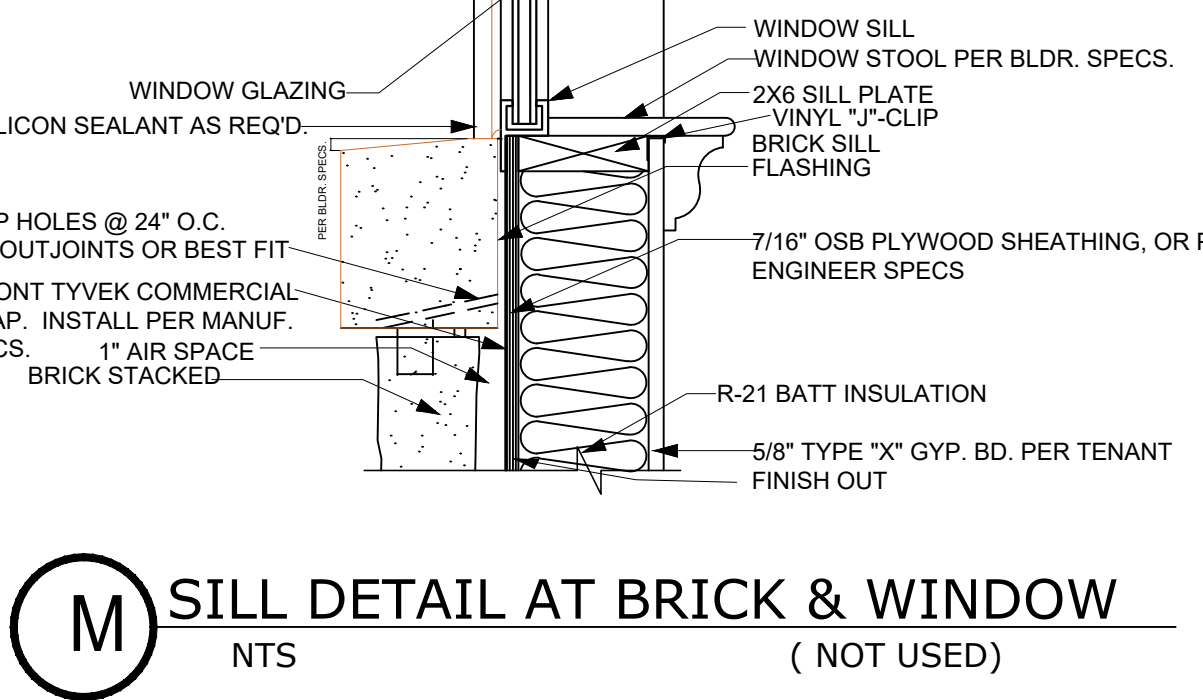
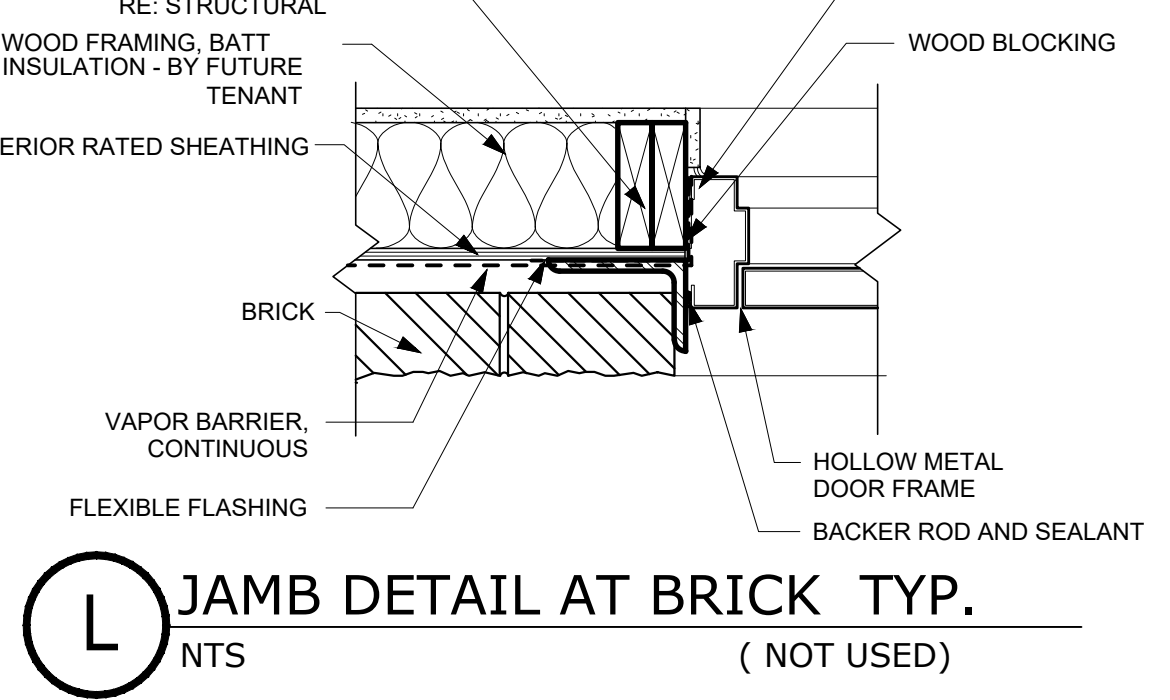
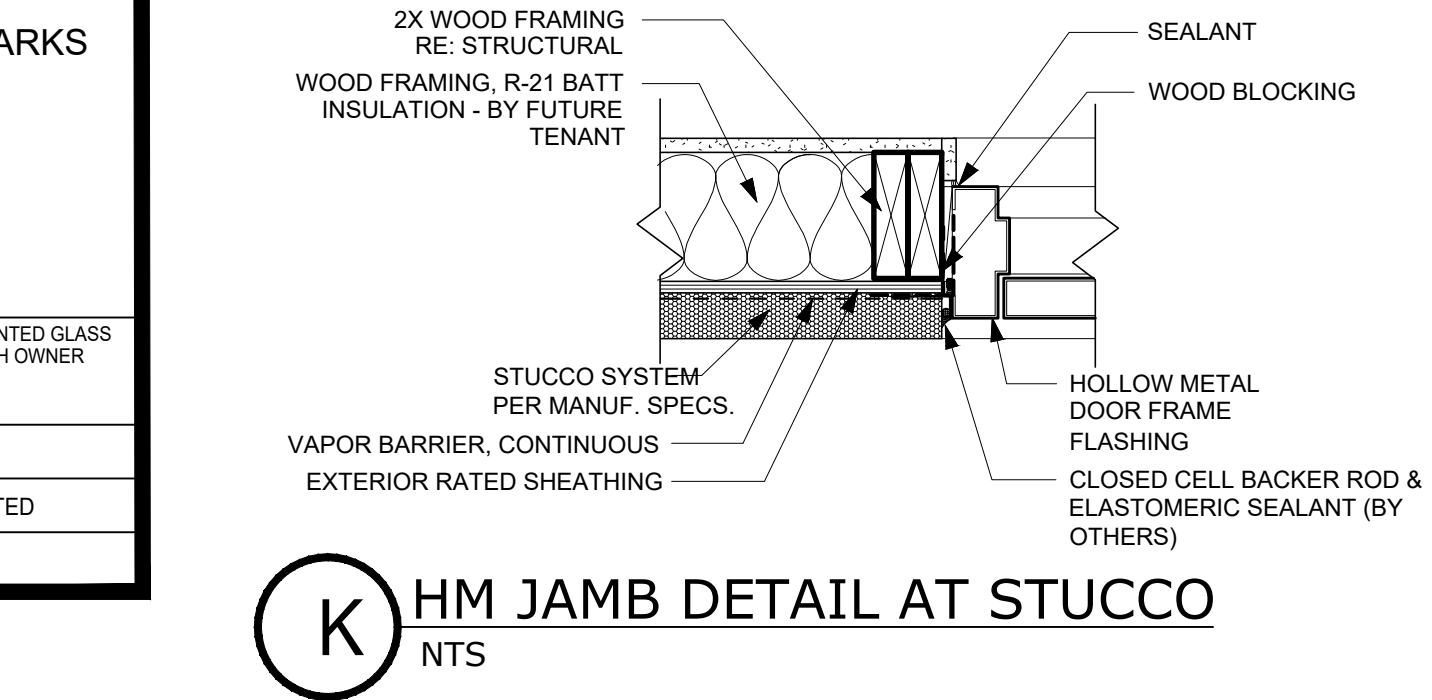
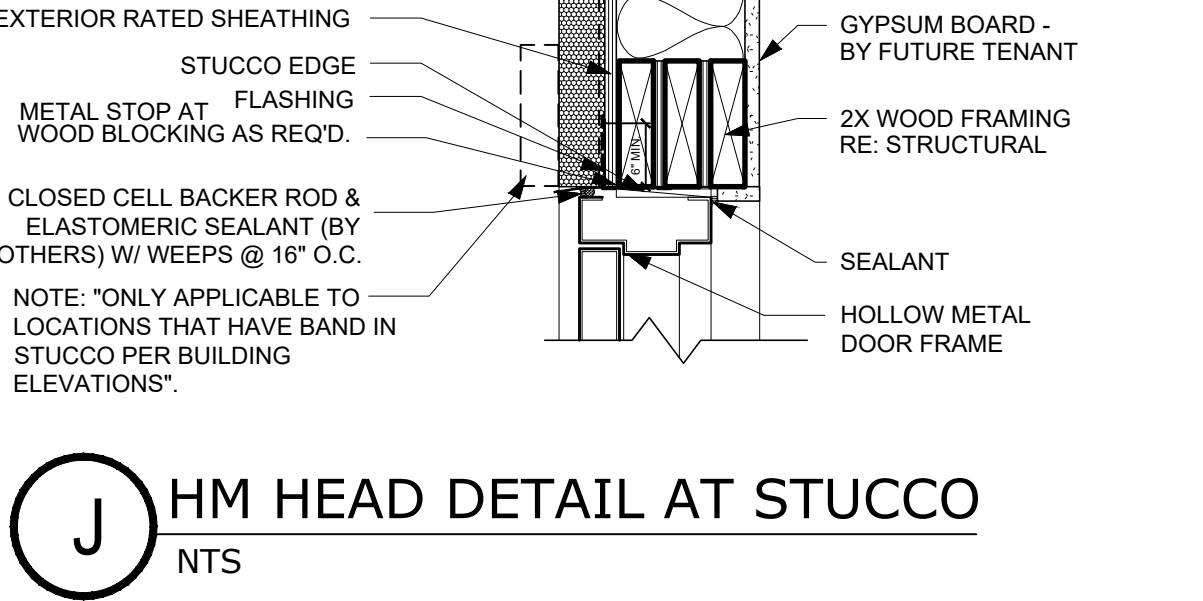
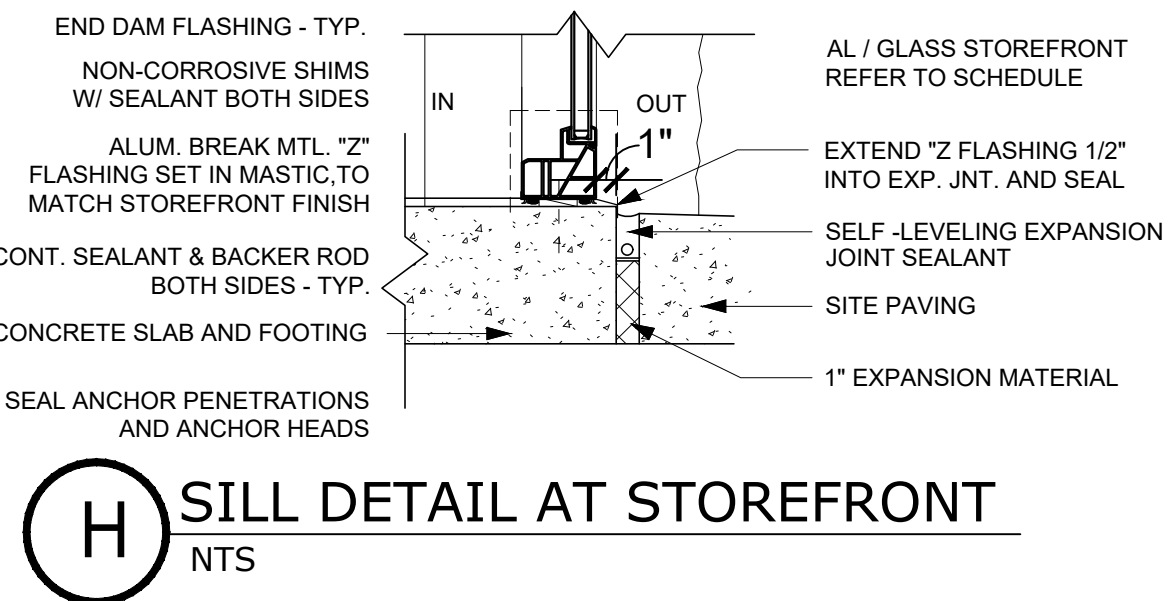
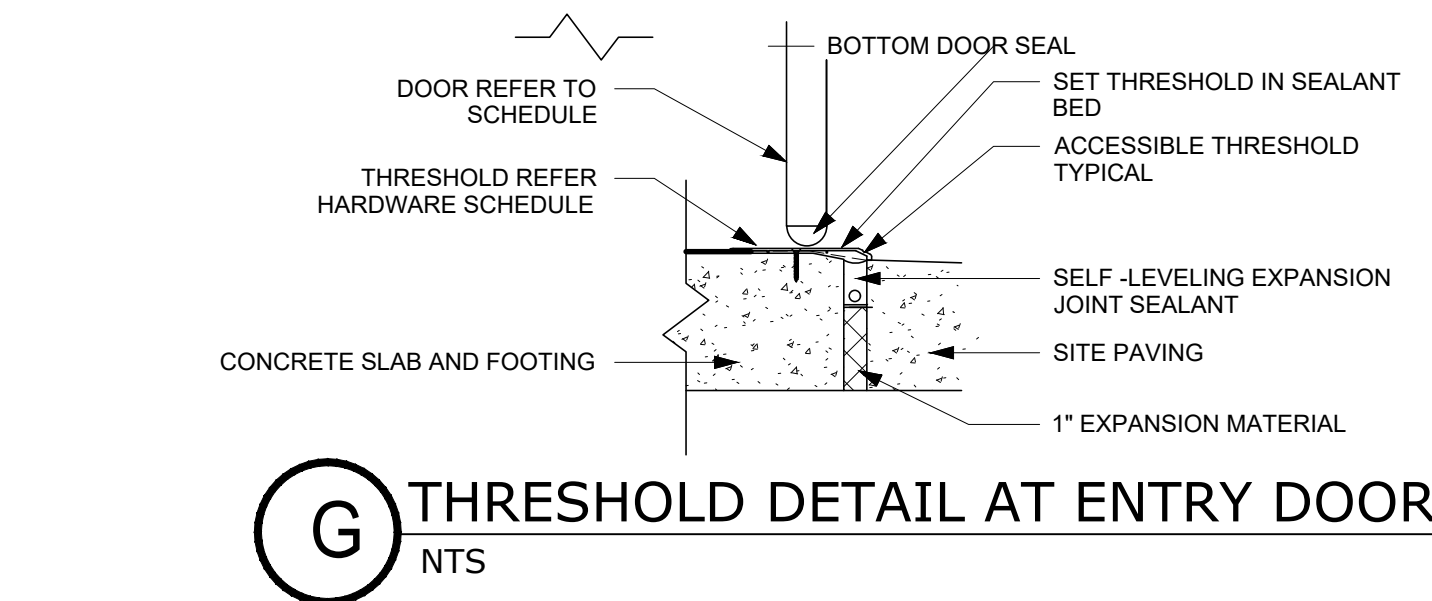
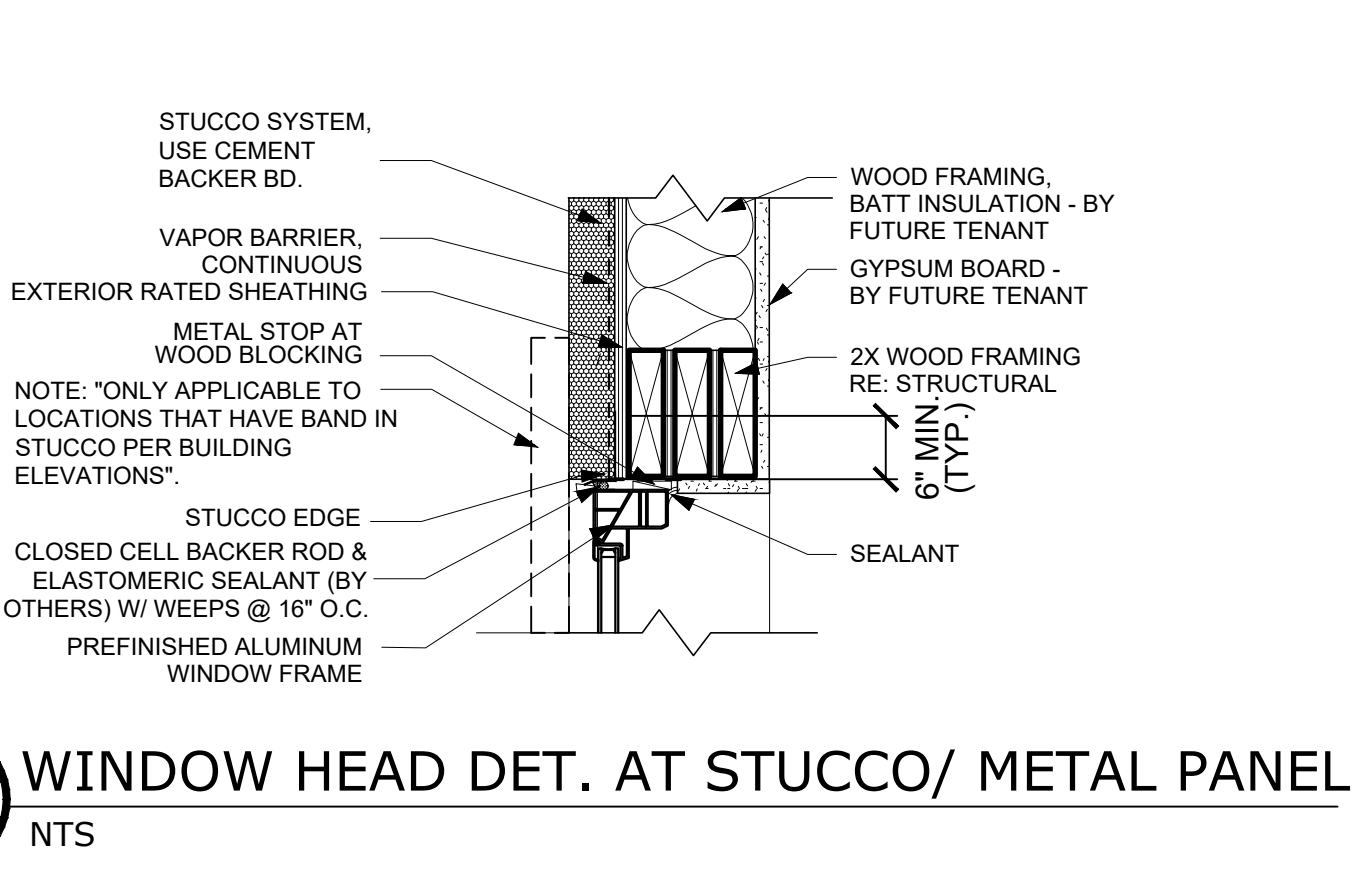
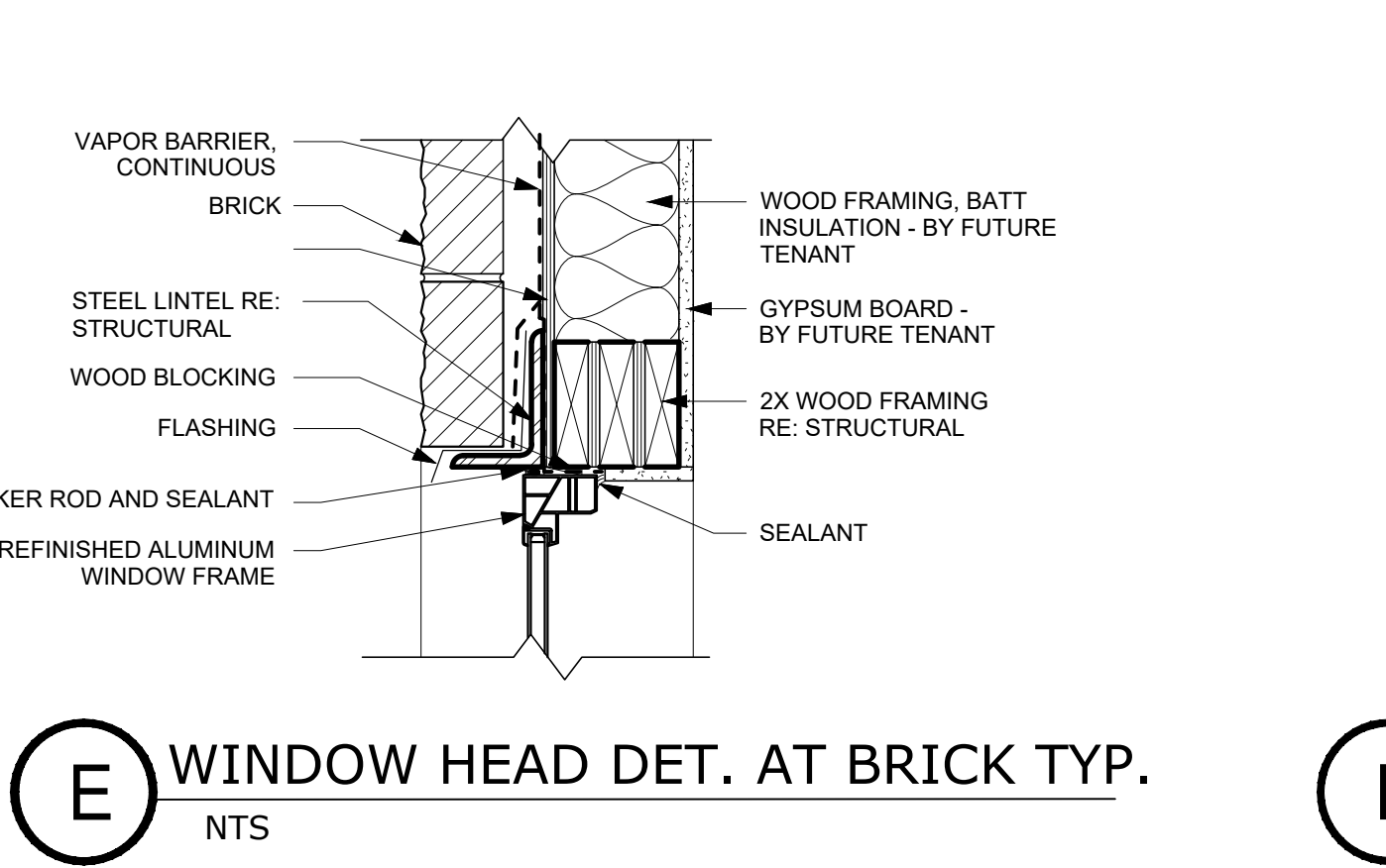
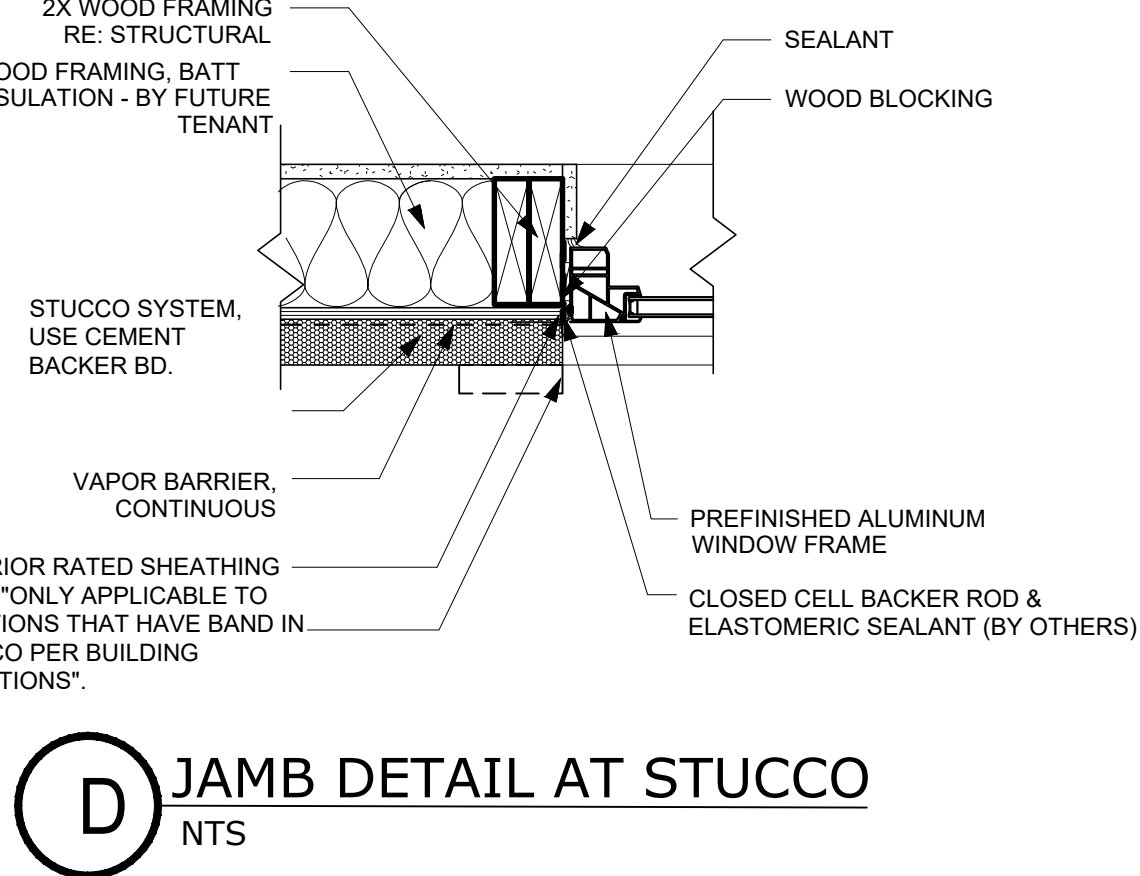
EXIT DOORS SHALL NOT REQUIRE SPECIAL TOOLS OR KNOWLEDGE TO OPERATE. DOUBLE KEY DEAD-BOLTS ARE NOT ALLOWED UNLESS DOOR IS PROVIDED WITH PANIC HARDWARE THAT OVERRIDES THE LOCKING MECHANISM.

STOREFRONT & WINDOW SCHEDULE						
NO.	SIZE	TYPE	GLASS	FRAME	MANF.	REMARKS
A	12'-10" X 11'-0"	FIXED GLS. / AL	TEMPERED 1" THK. / CLEAR LOW-E INSULATED GLASS, TINTED	DARK BRONZE	TBD	REFER TO ELEVATIONS, FOLLOW MANUFACTURER'S RECOMMENDATIONS
B	5'-0" X 5'-0"	FIXED GLS. / AL	TEMPERED 1" THK. / CLEAR LOW-E INSULATED GLASS, TINTED	DARK BRONZE	TBD	REFER TO ELEVATIONS, FOLLOW MANUFACTURER'S RECOMMENDATIONS

NOTE: ALL WINDOW & DOOR FRAMES TO MATCH



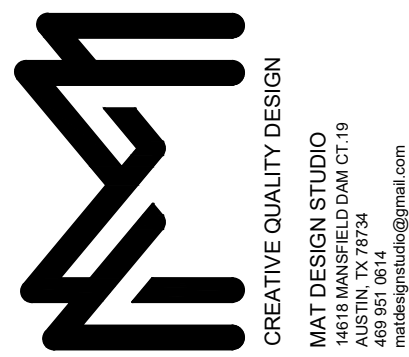
- DOOR NOTES :**
- ALL EXTERIOR DOORS WITH FRAMES ARE TO BE INSULATED, U.N.O.
  - FIELD VERIFY ALL ROUGH OPENINGS PRIOR TO SUBMITTING SHOP DRAWINGS.
  - THRESHOLDS AT DOORWAYS SHALL NOT EXCEED 2" IN HEIGHT. RAISED THRESHOLDS AND FLOOR LEVEL CHANGES AT ACCESSIBLE DOORWAYS SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2. DOOR HARDWARE, HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. LEVER OPERATED MECHANISMS, PUSH-TYPE MECHANISMS AND U-SHAPED HANDLES ARE ACCEPTABLE DESIGNS. HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISHED FLOOR.
  - THE MAX PULL/PUSH EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5LBS WITH EFFORT APPLIED AT RIGHT ANGLES TO HINGED DOORS. WHEN FIRE DOORS ARE UTILIZED, THE MAX EFFORT MAY BE INCREASED TO NOT EXCEED 15 LBS.
  - DOOR CLOSER, IF A DOOR HAS A CLOSER, THEN THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3 IN (75MM) FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.
  - HEIGHT AND LENGTH DIMENSIONS SHOWN FOR DOOR, STOREFRONTS ETC. ARE ROUGH OPENING DIMENSIONS, CONTRACTOR TO REDUCE APPROPRIATE FRAME DIMENSION TO FIT THE FRAME IN THE ROUGH OPENING.
- HARDWARE NOTES :**
- ALL DOOR HARDWARE TO BE ADA / TAS COMPLIANT
  - PROVIDE LEVER-STYLE LATCHSETS AND LOCKSETS FOR ALL DOORS WITH SATIN/STAINLESS STEEL FINISH
  - INTERIOR GLAZING SHALL BE SINGLE PANE, 1/4" CLEAR TEMPERED GLASS
  - THE HARDWARE SETS THAT INCLUDES FINAL CORES - CONTRACTOR TO USE CONSTRUCTION CORE DURING CONSTRUCTION. CONTRACTOR TO CHECK WITH THE OWNER.
  - FINAL KEYING TO BE PROVIDED BY HARDWARE SUBCONTRACTOR IN COORDINATION WITH THE OWNER.
  - PROTECT EXISTING WINDOWS DURING CONSTRUCTION AND CLEAN THOROUGHLY BEFORE TURN OVER OF THE PROJECT.



DOOR HARDWARE			
SET 1 ALUMINUM STOREFRONT DOORS		SET 2 METAL DOOR	
PIVOTS:	CAST ALUMINUM ALLOY WITH STEEL PINS OFFSET PIVOTS AT DOOR OVER 7' 0"	3 BUTT HINGES	1 LEVER TYPE HANDLE WITH KEYED LOCKSET
LOCKSET:	ADAMBRITE MS 185S 3PT LATCH WITH BEST CYLINDERS #408 POSITIONER FLIP UP TYPE WITH RUBBER SHOE	CLOSER: ADD PER OWNER APPROVAL SARGENT 1100 SERIES WALL OR FLOOR STOP:	SILENCERS: DOOR SWEEP: KERF STYLE SWEEP
DOOR STOPS:	LCN #2036	THRESHOLDS:	RAIN Drip GUARD: WEATHERSEAL:
CLOSER:	WEATHERSTRIPPING: ALL SIDES, MANUFACTURER'S RECOMMENDATION	EXTRUDED ALUM IN MTL FINISH, OVERALL HT. OF 1/2" PERING EQUAL OR MANUF. RECOMMENDATION	STD. ALUM STYLE F-2 OR MANUF. RECOMMENDATION FULL DOOR WIDTH, EXTERIOR UP, OUT DOORS.
THRESHOLD:	STD. ALUM STYLE F-2, FULL DOOR WIDTH, ALL DOOR LEAFS ON PUSH SIDE OF DOORS		
PANIC HARDWARES OR PUSH BARS:			
WEATHERSEAL:			
PULL HANDLES:			
DOOR SWEEP:	KERF STYLE SWEEP		

NOTE: ALL CYLINDERS SHALL BE KEYPED ALIKE, PROVIDE TWO (2) KEYS AND ONE (1) CONTROL KEY.

- NOTES:
- TO ENSURE A CONTINUOUS AIR BARRIER ACROSS THE BUILDING ENVELOPE, A CONTINUOUS AIR SEAL SHOULD BE MADE AT EACH SUBSTRATE CHANGE, JOINTS/GAPS, PENETRATIONS AND DISSIMILAR MATERIAL TERMINATIONS. ALWAYS POSITIVELY SHINGLE AIR VAPOR BARRIER/ FLASHING TO ELIMINATE WATER LEAKS. USE MANUFACTURER RECOMMENDED DETAIL.
  - DO NOT USE PLASTIC TRACK AT WINDOW HEAD.



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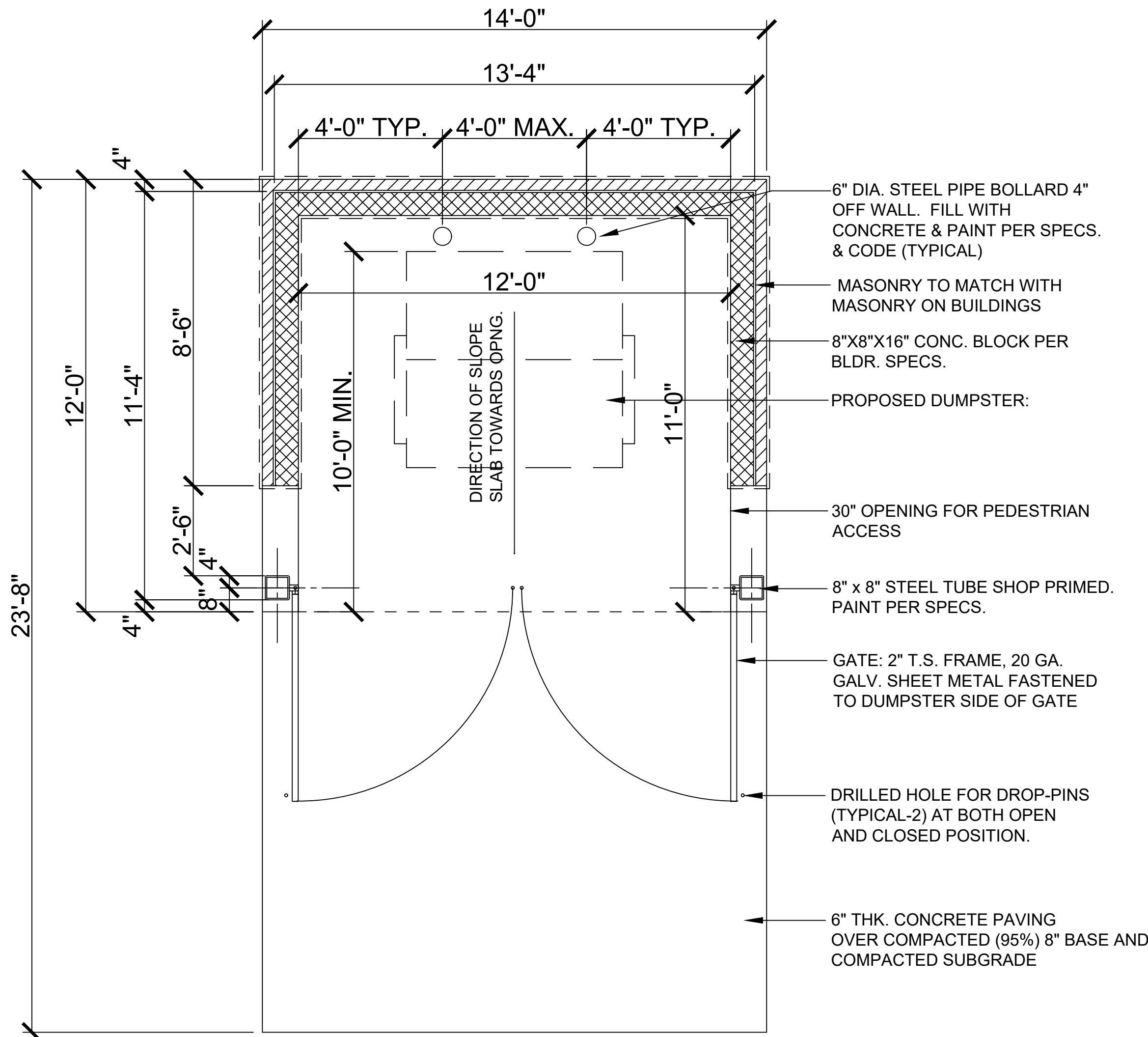
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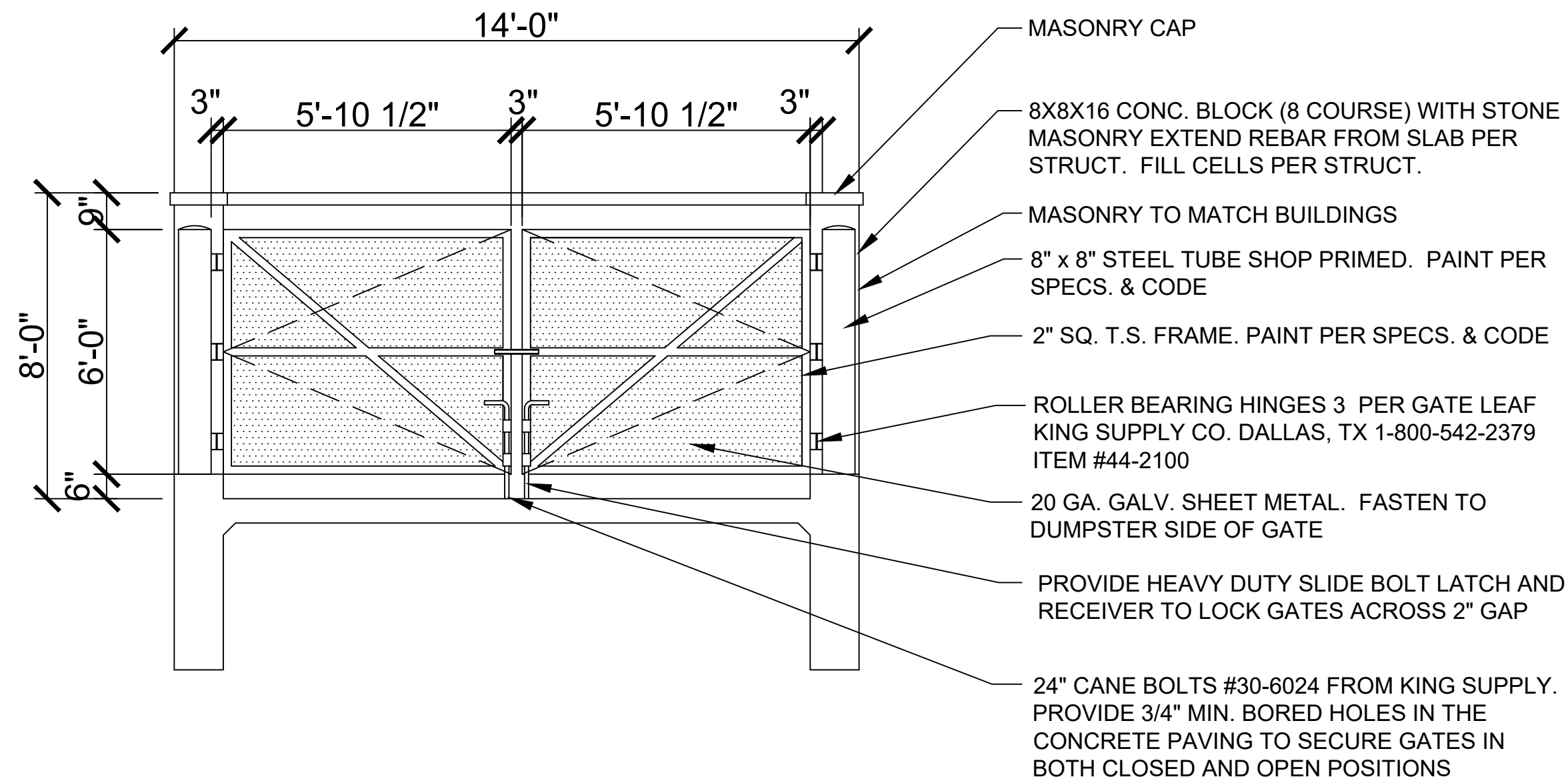
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Project Number: 24-015





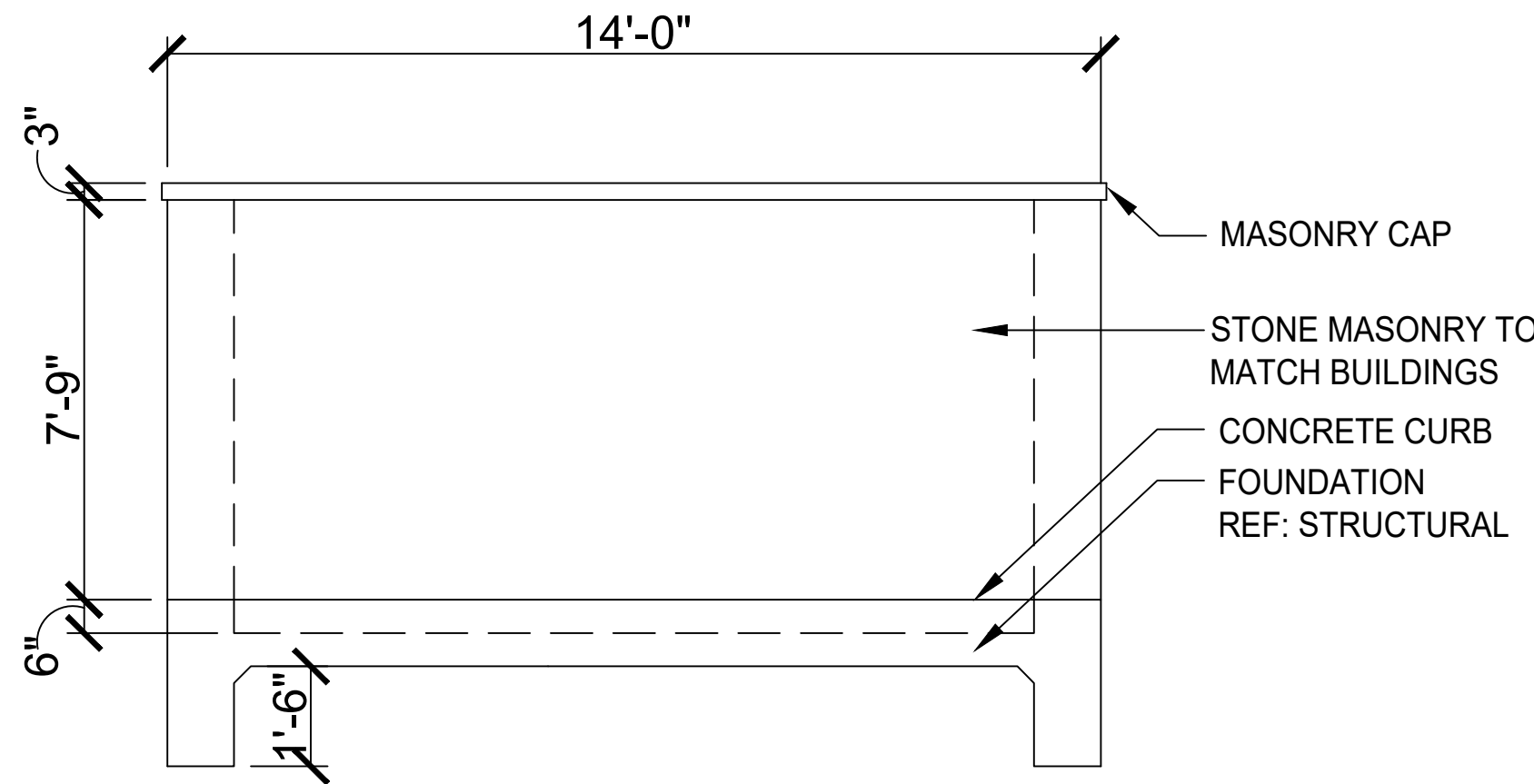
**A** DUMPSTER PLAN

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



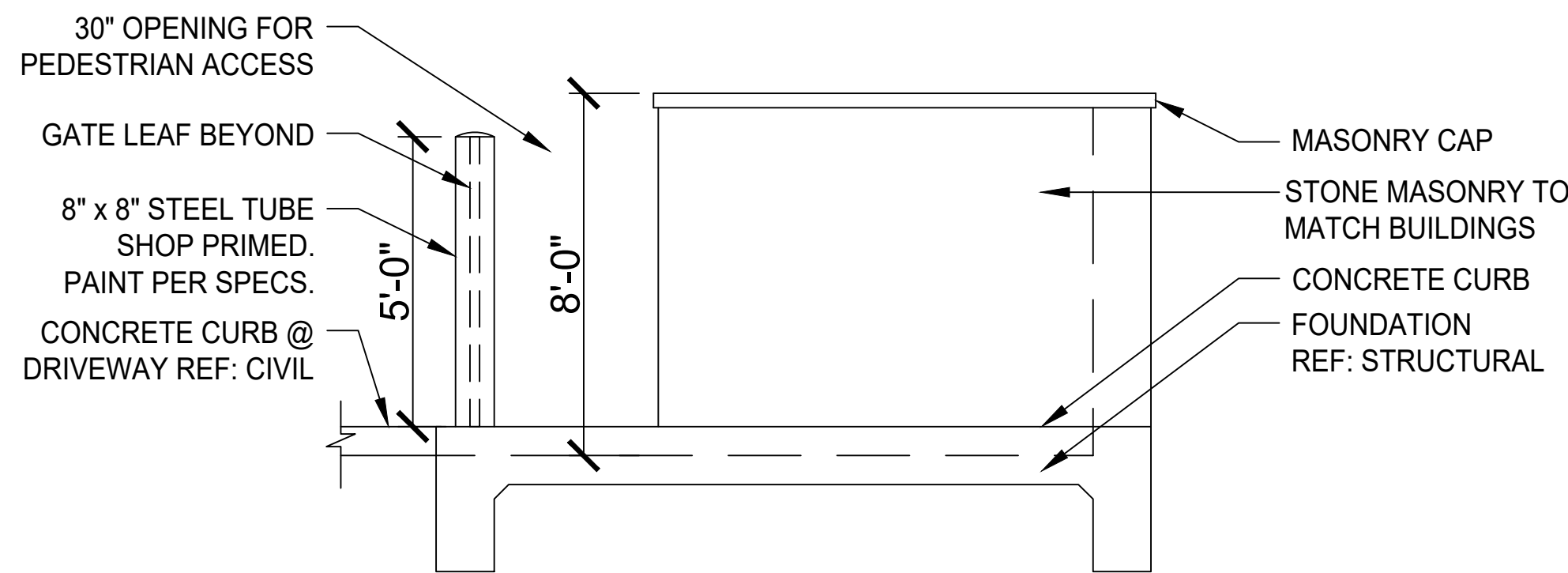
**B** DUMPSTER ELEVATION

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



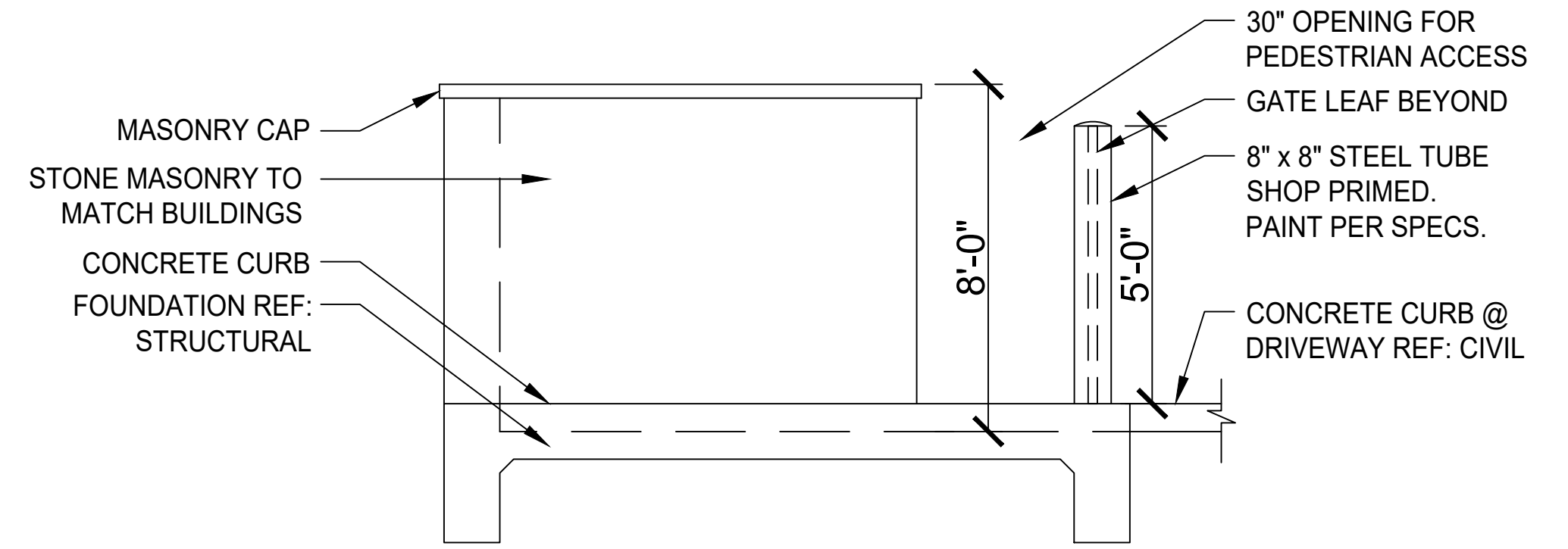
**C** DUMPSTER ELEVATION

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



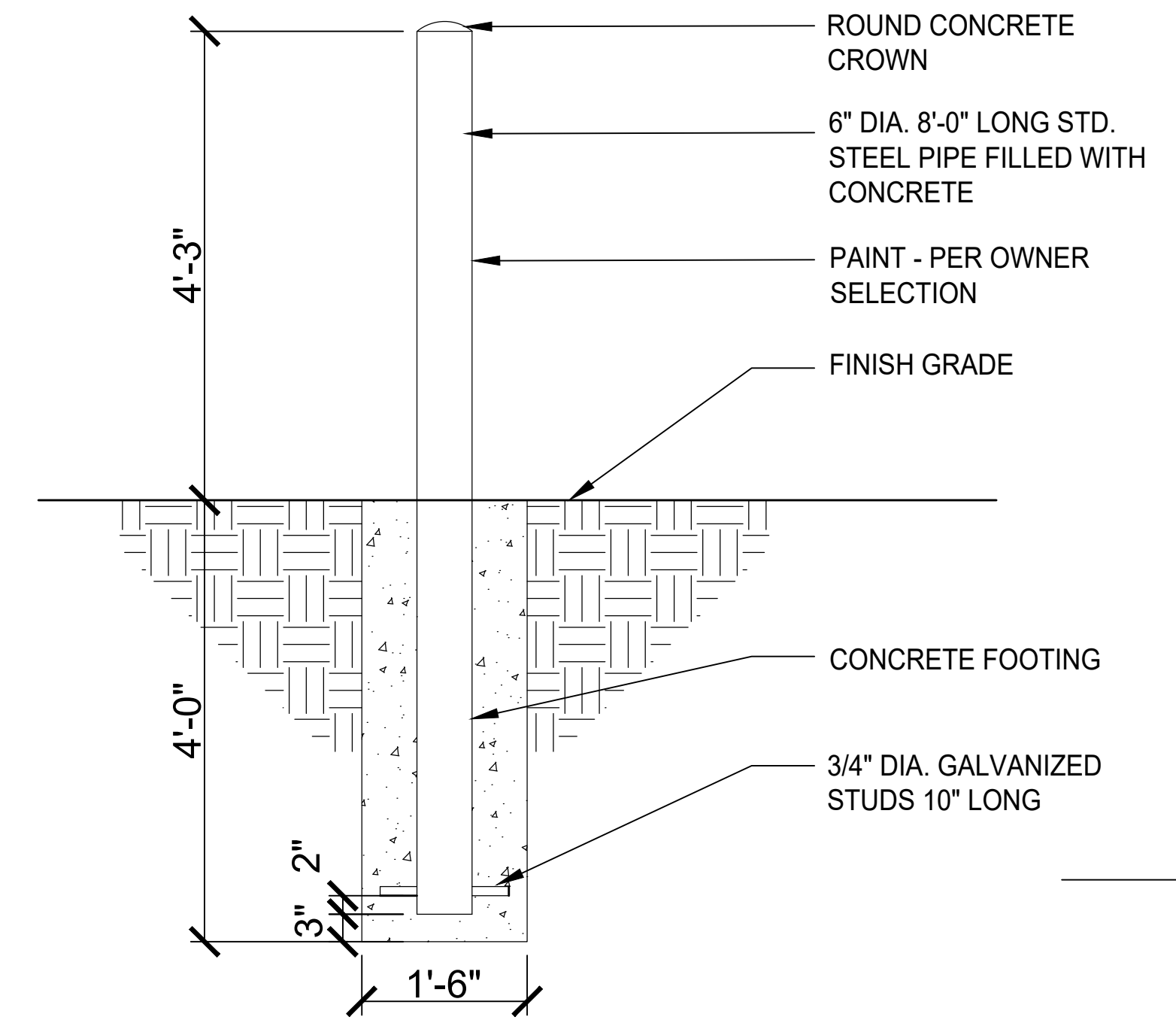
**D** DUMPSTER DETAIL

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



**E** DUMPSTER DETAIL

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



**F** BOLLARD DETAIL

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



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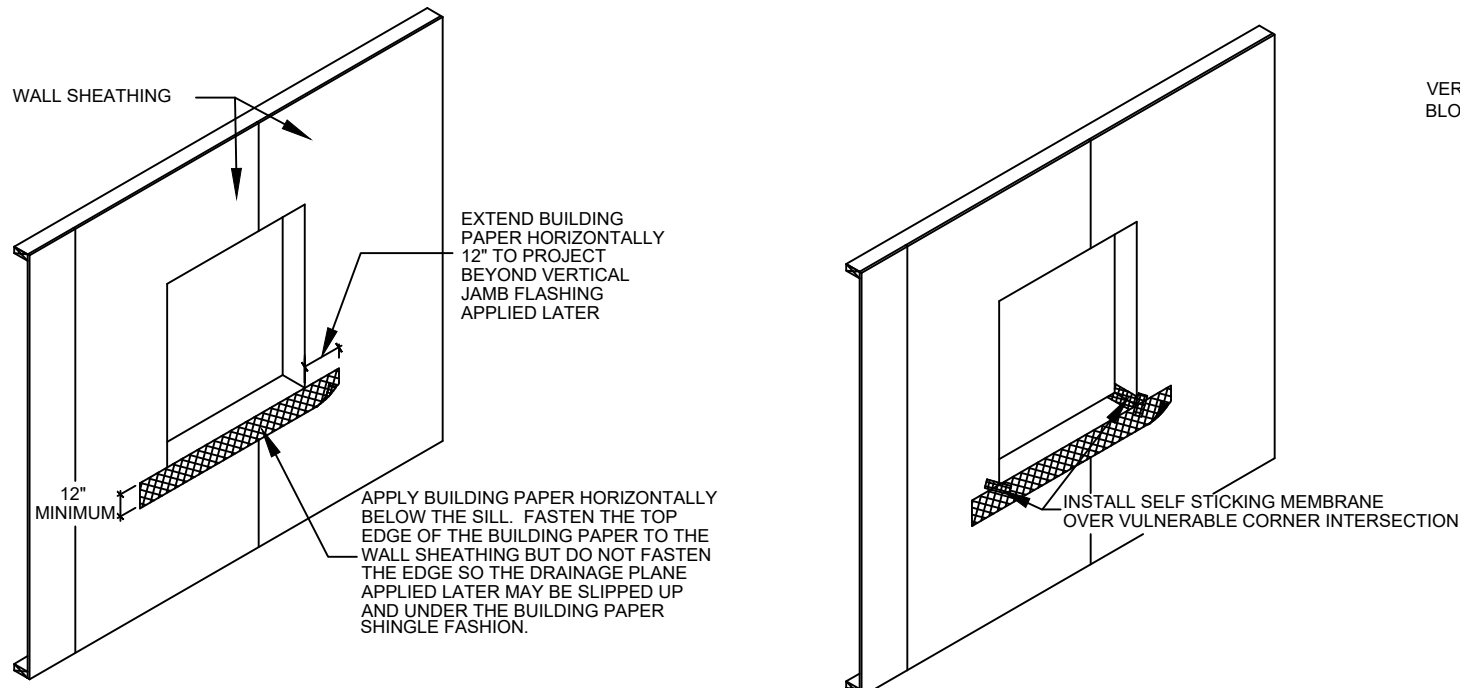
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Project Number:

24-035

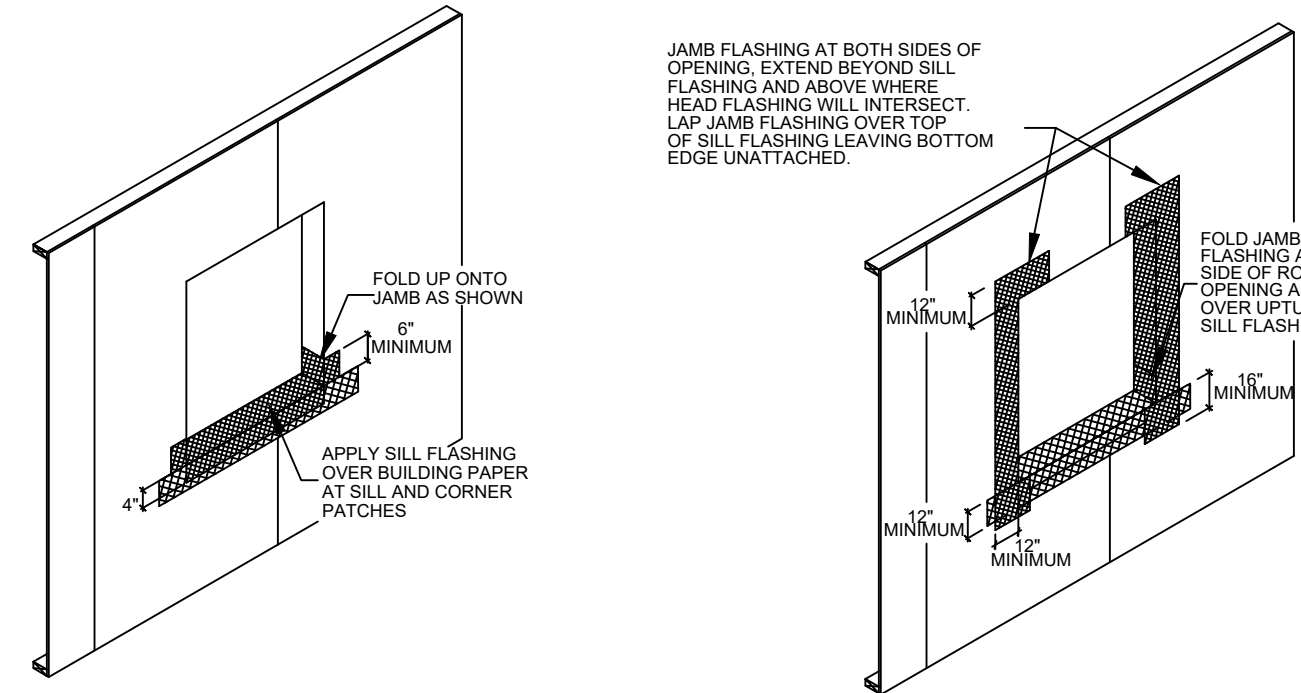


INFORMATION OBTAINED FROM:  
BUILDER'S GUIDE  
JOSEPH LSTIBUREK, PH.D., P.ENG.  
2009



STEP 1 BUILDING PAPER AT SILL

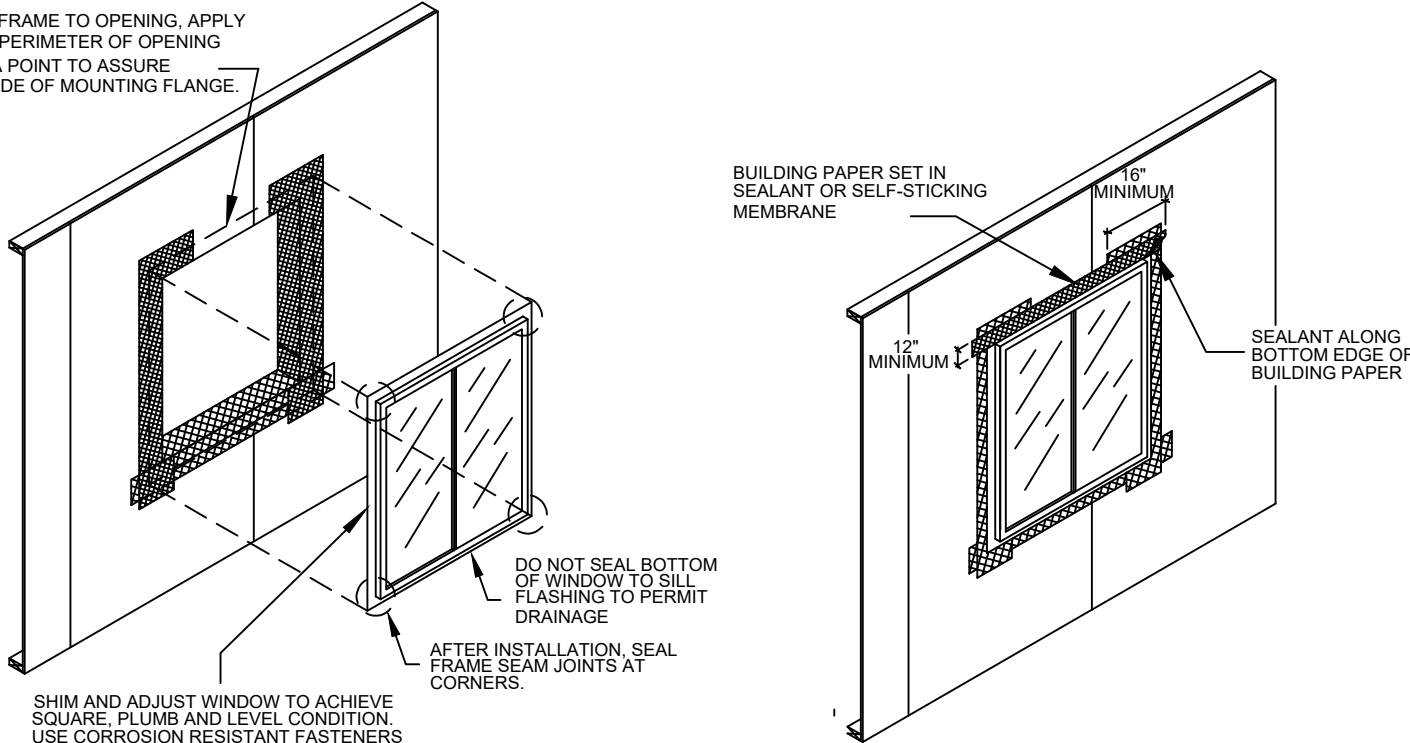
STEP 2 CORNER PATCH



STEP 3 SILL FLASHING

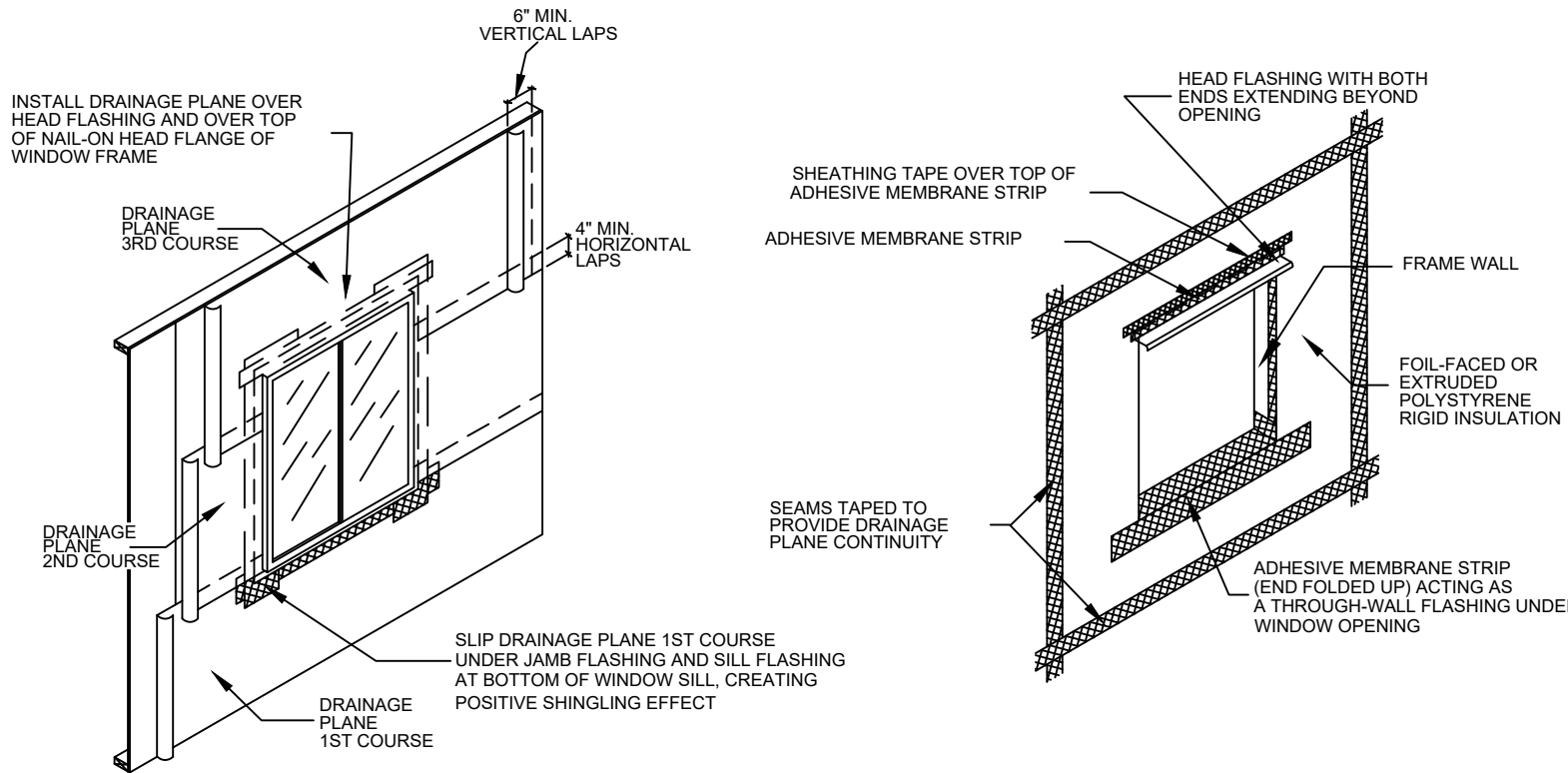
STEP 4 JAMB FLASHING

TO SEAL THE WINDOW FRAME TO OPENING, APPLY CONTINUOUS SEAL TO PERIMETER OF OPENING (EXCEPT BOTTOM) AT A POINT TO ASSURE CONTACT WITH BACKSIDE OF MOUNTING FLANGE



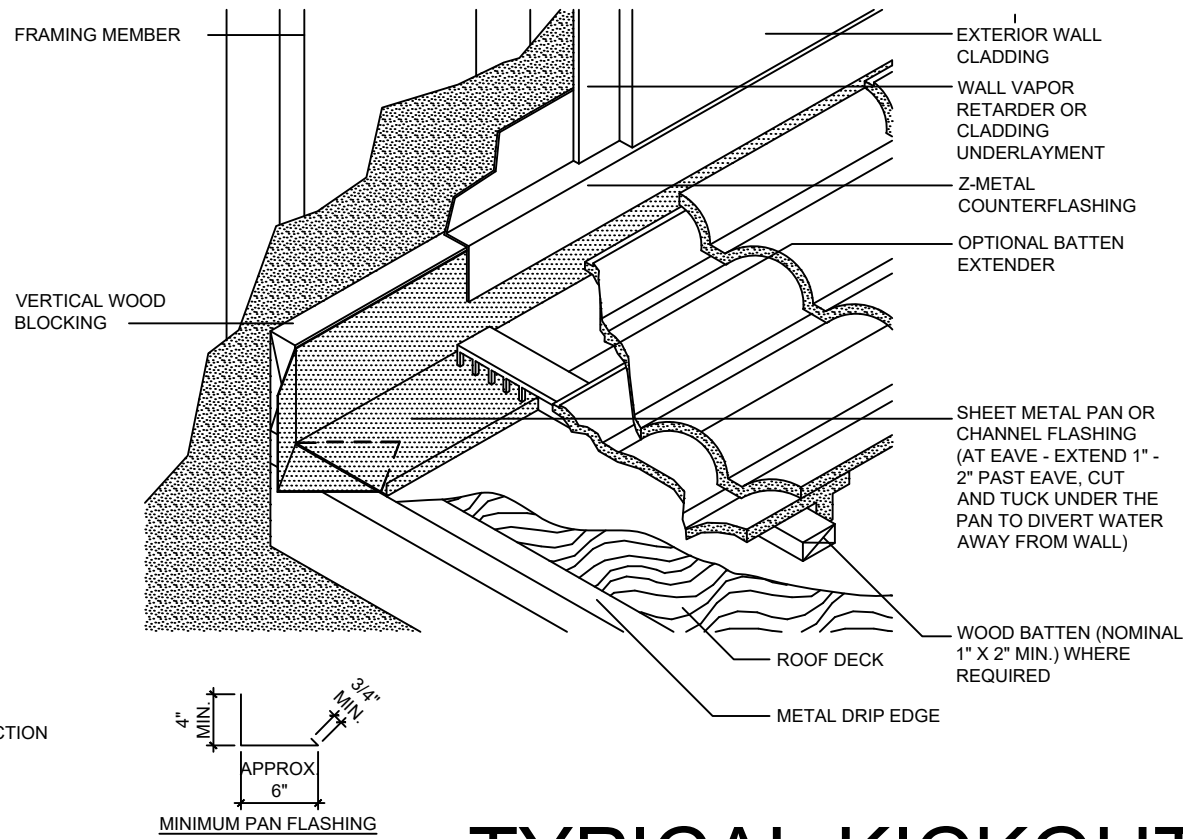
STEP 5 WINDOW INSTALLATION

STEP 6 BUILDING PAPER OVER TOP NAILING FLANGE



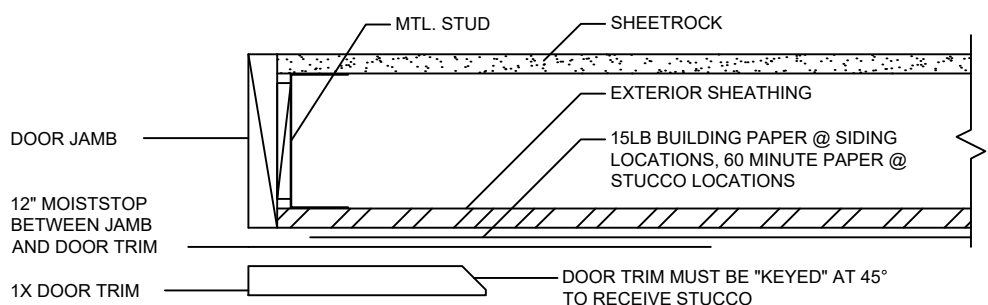
STEP 7 DRAINAGE PLANE APPLICATION

STEP 8 TAPED RIDGID INSULATION AS DRAINAGE PLANE



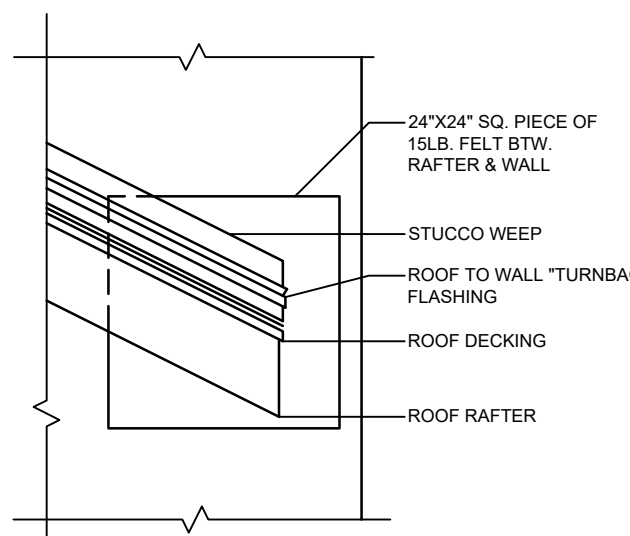
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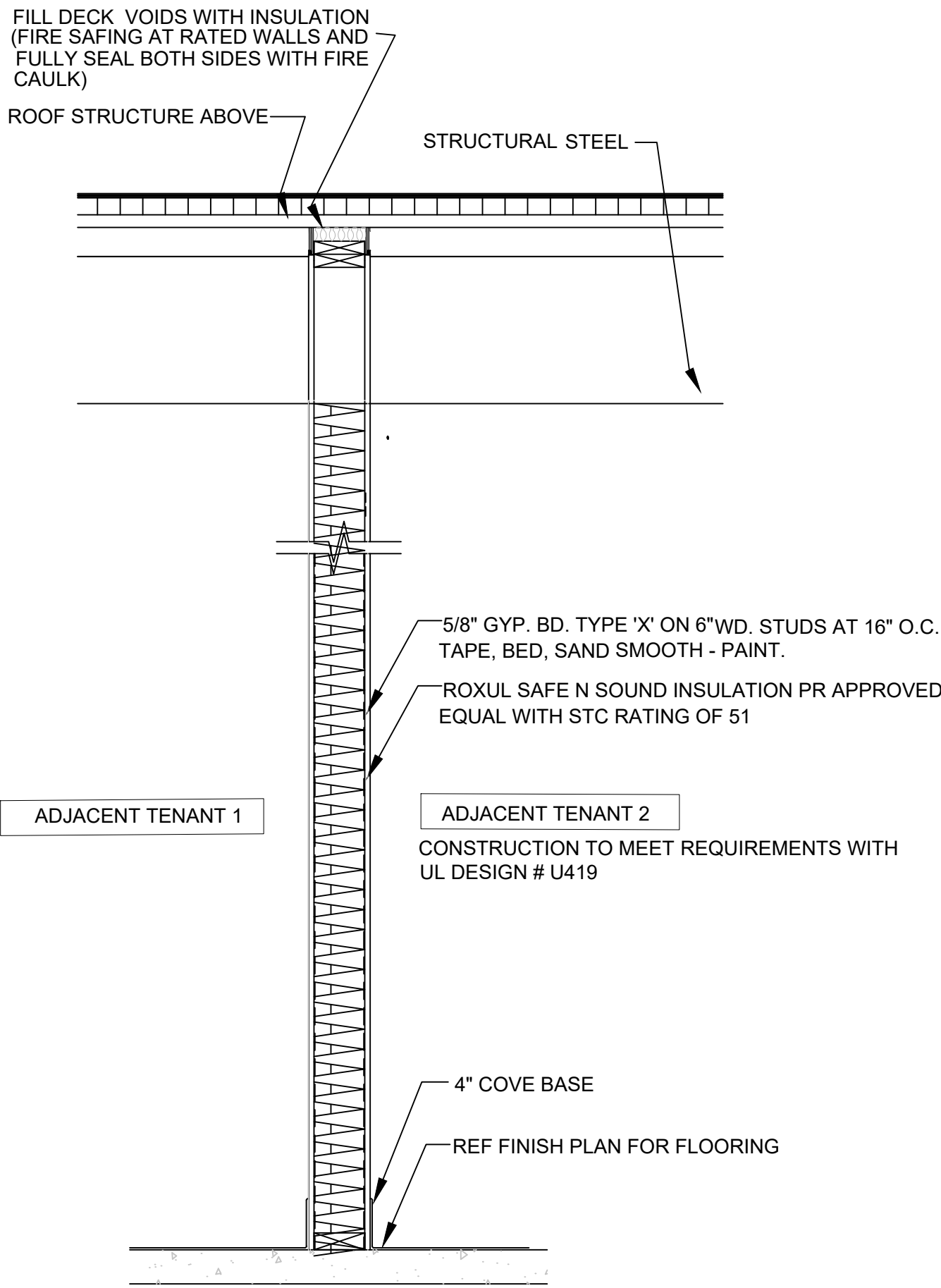
## TYPICAL JAMB FLASHING DETAIL

SCALE: N.T.S.



## ROOM TO WALL MTL. FLASHING DET

SCALE: N.T.S.



## TYPICAL DEMISING WALL DETAIL

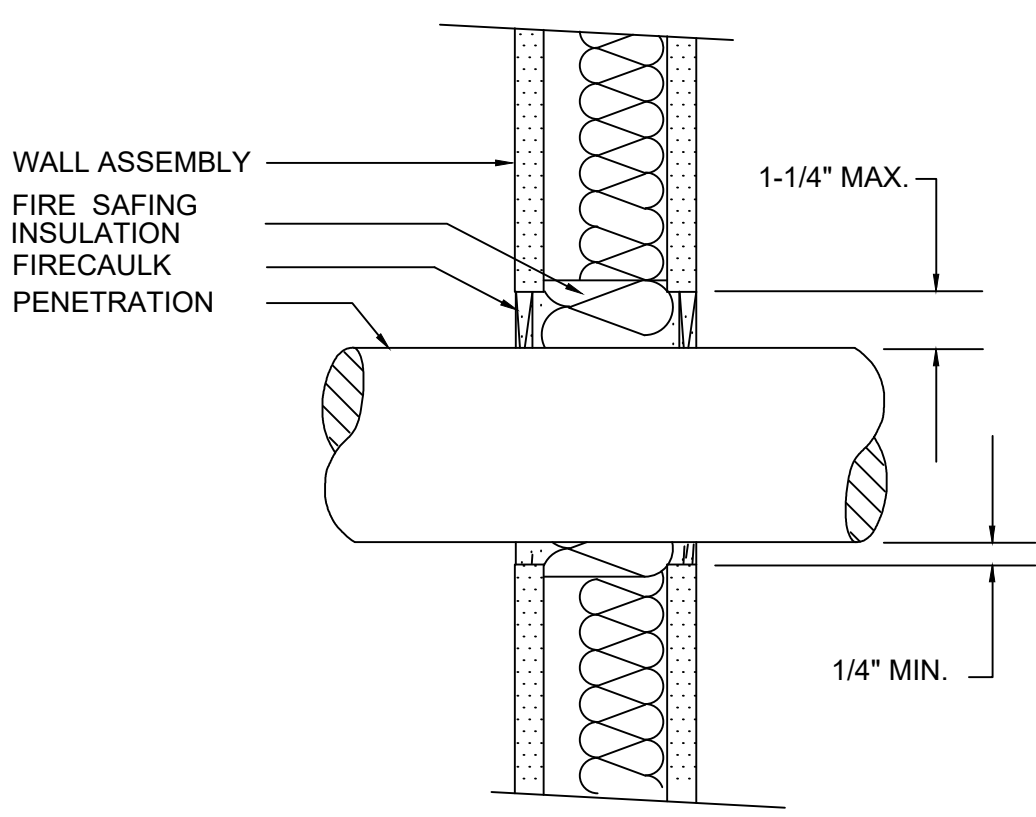
NTS 1 HR RATED / UL # U419

NOTE:

- PENETRATIONS IN AND PERIMETER OF FIRE RATED WALLS SHALL BE FIRE STOPPED AND SEALED WITH UL APPROVED MATERIALS.
- WALL ASSEMBLIES SHALL COMPLY WITH UL# U419.

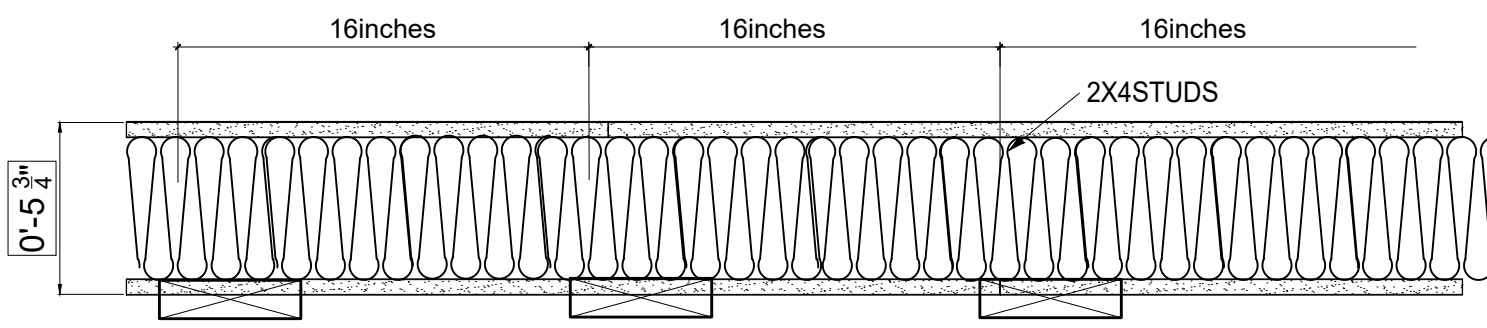
NOTE:

TENANT DEMISING WALLS ARE NOT REVIEWED UNDER THIS PERMIT AND ARE SHOWN FOR POTENTIAL LOCATION REFERENCE ONLY.



## WALL PENETRATION DETAIL

NTS

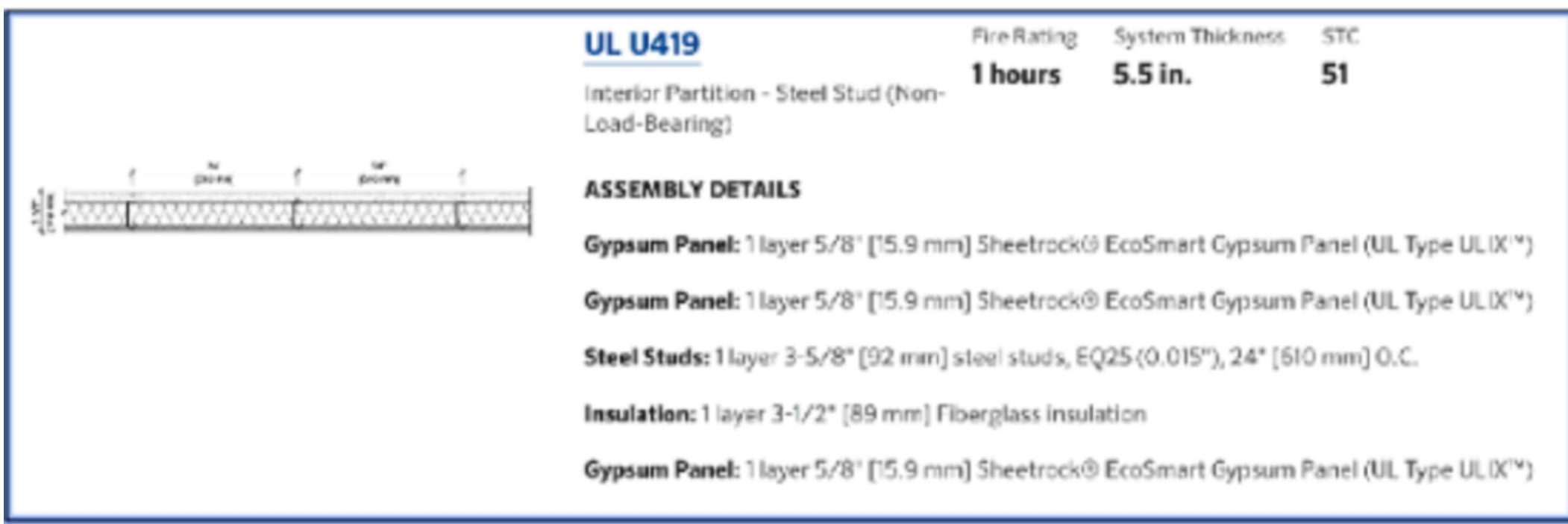


## DEMISING WALL PLAN

1 HR RATED / UL # U419

## NOTE:

UL DESIGN NO. P561 IS RECOMMENDED CEILING ASSEMBLY FOR FIRE RISER ROOM TO ACHIEVE ONE HOUR RATING IN CEILING. UL # U419 IS THE RECOMMENDED DETAIL FOR THE FIRE RISER ROOM WALLS. REFER TO DETAIL 1 ON A113 FOR THE ONE HOUR RATED FIRE RISER ROOM WALL DETAIL.



## FIRE RISER ROOM CEILING ASSEMBLY

1.5 HR RATED / UL # U561

UL P561 Steel C-Joist (Load-Bearing)	Fire Rating 1.5 Hours	System Thickness Varies	STC n/a	IIC null
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### ASSEMBLY DETAILS

Roof Covering: 1 layer 5/8" Thick Gypsum Fiber Roof Board (UL Type FRX-G™)

Structural Cement-Fiber Units: 1 layer 3/4" Thick, USG Structural Panel Concrete Subfloor (USGSP), with long edges tongue and grooved, long dimension of panels to be perpendicular to Joists (UL Type USGSP)

Structo-Crete® Brand Structural Panels

Steel Joists: 1 layer 10" Deep, 16ga., Spaced 24" Max. O.C.

Clip Angles (Not Shown): 1 layer One Clip Angle per Joist End

Insulation: 1 layer 3-1/2" Thick Glass Fiber Batt Insulation

Resilient Channel: 1 layer 1/2" 25ga. Resilient Channel Spaced 16" O.C.

Gypsum Panel: 1 layer 5/8" [15.9 mm] Sheetrock® EcoSmart Gypsum Panel (UL Type ULIX™)

## WATERPROOFING STEPS DETAIL

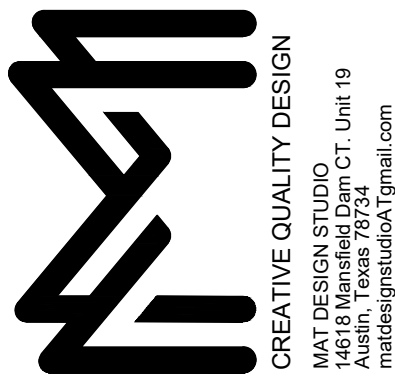
SCALE: N.T.S.

## TYPICAL DOOR FLASHING DETAIL

SCALE: N.T.S.

## TYPICAL PAPER FLASHING DETAIL

SCALE: N.T.S.



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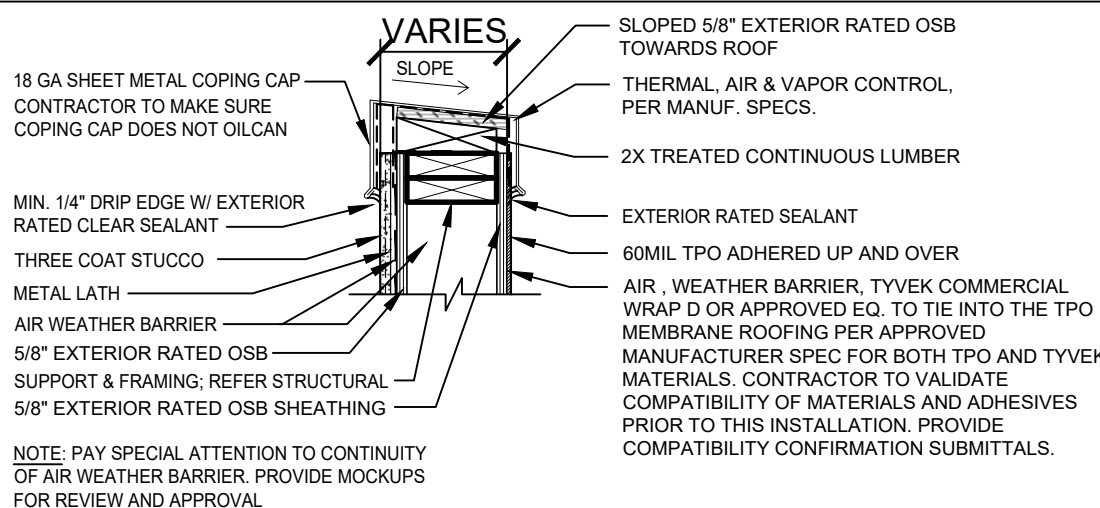
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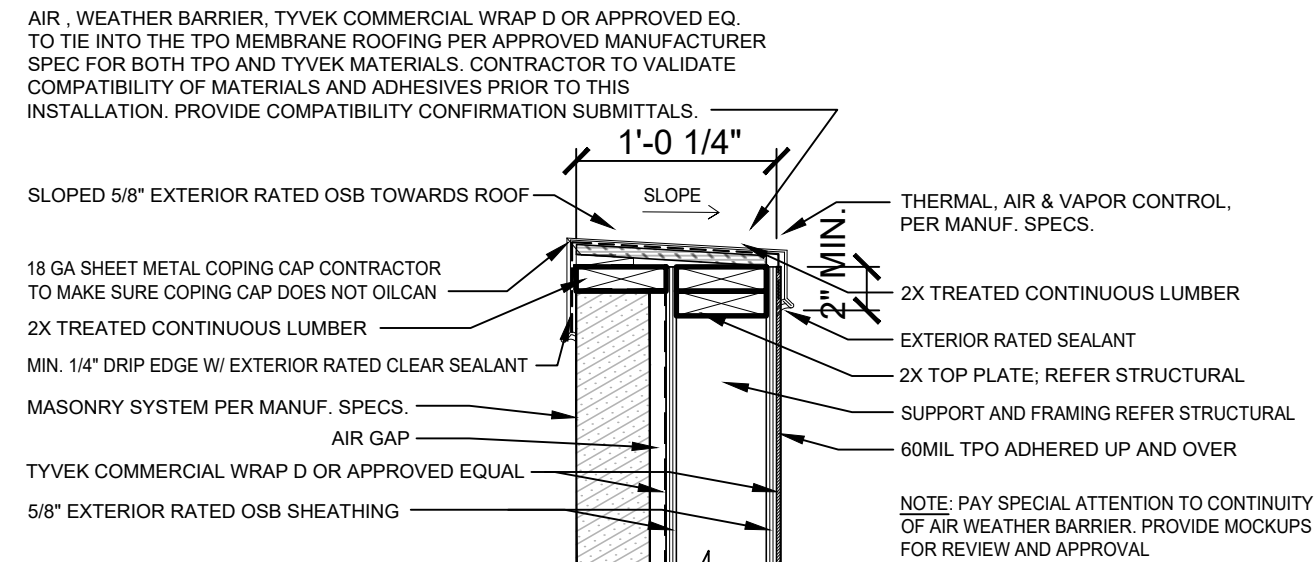
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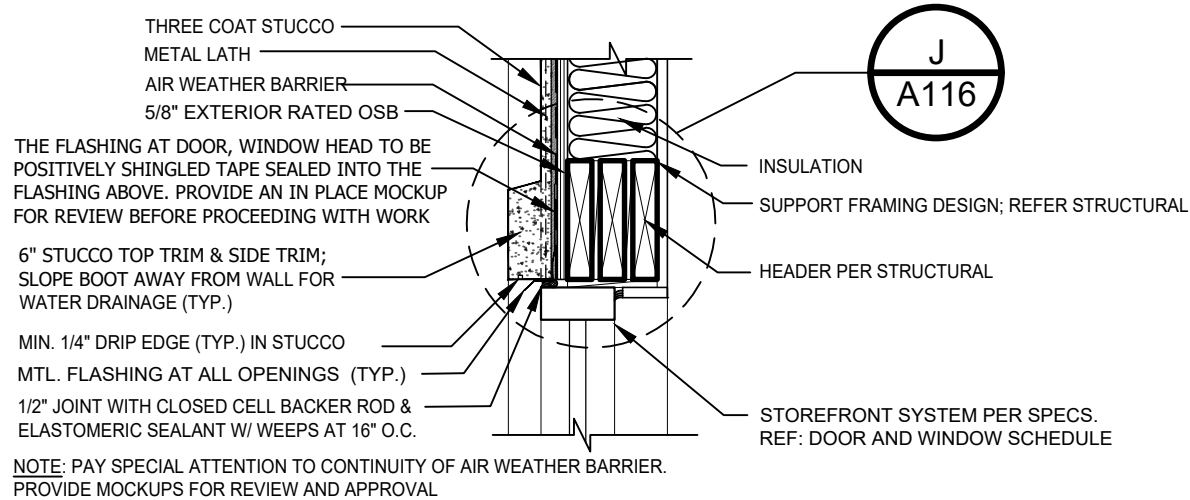




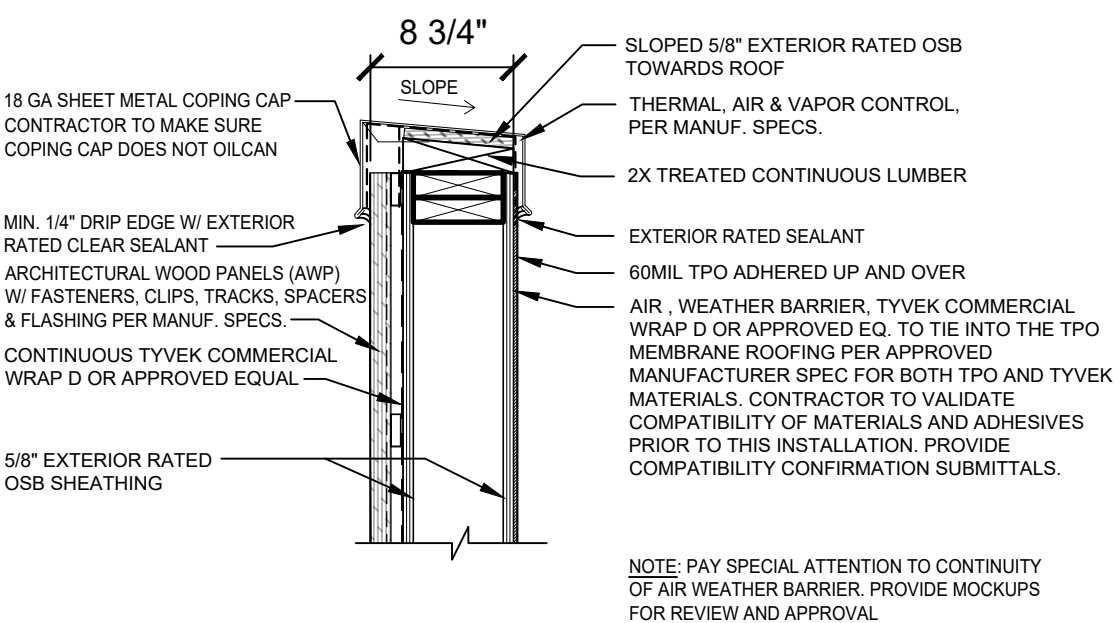
**A** PARAPET DETAIL AT STUCCO  
SCALE: 1"=1'-0"



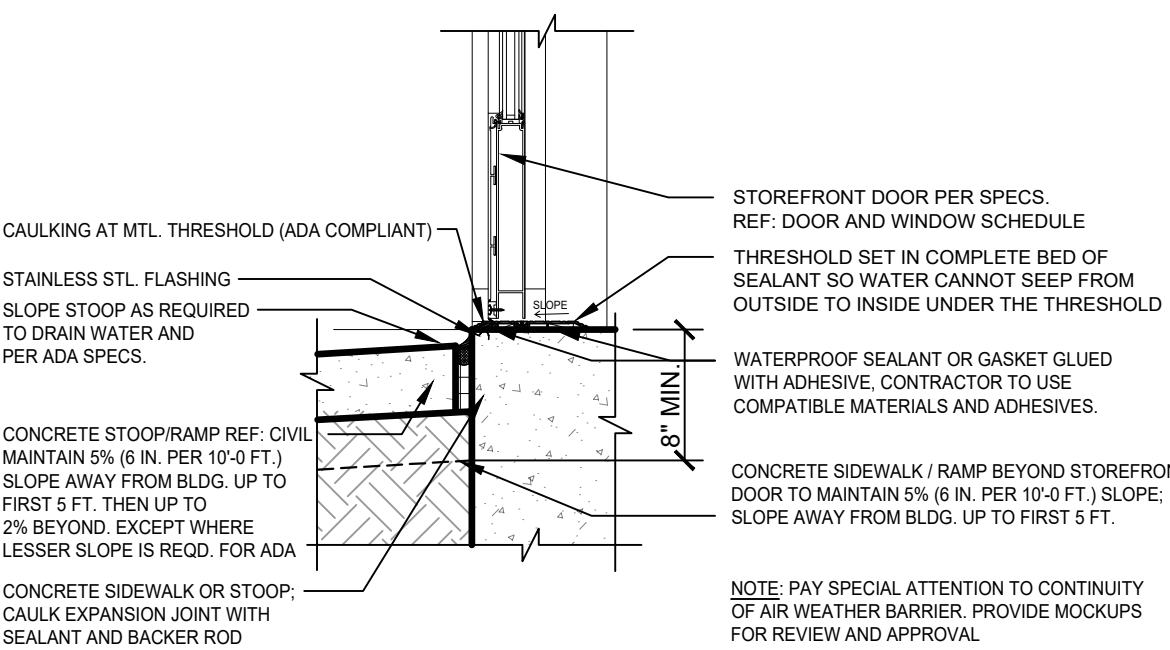
**B** PARAPET DETAIL AT MASONRY  
SCALE: 1"=1'-0"



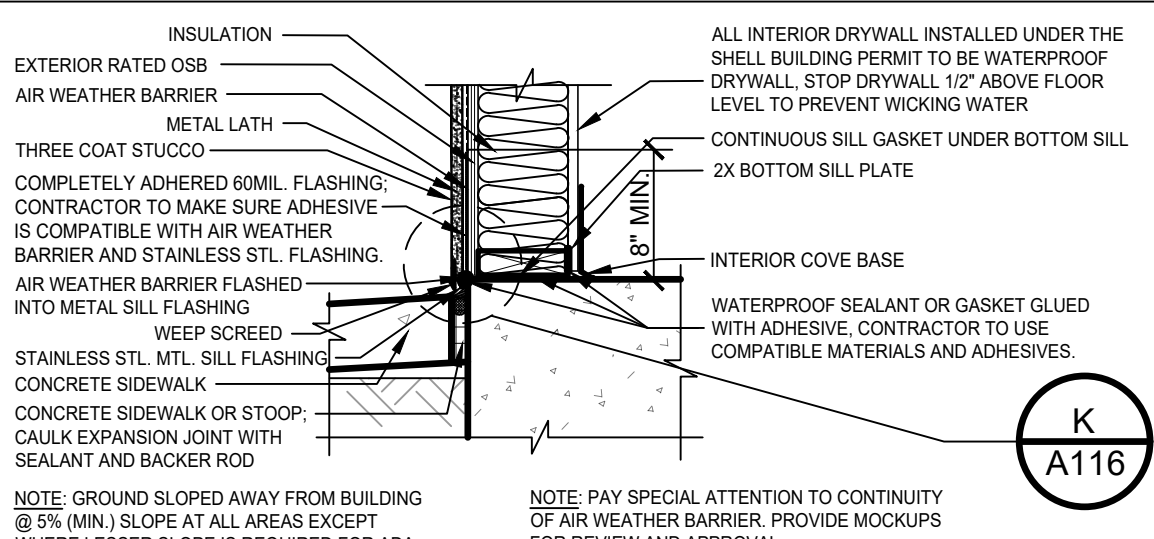
**C** STUCCO BOOT & WALL  
SCALE: 1"=1'-0"



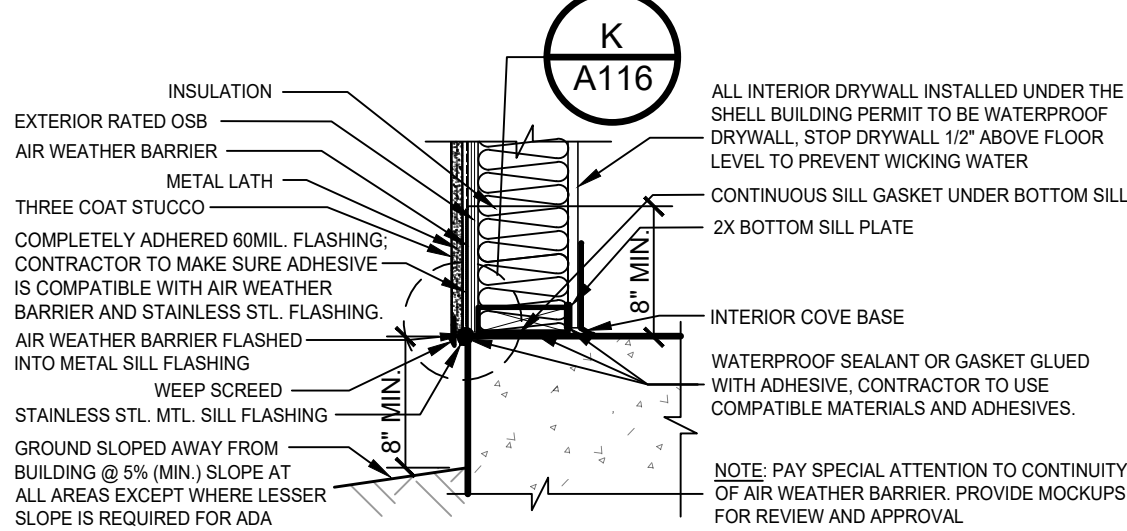
**D** PARAPET DETAIL AT AWP  
SCALE: 1"=1'-0"



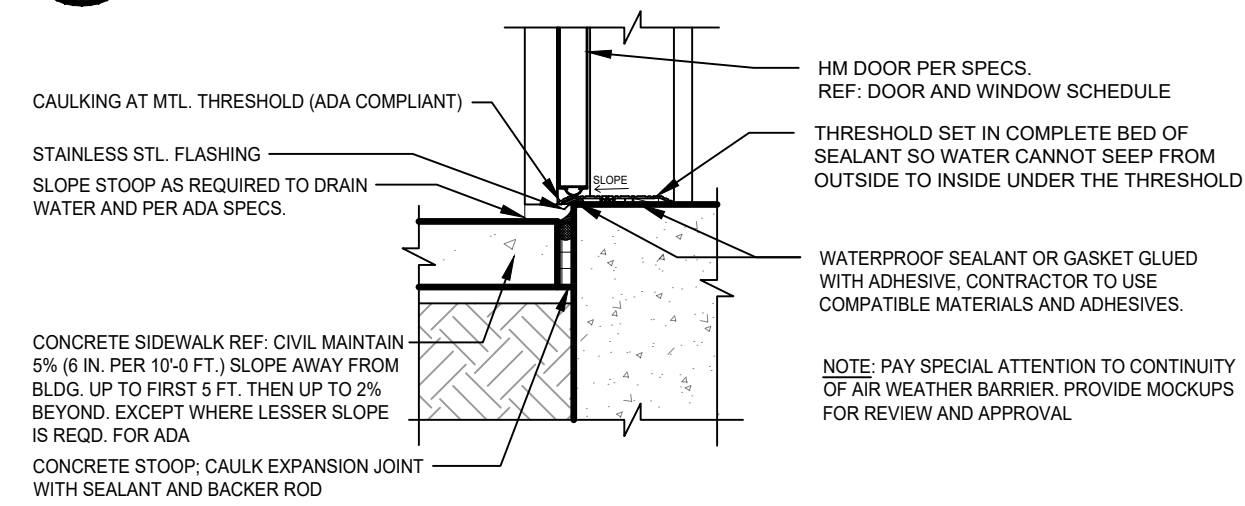
**E** STOREFRONT DOOR SILL &  
THRESHOLD DETAIL AT STOOP  
SCALE: 1"=1'-0"



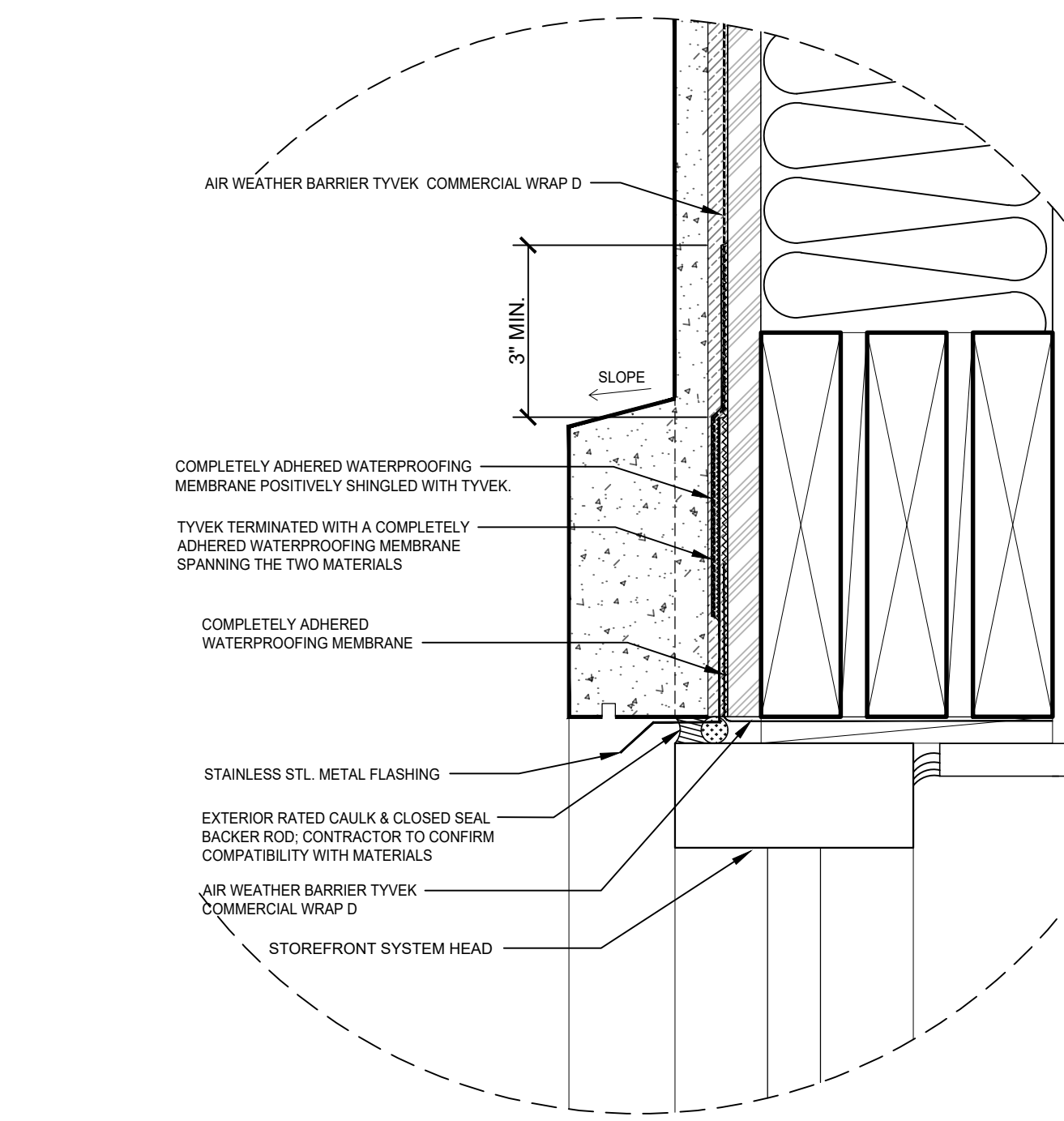
**F** STUCCO DETAIL AT SIDEWALK  
SCALE: 1"=1'-0"



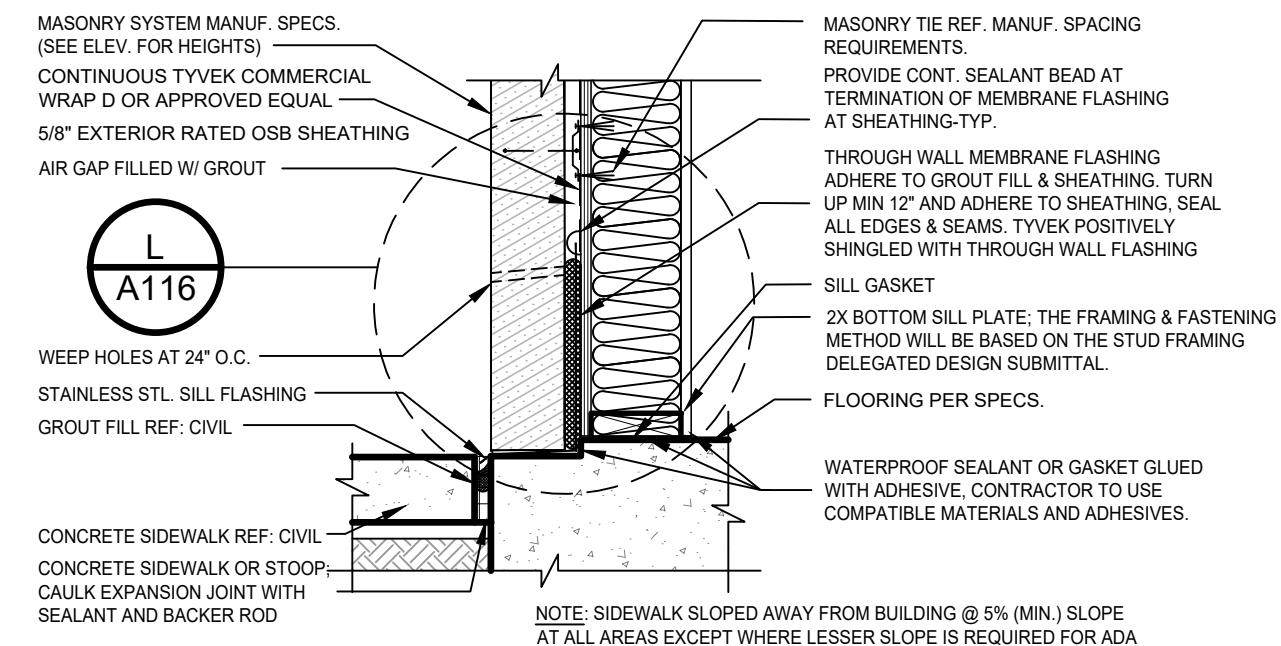
**G** STUCCO DETAIL AT DIRT AREAS  
SCALE: 1"=1'-0"



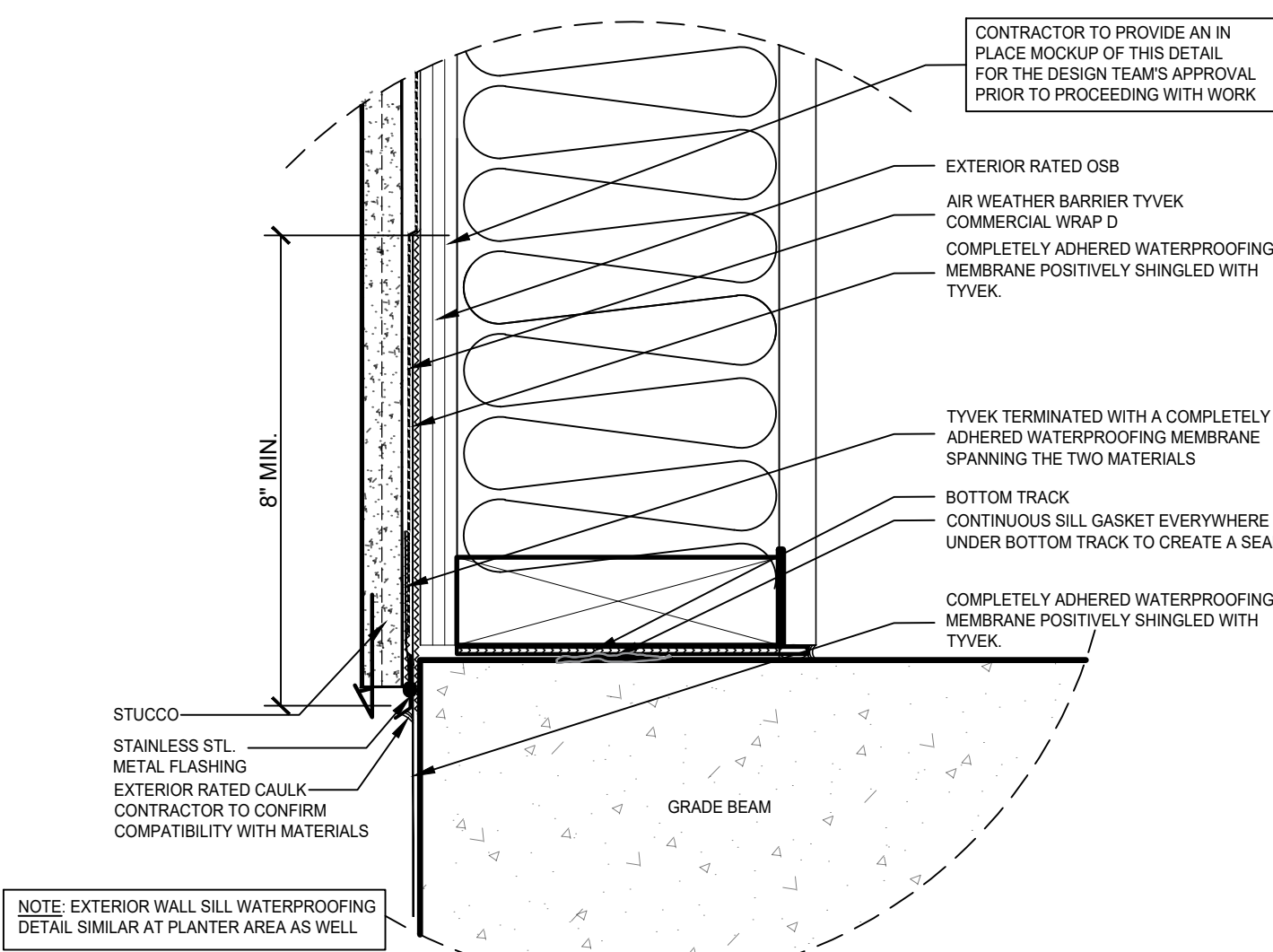
**H** DETAIL AT HM DOOR  
SCALE: 3/4"=1'-0"



**J** HEAD WATER-PROOFING  
DETAIL AT STUCCO BOOT  
SCALE: NTS



**I** MASONRY DETAIL AT SIDEWALK  
SCALE: 1"=1'-0"

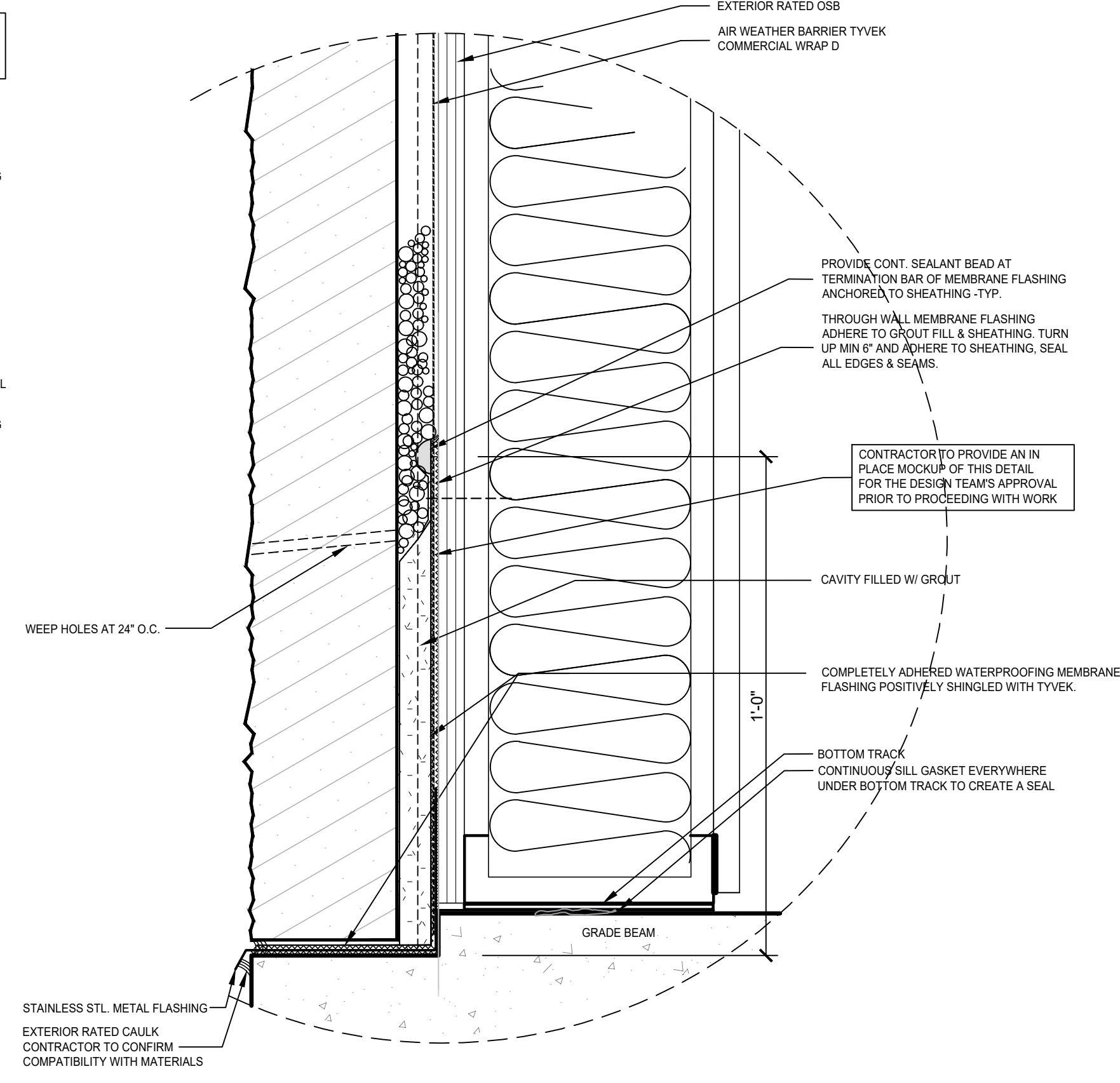


**K** EXTERIOR WALL SILL WATER  
PROOFING DETAIL AT GRADE BEAM  
SCALE: NTS

NOTE:  
ALL STEEL EXPOSED TO ELEMENTS  
OF NATURE MUST BE GALVANIZED.

NOTE: AT ALL PARAPET ROOF DETAILS:  
AIR, WEATHER BARRIER, TYVEK COMMERCIAL WRAP D OR APPROVED EQ. TO TIE INTO THE TPO MEMBRANE ROOFING PER APPROVED  
MANUFACTURER SPEC FOR BOTH TPO AND TYVEK MATERIALS. CONTRACTOR TO VALIDATE COMPATIBILITY OF MATERIALS AND ADHESIVES  
PRIOR TO THIS INSTALLATION. PROVIDE COMPATIBILITY CONFIRMATION SUBMITTALS.

- NOTES: 1. TO ENSURE A CONTINUOUS AIR & WEATHER BARRIER ACROSS THE BUILDING ENVELOPE, A CONTINUOUS AIR & WEATHER SEAL SHOULD BE MADE  
AT EACH SUBSTRATE CHANGE, JOINTS/GAPS, PENETRATIONS & DISSIMILAR MATERIAL TERMINATIONS PER MANUFACTURER'S RECOMMENDED  
DETAILING. ALWAYS POSITIVELY SHINGLE AIR & WEATHER BARRIER / FLASHING TO ELIMINATE WATER LEAKS. USE MANUFACTURER  
RECOMMENDED DETAILS.
2. TRUSS MANUFACTURER TO BE CONTRACTED AS DESIGNBUILD SCOPE UNDER G.C.
3. CANOPIES AND AWNINGS DESIGN AND INSTALLATION ARE DELEGATED DESIGN BY THE CONTRACTOR. CONTRACTOR  
TO COORDINATE WITH CANOPY DESIGN TEAM AND INSTALL ALL REQUIRED BLOCKING .
4. VALIDATE ALL BREAK-METAL COPING, TRIM, FLASHING ETC. DIMENSIONS IN THE FIELD. BREAK METAL CLADDING & COPING CAP TO BE 18 GA.  
CONTRACTOR TO PROVIDE ENOUGH BACKING/SUPPORT TO GAUGE METAL TO PREVENT OIL CANNING.
5. CONTRACTOR TO INSTALL EXPANSION JOINTS PER STUCCO MANUFACTURER REQUIREMENTS AND COORDINATE LOCATIONS WITH DESIGN TEAM.
6. TO ANCHOR ROOF ACCESS LADDER TO BUILDING, FOLLOW MANUFACTURER'S AIR BARRIER PATCH METHODS FOR INSTALLATION OF LADDER  
ANCHOR AND SUPPORTS.



**L** EXTERIOR WALL SILL WATER  
PROOFING DETAIL @ GRADE BEAM  
SCALE: NTS



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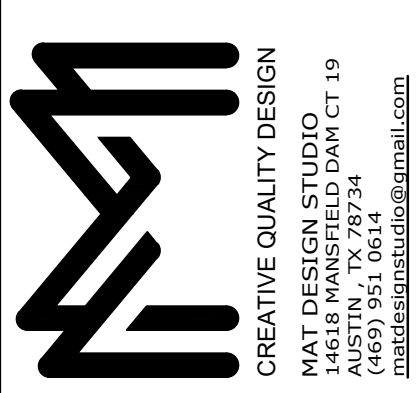
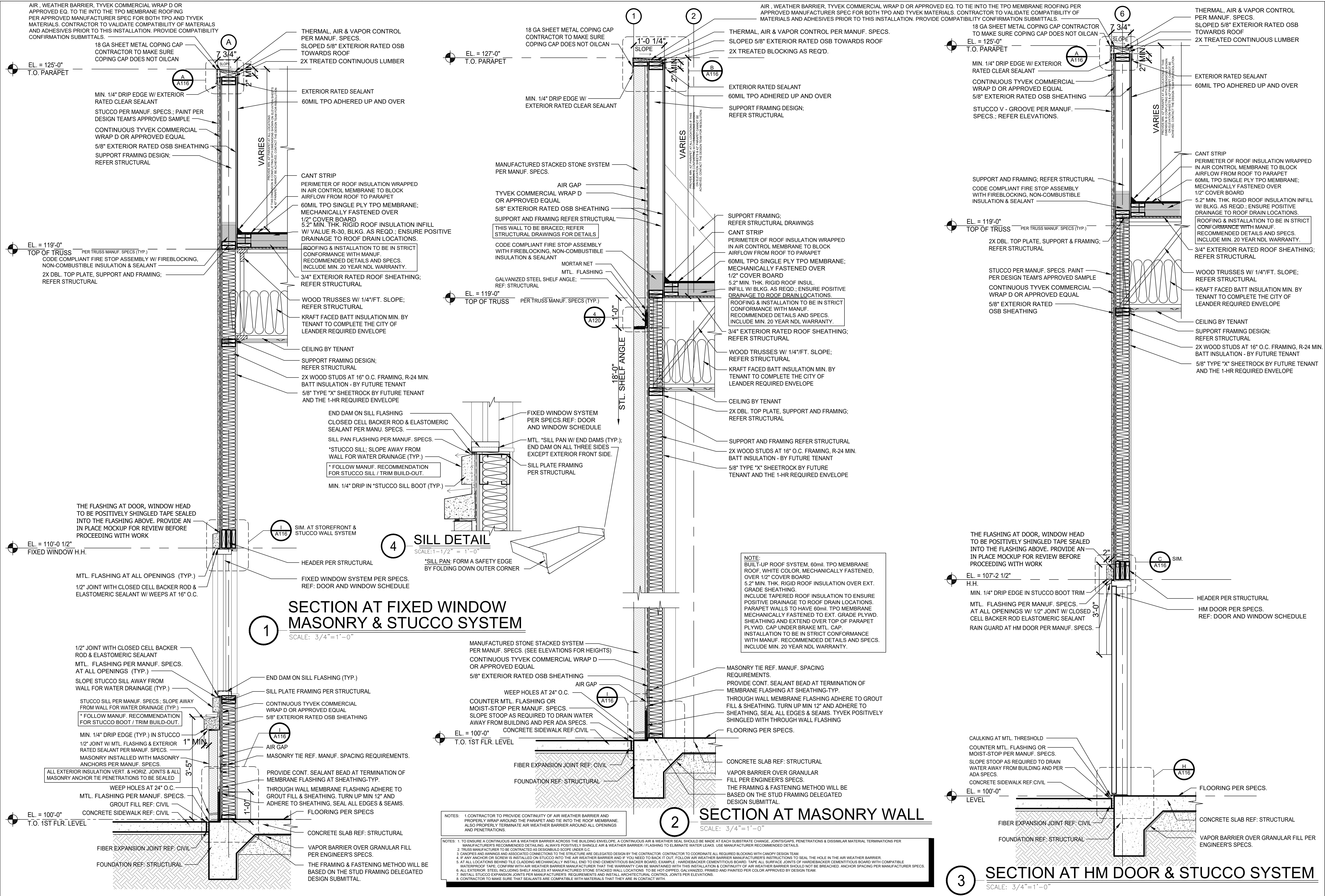
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CREATIVE QUALITY DESIGN  
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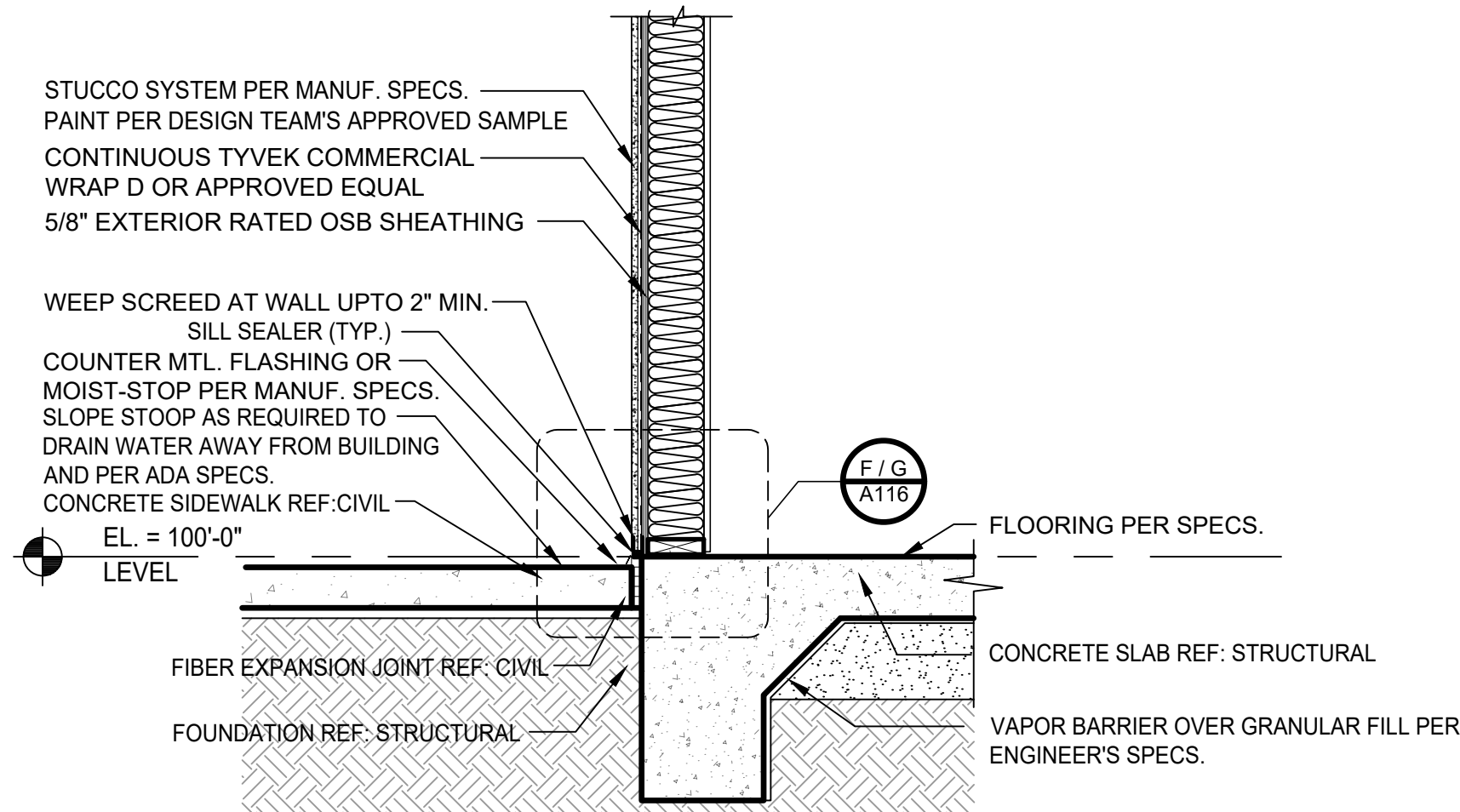
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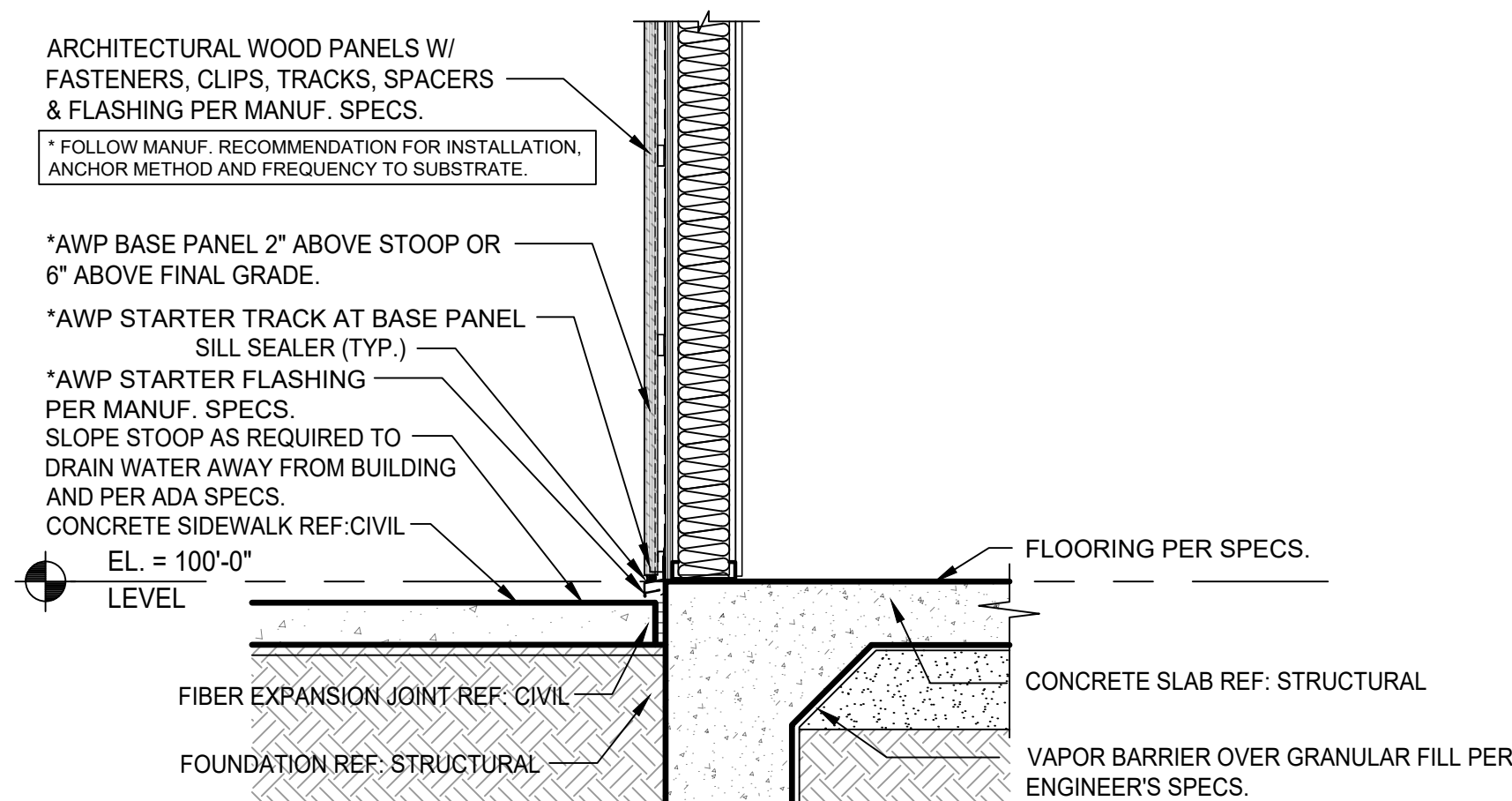
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**A119**  
Project Number:  
24-015





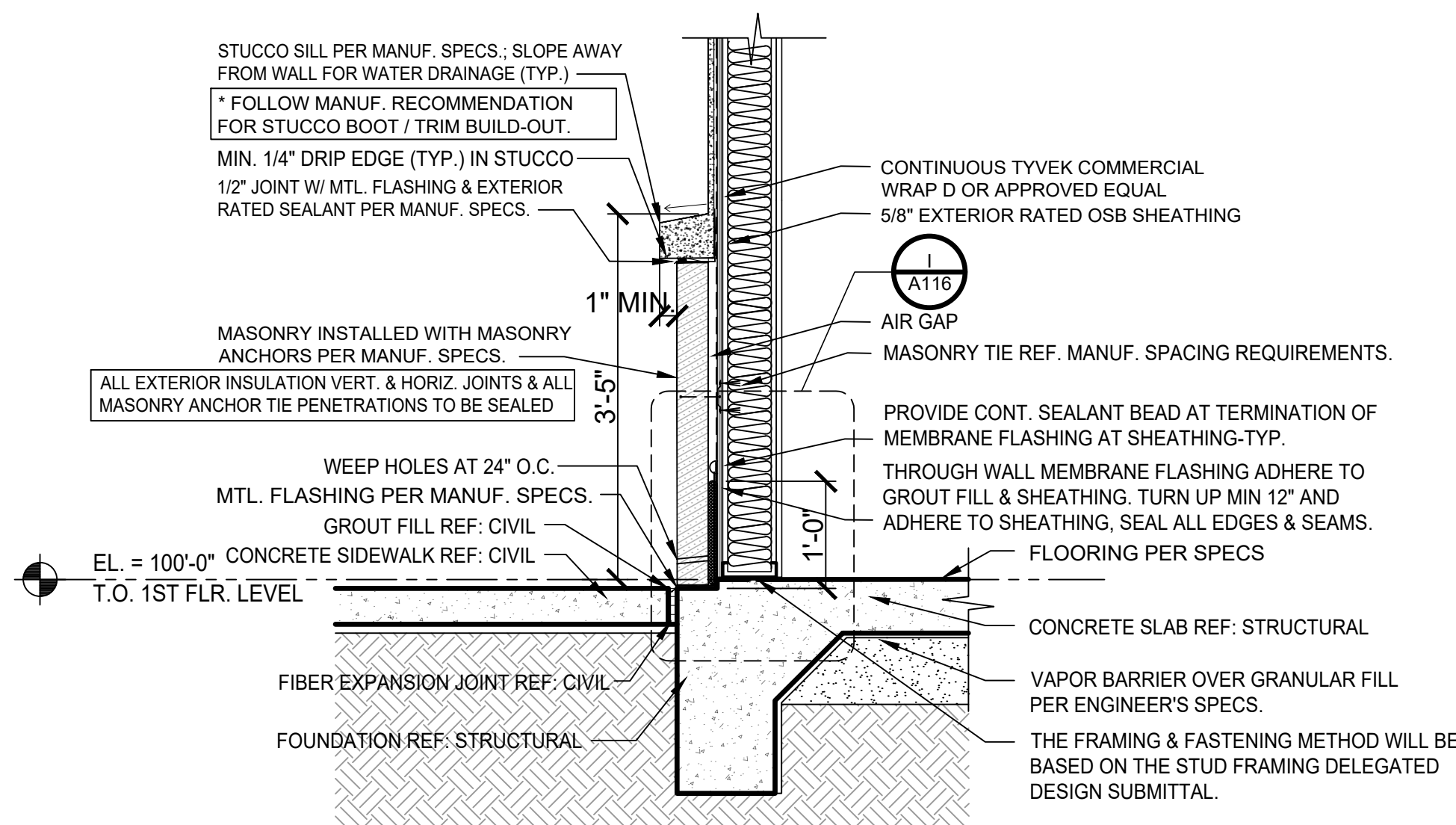
## 1 SECTION AT STUCCO WALL

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



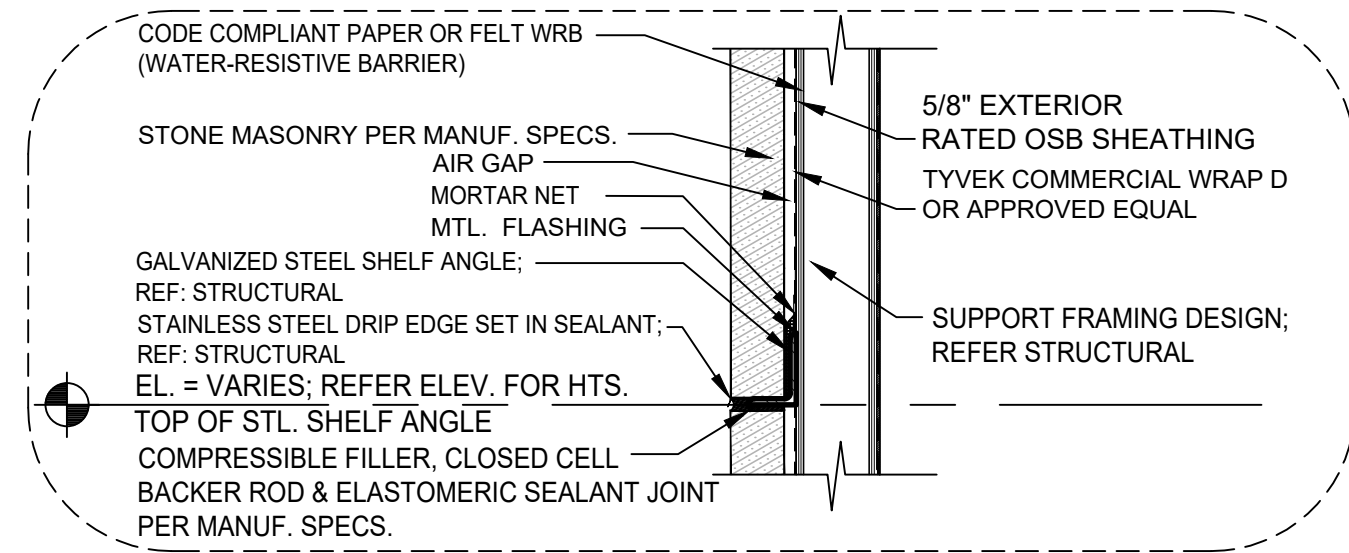
## 2 SECTION AT \*AWP WALL

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



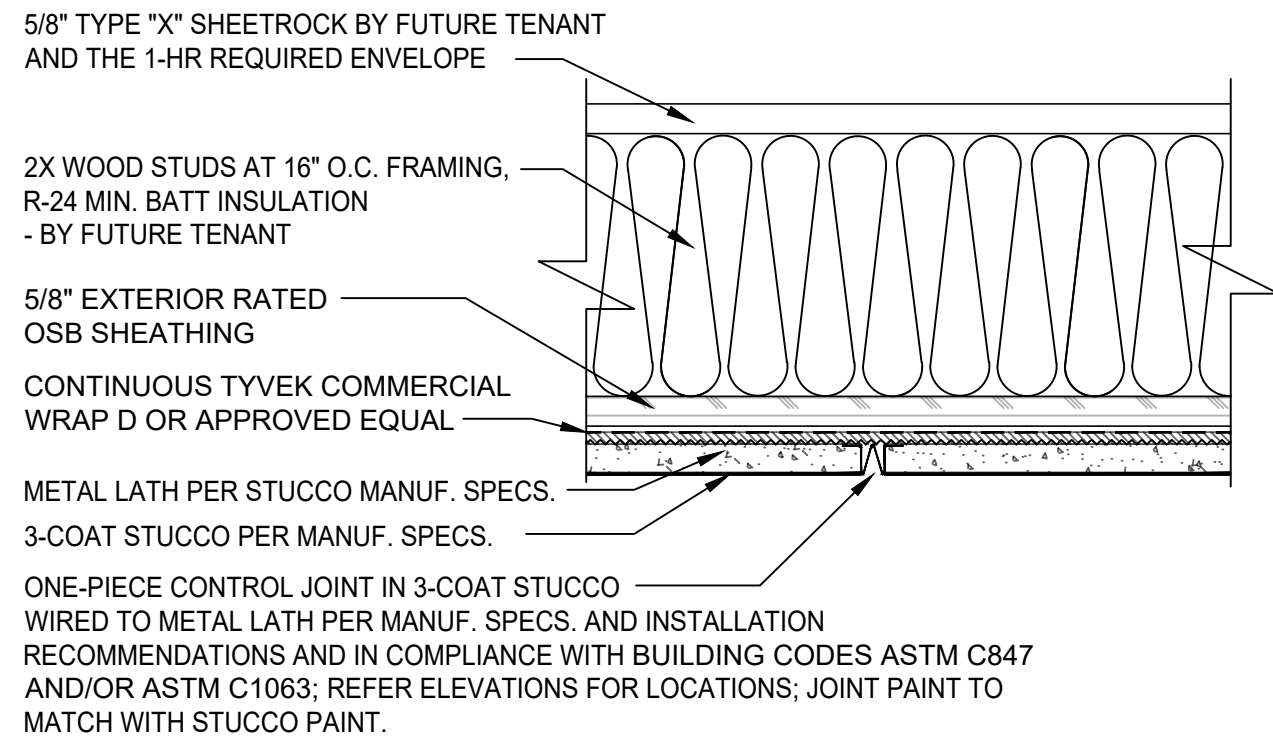
## 3 SECTION AT MASONRY & STUCCO

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



## 4 SECTION AT MASONRY WALL W/ STL SHELF ANGLE

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

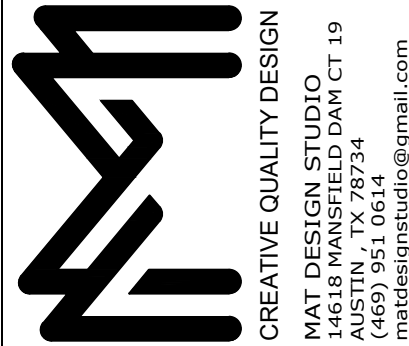


## A STUCCO CONTROL JOINT VERT. & HORI. DETAIL

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

NOTES: 1. CONTRACTOR TO PROVIDE CONTINUITY OF AIR WEATHER BARRIER AND PROPERLY WRAP AROUND THE PARAPET AND TIE INTO THE ROOF MEMBRANE. ALSO PROPERLY TERMINATE AIR WEATHER BARRIER AROUND ALL OPENINGS AND PENETRATIONS.

NOTES: 1. TO ENSURE A CONTINUOUS AIR & WEATHER BARRIER ACROSS THE BUILDING ENVELOPE, A CONTINUOUS AIR & WEATHER SEAL SHOULD BE MADE AT EACH SUBSTRATE CHANGE, JOINTS/GAPS, PENETRATIONS & DISSIMILAR MATERIAL TERMINATIONS PER MANUFACTURER'S RECOMMENDED DETAILING. ALWAYS POSITIVELY SHINGLE AIR & WEATHER BARRIER FLASHING TO ELIMINATE WATER LEAKS. USE MANUFACTURER RECOMMENDED DETAILS.  
2. TRUSS MANUFACTURER TO BE CONTRACTED AS DESIGN/BUILD SCOPE UNDER G.C.  
3. CANOPIES AND AWNINGS AND ASSOCIATED CONNECTIONS TO THE STRUCTURE ARE DELEGATED DESIGN BY THE CONTRACTOR. CONTRACTOR TO COORDINATE ALL REQUIRED BLOCKING WITH CANOPY DESIGN TEAM.  
4. IF ANY ANCHOR OR SCREW IS INSTALLED ON STUCCO INTO THE AIR WEATHER BARRIER AND IF YOU NEED TO BACK IT OUT, FOLLOW AIR WEATHER BARRIER MANUFACTURER'S INSTRUCTIONS TO SEAL THE HOLE IN THE AIR WEATHER BARRIER.  
5. AT ALL LOCATIONS BEHIND TILE CLADDING MECHANICALLY INSTALL END TO END CEMENTITIOUS BACKER BOARD. (EXAMPLE: HARDBACKER CEMENTITIOUS BOARD) TAPE ALL SURFACE JOINTS OF HARDBACKER CEMENTITIOUS BOARD WITH COMPATIBLE WATERPROOF TAPE. CONFIRM WITH AIR WEATHER BARRIER MANUFACTURER THAT THE WARRANTY CAN BE MAINTAINED WITH THIS INSTALLATION & CONTINUITY OF AIR WEATHER BARRIER SHOULD NOT BE BREACHED. ANCHOR SPACING PER MANUFACTURER SPECS.  
6. ALL EXTERIOR STEEL INCLUDING SHELF ANGLES AT MANUFACTURED STONE STAGED WALL LOCATIONS TO BE HOT-DIPPED, GALVANIZED, PRIMED & PAINTED PER COLOR APPROVED BY DESIGN TEAM.  
7. INSTALL STUCCO EXPANSION JOINTS PER MANUFACTURER'S REQUIREMENTS AND INSTALL ARCHITECTURAL CONTROL JOINTS PER ELEVATIONS.  
8. CONTRACTOR TO MAKE SURE THAT SEALANTS ARE COMPATIBLE WITH MATERIALS THAT THEY ARE IN CONTACT WITH.



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SHEET METAL FLASHING AND TRIM	2.3 MISCELLANEOUS MATERIALS	3.2 UNDERLAYMENT INSTALLATION	JOINT SEALANTS
PART 1 - GENERAL		A. GENERAL: INSTALL UNDERLAYMENT AS INDICATED ON DRAWINGS.	PART 1 - GENERAL
1.1 SUMMARY			1.1 SUMMARY
A. SECTION INCLUDES:		B. FELT UNDERLAYMENT: INSTALL 15# FELT UNDERLAYMENT IN TWO LAYERS, WITH STAGGERED AND OVERLAPPING SEAMS. WITH ADHESIVE FOR TEMPORARY ANCHORAGE TO MINIMIZE USE OF MECHANICAL FASTENERS UNDER SHEET METAL FLASHING AND TRIM. APPLY IN SHINGLE FASHION TO SHED WATER, WITH LAPPED JOINTS OF NOT LESS THAN 2 INCHES (50 MM).	A. SECTION INCLUDES:
1. MANUFACTURED PRODUCTS:			1. SILICONE JOINT SEALANTS.
a. MANUFACTURED REGLETS.			2. URETHANE JOINT SEALANTS.
2. FORMED PRODUCTS:			
a. FORMED LOW-SLOPE ROOF SHEET METAL FABRICATIONS.			1.2 PRECONSTRUCTION TESTING
b. FORMED WALL SHEET METAL FABRICATIONS.			
c. FORMED OVERHEAD-PIPING SAFETY PANS.			A. PRECONSTRUCTION COMPATIBILITY AND ADHESION TESTING: SUBMIT TO JOINT-SEALANT MANUFACTURERS EIGHT SAMPLES OF MATERIALS THAT WILL CONTACT OR AFFECT JOINT SEALANTS. USE ASTM C 1087 AND MANUFACTURERS' STANDARD TEST METHOD TO DETERMINE WHETHER PRIMING AND OTHER SPECIFIC JOINT PREPARATION TECHNIQUES ARE REQUIRED TO OBTAIN RAPID, OPTIMUM ADHESION OF JOINT SEALANTS TO JOINT SUBSTRATES.
B. PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION:			1.3 SUBMITTALS
1. "UNIT MASONRY": METAL COUNTER FLASHINGS AND WALL FLASHINGS BUILT INTO UNIT MASONRY.			A. PRODUCT DATA: FOR EACH JOINT-SEALANT PRODUCT INDICATED.
2. "THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING".			B. SAMPLES: FOR EACH KIND AND COLOR OF JOINT SEALANT REQUIRED.
1.2 PERFORMANCE REQUIREMENTS			C. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:
A. GENERAL: SHEET METAL FLASHING AND TRIM ASSEMBLIES AS INDICATED SHALL WITHSTAND WIND LOADS, STRUCTURAL MOVEMENT, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE DUE TO DEFECTIVE MANUFACTURE, FABRICATION, INSTALLATION, OR OTHER DEFECTS IN CONSTRUCTION. COMPLETED SHEET METAL FLASHING AND TRIM SHALL NOT RATTLE, LEAK, OR LOOSEN, AND SHALL REMAIN WATERTIGHT.			1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
B. FABRICATE AND INSTALL ROOF EDGE FLASHING AND COPINGS CAPABLE OF RESISTING THE FOLLOWING FORCES ACCORDING TO RECOMMENDATIONS IN FMG LOSS PREVENTION DATA SHEET 1-49:			2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
1. WIND EXPOSURE B: 90 MILES PER HOUR, 3 SECOND GUST.			3. JOINT-SEALANT FORMULATION.
C. THERMAL MOVEMENTS: PROVIDE SHEET METAL FLASHING AND TRIM THAT ALLOWS FOR THERMAL MOVEMENTS FROM AMBIENT AND SURFACE TEMPERATURE CHANGES.			4. JOINT-SEALANT COLOR.
1. TEMPERATURE CHANGE (RANGE): 120 DEG F (67 DEG C), AMBIENT; 180 DEG F (100 DEG C), MATERIAL SURFACES.			D. PRODUCT TEST REPORTS.
1.3 SUBMITTALS			E. PRECONSTRUCTION COMPATIBILITY AND ADHESION TEST REPORTS.
A. PRODUCT DATA: SUBMIT IN ACCORDANCE WITH DIVISION 1 SECTION "SUBMITTAL PROCEDURES"; FOR EACH TYPE OF PRODUCT INDICATED, INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES FOR EACH MANUFACTURED PRODUCT AND ACCESSORY.			F. FIELD ADHESION TEST REPORTS.
B. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION LAYOUTS OF SHEET METAL FLASHING AND TRIM, INCLUDING PLANS, ELEVATIONS, EXPANSION-JOINT LOCATIONS, AND KEYED DETAILS. DISTINGUISH BETWEEN SHOP- AND FIELD-ASSEMBLED WORK. INCLUDE THE FOLLOWING:			1.4 QUALITY ASSURANCE
1. IDENTIFICATION OF MATERIAL, THICKNESS, WEIGHT, AND FINISH FOR EACH ITEM AND LOCATION IN PROJECT.			A. TESTING AGENCY QUALIFICATIONS: QUALIFIED ACCORDING TO ASTM C 1021 TO CONDUCT THE TESTING INDICATED.
2. DETAILS FOR FORMING SHEET METAL FLASHING AND TRIM, INCLUDING PROFILES, SHAPES, SEAMS, AND DIMENSIONS.			B. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.
3. DETAILS FOR JOINING, SUPPORTING, AND SECURING SHEET METAL FLASHING AND TRIM, INCLUDING LAYOUT OF FASTENERS, CLEATS, CLIPS, AND OTHER ATTACHMENTS. INCLUDE PATTERN OF SEAMS.			1.5 WARRANTY
4. DETAILS OF TERMINATION POINTS AND ASSEMBLIES, INCLUDING FIXED POINTS.			A. SPECIAL INSTALLER'S WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH INSTALLER AGREES TO REPAIR OR REPLACE JOINT SEALANTS THAT DO NOT COMPLY WITH PERFORMANCE AND OTHER REQUIREMENTS SPECIFIED IN THIS SECTION WITHIN SPECIFIED WARRANTY PERIOD.
5. DETAILS OF EXPANSION JOINTS AND EXPANSION-JOINT COVERS, INCLUDING SHOWING DIRECTION OF EXPANSION AND CONTRACTION.			1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
6. DETAILS OF EDGE CONDITIONS, INCLUDING EAVES, RIDGES, VALLEYS, RAKES, CRICKETS, AND COUNTERFLASHINGS AS APPLICABLE.			B. SPECIAL MANUFACTURER'S WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH JOINT-SEALANT MANUFACTURER AGREES TO FURNISH JOINT SEALANTS TO REPAIR OR REPLACE THOSE THAT DO NOT COMPLY WITH PERFORMANCE AND OTHER REQUIREMENTS SPECIFIED IN THIS SECTION WITHIN SPECIFIED WARRANTY PERIOD.
7. DETAILS OF SPECIAL CONDITIONS.			1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
8. DETAILS OF CONNECTIONS TO ADJOINING WORK.			PART 2 - PRODUCTS
9. DETAIL FORMED FLASHING AND TRIM AT A SCALE OF NOT LESS THAN 1-1/2 INCHES PER 12 INCHES (1:10).			2.1 MATERIALS, GENERAL
C. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF SHEET METAL FLASHING, TRIM, AND ACCESSORY INDICATED WITH SPECIFIED FINISH.			A. VOC CONTENT OF INTERIOR SEALANTS: PROVIDE SEALANTS AND SEALANT PRIMERS FOR USE INSIDE THE WEATHERPROOFING SYSTEM THAT COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT WHEN CALCULATED ACCORDING TO 40 CFR 59, PART 59, SUBPART D (EPA METHOD 24):
D. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF EXPOSED FINISH REQUIRED, PREPARED ON SAMPLES OF SIZE INDICATED BELOW:			1. ARCHITECTURAL SEALANTS: 250 GIL.
1. SHEET METAL FLASHING: 12 INCHES (300 MM) LONG BY ACTUAL WIDTH OF UNIT, INCLUDING FINISHED SEAM AND IN REQUIRED PROFILE. INCLUDE FASTENERS, CLEATS, CLIPS, CLOSURES, AND OTHER ATTACHMENTS.			2. SEALANT PRIMERS FOR NONPOROUS SUBSTRATES: 250 GIL.
2. TRIM, METAL CLOSURES, EXPANSION JOINTS, JOINT INTERSECTIONS, AND MISCELLANEOUS FABRICATIONS: 12 INCHES (300 MM) LONG AND IN REQUIRED PROFILE. INCLUDE FASTENERS AND OTHER EXPOSED ACCESSORIES.			3. SEALANT PRIMERS FOR POROUS SUBSTRATES: 775 GIL.
3. ACCESSORIES AND MISCELLANEOUS MATERIALS: FULL-SIZE SAMPLE.			B. STAIN-TEST-RESPONSE CHARACTERISTICS: WHERE SEALANTS ARE SPECIFIED TO BE NONSTAINING TO POROUS SUBSTRATES, PROVIDE PRODUCTS THAT HAVE UNDERGONE TESTING ACCORDING TO ASTM C 1248 AND HAVE NOT STAINED POROUS JOINT SUBSTRATES INDICATED FOR PROJECT.
E. QUALIFICATION DATA: FOR QUALIFIED FABRICATOR.			2.2 SEALANT
F. MAINTENANCE DATA: FOR SHEET METAL FLASHING, TRIM, AND ACCESSORIES TO INCLUDE IN MAINTENANCE MANUALS.			A. JOINT SEALANT SHALL CONFORM TO THE FOLLOWING:
G. WARRANTY: SAMPLE OF SPECIAL WARRANTY.			1. PREFORMED POLYCHLOROPRENE ELASTOMERIC TYPE ASTM D 2628.
1.4 QUALITY ASSURANCE			B. JOINT SEALANT
A. FABRICATOR AND INSTALLER QUALIFICATIONS: COMPANY THAT EMPLOYS SKILLED WORKERS WHO CUSTOM FABRICATE AND INSTALL SHEET METAL FLASHING AND TRIM SIMILAR TO THAT REQUIRED FOR THIS PROJECT AND WHOSE PRODUCTS HAVE A RECORD OF MINIMUM 5 YEARS DOCUMENTED SUCCESSFUL IN-SERVICE PERFORMANCE.			1. SAVED CONTRACTION JOINTS AND EXPANSION JOINTS IN SLABS SHALL BE FILLED WITH JOINT SEALANT, UNLESS OTHERWISE SHOWN. JOINT SURFACES SHALL BE CLEAN, DRY, AND FREE OF OIL OR OTHER FOREIGN MATERIAL WHICH WOULD ADVERSELY AFFECT THE BOND BETWEEN SEALANT AND CONCRETE. JOINT SEALANT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER OF THE SEALANT.
B. SHEET METAL FLASHING AND TRIM STANDARD: COMPLY WITH SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL" UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR SHOWN ON DRAWINGS.			2.3 SILICONE JOINT SEALANTS
C. COPPER SHEET METAL STANDARD: COMPLY WITH CDA'S "COPPER IN ARCHITECTURE HANDBOOK," AND REVERSE COPPER PRODUCTS, INC., ROME, NY, PUBLICATION "COPPER AND COMMON SENSE," 7TH EDITION. CONFORM TO DIMENSIONS AND PROFILES SHOWN UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.			A. MILDEW-RESISTANT NEUTRAL-CURING SILICONE JOINT SEALANT SS-01: ASTM C 920.
D. MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR FABRICATION AND INSTALLATION.			1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
1. BUILD MOCKUP OF TYPICAL ROOF EDGE EAVE, INCLUDING FASCIA AND PACIA TRIM, APPROXIMATELY 10 FEET (3.0 M) LONG, INCLUDING SUPPORTING CONNECTION CLEATS, SEAMS, ATTACHMENTS, UNDERLAYMENT, AND ACCESSORIES.			A. BASF BUILDING SYSTEMS.
2. APPROVAL OF MOCKUPS DOES NOT CONSTITUTE APPROVAL OF DEVIATIONS FROM THE CONTRACT DOCUMENTS CONTAINED IN MOCKUPS UNLESS ARCHITECT SPECIFICALLY APPROVES SUCH DEVIATIONS IN WRITING.			B. DOW CORNING CORPORATION.
E. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.			C. GE ADVANCED MATERIALS - SILICONES.
1. MEET WITH OWNER, DESIGN TEAM, OWNER'S INSURER IF APPLICABLE, INSTALLER, AND INSTALLERS WHOSE WORK INTERFACES WITH OR AFFECTS SHEET METAL FLASHING AND TRIM INCLUDING INSTALLATIONS OF ROOFING MATERIALS, ROOF ACCESSORIES, UNIT SKYLIGHTS, AND ROOF-MOUNTED EQUIPMENT.			D. MAY NATIONAL ASSOCIATES, INC.
2. REVIEW METHODS AND PROCEDURES RELATED TO SHEET METAL FLASHING AND TRIM.			E. PECORA CORPORATION.
3. EXAMINE SUBSTRATE CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS, INCLUDING FLATNESS AND ATTACHMENT TO STRUCTURAL MEMBERS.			F. POLYMERIC SYSTEMS, INC.
4. REVIEW SPECIAL ROOF DETAILS, ROOF DRAINAGE, ROOF PENETRATIONS, EQUIPMENT CURBS, AND CONDITION OF OTHER CONSTRUCTION THAT WILL AFFECT SHEET METAL FLASHING.			G. SCHNIEE-MOREHEAD, INC.
5. DOCUMENT PROCEEDINGS, INCLUDING CORRECTIVE MEASURES AND ACTIONS REQUIRED, AND FURNISH COPY OF RECORD TO EACH PARTICIPANT.			H. SIKA CORPORATION; CONSTRUCTION PRODUCTS DIVISION.
1.5 DELIVERY, STORAGE, AND HANDLING			I. TREMCO INCORPORATED.
A. DO NOT STORE SHEET METAL FLASHING AND TRIM MATERIALS IN CONTACT WITH OTHER MATERIALS THAT MIGHT CAUSE STAINING, DENTING, OR OTHER SURFACE DAMAGE. STORE SHEET METAL FLASHING AND TRIM MATERIALS AWAY FROM UNCURED CONCRETE AND MASONRY.			2. TYPE: SINGLE COMPONENT (S).
B. PROTECT STRIPPABLE PROTECTIVE COVERING ON SHEET METAL FLASHING AND TRIM FROM EXPOSURE TO SUNLIGHT AND HIGH HUMIDITY, EXCEPT TO THE EXTENT NECESSARY FOR THE PERIOD OF SHEET METAL FLASHING AND TRIM INSTALLATION.			3. GRADE: NONSAG (NS) 4. CLASS: 100/50.
PART 2 - PRODUCTS			5. USES RELATED TO EXPOSURE: NONTRAFFIC (NT).
2.1 SHEET METALS			2.4 URETHANE JOINT SEALANTS
A. GENERAL: PROTECT MECHANICAL AND OTHER FINISHES ON EXPOSED SURFACES FROM DAMAGE BY APPLYING A STRIPPABLE, TEMPORARY PROTECTIVE FILM BEFORE SHIPPING.			A. URETHANE JOINT SEALANT US 01: ASTM C 920.
B. SHEET METAL STANDARD FOR FLASHING AND TRIM: COMPLY WITH NRCA'S "THE NRCA ROOFING MANUAL" AND SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL" REQUIREMENTS FOR DIMENSIONS AND PROFILES SHOWN UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.			1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
C. COPPER SHEET: ASTM B 320, COLD-ROLLED COPPER SHEET, 30 OR 40 TEMPER.			A. BASF BUILDING SYSTEMS.
D. RECYCLED CONTENT OF COPPER SHEET FLASHING AND TRIM: 10 PERCENT MINIMUM RECYCLED CONTENT PLUS ONE HALF OF PRECONSUMER RECYCLED CONTENT NOT LESS THAN 40 PERCENT.			B. BOSTIK, INC.
E. COPPER SHEET TO HAVE THE MINIMUM WEIGHT AS SPECIFIED HEREIN BELOW FOR THE APPLICATIONS INDICATED.			C. LYNALIT INTERNATIONAL, INC.
F. CANT STRIPS: 16 OUNCES PER SQUARE FOOT.			D. MAY NATIONAL ASSOCIATES, INC.
G. EDGE STRIPS: 24 OUNCES PER SQUARE FOOT.			E. PACIFIC POLYMERS INTERNATIONAL, INC.
H. EXPOSED FLASHINGS AND TRIM: 16 OUNCES PER SQUARE FOOT, EXCEPT AS SPECIFIED OTHERWISE HEREIN FOR SPECIFIC APPLICATIONS.			F. PECORA CORPORATION.
I. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			G. POLYMERIC SYSTEMS, INC.
J. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			H. SCHNIEE-MOREHEAD, INC.
K. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			I. SIKA CORPORATION; CONSTRUCTION PRODUCTS DIVISION.
L. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			J. TREMCO INCORPORATED.
M. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			2. TYPE: MULTICOMPONENT (M).
N. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			3. GRADE: NONSAG (NS) 4. CLASS: 100/50.
O. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			5. USES RELATED TO EXPOSURE: NONTRAFFIC (NT).
P. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
Q. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
R. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
S. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
T. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
U. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
V. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
W. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
X. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
Y. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
Z. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AA. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AB. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AC. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AD. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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AH. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AI. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AJ. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AK. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AL. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AM. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
AN. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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BW. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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CQ. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CR. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CS. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CT. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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CV. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CW. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CX. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
CY. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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DH. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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DJ. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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DM. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DN. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DO. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DP. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DQ. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DR. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DS. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DT. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DU. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DV. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DW. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
DX. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			
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ED. POLYURETHANE SEALANT: 16 OUNCES PER SQUARE FOOT.			



PART 3 - EXECUTION

3.1 PREPARATION

- A. SURFACE CLEANING OF JOINTS: CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS.
1. REMOVE LAITANCE AND FORM-RELEASE AGENTS FROM CONCRETE.
  2. CLEAN NONPOROUS JOINT SUBSTRATE SURFACES WITH CHEMICAL CLEANERS OR OTHER MEANS THAT DO NOT STAIN, HARM SUBSTRATES, OR LEAVE RESIDUES CAPABLE OF INTERFERING WITH ADHESION OF JOINT SEALANTS.
- B. JOINT PRIMING: PRIME JOINT SUBSTRATES WHERE RECOMMENDED BY JOINT-SEALANT MANUFACTURER OR AS INDICATED BY PRECONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS OR PRIOR EXPERIENCE. APPLY PRIMER TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS. CONFINE PRIMERS TO AREAS OF JOINT- SEALANT BOND; DO NOT ALLOW SPILLAGE OR MIGRATION ONTO ADJOINING SURFACES.
- C. MASKING TAPE: USE MASKING TAPE WHERE REQUIRED TO PREVENT CONTACT OF SEALANT OR PRIMER WITH ADJOINING SURFACES THAT OTHERWISE WOULD BE PERMANENTLY STAINED OR DAMAGED BY SUCH CONTACT OR BY CLEANING METHODS REQUIRED TO REMOVE SEALANT SMEARS. REMOVE TAPE IMMEDIATELY AFTER TOOLING WITHOUT DISTURBING JOINT SEAL.

3.2 INSTALLATION

- A. SEALANT INSTALLATION STANDARD: COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.
- B. INSTALL SEALANT BACKINGS OF KIND INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
1. DO NOT LEAVE GAPS BETWEEN ENDS OF SEALANT BACKINGS.
  2. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR SEALANT BACKINGS.
  3. REMOVE ABSORBENT SEALANT BACKINGS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.
- C. INSTALL BOND-BREAKER TAPE BEHIND SEALANTS WHERE SEALANT BACKINGS ARE NOT USED BETWEEN SEALANTS AND BACKS OF JOINTS.
- D. INSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKINGS ARE INSTALLED:
1. PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
  2. COMPLETELY FILL RECESSES IN EACH JOINT CONFIGURATION.
  3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
- E. TOOLING OF NONSAG SEALANTS: IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED IN SUBPARAGRAPHS BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT.
1. REMOVE EXCESS SEALANT FROM SURFACES ADJACENT TO JOINTS.
  2. USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.
  3. PROVIDE CONCAVE JOINT PROFILE PER FIGURE 8A IN ASTM C 1193, UNLESS OTHERWISE INDICATED.
- F. ACOUSTICAL SEALANT INSTALLATION: COMPLY WITH ASTM C 919 AND WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- G. CLEAN OFF EXCESS SEALANT OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED IN WRITING BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

END OF SECTION

ACME BRICK COMPANY  
SECTION 04 21 00  
ARCHITECTURAL FACE BRICK

PART 1 GENERAL  
1.1 SECTION INCLUDES

- A. BRICK UNITS.  
B. REINFORCEMENT, ANCHORS, AND ACCESSORIES.  
1.2 RELATED SECTIONS

1.3 ALLOWANCES  
A. ALLOWANCE INCLUDED UNDER PROVISIONS OF SECTION 01210 - ALLOWANCES, INCLUDES ALL BRICK PRODUCTS INCLUDED IN THIS SPECIFICATION. INSTALLATION IS INCLUDED IN THIS SECTION AND IS PART OF CONTRACT SUMPRICE.

1.4 REFERENCES  
A. ASTM A153 - STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE  
B. ASTM C 216 - STANDARD SPECIFICATION FOR FACING BRICK (SOLID MASONRY UNITS MADE FROM CLAY OR SHALE)  
C. ASTM D 1056 - STANDARD SPECIFICATION FOR FLEXIBLE CELLULAR MATERIALS - SPONGE OR EXPANDED RUBBER.

1.5 SUBMITTALS

- A. SUBMIT UNDER PROVISIONS OF SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS.  
B. SELECTION SAMPLES: FOR EACH PRODUCT SPECIFIED, TWO COMPLETE SAMPLES OF BRICK TO REFLECT THE FULL RANGE OF COLOR, SHADES AND SURFACE TEXTURE OF BRICK SPECIFIED.  
C. VERIFICATION SAMPLES: FOR EACH PRODUCT SPECIFIED, TWO SAMPLES OF FOUR BRICK EACH, REPRESENTING ACTUAL PRODUCT, COLOR, AND TEXTURE.  
D. MANUFACTURER'S CERTIFICATES: CERTIFY PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

1.6 MOCKUP

- A. AS SOON AS THE BRICK AND STONE SAMPLES HAVE BEEN APPROVED, DELIVER ENOUGH BRICK TO THE JOB SITE TO CONSTRUCT A \_\_\_\_ FOOT BY \_\_\_\_ FOOT MOCKUP WALL PANEL.  
B. CONSTRUCT THE MOCKUP PANEL USING THE BRICK, MORTAR, REINFORCING, WEEP HOLES, TOOLING, AND CLEANING AS SPECIFIED, WITH APPROPRIATE BACKUP WALLS AS SHOWN ON THE DRAWING.  
C. THE APPROVED SAMPLE PANEL SHALL BE A STANDARD OF WORKMANSHIP FOR THE WORK.  
D. AS CONSTRUCTION PROCEEDS, THE FIRST FULL PANEL OF BRICKWORK BETWEEN EXPANSION JOINTS SHALL BECOME THE STANDARD OF WORKMANSHIP FOR ISSUES, SUCH AS HEAD JOINT ALIGNMENT, THAT ARE NOT APPARENT ON THE SMALLER MOCKUP PANEL.  
E. MOCKUP PANEL SHALL NOT BE REMOVED UNTIL MASONRY WORK REQUIRED BY THIS SECTION HAS BEEN COMPLETED AND ACCEPTED.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. DELIVER, STORE, AND HANDLE MATERIALS TO PREVENT INCLUSION OF FOREIGN MATERIALS AND DAMAGE BY WATER OR WEATHER. STORE PACKAGED MATERIALS IN THEIR ORIGINAL PACKAGES. REMOVE DAMAGED OR DETERIORATED MATERIALS FROM THE PREMISES  
1.8 PROJECT CONDITIONS  
A. FOLLOW HOT WEATHER AND COLD WEATHER REQUIREMENTS IN THE MASONRY CODE AND SPECIFICATIONS, TMS 402 AND TMS 602.

PART 2 PRODUCTS

- 2.1 MANUFACTURERS  
A. ACCEPTABLE MANUFACTURER: ACME BRICK COMPANY OR APPROVED EQUAL.

2.2 BRICK UNITS

- A. FACE BRICK: BRICK SHALL BE TYPE FBS OR HBS AS FOLLOWS:  
1. MODULAR IN SIZE, 2-1/4 BY 3-5/8 BY 7-5/8 INCHES, AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW.  
2. KING SIZE 2-5/8 BY 2-5/8 BY 9-5/8 INCHES AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW.  
3. QUEEN SIZE 2-3/4 BY 2-3/4 BY 7-5/8 INCHES, AND CONFORM TO THE REQUIREMENTS OF ASTM C 216 GRADE SW. USE FIELD CUT CLOSERS AS REQUIRED FOR HALF-BOND PATTERN.  
4. WESTERN QUEEN SIZE 2-13/16 BY 2-13/16 BY 8-5/8 INCHES, AND CONFORM TO THE REQUIREMENTS OF ASTM C 216 GRADE SW. USE FIELD CUT CLOSERS AS REQUIRED FOR HALF-BOND PATTERN.  
5. UTILITY 3-5/8 BY 3-5/8 BY 11-5/8 INCHES AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW. USE FIELD CUT CLOSERS AS REQUIRED FOR HALF-BOND PATTERN.  
6. CLOSURE 3-5/8 BY 3-5/8 BY 7-5/8 INCHES AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW.  
7. NORMAN 3-5/8 BY 2-1/4 BY 11-5/8 INCHES AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW. USE FIELD CUT CLOSERS AS REQUIRED FOR HALF-BOND PATTERN.  
8. ESTATE 3-5/8 BY 3-5/8 BY 15-5/8 INCHES AND CONFORM TO THE REQUIREMENTS OF ASTM C 216, GRADE SW. USE FIELD CUT CLOSERS AS R REQUIRED FOR HALF-BOND PATTERN.  
9. OTHER SIZES: \_\_\_\_\_

B. SPECIAL SHAPE FACE BRICKS SHALL BE AS DETAILED AND AT LOCATIONS AS INDICATED ON THE DRAWINGS.

2.3 ANCHORS AND TIES

- A. ACCEPTABLE MANUFACTURERS:  
1. PRODUCTS OF HOHMANN AND BARNARD AND HECKMAN BUILDING PRODUCTS, CONFORMING TO SPECIFICATION REQUIREMENTS ARE ACCEPTABLE.  
C. ANCHORS:  
1. SLOTTED ANCHORS OF TYPE DW10 SHALL BE USED WITH STEEL STUD OR WOOD STUD BACKUP WALLS UNLESS NOTED OTHERWISE.  
2. DUP-O-EYE OR EQUAL ANCHORS WELDED TO JOINT REINFORCING SHALL BE USED WITH MASONRY BACKUP WALLS. MISSING OR DAMAGED ANCHORS SHALL BE REPLACED AS NECESSARY WITH DW10 ANCHORS FASTENED TO WALL WITH CORROSION RESISTANT TAPCON SCREWS.  
3. ZINC COATING SHALL COMPLY WITH ASTM A153-B2.

2.4 ACCESSORIES

- A. WEEP HOLES: OPEN HEAD JOINTS EVERY THIRD BRICK AT LINTELS AND OTHER LOCATIONS.  
B. COMPRESSIBLE FILLER: PREMOULDED, FLEXIBLE CELLULAR NEOPRENE RUBBER FILLER STRIPS COMPLYING WITH ASTM D 1056, GRADE RE-1E1, CAPABLE OF COMPRESSION UP TO 35 PERCENT OF ITS DEPTH AND THICKNESS INDICATED.  
C. MORTAR NET: PROVIDE CONTINUOUS MORTAR NET ALONG BASE OF AIR SPACE TO CATCH MORTAR DRIPPINGS. HIGH-DENSITY POLYETHYLENE, 90 PERCENT OPEN MESH, DOVETAIL SHAPE.  
D. AS AN ALTERNATE TO MORTAR NET, EVERY THIRD BRICK MAY BE LEFT OUT AT BASE OF AIR SPACE AND CAVITY CLEANED AND INSPECTED TO BE FREE OF MORTAR DROPPINGS.

PART 3 EXECUTION

3.1 EXAMINATION

- A. DO NOT BEGIN INSTALLATION UNTIL BACKUP SUBSTRATES HAVE BEEN PROPERLY PREPARED.  
B. VERIFY FIELD CONDITIONS ARE ACCEPTABLE AND ARE READY TO RECEIVE WORK.  
C. VERIFY BUILT-IN ITEMS ARE IN PROPER LOCATION, AND READY FOR ROUGHING INTO MASONRY WORK.  
D. IF BACKUP SUBSTRATE AND OTHER PREPARATION WORK IS THE RESPONSIBILITY OF ANOTHER INSTALLER, NOTIFY ARCHITECT OF UNSATISFACTORY PREPARATION BEFORE PROCEEDING.

3.2 PREPARATION  
A. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION.  
B. FURNISH TEMPORARY BRACING DURING INSTALLATION OF MASONRY WORK. MAINTAIN IN PLACE UNTIL BUILDING STRUCTURE PROVIDES PERMANENT SUPPORT.

3.3 INSTALLATION

- A. PRE-WET ALL BRICK HAVING INITIAL RATE OF ABSORPTION GREATER THAN 30 BEFORE LAYING.  
B. HEAT WATER AND SAND IN COLD WEATHER. DO NOT LAY BRICK IN TEMPERATURE BELOW FREEZING UNLESS SUCH HEATING OF MATERIALS AND PROTECTION OF WORK IS PROPERLY PROVIDED FOR.  
C. LAY BRICKWORK TRUE TO DIMENSIONS, PLUMB, SQUARE, AND IN BOND. ALL COURSES SHALL BE LEVEL WITH JOINTS OF UNIFORM WIDTH AND HEIGHT.  
D. VERTICAL JOINTS IN FACING BOND WORK SHALL BE SPACED SO AS TO LINE UP PLUMB AND TRUE, AND ALL JOINTS SHALL BE AS UNIFORM AS THE TYPE OF BRICK WILL ALLOW.  
E. LAY FACING BRICK IN FULL MORTAR BED WITH SHOVED HEAD JOINTS. COMPLETELY FILL JOINTS WITH MORTAR. DO NOT DEEP FURROW BED JOINTS.  
F. ALLOW SPACE FOR CAULKING OF JOINTS AT FRAMES.  
G. BOND FOR FACING BRICK SHALL BE RUNNING BOND UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MATCH EXISTING BOND PATTERNS UNLESS NOTED OTHERWISE.  
H. ANCHOR FACING BRICK TO METAL STUDS OR MASONRY BACKUP AT 16 INCHES O.C. VERTICALLY AND 16 INCHES O.C. HORIZONTALLY WITH ADJUSTABLE ANCHORS AND TIES.  
I. JOINT THICKNESS SHALL BE SUCH AS TO PROVIDE COURSING PATTERN TO MATCH EXISTING BRICKWORK. WHEN THE JOINTS HAVE BECOME THUMBPRINT HARD, ALL EXPOSED JOINTS SHALL BE TOOLED WITH A SLED-JOINTING TOOL. THE JOINTER SHALL BE LARGER THAN THE WIDTH OF THE JOINTS SO THAT A COMPLETE CONTACT IS MADE ALONG THE EDGES OF THE UNITS, COMPRESSING AND SEALING THE SURFACE OF THE JOINT. JOINTS SHALL BE POINTED AS THE TOOL PROCEEDS.  
J. FORM WEEP HOLES IN HEAD JOINTS AT FACE BRICK OVER SHELF ANGLES AND LINTELS AND WHERE SHOWN ON THE DRAWINGS. RAKE OUT BED JOINT MORTAR TO CLEAN FLASHING SURFACE. WEEP HOLES SHALL BE FILLED WITH PREFORMED MESH TYPE VENT AT BOTTOM OF HEAD JOINTS NOT MORE THAN 24 INCHES O.C.  
K. KEEP AIR SPACE CLEAN OF MORTAR AT ALL TIMES. WHERE BRICK EXTENDS BELOW GRADE, FILL BRICK CAVITY SOLID TO LEVEL OF FLASHING AND SLOPE MORTAR SLIGHTLY TO OUTSIDE UNDER FLASHING.  
L. WHEN FLASHING IS TO BE LAID ON OR AGAINST MASONRY, THE SURFACE OF THE MASONRY SHALL BE SMOOTH AND FREE FROM PROJECTIONS THAT MIGHT PUNCTURE THE FLASHING MATERIAL.  
M. WHERE FRESH MASONRY JOINS MASONRY THAT IS PARTIALLY SET OR TOTALLY SET, THE EXPOSED SURFACE OF THE SET MASONRY SHALL BE CLEANED AND LIGHTLY WETTED SO AS TO OBTAIN THE BEST POSSIBLE BOND WITH THE NEW WORK. ALL LOOSE BRICK AND MORTAR SHALL BE REMOVED.  
N. EXPANSION JOINTS:  
1. VERTICAL: LOCATE WHERE INDICATED ON DRAWINGS. LAY UNITS TO FORM A VERTICAL JOINT FREE OF MORTAR AND OF SAME WIDTH AS NORMAL HEAD JOINT.  
2. HORIZONTAL: LOCATE UNDER SHELF ANGLES AND OTHER DISSIMILAR MATERIALS ABUTTED BY BRICK. MAINTAIN A CLEAR SPACE AT LEAST 1/4-INCH THICK FREE OF MORTAR. INSPECT WITH TROWEL BEFORE INSTALLING BACKER ROD AND SEALANT.  
3. SEALANT SHALL BE IN ACCORDANCE WITH SECTION 07 90 00 - JOINT PROTECTION.

3.4 FLASHING

- A. BUILD IN, AS THE WORK PROGRESSES ALL FLASHINGS WHICH ENTER THE MASONRY AS SPECIFIED IN SECTIONS 07600 SHEET METAL FLASHING AND 07670 THRU-WALL FLASHING.  
B. EXTEND ALL FLEXIBLE FLASHING 1 INCH PAST FACE OF WALL AND TRIM AFTER TOOLING JOINTS.  
C. WHERE METAL FLASHING OR DRIP EDGE IS SHOWN, ALIGN DRIP WITH FACE OF BRICK. EDGE OF FLASHING OR DRIP EDGE SHALL BE A SIMPLE HEM ROLLED EDGE AND NOT TURNED DOWN.

3.5 OPENINGS AND HOLES

- A. PROVIDE ALL CHASES AND RECESSES IN MASONRY WORK OF ALL TYPES AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR PIPES, DUCTS, AND OTHER WORK OF MECHANICAL AND ELECTRICAL TRADES. SUCH WORK SHALL BE ACCURATELY LOCATED BY THE TRADES REQUIRING THE WORK, BUT MASONRY WORK SHOWN NOT TO BE CONSTRUCTED WITHOUT GIVING OTHER TRADES DUE NOTICE AND OPPORTUNITY TO LAY OUT OR INSTALL SUCH ITEMS AS MAY BE REQUIRED FOR THEIR WORK.  
B. WHERE REQUIRED FOR INSTALLATION OF WORK OF OTHER TRADES, LEAVE OPENINGS AS INDICATED ON THE DRAWING OR AS REQUIRED TO RECEIVE A LATER INSTALLATION.  
C. AFTER WORK OF OTHER TRADES IS IN PLACE, OPENINGS SHALL BE NEATLY FILLED WITH MASONRY OF THE SAME TYPE AS IN THE ADJOINING SURFACES.

3.6 SETTING AND BUILDING-IN

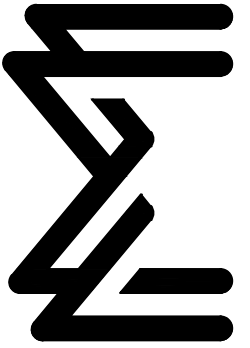
- A. BUILD-IN MATERIALS OCCURRING IN ANY TYPE OF MASONRY CONSTRUCTION THAT ARE FURNISHED BY OTHER TRADES. ALL BUILT-IN WORK SHALL BE ACCURATELY PLACED, SECURED, HELD IN POSITION, AND LOCATED BY THE TRADE REQUIRING THE WORK.  
B. SET AND BUILT-IN ITEMS OF RELATED MISCELLANEOUS IRON SUCH AS LOOSE LINTELS AND ANCHORS REQUIRED TO COMPLETE ALL PARTS NOT CONNECTED TO BUILDING FRAMING.  
C. SET ALL ANCHOR BOLTS REQUIRED FOR THE ATTACHMENT OF WORK TO MASONRY.  
D. BUILD-IN RECESSES, FLASHINGS, RECEIVERS, SLOTS, ANCHORS, SLEEVES AND OTHER WORK SHOWN ON DRAWINGS.

3.7 CLEANING

- A. AFTER TOOLING AND POINTING IS DONE, CLEAN FACE BRICK SURFACE WITH DRY BRUSH.  
B. AFTER 3 DAYS CLEAN WITH WATER AND MILD DETERGENT OR CLEANERS RECOMMENDED BY BRICK MANUFACTURER. DO NOT USE MURIATIC ACID.  
1. WET BRICK SURFACES THOROUGHLY BEFORE APPLYING CLEANING SOLUTION.  
2. APPLY CLEANING SOLUTION WITH BUCKET AND BRUSH OR LOW PRESSURE SPRAY.  
3. REMOVE ALL STAINS AND MORTAR STREAKS USING STIFF FIBER BRISTLE BRUSH.  
4. RINSE THOROUGHLY WITH WATER.  
5. PROTECT WINDOWS, LANDSCAPING, AND SURROUNDING MASONRY SURFACES FROM CLEANING SOLUTION AND RINSE WATER.

END OF SECTION

NOT USED



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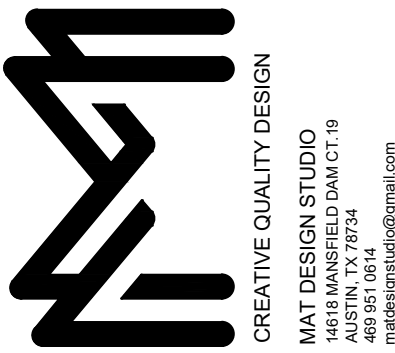
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<div>DIVISION 7 - THERMAL AND MOISTURE PROTECTION</div> <div>SECTION 07 54 23 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING</div> <div>PART 1 - GENERAL</div> <div>1.1 SUMMARY</div> <div><div>A. SECTION INCLUDES:</div><div><div>1. ADHERED TPO MEMBRANE ROOFING SYSTEM.</div><div>2. ROOF WALKWAYS.</div><div>3. VAPOR PERMEABLE AIR BARRIER.</div><div>4. ROOF INSULATION, TAPERED AND FLAT INSULATION.</div><div>5. TWO-COMPONENT INTERLOCKING FLASHING AT PERIMETER OF ROOFING SYSTEM.</div></div><div><div>B. PROVIDE TESTING OF HEAT-WELDED SEAMS.</div><div><div>C. PROVIDE EFVM TESTING OF ROOFING SYSTEM.</div></div><div><div>D. PROVIDE INFRARED SURVEY OF COMPLETED ROOF ASSEMBLY, PERFORMED BY INDEPENDENT THIRD PARTY TESTING AGENCY HIRED BY THE CONTRACTOR.</div></div><div>1.2 DEFINITIONS</div><div><div>A. TPO: THERMOPLASTIC POLYOLEFIN.</div><div>B. ROOFING TERMINOLOGY: SEE ASTM D 1079 AND GLOSSARY IN NRCA'S "THE NRCA ROOFING AND WATERPROOFING MANUAL" FOR DEFINITIONS OF TERMS RELATED TO ROOFING WORK IN THIS SECTION.</div></div><div>1.3 PERFORMANCE REQUIREMENTS</div><div><div>A. GENERAL PERFORMANCE: INSTALLED MEMBRANE ROOFING AND BASE FLASHINGS SHALL WITHSTAND SPECIFIED UPLIFT PRESSURES, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE DUE TO DEFECTIVE MANUFACTURE, FABRICATION, INSTALLATION, OR OTHER DEFECTS IN CONSTRUCTION. MEMBRANE ROOFING AND BASE FLASHINGS SHALL REMAIN WATERTIGHT.</div><div>B. MATERIAL COMPATIBILITY: PROVIDE ROOFING MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER UNDER CONDITIONS OF SERVICE AND APPLICATION REQUIRED, AS DEMONSTRATED BY MEMBRANE ROOFING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.</div><div>C. ROOFING SYSTEM DESIGN: PROVIDE MEMBRANE ROOFING SYSTEM THAT IS IDENTICAL TO SYSTEMS THAT HAVE BEEN SUCCESSFULLY TESTED BY A QUALIFIED TESTING AND INSPECTING AGENCY TO RESIST UPLIFT PRESSURE CALCULATED ACCORDING TO ASCE/SEI 7:<div><div>1. DESIGN ROOFING SYSTEM FOR ASCE-7-05 PEAK WIND SPEED (3 SECOND GUST) OF 90 MILES PER HOUR.<div>a. ADDITIONAL WIND UPLIFT PERFORMANCE REQUIREMENTS: DESIGN AND CONSTRUCT ROOFING TO IN ACCORDANCE WITH REQUIREMENTS OF FM 1-29 FOR ROOF SYSTEM APPROVAL RATING OF FM 1-75.</div></div><div>2. ABOVE-DECK ROOF COMPONENTS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF FM 1-29 FOR PERFORMANCE REQUIREMENTS SPECIFIED ABOVE.</div></div></div><div>D. SOLAR REFLECTANCE INDEX: NOT LESS THAN .78 WHEN CALCULATED ACCORDING TO ASTM E 1980, BASED ON TESTING IDENTICAL PRODUCTS BY A QUALIFIED TESTING AGENCY.</div></div><div>1.4 ACTION SUBMITTALS</div><div><div>A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.</div><div>B. SHOP DRAWINGS: FOR ROOFING SYSTEM. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.<div><div>1. BASE FLASHINGS AND MEMBRANE TERMINATIONS.</div><div>2. TAPERED INSULATION, INCLUDING SLOPES.</div><div>3. ROOF PLAN SHOWING ORIENTATION OF ROOF DECK AND ORIENTATION OF MEMBRANE ROOFING AND FASTENING SPACINGS AND PATTERNS FOR MECHANICALLY FASTENED MEMBRANE ROOFING.</div><div>4. INDICATE ROOF WALKWAY LOCATIONS.</div><div>5. INSULATION FASTENING PATTERNS FOR CORNER, PERIMETER, AND FIELD-OF-ROOF LOCATIONS.</div></div></div><div>C. SAMPLES FOR VERIFICATION: FOR THE FOLLOWING PRODUCTS:<div><div>1. SHEET ROOFING, OF COLOR SPECIFIED, INCLUDING T-SHAPED SIDE AND END LAP SEAM.</div><div>2. ROOF INSULATION.</div><div>3. WALKWAY PADS</div><div>4. WALKWAY ROLLS.</div><div>5. METAL TERMINATION BARS.</div><div>6. BATTENS.</div><div>7. SIX INSULATION FASTENERS OF EACH TYPE, LENGTH, AND FINISH.</div><div>8. SIX ROOF COVER FASTENERS OF EACH TYPE, LENGTH, AND FINISH.</div></div></div><div>1.5 INFORMATIONAL SUBMITTALS</div><div><div>A. QUALIFICATION DATA: FOR QUALIFIED INSTALLER AND MANUFACTURER.</div><div>B. MANUFACTURER CERTIFICATES: SIGNED BY ROOFING MANUFACTURER CERTIFYING THAT ROOFING SYSTEM COMPLIES WITH REQUIREMENTS SPECIFIED IN "PERFORMANCE REQUIREMENTS" ARTICLE.</div><div>C. PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY MANUFACTURER AND WITNESSED BY A QUALIFIED TESTING AGENCY, FOR COMPONENTS OF MEMBRANE ROOFING SYSTEM.</div><div>D. RESEARCH/EVALUATION REPORTS: FOR COMPONENTS OF MEMBRANE ROOFING SYSTEM, FROM THE ICC-ES.</div><div>E. FIELD QUALITY-CONTROL REPORTS.</div><div>F. WARRANTIES: SAMPLE OF SPECIAL WARRANTIES.</div></div><div>1.6 CLOSEOUT SUBMITTALS</div><div><div>A. MAINTENANCE DATA: FOR ROOFING SYSTEM TO INCLUDE IN MAINTENANCE MANUALS.</div></div><div>1.7 QUALITY ASSURANCE</div><div><div>A. MANUFACTURER QUALIFICATIONS: A QUALIFIED MANUFACTURER THAT IS UL LISTED FOR MEMBRANE ROOFING SYSTEM IDENTICAL TO THAT USED FOR THIS PROJECT.</div><div>B. INSTALLER QUALIFICATIONS: A QUALIFIED FIRM THAT IS APPROVED, AUTHORIZED, OR LICENSED BY MEMBRANE ROOFING SYSTEM MANUFACTURER TO INSTALL MANUFACTURER'S PRODUCT AND THAT IS ELIGIBLE TO RECEIVE MANUFACTURER'S SPECIAL WARRANTY.</div><div>C. SOURCE LIMITATIONS: OBTAIN COMPONENTS INCLUDING ROOF INSULATION AND FASTENERS FOR MEMBRANE ROOFING SYSTEM FROM SAME MANUFACTURER AS MEMBRANE ROOFING OR APPROVED BY MEMBRANE ROOFING MANUFACTURER.</div><div>D. EXTERIOR FIRE-TEST EXPOSURE: ASTM E 108, CLASS A; FOR APPLICATION AND ROOF SLOPES INDICATED, AS DETERMINED BY TESTING IDENTICAL MEMBRANE ROOFING MATERIALS BY A QUALIFIED TESTING AGENCY. MATERIALS SHALL BE IDENTIFIED WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.</div><div>E. FIRE-RESISTANCE RATINGS: WHERE INDICATED, PROVIDE FIRE-RESISTANCE-RATED ROOF ASSEMBLIES IDENTICAL TO THOSE OF ASSEMBLIES TESTED FOR FIRE RESISTANCE PER ASTM E 119 BY A QUALIFIED TESTING AGENCY. IDENTIFY PRODUCTS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.</div><div>F. PRELIMINARY ROOFING CONFERENCE: BEFORE STARTING ROOF DECK CONSTRUCTION, CONDUCT CONFERENCE AT PROJECT SITE.<div><div>1. MEET WITH OWNER, DESIGN TEAM, OWNER'S INSURER IF APPLICABLE, TESTING AND INSPECTING AGENCY REPRESENTATIVE, ROOFING INSTALLER, ROOFING SYSTEM MANUFACTURER'S REPRESENTATIVE, DECK INSTALLER, AND INSTALLERS WHOSE WORK INTERFACES WITH OR AFFECTS ROOFING, INCLUDING INSTALLERS OF ROOF ACCESSORIES AND ROOF-MOUNTED EQUIPMENT.</div><div>2. REVIEW METHODS AND PROCEDURES RELATED TO ROOFING INSTALLATION, INCLUDING MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>3. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLER'S PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.</div><div>4. REVIEW DECK SUBSTRATE REQUIREMENTS FOR CONDITIONS AND FINISHES, INCLUDING FLATNESS AND FASTENING.</div><div>5. REVIEW STRUCTURAL LOADING LIMITATIONS OF ROOF DECK DURING AND AFTER ROOFING.</div><div>6. REVIEW BASE FLASHINGS, SPECIAL ROOFING DETAILS, ROOF DRAINAGE, ROOF PENETRATIONS, EQUIPMENT CURBS, AND CONDITION OF OTHER CONSTRUCTION THAT WILL AFFECT ROOFING SYSTEM.</div><div>7. REVIEW GOVERNING REGULATIONS AND REQUIREMENTS FOR INSURANCE AND CERTIFICATES IF APPLICABLE.</div><div>8. REVIEW TEMPORARY PROTECTION REQUIREMENTS FOR ROOFING SYSTEM DURING AND AFTER INSTALLATION.</div><div>9. REVIEW ROOF OBSERVATION AND REPAIR PROCEDURES AFTER ROOFING INSTALLATION.</div></div></div><div>G. PREINSTALLATION ROOFING CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.<div><div>1. MEET WITH OWNER, ARCHITECT, OWNER'S INSURER IF APPLICABLE, TESTING AND INSPECTING AGENCY REPRESENTATIVE, ROOFING INSTALLER, ROOFING SYSTEM MANUFACTURER'S REPRESENTATIVE, DECK INSTALLER, AND INSTALLERS WHOSE WORK INTERFACES WITH OR AFFECTS ROOFING, INCLUDING INSTALLERS OF ROOF ACCESSORIES AND ROOF-MOUNTED EQUIPMENT.</div><div>2. REVIEW METHODS AND PROCEDURES RELATED TO ROOFING INSTALLATION, INCLUDING MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>3. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLER'S PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.</div><div>4. EXAMINE DECK SUBSTRATE CONDITIONS AND FINISHES FOR COMPLIANCE WITH REQUIREMENTS, INCLUDING FLATNESS AND FASTENING.</div><div>5. REVIEW STRUCTURAL LOADING LIMITATIONS OF ROOF DECK DURING AND AFTER ROOFING.</div><div>6. REVIEW BASE FLASHINGS, SPECIAL ROOFING DETAILS, ROOF DRAINAGE, ROOF PENETRATIONS, EQUIPMENT CURBS, AND CONDITION OF OTHER CONSTRUCTION THAT WILL AFFECT ROOFING SYSTEM.</div></div></div></div></div></div></div>	<div>1.8 DELIVERY, STORAGE, AND HANDLING</div> <div><div>A. DELIVER ROOFING MATERIALS TO PROJECT SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, APPROVAL OR LISTING AGENCY MARKINGS, AND DIRECTIONS FOR STORING AND MIXING WITH OTHER COMPONENTS.</div><div>B. STORE LIQUID MATERIALS IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY ROOFING SYSTEM MANUFACTURER. PROTECT STORED LIQUID MATERIAL FROM DIRECT SUNLIGHT.<div><div>1. DISCARD AND LEGALLY DISPOSE OF LIQUID MATERIAL THAT CANNOT BE APPLIED WITHIN ITS STATED SHELF LIFE.</div></div></div><div>C. PROTECT ROOF INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY SUNLIGHT, MOISTURE, SOILING, AND OTHER SOURCES. STORE IN A DRY LOCATION. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.</div><div>D. HANDLE AND STORE ROOFING MATERIALS AND PLACE EQUIPMENT IN A MANNER TO AVOID PERMANENT DEFLECTION OF DECK.</div></div> <div>1.9 PROJECT CONDITIONS</div> <div><div>A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT ROOFING SYSTEM TO BE INSTALLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.</div></div> <div>1.10 WARRANTY</div> <div><div>A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD OR CUSTOMIZED FORM, WITHOUT MONETARY LIMITATION, IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF MEMBRANE ROOFING SYSTEM THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.<div><div>1. SPECIAL WARRANTY INCLUDES MEMBRANE ROOFING, BASE FLASHINGS, ROOF INSULATION, FASTENERS, COVER BOARDS, SUBSTRATE BOARD, ROOFING ACCESSORIES AND OTHER COMPONENTS OF MEMBRANE ROOFING SYSTEM.</div><div>2. WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</div></div></div><div>2.1 TPO MEMBRANE ROOFING</div><div><div>A. FABRIC-REINFORCED THERMOPLASTIC POLYOLEFIN SHEET: ASTM D 6878, INTERNALLY FABRIC OR SCRIM REINFORCED, UNIFORM, FLEXIBLE FABRIC BACKED TPO SHEET.<div><div>1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING, OR APPROVED EQUAL:<div><div>a. CARLISLE SYNTEC INCORPORATED</div><div>b. FIRESTONE INC.</div></div></div><div>2. THICKNESS: 60 MILS (1.5 MM), NOMINAL.</div><div>3. EXPOSED FACE COLOR: GRAY OR TAN, AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE, HAVING SPECIFIED SOLAR REFLECTIVE INDEX.</div></div></div><div>2.2 AUXILIARY MEMBRANE ROOFING MATERIALS</div><div><div>A. GENERAL: AUXILIARY MEMBRANE ROOFING MATERIALS RECOMMENDED BY ROOFING SYSTEM MANUFACTURER FOR INTENDED USE, AND COMPATIBLE WITH MEMBRANE ROOFING.<div><div>1. LIQUID-TYPE AUXILIARY MATERIALS SHALL COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.</div><div>2. ADHESIVES AND SEALANTS THAT ARE NOT ON THE EXTERIOR SIDE OF WEATHER BARRIER SHALL COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24):<div><div>a. PLASTIC FOAM ADHESIVES: 50 G/L.</div><div>b. GYPSUM BOARD AND PANEL ADHESIVES: 50 G/L.</div><div>c. MULTIPURPOSE CONSTRUCTION ADHESIVES: 70 G/L.</div><div>d. FIBERGLASS ADHESIVES: 80 G/L.</div><div>e. SINGLE-PLY ROOF MEMBRANE ADHESIVES: 250 G/L.</div><div>f. OTHER ADHESIVES: 250 G/L.</div><div>g. SINGLE-PLY ROOF MEMBRANE SEALANTS: 450 G/L.</div><div>h. NONMEMBRANE ROOF SEALANTS: 300 G/L.</div><div>i. SEALANT PRIMERS FOR NONPOROUS SUBSTRATES: 250 G/L.</div><div>j. SEALANT PRIMERS FOR POROUS SUBSTRATES: 775 G/L.</div></div></div></div><div>B. SHEET FLASHING: MANUFACTURER'S STANDARD UNREINFORCED THERMOPLASTIC POLYOLEFIN SHEET FLASHING, 55 MILS (1.4 MM) THICK, MINIMUM, OF SAME COLOR AS SHEET MEMBRANE.</div><div>C. BONDING ADHESIVE: MANUFACTURER'S STANDARD.</div><div>D. SLIP SHEET: MANUFACTURER'S STANDARD, OF THICKNESS REQUIRED FOR APPLICATION.</div><div>E. METAL TERMINATION BARS: MANUFACTURER'S STANDARD, PREDRILLED STAINLESS-STEEL OR ALUMINUM BARS, APPROXIMATELY 1 BY 1/8 INCH (25 BY 3 MM) THICK, WITH ANCHORS.</div><div>F. METAL BATTENS: MANUFACTURER'S STANDARD, ALUMINUM-ZINC-ALLOY-COATED OR ZINC-COATED STEEL SHEET, APPROXIMATELY 1 INCH WIDE BY 0.05 INCH THICK (25 MM WIDE BY 1.3 MM THICK), PREPUNCHED.</div><div>G. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM APPROVALS 4470, DESIGNED FOR FASTENING MEMBRANE TO SUBSTRATE, AND ACCEPTABLE TO MEMBRANE ROOFING SYSTEM MANUFACTURER.</div><div>H. MISCELLANEOUS ACCESSORIES: PROVIDE POURABLE SEALERS, PREFORMED CONE AND VENT SHEET FLASHINGS, PREFORMED INSIDE AND OUTSIDE CORNER SHEET FLASHINGS, T-JOINT COVERS, LAP SEALANTS, TERMINATION REGLETS, AND OTHER ACCESSORIES.</div></div><div>2.3 SUBSTRATE BOARDS</div><div><div>A. SUBSTRATE BOARD: ASTM C 1177/C 1177M, GLASS-MAT, WATER-RESISTANT GYPSUM SUBSTRATE, TYPE X, 5/8 INCH (16 MM) THICK.<div><div>1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:<div><div>a. GEORGIA-PACIFIC CORPORATION: DENS DECK.</div></div></div></div><div>B. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM APPROVALS 4470, DESIGNED FOR FASTENING SUBSTRATE BOARD TO ROOF DECK.</div></div><div>2.4 VAPOR PERMEABLE AIR AND WATER BARRIER</div><div><div>A. BASIS OF DESIGN: TO ESTABLISH A STANDARD OF QUALITY, DESIGN AND FUNCTION DESIRED, DRAWINGS AND SPECIFICATIONS HAVE BEEN BASED ON W.R. GRACE &amp; CO., PRODUCT: "PERMA-A-BARRIER VPS (AIR &amp; VAPOR BARRIER)".</div><div>B. SHEET MEMBRANE: PREFABRICATED COMPOSITE SHEET 0.9 MM (36 MILS) OF SELF-ADHESIVE RUBBERIZED ASPHALT INTEGRALLY BONDED TO 0.3 MM (4 MILS) OF CROSS-LAMINATED, HIGH-DENSITY POLYETHYLENE FILM TO PROVIDE A MINIMUM 1 MM (40 MIL) THICK MEMBRANE. MEMBRANE SHALL BE INTERLEAVED WITH DISPOSABLE SILICONE-COATED RELEASE PAPER UNTIL INSTALLED.<div><div>1. PHYSICAL PROPERTIES<div><div>a. WATER VAPOR TRANSMISSION (ASTM E 96, METHOD B): 202 GM/24 HOURS, (29 PERMS).</div><div>b. WATER VAPOR PERMEABILITY: 1658 NGPA M2 S.</div><div>c. PEEL ADHESION TO UNPRIMED PLYWOOD (TESTED PER ICC ES AC48):</div><div>d. CONTROL BASELINE: 62 LB/FT (905N/M).</div><div>e. AFTER 7 DAY WATER IMMERSION: 54 LB/FT (789N/M).</div><div>f. AFTER ACCELERATED AGING: 72 LB/FT (1049N/M).</div><div>g. AFTER UV EXPOSURE: 77 LB/FT (1125N/M).</div><div>h. ACCELERATED AGING (TESTED PER ICC ES AC48): 25 CYCLE TEST, PASSED.</div><div>i. CYCLING AND ELONGATION: (TESTED PER ICC ES AC48): 100 CYCLE TEST AT MINUS 20 DEGREES F., PASSED.</div><div>j. CRITERIA FOR TAPERS: 100 CYCLE TEST, PASSED.</div><div>k. FLAME SPREAD INDEX (ASTM E 84): CLASS A.</div><div>l. SMOKE DEVELOPED (ASTM E 84): 105, CLASS A.</div></div></div><div>2. ACCEPTABLE PRODUCTS:<div><div>a. HENRY COMPANY, INC., PRODUCT: "BLUESKIN VP160".</div><div>b. GRACE, PRODUCT: "PERMA-A-BARRIER VPS MEMBRANE".</div><div>c. W.R. MEADOWS, INC., PRODUCT: "AIR-SHIELD LMP".</div></div></div><div>C. PRIMER: RUBBER-BASED PRIMER IN SOLVENT, AS RECOMMENDED BY SHEET VAPOR BARRIER MANUFACTURER FOR SUBSTRATE CONDITIONS, AND WHEN APPLIED WILL NOT AFFECT WATER VAPOR TRANSMISSION OF MEMBRANE.<div><div>1. VOC CONTENT: LESS THAN 680 G/L.</div></div></div><div>D. LIQUID MEMBRANE: TAPE, CRACK FILLER, MASTICS, AND ACCESSORIES AS RECOMMENDED BY THE SHEET MEMBRANE MANUFACTURER AND WHEN APPLIED WILL NOT AFFECT WATER VAPOR TRANSMISSION OF MEMBRANE.</div><div>E. TERMINATION SEALANT: MANUFACTURER'S STANDARD MEDIUM MODULUS MASTIC OR SEALANT WHICH IS FULLY COMPATIBLE WITH SHEET AIR BARRIER, ROOFING AND WATERPROOFING MEMBRANES AND SUBSTRATE.<div><div>1. VOC CONTENT: LESS THAN 200 G/L.</div></div></div></div><div>2.5 ROOF INSULATION</div><div><div>A. GENERAL: PREFORMED ROOF INSULATION BOARDS MANUFACTURED OR APPROVED BY TPO MEMBRANE ROOFING MANUFACTURER, SELECTED FROM MANUFACTURER'S STANDARD SIZES SUITABLE FOR APPLICATION, OF THICKNESSES INDICATED.<div><div>1. EXTRUDED-POLYSTYRENE BOARD INSULATION: ASTM C 578, TYPE IV, 1.5-LB/CU. FT. (26-KG/CU. M) MINIMUM DENSITY, SQUARE EDGED.</div><div>2. TAPERED INSULATION: PROVIDE FACTORY-TAPERED INSULATION BOARDS FABRICATED TO SLOPE OF 1/4 INCH PER 12 INCHES (1:48) UNLESS OTHERWISE INDICATED.</div></div></div><div>B. DISCARD AND LEGALLY DISPOSE OF LIQUID MATERIAL THAT CANNOT BE APPLIED WITHIN ITS STATED SHELF LIFE.</div><div>C. PROTECT ROOF INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY SUNLIGHT, MOISTURE, SOILING, AND OTHER SOURCES. STORE IN A DRY LOCATION. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.</div><div>D. HANDLE AND STORE ROOFING MATERIALS AND PLACE EQUIPMENT IN A MANNER TO AVOID PERMANENT DEFLECTION OF DECK.</div></div><div>2.6 INSULATION ACCESSORIES</div><div><div>A. GENERAL: FURNISH ROOF INSULATION ACCESSORIES RECOMMENDED BY INSULATION MANUFACTURER FOR INTENDED USE AND COMPATIBILITY WITH MEMBRANE ROOFING.<div><div>B. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM APPROVALS 4470, DESIGNED FOR FASTENING ROOF INSULATION AND COVER BOARDS TO SUBSTRATE, AND ACCEPTABLE TO ROOFING SYSTEM MANUFACTURER.</div><div>C. FULL-SPREAD APPLIED INSULATION ADHESIVE: INSULATION MANUFACTURER'S RECOMMENDED SPRAY-APPLIED, LOW-RISE, TWO-COMPONENT URETHANE ADHESIVE FORMULATED TO ATTACH ROOF INSULATION TO SUBSTRATE OR TO ANOTHER INSULATION LAYER.</div></div></div><div>D. COVER BOARD: ASTM C 1177/C 1177M, GLASS-MAT, WATER-RESISTANT GYPSUM SUBSTRATE, 1/2 INCH (13 MM) THICK.<div><div>1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:<div><div>a. GEORGIA-PACIFIC CORPORATION: DENS DECK.</div></div></div></div><div>2.7 ACCESSORIES</div><div><div>A. COATED METAL TRIM: 18GAUGE (0.6 MM) GALVANIZED STEEL SHEET THAT IS COATED WITH A LAYER OF 0.035 INCH NON-REINFORCED TPO FLASHING. MEMBRANE MAY BE WELDED DIRECTLY TO THE COATED METAL, ELIMINATING THE NEED TO STRIP IN THE METAL WITH A SEPARATE PIECE OF TPO PRESSURE SENSITIVE COVER STRIP.<div><div>1. BASIS OF DESIGN: CARLISLE SYNTEC INC., PRODUCT "SURE-WELD COATED METAL".</div></div></div><div>B. PREFORMED, TWO-PIECE CAP FLASHING (PROVIDED AT PERIMETER OF ROOFING SYSTEM): 26 GAGE STAINLESS STEEL WITH #20 (MIL) FINISH. FLASHING TO CONSIST OF SURFACE MOUNTED RECEIVER AND COUNTER FLASHING. FLASHING TO HAVE MECHANICAL VERTICAL LOCKING THAT REQUIRES NO BENDING.<div><div>1. ACCEPTABLE MANUFACTURERS, OR APPROVED EQUAL:<div><div>a. LONG ISLAND TINSMITH SUPPLY CORP (LITSCO).</div><div>b. KEYSTONE FLASHING COMPANY, INC.</div><div>c. OR APPROVED EQUAL.</div></div></div></div></div><div>2.8 WALKWAYS</div><div><div>A. WALKWAY PAVERS: PRECAST CONCRETE PAVERS-SOLID CONCRETE MASONRY UNITS: 24 BY 24 BY 2 INCHES-FABRICATED FROM NORMAL-WEIGHT AGGREGATES CONFORMING TO ASTM C-69, PORTLAND CEMENT, AIR-ENTRAPPING AGENTS, AND INTERNAL WATER-REPELLANTS, FINELY GROUND SILICA, INTEGRAL COLORANTS, AND OTHER FILLER MATERIALS, HAVING A COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI, BY MANUFACTURER ACCEPTABLE TO ROOFING MANUFACTURER.</div></div><div>PART 3 - EXECUTION</div><div>3.1 EXAMINATION</div><div><div>A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH THE FOLLOWING REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE OF ROOFING SYSTEM.<div><div>1. VERIFY THAT ROOF OPENINGS AND PENETRATIONS ARE IN PLACE AND CURBS ARE SET AND BRACED AND THAT ROOF DRAIN BODIES ARE SECURELY CLAMPED IN PLACE.</div><div>2. VERIFY THAT WOOD BLOCKING, CURBS, AND NAILERS ARE SECURELY ANCHORED TO ROOF DECK AT PENETRATIONS AND TERMINATIONS AND THAT NAILERS MATCH THICKNESSES OF INSULATION.</div><div>3. VERIFY THAT SURFACE PLANE, FLATNESS, AND FASTENING OF STEEL ROOF DECK COMPLIES WITH REQUIREMENTS IN SECTION 053100 STEEL DECKING.<div><div><del>VERIFY THAT MINIMUM CONCRETE CURBING PERIOD RECOMMENDED BY ROOFING SYSTEM MANUFACTURER HAS PASSED.</del></div><div><del>VERIFY THAT CONCRETE SUBSTRATE WHERE ON AND FREE OF MOISTURE-TEST FOR CARBONATE MOISTURE BY PLASTIC SHEET METHOD ACCORDING TO ASTM E 310.</del></div><div><del>VERIFY THAT CONCRETE CURBING COMPLETION DATE WILL IMPAIR ADHESION OF ROOFING COMPONENTS TO ROOF DECK HAVE BEEN DETERMINED.</del></div></div></div></div><div>B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.</div></div><div>3.2 PREPARATION</div><div><div>A. CLEAN SUBSTRATE OF DUST, DEBRIS, MOISTURE, AND OTHER SUBSTANCES DETRIMENTAL TO ROOFING INSTALLATION ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE SHARP PROJECTIONS.</div><div>B. PREVENT MATERIALS FROM ENTERING AND CLOGGING ROOF DRAINS AND CONDUCTORS AND FROM SPILLING OR MIGRATING ONTO SURFACES OF OTHER CONSTRUCTION. REMOVE ROOF-DRAIN PLUGS WHEN NO WORK IS TAKING PLACE OR WHEN RAIN IS FORECAST.</div><div>C. COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM AT THE END OF THE WORKDAY OR WHEN RAIN IS FORECAST. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFS.</div></div><div>3.3 SUBSTRATE BOARD</div><div><div>A. INSTALL SUBSTRATE BOARD WITH LONG JOINTS IN CONTINUOUS STRAIGHT LINES, PERPENDICULAR TO ROOF SLOPES WITH END JOINTS STAGGERED BETWEEN ROWS, TIGHTLY BUTT SUBSTRATE BOARDS TOGETHER.<div><div>1. FASTEN SUBSTRATE BOARD TO TOP FLANGES OF STEEL DECK ACCORDING TO RECOMMENDATIONS IN FM APPROVALS' "ROOFNAV" AND FM GLOBAL LOSS PREVENTION DATA SHEET 1-29 FOR SPECIFIED WINDSTORM RESISTANCE CLASSIFICATION.</div><div>2. FASTEN SUBSTRATE BOARD TO TOP FLANGES OF DECK TO RESIST UPLIFT PRESSURE AT CORNERS, PERIMETER, AND FIELD OF ROOF ACCORDING TO MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.</div></div></div></div><div>3.4 VAPOR-RETARDER INSTALLATION</div><div><div>A. POLYETHYLENE FILM: LOOSELY LAY POLYETHYLENE-FILM VAPOR RETARDER IN A SINGLE LAYER OVER AREA TO RECEIVE VAPOR RETARDER, SIDE AND END LAPPING EACH SHEET A MINIMUM OF 2 INCHES (50 MM) AND 6 INCHES (150 MM), RESPECTIVELY.<div><div>1. CONTINUOUSLY SEAL SIDE AND END LAPS WITH TAPE.</div></div></div><div>B. COMPLETELY SEAL VAPOR RETARDER AT TERMINATIONS, OBSTRUCTIONS, AND PENETRATIONS TO PREVENT AIR MOVEMENT INTO MEMBRANE ROOFING SYSTEM.</div></div><div>3.5 INSULATION INSTALLATION</div><div><div>A. COORDINATE INSTALLING MEMBRANE ROOFING SYSTEM COMPONENTS SO INSULATION IS NOT EXPOSED TO PRECIPITATION OR LEFT EXPOSED AT THE END OF THE WORKDAY.</div><div>B. COMPLY WITH MEMBRANE ROOFING SYSTEM AND INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ROOF INSULATION.</div><div>C. INSTALL TAPERED INSULATION UNDER AREA OF ROOFING TO CONFORM TO SLOPES INDICATED.</div><div>D. INSTALL INSULATION UNDER AREA OF ROOFING TO ACHIEVE REQUIRED THICKNESS, WHERE OVERALL INSULATION THICKNESS IS 2.7 INCHES (68 MM) OR GREATER, INSTALL TWO OR MORE LAYERS WITH JOINTS OF EACH SUCCEEDING LAYER STAGGERED FROM JOINTS OF PREVIOUS LAYER A MINIMUM OF 6 INCHES (150 MM) IN EACH DIRECTION.</div><div>E. TRIM SURFACE OF INSULATION WHERE NECESSARY AT ROOF DRAINS SO COMPLETED SURFACE IS FLUSH AND DOES NOT RESTRICT FLOW OF WATER.</div><div>F. INSTALL INSULATION WITH LONG JOINTS OF INSULATION IN A CONTINUOUS STRAIGHT LINE WITH END JOINTS STAGGERED BETWEEN ROWS, ABUTTING EDGES AND ENDS BETWEEN BOARDS. FIL GAPS EXCEEDING 1/4 INCH (6 MM) WITH INSULATION.<div><div>1. CUT AND FIT INSULATION WITHIN 1/4 INCH (6 MM) OF NAILERS, PROJECTIONS, AND PENETRATIONS.</div></div></div><div>G. MECHANICALLY FASTENED INSULATION: INSTALL EACH LAYER OF INSULATION AND SECURE TO DECK USING MECHANICAL FASTENERS SPECIFICALLY DESIGNED AND SIZED FOR FASTENING SPECIFIED BOARD-TYPE ROOF INSULATION TO DECK TYPE.<div><div>1. FASTEN INSULATION ACCORDING TO REQUIREMENTS IN FM APPROVALS' "ROOFNAV" FOR SPECIFIED WINDSTORM RESISTANCE CLASSIFICATION.</div><div>2. FASTEN INSULATION TO RESIST UPLIFT PRESSURE AT CORNERS, PERIMETER, AND FIELD OF ROOF.</div></div></div><div>H. MECHANICALLY FASTENED AND ADHERED INSULATION: INSTALL EACH LAYER OF INSULATION AND SECURE FIRST LAYER OF INSULATION TO DECK USING MECHANICAL FASTENERS SPECIFICALLY DESIGNED AND SIZED FOR FASTENING SPECIFIED BOARD-TYPE ROOF INSULATION TO DECK TYPE.<div><div>1. FASTEN FIRST LAYER OF INSULATION ACCORDING TO REQUIREMENTS IN FM APPROVALS' "ROOFNAV" FOR SPECIFIED WINDSTORM RESISTANCE CLASSIFICATION.</div><div>2. FASTEN FIRST LAYER OF INSULATION TO RESIST UPLIFT PRESSURE AT CORNERS, PERIMETER, AND FIELD OF ROOF.</div><div>3. SET EACH SUBSEQUENT LAYER OF INSULATION IN A SOLID MAPPING OF HOT ROOFING ASPHALT, APPLIED WITHIN PLUS OR MINUS 25 DEG F (14 DEG C) OF EQUIVISCIOUS TEMPERATURE.</div><div>4. SET EACH SUBSEQUENT LAYER OF INSULATION IN RIBBONS OF BEAD-APPLIED INSULATION ADHESIVE, FIRMLY PRESSING AND MAINTAINING INSULATION IN PLACE.</div><div>5. SET EACH SUBSEQUENT LAYER OF INSULATION IN A UNIFORM COVERAGE OF FULL-SPREAD INSULATION ADHESIVE, FIRMLY PRESSING AND MAINTAINING INSULATION IN PLACE.</div></div></div></div></div></div></div></div></div></div></div></div></div></div>	<div>3.6 ADHERED MEMBRANE ROOFING INSTALLATION</div> <div><div>A. ADHERE MEMBRANE ROOFING OVER AREA TO RECEIVE ROOFING AND INSTALL ACCORDING TO MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>B. START INSTALLATION OF MEMBRANE ROOFING IN PRESENCE OF MEMBRANE ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL.</div><div>C. ACCURATELY ALIGN MEMBRANE ROOFING AND MAINTAIN UNIFORM SIDE AND END LAPS OF MINIMUM DIMENSIONS REQUIRED BY MANUFACTURER. STAGGER END LAPS.</div><div>D. BONDING ADHESIVE: APPLY TO UNDERSIDE OF MEMBRANE ROOFING AT RATE REQUIRED BY MANUFACTURER AND ALLOW TO PARTIALLY DRY BEFORE INSTALLING MEMBRANE ROOFING. DO NOT APPLY TO SPLICE AREA OF MEMBRANE ROOFING.</div><div>E. IN ADDITION TO ADHERING, MECHANICALLY FASTEN MEMBRANE ROOFING SECURELY AT TERMINATIONS, PENETRATIONS, AND PERIMETER OF ROOFING.</div><div>F. APPLY MEMBRANE ROOFING WITH SIDE LAPS SHINGLED WITH SLOPE OF ROOF DECK WHERE POSSIBLE.</div><div>G. SEAMS: CLEAN SEAM AREAS, OVERLAP MEMBRANE ROOFING, AND HOT-AIR WELD SIDE AND END LAPS OF MEMBRANE ROOFING AND SHEET FLASHINGS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE A WATERTIGHT SEAM INSTALLATION.<div><div>1. TEST LAP EDGES WITH PROBE TO VERIFY SEAM WELD CONTINUITY. APPLY LAP SEALANT TO SEAL CUT EDGES OF SHEET MEMBRANE.</div><div>2. VERIFY FIELD STRENGTH OF SEAMS A MINIMUM OF TWICE DAILY AND REPAIR SEAM SAMPLE AREAS.</div><div>3. REPAIR TEARS, VOIDS, AND LAPPED SEAMS IN ROOFING THAT DOES NOT COMPLY WITH REQUIREMENTS.</div></div></div><div>H. SPREAD SEALANT BED OVER DECK DRAIN FLANGE AT ROOF DRAINS AND SECURELY SEAL MEMBRANE ROOFING IN PLACE WITH CLAMPING RING.</div></div> <div>3.7 BASE FLASHING INSTALLATION</div> <div><div>A. INSTALL SHEET FLASHINGS AND PREFORMED FLASHING ACCESSORIES AND ADHERE TO SUBSTRATES ACCORDING TO MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>B. APPLY BONDING ADHESIVE TO SUBSTRATE AND UNDERSIDE OF SHEET FLASHING AT REQUIRED RATE AND ALLOW TO PARTIALLY DRY. DO NOT APPLY TO SEAM AREA OF FLASHING.</div><div>C. FLASH PENETRATIONS AND FIELD-FORMED INSIDE AND OUTSIDE CORNERS WITH CURED OR UNCURED SHEET FLASHING.</div><div>D. CLEAN SEAM AREAS, OVERLAP, AND FIRMLY ROLL SHEET FLASHINGS INTO THE ADHESIVE. HOT-AIR WELD SIDE AND END LAPS TO ENSURE A WATERTIGHT SEAM INSTALLATION.</div><div>E. TERMINATE AND SEAL TOP OF SHEET FLASHINGS AND MECHANICALLY ANCHOR TO SUBSTRATE THROUGH TERMINATION BARS.</div></div> <div>3.8 WALKWAY INSTALLATION</div> <div><div>A. FLEXIBLE WALKWAYS: INSTALL WALKWAY PRODUCTS IN LOCATIONS INDICATED. HEAT WELD TO SUBSTRATE OR ADHERE WALKWAY PRODUCTS TO SUBSTRATE WITH COMPATIBLE ADHESIVE ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.</div></div> <div>3.9 FIELD QUALITY CONTROL</div> <div><div>A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS.</div><div>B. FINAL ROOF INSPECTION: ARRANGE FOR ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL TO INSPECT ROOFING INSTALLATION ON COMPLETION.</div><div>C. REPAIR OR REMOVE AND REPLACE COMPONENTS OF MEMBRANE ROOFING SYSTEM WHERE INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.</div><div>D. ADDITIONAL INSPECTIONS, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.</div><div>E. ELECTRIC VECTOR FIELD MAPPING (EFVM): CONFIRM INTEGRITY OF INSTALLED WATERPROOFING MEMBRANE BY TESTING MEMBRANE FOR HOLES, OPEN SEAMS AND CAPILLARY DEFECTS THAT WILL ALLOW WATER INTRUSION.<div><div>1. ELECTRIC BREACH DETECTION PROCEDURE:<div><div>a. CONDUCT TESTING AFTER INSTALLING MEMBRANE AND BEFORE PLACING PAVERS, TEST TO VERIFY MEMBRANE IS WATERTIGHT.</div><div>b. SCHEDULE TESTING TO BEST MEET PROJECT DEMANDS AND CONSTRUCTION SCHEDULE WITH AMPLE TIME TO ALLOW FOR REPAIRS OF DEFECTS AND CONSEQUENTIAL RETESTING.</div><div>c. IF BREACHES ARE FOUND, CONDUCT RETEST AFTER REPAIRS TO MEMBRANE HAVE BEEN COMPLETED.</div><div>d. CONDUCT THIRD AND FINAL TEST AFTER PAVER PLACEMENT TO VERIFY THAT NO DAMAGE HAS BEEN DONE TO THE MEMBRANE DURING INSTALLATION OF PAVERS.</div></div></div><div>2. PLACEMENT OF ELECTRIC BREACH DETECTION WIRING:<div><div>a. PROVIDE STATIONARY IMPULSE CONDUCTOR WIRE ALONG PERIMETERS OF DESIGNATED AREAS. INDIVIDUAL TEST AREAS WILL TYPICALLY RANGE BETWEEN 2000 SF AND 7,500 SF. THE TESTING AGENCY WILL DETERMINE SIZE AND SHAPE OF EACH DESIGNATED AREA BASED ON FIELD CONDITIONS.<div><div>1) MORE THAN ONE TEST AREA MAY BE TESTED WITHIN ANY GIVEN TESTING PERIOD.</div></div></div><div>b. PLACE THE CONDUCTOR WIRE APPROXIMATELY 6 INCHES FROM PERIMETER OF EACH TEST AREA AND SECURE AGAINST ACCIDENTAL MOVEMENT OR DAMAGE OR CONCEAL COMPLETELY IF NECESSARY SO AS NOT TO CREATE A TRIPPING HAZARD. IDEALLY, PLACE CONDUCTOR WIRE DIRECTLY ON THE MEMBRANE OR WITHIN LAYERS OF GEO-TEXTILE THAT WILL CONTACT THE MEMBRANE. RUN THE CONDUCTOR WIRES TO PREDETERMINED LOCATIONS AND LEAVE ACCESSIBLE FOR FUTURE TESTING.</div><div>c. ISOLATE ALL CONDUCTIVE COMPONENTS THAT PENETRATE THE MEMBRANE OR CONTACT BOTH THE MEMBRANE AND THE STRUCTURE BY OUTLINING EACH ITEM WITH SEVERAL ADDITIONAL STRANDS OF CONDUCTOR WIRE TO ISOLATE THE FIELD OR BY REMOVING THE METAL ITEMS TEMPORARILY IF POSSIBLE.</div><div>d. WHERE GROUNDING SOIL OR STRUCTURE CONTACTS THE MEMBRANE, ISOLATE TEST AREA BY PLACING SEVERAL ADDITIONAL PARALLEL STRANDS OF CONDUCTOR WIRE.</div></div></div><div>3. TESTING PROCEDURE:<div><div>a. ATTACH EFVM IMPULSE GENERATOR TO CONDUCTOR WIRE AND GROUND OR BUILDING STRUCTURE CREATING A POTENTIAL CIRCUIT. THE CIRCUIT WILL COMPLETE IF WATER FINDS A PATH TO GROUND BY WAY OF A BREACH IN MEMBRANE.</div><div>b. CREATE A CONTINUOUS CONDUCTING "PLATE" ABOVE THE MEMBRANE BY WETTING SOME OR ALL OF THE TEST AREA WITH WATER. TEST ONLY AREAS THAT ARE WETTED.</div><div>c. DELIVER A ONE SECOND LONG 40 VOLT POTENTIAL ELECTRICAL IMPULSE TO THE CONDUCTOR WIRE AT AN AVERAGE RATE OF ONE IMPULSE EVERY TWO OR THREE SECONDS.</div><div>d. DETECT THE PRESENCE OR ABSENCE OF ELECTRICAL FLOW ACROSS THE SURFACE OF THE MEMBRANE BY SYSTEMATICALLY CONTACTING THE FIELD WITH TWO NONINVASIVE PROBES AND READING THE PENTOMETER LINKED BETWEEN THEM.</div></div></div><div>4. RESULTS OF TESTING<div><div>a. IF, AFTER A SYSTEMATIC SEARCH, NO CONCENTRATION OF ELECTRICAL FLOW IS FOUND, THE INSTALLED MEMBRANE IN THAT AREA TESTED IS DETERMINED TO BE FREE OF BREACHES, SEAM AND CAPILLARY DEFECTS AND WILL BE CONSIDERED WATERPROOF AT THAT TIME.</div><div>b. IF CONCENTRATIONS OF ELECTRICAL FLOW ARE FOUND, TRACE AND IDENTIFY ALL CONTACT POINTS AND THEREFORE ANY BREACHES IN THE MEMBRANE, DOCUMENT ON A DRAWING AND PROVIDE A WRITTEN REPORT - IMMEDIATELY IF POSSIBLE SHOWING THE EXACT LOCATION OF BREACHES FOUND IN THE INSTALLED MEMBRANE IN THE AREA TESTED.</div><div>c. RE-TEST REPAIRED DEFECTS.</div><div>d. RECORD EACH DAY'S TEST RESULTS WITH A WRITTEN DESCRIPTION AND PHOTOGRAPHS OF ALL BREACHES AND ANY CORRECTIONS MADE AND A SCHEMATIC CAD DRAWING AND PROVIDE THREE COPIES OF THE REPORT AT THE COMPLETION OF THE WATERPROOFING OR ROOFING WORK.</div><div>e. ENGAGE AN INDEPENDENT TESTING AGENCY TO OBSERVE TESTING AND EXAMINE UNDERSIDE OF DECKS AND TERMINATIONS FOR EVIDENCE OF LEAKS DURING TESTING.</div><div>f. WHEN ALL AREAS HAVE BEEN TESTED, SUBMIT FINAL REPORT STATING THAT THE WATERPROOFING SYSTEM IS "TOTALLY WATERPROOF" CONSISTENT WITH WARRANTY REQUIREMENTS OF THE ROOFING SYSTEM MANUFACTURER.</div></div></div><div>3.10 PROTECTING AND CLEANING</div><div><div>A. PROTECT MEMBRANE ROOFING SYSTEM FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD. WHEN REMAINING CONSTRUCTION WILL NOT AFFECT OR ENDANGER ROOFING, INSPECT ROOFING FOR DETERIORATION AND DAMAGE, DESCRIBING ITS NATURE AND EXTENT IN A WRITTEN REPORT, WITH COPIES TO ARCHITECT AND OWNER.</div><div>B. CORRECT DEFICIENCIES IN OR REMOVE MEMBRANE ROOFING SYSTEM THAT DOES NOT COMPLY WITH REQUIREMENTS, REPAIR SUBSTRATES, AND REPAIR OR REINSTALL MEMBRANE ROOFING SYSTEM TO A CONDITION FREE OF DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION AND ACCORDING TO WARRANTY REQUIREMENTS.</div><div>C. CLEAN OVERSPRAY AND SPILLAGE FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.</div></div><div>END OF SECTION 07 54 23</div></div></div></div>
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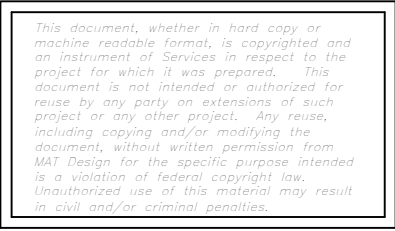
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<div>DIVISION 8- DOORS AND WINDOWS</div> <div>ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS</div> <div>PART - I</div> <div>GENERAL</div> <div>1.1 SUMMARY</div> <div>A SECTION INCLUDES:</div> <div>1. EXTERIOR AND INTERIOR STOREFRONT FRAMING.</div> <div>2. STOREFRONT FRAMING FOR WINDOW WALLS.</div> <div>3. STOREFRONT FRAMING FOR PUNCHED OPENINGS.</div> <div>4. EXTERIOR AND INTERIOR MANUAL-SWING ENTRANCE DOORS AND DOOR FRAME UNITS.</div> <div>1.2 PERFORMANCE REQUIREMENTS</div> <div>A GENERAL PERFORMANCE: ALUMINUM-FRAMED SYSTEMS SHALL WITHSTAND THE EFFECTS OF THE FOLLOWING PERFORMANCE REQUIREMENTS WITHOUT EXCEEDING PERFORMANCE CRITERIA OR FAILURE DUE TO DEFECTIVE MANUFACTURE, FABRICATION, INSTALLATION, OR OTHER DEFECTS IN CONSTRUCTION.</div> <div>1. MOVEMENTS OF SUPPORTING STRUCTURE INDICATED ON DRAWINGS INCLUDING, BUT NOT LIMITED TO, STORY DRIFT AND DEFLECTION FROM UNIFORMLY DISTRIBUTED AND CONCENTRATED LIVE LOADS.</div> <div>2. DIMENSIONAL TOLERANCES OF BUILDING FRAME AND OTHER ADJACENT CONSTRUCTION.</div> <div>3. FAILURE INCLUDES THE FOLLOWING:</div> <div>a. DEFLECTION EXCEEDING SPECIFIED LIMITS.</div> <div>b. THERMAL STRESSES TRANSFERRING TO BUILDING STRUCTURE.</div> <div>c. FRAMING MEMBERS TRANSFERRING STRESSES, INCLUDING THOSE CAUSED BY THERMAL AND STRUCTURAL MOVEMENTS TO GLAZING.</div> <div>d. NOISE OR VIBRATION CREATED BY WIND AND BY THERMAL AND STRUCTURAL MOVEMENTS.</div> <div>e. LOOSENING OR WEAKENING OF FASTENERS, ATTACHMENTS, AND OTHER COMPONENTS.</div> <div>f. FAILURE OF OPERATING UNITS.</div> <div>B DELEGATED DESIGN: DESIGN ALUMINUM-FRAMED SYSTEMS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.</div> <div>C WIND LOADS: 100MPH.</div> <div>D DEFLECTION OF FRAMING MEMBERS:</div> <div>1. DEFLECTION NORMAL TO WALL PLANE: LIMITED TO EDGE OF GLASS IN A DIRECTION PERPENDICULAR TO GLASS PLANE SHALL NOT EXCEED 1/175 OF THE GLASS EDGE LENGTH FOR EACH INDIVIDUAL GLAZING LITE OR AN AMOUNT THAT RESTRICTS EDGE DEFLECTION OF INDIVIDUAL GLAZING LITES TO 3/4 INCH, WHICHEVER IS LESS.</div> <div>2. DEFLECTION PARALLEL TO GLAZING PLANE: LIMITED TO 1/360 OF CLEAR SPAN OR 1/8 INCH, WHICHEVER IS SMALLER.</div> <div>E STRUCTURAL-TEST PERFORMANCE: PROVIDE ALUMINUM-FRAMED SYSTEMS TESTED ACCORDING TO ASTM E 330 AS FOLLOWS:</div> <div>1. WHEN TESTED AT 150 PERCENT OF POSITIVE AND NEGATIVE WIND-LOAD DESIGN PRESSURES, SYSTEMS, INCLUDING ANCHORAGE, DO NOT EVIDENCE MATERIAL FAILURES, STRUCTURAL DISTRESS, AND PERMANENT DEFORMATION OF MAIN FRAMING MEMBERS EXCEEDING 0.2 PERCENT OF SPAN.</div> <div>2. TEST DURATIONS: 10 SECONDS.</div> <div>F AIR INFILTRATION: PROVIDE ALUMINUM-FRAMED SYSTEMS WITH MAXIMUM AIR LEAKAGE THROUGH FIXED GLAZING AND FRAMING AREAS OF 0.6 CFM/SQ. FT. OF FIXED WALL AREA WHEN TESTED ACCORDING TO ASTM E 283 AT A MINIMUM STATIC-AIR-PRESSURE DIFFERENCE OF 6.24 LBS/SQ. FT..</div> <div>G WATER PENETRATION UNDER STATIC PRESSURE: PROVIDE ALUMINUM-FRAMED SYSTEMS THAT DO NOT EVIDENCE WATER PENETRATION THROUGH FIXED GLAZING AND FRAMING AREAS WHEN TESTED ACCORDING TO ASTM E 331 AT A MINIMUM STATIC-AIR-PRESSURE DIFFERENCE OF 20 PERCENT OF POSITIVE WIND-LOAD DESIGN PRESSURE, BUT NOT LESS THAN 6.24 LBS/SQ. FT..</div> <div><del>MINIMUM ANTI-THERMAL SHOCKING: PROVIDE ALUMINUM-FRAMED SYSTEMS TO CONFORM TO THE UNITED STATES FACILITIES SECURITY ACT (50 USC 4302) AND THE FEDERAL BUREAU OF INVESTIGATION (FBI) STANDARDS FOR BUILDINGS.</del></div> <div>1.3 SUBMITTALS</div> <div>A PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.</div> <div>B SHOP DRAWINGS: FOR ALUMINUM-FRAMED SYSTEMS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.</div> <div>1. INCLUDE DETAILS OF PROVISIONS FOR SYSTEM EXPANSION AND CONTRACTION AND FOR DRAINAGE OF MOISTURE IN THE SYSTEM TO THE EXTERIOR.</div> <div>C SAMPLES: FOR EACH TYPE OF EXPOSED FINISH REQUIRED.</div> <div>D OTHER ACTION SUBMITTALS:</div> <div>1. ENTRANCE DOOR HARDWARE SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, DETAILING FABRICATION AND ASSEMBLY OF ENTRANCE DOOR HARDWARE, AS WELL AS PROCEDURES AND DIAGRAMS.</div> <div>E DELEGATED-DESIGN SUBMITTAL: FOR ALUMINUM-FRAMED SYSTEMS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.</div> <div>F PRODUCT TEST REPORTS.</div> <div>G MAINTENANCE DATA.</div> <div>H WARRANTIES: SAMPLE OF SPECIAL WARRANTIES.</div> <div>1.4 QUALITY ASSURANCE</div> <div>A INSTALLER QUALIFICATIONS: MANUFACTURERS' AUTHORIZED REPRESENTATIVE WHO IS TRAINED AND APPROVED FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.</div> <div>B TESTING AGENCY QUALIFICATIONS: QUALIFIED ACCORDING TO ASTM E 699 FOR TESTING INDICATED.</div> <div>C ENGINEERING RESPONSIBILITY: PREPARE DATA FOR ALUMINUM-FRAMED SYSTEMS, INCLUDING SHOP DRAWINGS, BASED ON TESTING AND ENGINEERING ANALYSIS OF MANUFACTURER'S STANDARD UNITS IN SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT.</div> <div>D PRODUCT OPTIONS: INFORMATION ON DRAWINGS AND IN SPECIFICATIONS ESTABLISHES REQUIREMENTS FOR SYSTEMS' AESTHETIC EFFECTS AND PERFORMANCE CHARACTERISTICS. AESTHETIC EFFECTS ARE INDICATED BY DIMENSIONS, ARRANGEMENTS, ALIGNMENT, AND PROFILES OF COMPONENTS AND ASSEMBLIES AS THEY RELATE TO SIGHTLINES, TO ONE ANOTHER, AND TO ADJOINING CONSTRUCTION. PERFORMANCE CHARACTERISTICS ARE INDICATED BY CRITERIA SUBJECT TO VERIFICATION BY ONE OR MORE METHODS INCLUDING PRECONSTRUCTION TESTING, FIELD TESTINGS, AND IN-SERVICE PERFORMANCE.</div> <div>E ACCESSIBLE ENTRANCES: COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL &amp; TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND ICC/ANSI A117.1.</div> <div>F SOURCE LIMITATIONS FOR ALUMINUM-FRAMED SYSTEMS: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.</div> <div>G PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.</div> <div>1.5 WARRANTY</div> <div>A SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF ALUMINUM-FRAMED SYSTEMS THAT DO NOT COMPLY WITH REQUIREMENTS OR THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.</div> <div>1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</div> <div>B SPECIAL FINISH WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS ON WHICH FINISHES DO NOT COMPLY WITH REQUIREMENTS OR THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. WARRANTY DOES NOT INCLUDE NORMAL WEATHERING.</div> <div>1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</div> <div>PART 2 - PRODUCTS</div> <div>2.1 MANUFACTURERS</div> <div>A BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS: PROVIDE VISTA WALL ARCHITECTURAL PRODUCTS, HEAVY WALL SWING ENTRANCE, OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:</div> <div>1. ARCADIA, INC.</div> <div>2. ARCH ALUMINUM &amp; GLASS CO., INC.</div> <div>3. CMI ARCHITECTURAL</div> <div>4. COMMERCIAL ARCHITECTURAL PRODUCTS, INC.</div> <div>5. EFCO CORPORATION.</div> <div>6. KAWNEER NORTH AMERICA: AN ALCOA COMPANY.</div> <div>7. LEED HIMMEL INDUSTRIES, INC.</div> <div>8. PITCO ARCHITECTURAL METALS, INC.</div> <div>9. TRACO</div> <div>10. TUBELITE</div> <div>11. UNITED STATES ALUMINUM.</div> <div>12. VISTAWALL ARCHITECTURAL PRODUCTS: THE VISTAWALL GROUP; A BLUESCOPE STEEL COMPANY.</div> <div>13. YKK AP AMERICA INC.</div> <div>14. MANKO WINDOW SYSTEMS, INC.</div> <div>15. OR LAURENCE.</div> <div>2.2 MATERIALS</div> <div>A ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY MANUFACTURER FOR TYPE OF USE AND FINISH INDICATED.</div> <div>1. SHEET AND PLATE: ASTM B 209.</div> <div>2. EXTRUDED BARS, RODS, PROFILES, AND TUBES: ASTM B 221.</div> <div>3. EXTRUDED STRUCTURAL PIPE AND TUBES: ASTM B 429.</div> <div>4. STRUCTURAL PROFILES: ASTM B 308/B 308M.</div> <div>5. WELDING RODS AND BARE ELECTRODES: AWS A5.10.</div> <div>B STEEL REINFORCEMENT: MANUFACTURER'S STANDARD ZINC-RICH, CORROSION-RESISTANT PRIMER, COMPLYING WITH SSPC-PS GUIDE NO. 12-00, APPLIED IMMEDIATELY AFTER SURFACE PREPARATION AND PRETREATMENT. SELECT SURFACE PREPARATION METHODS ACCORDING TO RECOMMENDATIONS IN SSPC-SP COM AND PREPARE SURFACES ACCORDING TO APPLICABLE SSPC STANDARD.</div> <div>1. STRUCTURAL SHAPES, PLATES, AND BARS: ASTM A 36.</div> <div>2. COLD-ROLLED SHEET AND STRIP: ASTM A 1008.</div> <div>3. HOT-ROLLED SHEET AND STRIP: ASTM A 1011.</div> <div>END OF SECTION</div>	<div>2.3 FRAMING SYSTEMS</div> <div>A FRAMING MEMBERS: MANUFACTURER'S STANDARD EXTRUDED-ALUMINUM FRAMING MEMBERS OF THICKNESS REQUIRED AND REINFORCED AS REQUIRED TO SUPPORT IMPOSED LOADS.</div> <div>1. CONSTRUCTION: BLAST RESISTANT.</div> <div>2. GLAZING SYSTEM: RETAINED MECHANICALLY WITH GASKETS ON FOUR SIDES.</div> <div>3. GLAZING PLANE: FRONT.</div> <div>B BRACKETS AND REINFORCEMENTS: MANUFACTURER'S STANDARD HIGH-STRENGTH ALUMINUM WITH NONSTAINING, NONFERROUS SHIMS FOR ALIGNING SYSTEM COMPONENTS.</div> <div>C FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.</div> <div>1. USE SELF-LOCKING DEVICES WHERE FASTENERS ARE SUBJECT TO LOOSENING OR TURNING OUT FROM THERMAL AND STRUCTURAL MOVEMENTS, WIND LOADS, OR VIBRATION.</div> <div>2. REINFORCE MEMBERS AS REQUIRED TO RECEIVE FASTENER THREADS.</div> <div>3. USE EXPOSED FASTENERS WITH COUNTERSUNK PHILLIPS SCREW HEADS, FINISHED TO MATCH FRAMING SYSTEM, FABRICATED FROM STAINLESS STEEL.</div> <div>D CONCRETE AND MASONRY INSERTS: HOT-DIP GALVANIZED CAST-IRON, MALLEABLE-IRON, OR STEEL INSERTS, COMPLYING WITH ASTM A 122 OR ASTM A 153.</div> <div>E CONCEALED FLASHING: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FLASHING COMPATIBLE WITH ADJACENT MATERIALS.</div> <div>F FRAMING SYSTEM GASKETS AND SEALANTS: MANUFACTURER'S STANDARD, RECOMMENDED BY MANUFACTURER FOR JOINT TYPE.</div> <div>1. PROVIDE SEALANTS FOR USE INSIDE OF THE WEATHERPROOFING SYSTEM THAT HAVE A VOC CONTENT OF 250 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div> <div>2.4 GLAZING SYSTEMS</div> <div>A GLAZING: AS SPECIFIED IN "GLAZING," SECTION</div> <div>B GLAZING GASKETS: MANUFACTURER'S STANDARD COMPRESSION TYPES; REPLACEABLE, MOLDED OR EXTRUDED, OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL.</div> <div>C SPACERS AND SETTING BLOCKS: MANUFACTURER'S STANDARD ELASTOMERIC TYPE.</div> <div>2.5 ENTRANCE DOOR SYSTEMS</div> <div>A ENTRANCE DOORS: MANUFACTURER'S STANDARD GLAZED ENTRANCE DOORS FOR MANUAL-SWING OPERATION.</div> <div>1. DOOR CONSTRUCTION: 1-3/4 INCH OVERALL THICKNESS, WITH MINIMUM 0.125-INCH THICK, EXTRUDED-ALUMINUM TUBULAR RAIL AND STYLE MEMBERS, MECHANICALLY FASTEN CORNERS WITH REINFORCING BRACKETS THAT ARE DEEPLY PENETRATED AND FILLET WELDED OR THAT INCORPORATE CONCEALED TIE RODS.</div> <div>2. DOOR DESIGN: WIDE STYLE: 5-INCH NOMINAL WIDTH.</div> <div>a. ACCESSIBLE DOORS: SMOOTH SURFACED FOR WIDTH OF DOOR IN AREA WITHIN 10 INCHES ABOVE FLOOR OR GROUND PLANE.</div> <div>3. GLAZING STOPS AND GASKETS: SQUARE, SNAP-ON OF EXTRUDED-ALUMINUM STOPS AND PREFORMED GASKETS.</div> <div>a. PROVIDE NONREMOVABLE GLAZING STOPS ON OUTSIDE OF DOOR.</div> <div>B ENTRANCE DOOR HARDWARE: AS SPECIFIED IN DIVISION 08 SECTION "DOOR HARDWARE" AND AS SPECIFIED BELOW:</div> <div>1. CONTINUOUS HINGES: CONTINUOUS HINGES SHALL CONSIST OF THREE (3)-INTERLOCKING EXTRUSIONS IN A PIN-LESS ASSEMBLY APPLIED TO THE FULL HEIGHT OF THE DOOR. ALL CONTINUOUS GEARED HINGES SHALL BE MANUFACTURED TO TEMPLATE SCREW LOCATIONS AND BE NON-HANDED. ALL MORTISE HINGES AND HALF MORTISE HINGES SHALL COVER AND WRAP THE DOOR EDGE COMPLETELY. DOORFRAME HEADS SHALL BE EXTENDED FOR CLEARANCE ON FULL OR HALF MORTISE HINGES VERSUS DATA AS INDICATED ON DRAWINGS.</div> <div>a. VERTICAL GLAZING: FOR GLASS SURFACES SLOPED 15 DEGREES OR LESS FROM VERTICAL, DESIGN GLASS TO RESIST DESIGN WIND PRESSURE BASED ON GLASS TYPE FACTORS FOR SHORT-DURATION LOAD.</div> <div>3. MAXIMUM LATERAL DEFLECTION: FOR GLASS SUPPORTED ON ALL FOUR EDGES, LIMIT CENTER-OF-GLASS DEFLECTION AT DESIGN WIND PRESSURE TO NOT MORE THAN 1/50 TIMES THE SHORT-SIDE LENGTH OR 1 INCH (25 MM), WHICHEVER IS LESS.</div> <div>4. DIFFERENTIAL SHADING: DESIGN GLASS TO RESIST THERMAL STRESSES INDUCED BY DIFFERENTIAL SHADING WITHIN INDIVIDUAL GLASS LITES.</div> <div>C THERMAL MOVEMENTS: ALLOW FOR THERMAL MOVEMENTS FROM AMBIENT AND SURFACE TEMPERATURE CHANGES ACTING ON GLASS FRAMING MEMBERS AND GLAZING COMPONENTS.</div> <div>1. TEMPERATURE CHANGE: 120 DEG F (67 DEG C), AMBIENT, 180 DEG F (100 DEG C), MATERIAL SURFACES.</div> <div>1.4 PRECONSTRUCTION TESTING</div> <div>A PRECONSTRUCTION ADHESION AND COMPATIBILITY TESTING: TEST EACH GLAZING MATERIAL TYPE, TAPE SEALANT, GASKET, GLAZING ACCESSORY, AND GLASS-FRAMING MEMBER FOR ADHESION TO AND COMPATIBILITY WITH ELASTOMERIC GLAZING SEALANTS.</div> <div>1. TESTING WILL NOT BE REQUIRED IF DATA ARE SUBMITTED BASED ON PREVIOUS TESTING OF CURRENT SEALANT PRODUCTS AND GLAZING MATERIALS MATCHING THOSE SUBMITTED.</div> <div>2. USE ASTM C 1087 TO DETERMINE WHETHER PRIMING AND OTHER SPECIFIC JOINT- PREPARATION TECHNIQUES ARE REQUIRED TO OBTAIN RAPID, OPTIMUM ADHESION OF GLAZING SEALANTS TO GLASS, TAPE SEALANTS, GASKETS, AND GLAZING CHANNEL SUBSTRATES.</div> <div>3. TEST NO FEWER THAN EIGHT SAMPLES OF EACH TYPE OF MATERIAL, INCLUDING JOINT SUBSTRATES, SHIMS, SEALANT BACKINGS, SECONDARY SEALS, AND MISCELLANEOUS MATERIALS.</div> <div>4. SCHEDULE SUFFICIENT TIME FOR TESTING AND ANALYZING RESULTS TO PREVENT DELAYING THE WORK.</div> <div>5. FOR MATERIALS FAILING TESTS, SUBMIT SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CORRECTIVE MEASURES INCLUDING THE USE OF SPECIALLY FORMULATED PRIMERS.</div> <div>1.5 ACTION SUBMITTALS</div> <div>A PRODUCT DATA: FOR EACH GLASS PRODUCT AND GLAZING MATERIAL INDICATED.</div> <div>B GLASS SAMPLES: FOR EACH TYPE OF THE FOLLOWING PRODUCTS; 12 INCHES (300 MM) SQUARE.</div> <div>1. COATED GLASS.</div> <div>2. INSULATING GLASS.</div> <div>C GLAZING ACCESSORY SAMPLES: FOR GASKETS, SEALANTS AND COLORED SPACERS, IN 12-INCH (300-MM) LENGTHS. INSTALL SEALANT SAMPLES BETWEEN TWO STRIPS OF MATERIAL REPRESENTATIVE IN COLOR OF THE ADJOINING FRAMING SYSTEM.</div> <div>D GLAZING SCHEDULE: LIST GLASS TYPES AND THICKNESSES FOR EACH SIZE OPENING AND LOCATION. USE SAME DESIGNATIONS INDICATED ON DRAWINGS.</div> <div>E DELEGATED-DESIGN SUBMITTAL: FOR GLASS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.</div> <div>1.6 INFORMATIONAL SUBMITTALS</div> <div>A QUALIFICATION DATA: FOR MANUFACTURERS OF INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS.</div> <div>B PRODUCT CERTIFICATES: FOR GLASS AND GLAZING PRODUCTS, FROM MANUFACTURER.</div> <div>C PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY A QUALIFIED TESTING AGENCY, FOR INSULATING GLASS GLAZING SEALANTS AND GLAZING GASKETS.</div> <div>1. FOR GLAZING SEALANTS, PROVIDE TEST REPORTS BASED ON TESTING CURRENT SEALANT FORMULATIONS WITHIN PREVIOUS 36-MONTH PERIOD.</div> <div>D PRECONSTRUCTION ADHESION AND COMPATIBILITY TEST REPORT.</div> <div>E WARRANTIES: SAMPLE OF SPECIAL WARRANTIES.</div> <div>1.7 QUALITY ASSURANCE</div> <div>A MANUFACTURER QUALIFICATIONS FOR INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS: A QUALIFIED INSULATING-GLASS MANUFACTURER WHO IS APPROVED BY COATED-GLASS MANUFACTURER.</div> <div>B GLASS TESTING AGENCY QUALIFICATIONS: A QUALIFIED INDEPENDENT TESTING AGENCY ACCREDITED ACCORDING TO THE NFRC CAP 1 CERTIFICATION AGENCY PROGRAM.</div> <div>C SEALANT TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM C 1021 TO CONDUCT THE TESTING INDICATED.</div> <div>D SOURCE LIMITATIONS FOR GLASS: OBTAIN COATED FLOAT GLASS, LAMINATED GLASS AND INSULATING GLASS FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH GLASS TYPE.</div> <div>E SOURCE LIMITATIONS FOR GLAZING ACCESSORIES: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH PRODUCT AND INSTALLATION METHOD.</div> <div>F GLAZING PUBLICATIONS: COMPLY WITH PUBLISHED RECOMMENDATIONS OF GLASS PRODUCT MANUFACTURERS AND ORGANIZATIONS BELOW, UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED. REFER TO THESE PUBLICATIONS FOR GLAZING TERMS NOT OTHERWISE DEFINED IN THIS SECTION OR IN REFERENCED STANDARDS.</div> <div>1. GANA PUBLICATIONS: GANA'S "LAMINATED GLAZING REFERENCE MANUAL" AND GANA'S "GLAZING MANUAL."</div> <div>2. IGMA PUBLICATION FOR INSULATING GLASS: SIGMA TM-3000, "NORTH AMERICAN GLAZING GUIDELINES FOR SEALED INSULATING GLASS UNITS FOR COMMERCIAL AND RESIDENTIAL USE."</div> <div>G PLASTIC GLAZING LABELING: IDENTIFY PLASTIC SHEETS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AND INSPECTING AGENCY, INDICATING COMPLIANCE WITH REQUIRED FIRE-TEST-RESPONSE CHARACTERISTICS.</div> <div>H SAFETY GLAZING LABELING: WHERE SAFETY GLAZING LABELING IS INDICATED, PERMANENTLY MARK GLAZING WITH CERTIFICATION LABEL OF THE SEI OR ANOTHER CERTIFICATION AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION OR THE MANUFACTURER. LABEL SHALL INDICATE MANUFACTURER'S NAME, TYPE OF GLASS, THICKNESS, AND SAFETY GLAZING STANDARD WITH WHICH GLASS COMPLIES.</div> <div>I FIRE-PROTECTION-RATED GLAZING LABELING: PERMANENTLY MARK FIRE-PROTECTION-RATED GLAZING WITH CERTIFICATION LABEL OF A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. LABEL SHALL INDICATE MANUFACTURER'S NAME, WHETHER GLAZING IS FOR USE IN FIRE DOORS OR OTHER OPENINGS, WHETHER OR NOT GLAZING PASSES HOSE-STREAM TEST, WHETHER OR NOT GLAZING HAS A TEMPERATURE RATE RATING OF 450 DEG F (250 DEG C), AND THE FIRE-RESISTANCE RATING IN MINUTES.</div>	<div>J INSULATING-GLASS CERTIFICATION PROGRAM: PERMANENTLY MARKED EITHER ON SPACERS OR ON AT LEAST ONE COMPONENT LITE OF UNITS WITH APPROPRIATE CERTIFICATION LABEL OF IGCC.</div> <div>K MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION.</div> <div>1. INSTALL GLAZING IN MOCKUPS SPECIFIED IN SECTION 01 43 39 -"INTEGRATED MOCK-UP OF EXTERIOR ENCLOSURE" TO MATCH GLAZING SYSTEMS REQUIRED FOR PROJECT, INCLUDING GLAZING METHODS.</div> <div>L PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.</div> <div>1. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLERS' PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.</div> <div>2. REVIEW TEMPORARY PROTECTION REQUIREMENTS FOR GLAZING DURING AND AFTER INSTALLATION.</div> <div>1.8 DELIVERY, STORAGE, AND HANDLING</div> <div>A PROTECT GLAZING MATERIALS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. PREVENT DAMAGE TO GLASS AND GLAZING MATERIALS FROM CONDENSATION, TEMPERATURE CHANGES, DIRECT EXPOSURE TO SUN, OR OTHER CAUSES.</div> <div>B COMPLY WITH INSULATING-GLASS MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR VENTING AND SEALING UNITS TO AVOID HERMETIC SEAL RUPTURES DUE TO ALTITUDE CHANGE.</div> <div>1.9 PROJECT CONDITIONS</div> <div>A ENVIRONMENTAL LIMITATIONS: DO NOT PROCEED WITH GLAZING WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY GLAZING MATERIAL MANUFACTURERS' AND WHEN GLAZING CHANNEL SUBSTRATES ARE WET FROM RAIN, FROST, CONDENSATION, OR OTHER CAUSES.</div> <div>1. DO NOT INSTALL GLAZING SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY SEALANT MANUFACTURER OR BELOW 40 DEG F (4.4 DEG C).</div> <div>1.10 WARRANTY</div> <div><del>A. MANUFACTURER'S SPECIAL WARRANTY: FOR COATED GLASS: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE INSULATING-GLASS UNITS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF COATED GLASS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO GLASS BREAKAGE OR TO MAINTAINING AND CLEANING UNITS. CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS, DEFECTS INCLUDE PEELING, CRACKING, AND OTHER INDICATIONS OF DETERIORATION IN COATING.</del></div> <div><del>1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</del></div> <div><del>B. MANUFACTURER'S SPECIAL WARRANTY: ON LAMINATED GLASS: MANUFACTURER'S STANDARD FORM IN WHICH LAMINATED-GLASS MANUFACTURER AGREES TO REPLACE LAMINATED-GLASS UNITS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF LAMINATED GLASS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO GLASS BREAKAGE OR TO MAINTAINING AND CLEANING UNITS. CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS, DEFECTS INCLUDE EDGE SEPARATION, DELAMINATION, MATERIALLY OBSTRUCTING VISION THROUGH GLASS, AND DEMIGRES EXCEEDING THOSE ALLOWED BY MANUFACTURER'S WRITTEN INSTRUCTIONS.</del></div> <div><del>1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</del></div> <div>C MANUFACTURER'S SPECIAL WARRANTY ON INSULATING GLASS: MANUFACTURER'S STANDARD FORM IN WHICH INSULATING-GLASS MANUFACTURER AGREES TO REPLACE INSULATING-GLASS UNITS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF INSULATING GLASS IS DEFINED AS FAILURE OF HERMETIC SEAL UNDER NORMAL USE THAT IS NOT ATTRIBUTED TO GLASS BREAKAGE OR TO MAINTAINING AND CLEANING INSULATING GLASS CONFORMING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. FAILURE OF FAILURE IS THE OBSTRUCTION OF VISION BY DUST, MOISTURE, OR FILM ON INTERIOR SURFACES OF GLASS.</div> <div>1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.</div> <div>PART 2 - PRODUCTS</div> <div>2.1 GLASS PRODUCTS, GENERAL</div> <div>A THICKNESS: WHERE GLASS THICKNESS IS INDICATED, IT IS A MINIMUM. PROVIDE GLASS LITES IN THICKNESSES AS NEEDED TO COMPLY WITH REQUIREMENTS INDICATED.</div> <div>A MINIMUM GLASS THICKNESS FOR EXTERIOR LITES: NOT LESS THAN 1/2".</div> <div><del>B. STRENGTH: WHERE FLOAT GLASS IS INDICATED, PROVIDE ANNEALED FLOAT GLASS; KIND IS HEAT-TREATED FLOAT GLASS; OR KIND IS HEAT-TREATED FLOAT GLASS AS NEEDED TO COMPLY WITH PERFORMANCE REQUIREMENTS. WHERE WAREHOUSE-STORED GLASS IS INDICATED, PROVIDE KIND IS HEAT-TREATED FLOAT GLASS. WHERE KIND IS HEAT-TREATED FLOAT GLASS AS NEEDED TO COMPLY WITH PERFORMANCE REQUIREMENTS, ARTICLE WHERE FULLY TEMPERED GLASS IS INDICATED, PROVIDE KIND IS HEAT-TREATED FLOAT GLASS.</del></div> <div>C THERMAL AND OPTICAL PERFORMANCE PROPERTIES: PROVIDE GLASS WITH PERFORMANCE PROPERTIES SPECIFIED, AS INDICATED IN MANUFACTURER'S PUBLISHED TEST DATA, BASED ON PROCEDURES INDICATED BELOW:</div> <div>A. FOR INSULATING-GLASS UNITS, PROPERTIES ARE BASED ON UNITS OF THICKNESS INDICATED FOR OVERALL UNIT AND FOR EACH LITE.</div> <div>B. U-FACTORS: CENTER-OF-GLAZING VALUES, ACCORDING TO NFRC 100 AND BASED ON LBL'S WINDOW 5.2 COMPUTER PROGRAM, EXPRESSED AS BTU/SQ. FT. X H X DEG F (W/SQ. M X K).</div> <div>C. SOLAR HEAT-GAIN COEFFICIENT AND VISIBLE TRANSMITTANCE: CENTER-OF-GLAZING VALUES, ACCORDING TO NFRC 200 AND BASED ON LBL'S WINDOW 5.2 COMPUTER PROGRAM.</div> <div>D. VISIBLE REFLECTANCE: CENTER-OF-GLAZING VALUES, ACCORDING TO NFRC 300.</div> <div>2.2 GLASS PRODUCTS</div> <div>A. FLOAT GLASS: ASTM C 1036, TYPE I, QUALITY-Q3, CLASS 1 (CLEAR) UNLESS OTHERWISE INDICATED.</div> <div><del>B. HEAT-TREATED FLOAT GLASS: ASH-1 OR TYPE I, QUALITY-Q3, CLASS 1 (CLEAR) UNLESS OTHERWISE INDICATED, OR KIND IS HEAT-TREATED FLOAT GLASS AS NEEDED TO COMPLY WITH PERFORMANCE REQUIREMENTS.</del></div> <div><del>A. FABRICATION: PROVIDE INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS.</del></div> <div><del>B. FOR LAMINATED GLASS: PROVIDE LAMINATED GLASS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE LAMINATED GLASS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE LAMINATED GLASS WITH SPUTTER-COATED, LOW-E COATINGS. PROVIDE LAMINATED GLASS WITH SPUTTER-COATED, LOW-E COATINGS.</del></div> <div><del>C. FOR COATED GLASS: PROVIDE COATED GLASS WITH SPUTTER-COATED, LOW-E COATINGS. 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DIVISION 10 - SPECIALTIES

STO GUIDE SPECIFICATION 6300  
STOPOWERWALL CI

SECTION 09 24 23 - PORTLAND CEMENT STUCCO  
THIS GUIDE SPECIFICATION IS INTENDED FOR USE BY THE DESIGN/CONSTRUCTION PROFESSIONAL AND ANY USER OF STO PRODUCTS TO ASSIST IN DEVELOPING PROJECT SPECIFICATIONS FOR A STUCCO WALL ASSEMBLY APPLIED TO CODE COMPLIANT CONCRETE, CONCRETE MASONRY, AND FRAME WALL CONSTRUCTION. THE STUCCO ASSEMBLY INCORPORATES A FLUID APPLIED AIR AND WATER-RESISTIVE BARRIER (AWRB), CONTINUOUS INSULATION (CI), CODE COMPLIANT PAPER OR FELT WATER-RESISTIVE BARRIER (WRB), DRAINAGE MAT, CODE COMPLIANT METAL PLASTER BASE AND PORTLAND CEMENT STUCCO, AND STO PRIMERS AND FINISHES. THE ASSEMBLY COMPLIES WITH IBC AND IRC BUILDING CODE REQUIREMENTS FOR USE ON ALL TYPES OF CONSTRUCTION (I, II, III, IV AND V). IT HAS BEEN TESTED IN ACCORDANCE WITH NFPA 285 AND MEETS CRITERIA FOR USE ON NONCOMBUSTIBLE CONSTRUCTION (TYPES I, II, III AND IV). IT HAS ALSO BEEN EVALUATED IN ACCORDANCE WITH ASTM E119 AS A ONE-HOUR NON-LOAD BEARING FIRE-RESISTANCE-RATED WALL ASSEMBLY. NOTES IN ITALICS, SUCH AS THIS ONE, ARE EXPLANATORY AND INTENDED TO GUIDE THE DESIGN/CONSTRUCTION PROFESSIONAL AND USER IN THE PROPER SELECTION AND USE OF MATERIALS.

STO GUARD, THE AIR AND WATER-RESISTIVE BARRIER, FUNCTIONS IN TANDEM WITH OTHER COMPATIBLE AIR BARRIER AND FLASHING COMPONENTS OF THE BUILDING ENVELOPE TO RESIST AIR AND WATER INFILTRATION. A CODE COMPLIANT ASPHALT SATURATED FELT OR PAPER WRB IS APPLIED OVER CONTINUOUS INSULATION AND SIMILARLY FUNCTIONS IN TANDEM WITH FLASHING TO RESIST WATER INFILTRATION. STO GPS BOARD, A GRAPHITE ENHANCED POLYSTYRENE (GPS) INSULATION BOARD, OR DUPONT TYPE IV EXTRUDED POLYSTYRENE INSULATION (XPS) IS THE CI COMPONENT OF THE ASSEMBLY. STO DRAINAGE MAT, CREATES A CAVITY BEHIND THE STUCCO CLADDING TO PROMOTE DRAINAGE AND DRYING OF THE WALL ASSEMBLY IN THE EVENT OF INCIDENTAL WATER INFILTRATION THROUGH A CRACK IN THE STUCCO. STOPOWERWALL STUCCO OR ANY STO LISTED ASTM C926 COMPLIANT PORTLAND CEMENT STUCCO IS THE STUCCO BASE COMPONENT OF THE WALL ASSEMBLY. STO EXTERIOR PRIMERS AND FINISHES, INCLUDING STO SPECIALTY FINISHES, AND STOCAT FINISHES, COMPLETE THE EXTERIOR STUCCO WALL ASSEMBLY AND ARE APPLIED OVER THE PROPERLY CURED STUCCO BASE. PORTLAND CEMENT STUCCO HAS LIMITATIONS, FOR EXAMPLE, EFFLORESCENCE IS A NORMAL OCCURRENCE IN PORTLAND CEMENT-BASED MATERIALS AND CAN AFFECT FINAL APPEARANCE OF FINISH PRODUCTS INSTALLED OVER STUCCO. SOME DEGREE OF CRACKING IN NORMAL IN PORTLAND CEMENT STUCCO AND SHOULD BE EXPECTED. CRACKING IS GENERALLY NOT CAUSED BY A MATERIAL DEFECT IN THE STUCCO AND CAN BE MINIMIZED BY FOLLOWING SOUND DESIGN AND CONSTRUCTION PRACTICE SUCH AS THE PROPER INSTALLATION OF LATH, THE PROPER INCORPORATION OF STRESS RELIEF JOINTS IN THE CONSTRUCTION, PROPERLY DRAGGING SAND FOR FIELD MIXED STUCCO, MOIST CURING OF THE STUCCO AFTER IT HAS BEEN APPLIED, AND PROPER SEQUENCING OF CONSTRUCTION TO AVOID STRESSES IN THE FRESHLY PLACED STUCCO. SURFACE ALKALINITY (PH) IS AN IMPORTANT CONSIDERATION FOR STUCCO SURFACES THAT WILL RECEIVE ACRYLIC OR ACRYLIC ELASTOMERIC FINISHES AND SHOULD BE CHECKED TO VERIFY PH LESS THAN 10 BEFORE PRIMER OR FINISH IS APPLIED. STORPIME HOT IS THE PREFERRED PRIMER FOR USE ON STUCCO SURFACES TO "MASK" SURFACE ALKALINITY. REFER TO STO TECH HOTLINE NO. 1202-02, ALKALINE SUBSTRATES AND POLYMERIC FINISHES.

STOPOWERWALL CI, AS WITH ANY EXTERIOR WALL ASSEMBLY, REQUIRES PROPER DESIGN DETAILING AND INTEGRATION WITH OTHER COMPONENTS, IN PARTICULAR FLASHING AND AIR BARRIER TRANSITION MATERIALS, TO PROVIDE A WALL ASSEMBLY THAT RESISTS AIR LEAKAGE AND WATER INFILTRATION. THE WEATHER PROTECTION AFFORDED BY STOPOWERWALL CI SHOULD BE EVALUATED BY THE DESIGN/CONSTRUCTION PROFESSIONAL IN RELATION TO BUILDING DESIGN, HEIGHT, ORIENTATION, CLIMATE ZONE, AND ANY OTHER FACTORS THAT AFFECT THE SEVERITY OF EXPOSURE TO RAIN AND WATER INFILTRATION. REFER TO STO TECH HOTLINE NO. 9403-8808, CRITICAL DETAIL CHECKLIST FOR WALL ASSEMBLIES, 0603-BSC, MOISTURE CONTROL PRINCIPLES FOR DESIGN AND CONSTRUCTION OF WALL ASSEMBLIES, AND 1001-BSC, EFFECTS OF TEMPORARY HEATING ON CONSTRUCTION MATERIALS IN COLD WEATHER. MODIFICATIONS SHOULD BE MADE TO THIS SPECIFICATION AS DEEMED NECESSARY BY THE DESIGN/CONSTRUCTION PROFESSIONAL TO ENSURE A WATERTIGHT BUILDING ENVELOPE WITHOUT WATER ENTRY OR ACCUMULATION ANYWHERE WITHIN THE WALL ASSEMBLY, AN AIRTIGHT BUILDING ENVELOPE, AND CONTROL OF CONDENSATION FROM WATER VAPOR DIFFUSION. FOR COMPLETE TECHNICAL INFORMATION ON STO COMPONENTS AND OTHER REFERENCE MATERIALS, REFER TO PRODUCT BULLETINS, GUIDE DETAILS, AND OTHER TECHNICAL INFORMATION AVAILABLE AT WWW.STOORP.COM.

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STO GUIDE SPECIFICATION 6300 – STOPOWERWALL CI

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CREATED: MAY 2013  
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PART 1 GENERAL  
1.01 SECTION INCLUDES  
A. MATERIALS AND INSTALLATION OF EXTERIOR STUCCO WALL COVERING BACKED WITH CONTINUOUS INSULATION, AIR AND WATER-RESISTIVE BARRIER (AWRB), AND DRAINAGE MAT FOR USE ON CONCRETE, CONCRETE MASONRY, AND FRAME WALL CONSTRUCTION.  
1.02 RELATED SECTIONS (ADDDLETE, DEPENDING ON SPECIFIC PROJECT REQUIREMENTS)  
A. SECTION 03 30 00 CAST-IN-PLACE CONCRETE  
B. SECTION 04 20 00 UNIT MASONRY  
C. SECTION 06 10 00 SHEATHING  
D. SECTION 07 21 00 THERMAL INSULATION  
E. SECTION 07 26 00 VAPOR RETARDERS  
F. SECTION 07 27 00 AIR BARRIERS  
G. SECTION 07 50 00 MEMBRANE ROOFING  
H. SECTION 07 62 00 SHEET METAL FLASHING AND TRIM  
I. SECTION 07 92 00 JOINT SEALANTS  
J. SECTION 08 40 00 ENTRANCES, STOREFRONTS, AND CURTAIN WALLS  
K. SECTION 08 50 00 WINDOWS  
1.03 REFERENCED DOCUMENTS (ADDDLETE DEPENDING ON SPECIFIC PROJECT REQUIREMENTS)  
A. ASTM STANDARDS:  
1. A641 STANDARD SPECIFICATION FOR ZINC-COATED (GALVANIZED) CARBON STEEL WIRE  
2. A653 SPECIFICATION FOR SHEET STEEL ZINC COATED (GALVANIZED) BY THE HOT-DIP PROCESS, COMMERCIAL QUALITY  
3. 889 SPECIFICATION FOR ROLLED ZINC  
4. C114 SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR  
5. C297 STANDARD TEST METHOD FOR FLATWISE TENSILE STRENGTH OF SANDWICH CONSTRUCTIONS  
6. C578 SPECIFICATION FOR PREFORMED, CELLULAR POLYSTYRENE THERMAL INSULATION  
7. C847 STANDARD SPECIFICATION FOR METAL LATH  
8. C897 STANDARD SPECIFICATION FOR AGGREGATE FOR JOB-MIXED PORTLAND CEMENT-BASED PLASTERS  
9. C920 STANDARD SPECIFICATION FOR ELASTOMERIC JOINT SEALANTS  
10. C926 STANDARD SPECIFICATION FOR APPLICATION OF PORTLAND CEMENT-BASED PLASTER  
11. C1065 STANDARD SPECIFICATION FOR INSTALLATION OF LATHING AND FURRING FOR PORTLAND CEMENT PLASTER

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12. C1177 SPECIFICATION FOR GLASS MAT GYPSUM FOR USE AS SHEATHING  
13. C1513 STANDARD SPECIFICATION FOR STEEL TAPPING SCREWS FOR COLD-FORMED STEEL FRAMING CONNECTIONS  
14. D226 STANDARD SPECIFICATION FOR ASPHALT-SATURATED ORGANIC FELT USED IN ROOFING AND WATERPROOFING  
15. D1784 SPECIFICATION FOR RIGID POLY (VINYL CHLORIDE) (PVC) COMPOUNDS AND CHLORINATED POLY (VINYL CHLORIDE) (CPVC) COMPOUNDS  
16. D4541 TEST METHOD FOR PULL-OFF STRENGTH OF COATINGS USING PORTABLE ADHESION TESTERS  
17. E84 TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS  
18. E98 STANDARD TEST METHODS FOR WATER VAPOR TRANSMISSION OF MATERIALS  
19. E283 TEST METHOD FOR DETERMINING RATE OF AIR LEAKAGE THROUGH EXTERIOR WINDOWS, CURTAIN WALLS, AND DOORS UNDER SPECIFIED PRESSURE DIFFERENCES ACROSS THE SPECIMEN  
20. E230 TEST METHOD FOR MEASUREMENT OF PERFORMANCE OF WINDOWS, CURTAIN WALLS, AND DOORS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE  
21. E331 TEST METHOD FOR WATER PENETRATION OF EXTERIOR WINDOWS, SKYLIGHTS, DOORS, AND CURTAIN WALLS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE  
22. E783 STANDARD TEST METHOD FOR FIELD MEASUREMENT OF AIR LEAKAGE THROUGH INSTALLED EXTERIOR WINDOWS AND DOORS  
23. E2178 STANDARD TEST METHOD FOR AIR PERMEANCE OF BUILDING MATERIALS  
24. E2357 STANDARD TEST METHOD FOR DETERMINING AIR LEAKAGE OF AIR BARRIER ASSEMBLIES  
25. E2430 STANDARD SPECIFICATION FOR EXPANDED POLYSTYRENE (EPS) THERMAL INSULATION BOARDS FOR USE IN EXTERIOR INSULATION SYSTEMS (EIS)  
26. G154 RECOMMENDED PRACTICE FOR OPERATING LIGHT-AND WATER-EXPOSURE APPARATUS (FLUORESCENT UV-CONDENSATION TYPE) FOR EXPOSURE OF NONMETALLIC MATERIALS  
27. A4 ENGINEERED WOOD ASSOCIATION  
1. PS 1 VOLUNTARY PRODUCT STANDARD, STRUCTURAL PLWOOD  
2. PS 2 PERFORMANCE STANDARD FOR WOOD-BASED STRUCTURAL-USE PANELS  
3. PS 30 APA ENGINEERED WOOD CONSTRUCTION GUIDE  
C. AISI (AMERICAN IRON AND STEEL INSTITUTE)  
1. AISI S200-2007 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING-GENERAL PROVISIONS  
2. ICC INTERNATIONAL BUILDING CODE (IBC)  
3. 12018 AND 2021 IBC (INTERNATIONAL BUILDING CODE)  
E. ICC-ES (INTERNATIONAL CODE COUNCIL EVALUATION SERVICE)  
1. ICC-212: ACCEPTANCE CRITERIA FOR WATER-RESISTIVE COATINGS USED AS WATER-RESISTIVE BARRIERS OVER EXTERIOR SHEATHING  
2. ICC ESR-1233: STOGUARD AIR AND WATER-RESISTIVE BARRIER SYSTEM AND STONEERGY GUARD (STOGUARD WITH STOGUARD AIR BARRIER TRANSITION MEMBRANE)  
3. ICC ESR-2142: STYROFOM BRAND INSULATION BOARDS AND DUPONT FAN-FOLD PRODUCTS  
F. IAPMO (INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS)  
1. IAPMO ER 2017 STRUCTURALATH NO. 17 SPCR TRIM TRACK 2.5  
2. IAPMO ER 362 WESTERN 1-KOTE EXTERIOR STUCCO SYSTEM

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G. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS  
1. NFPA 285, STANDARD METHOD OF TEST FOR THE EVALUATION OF FLAMMABILITY CHARACTERISTICS OF EXTERIOR NON-LOADBEARING WALL ASSEMBLIES CONTAINING COMBUSTIBLE COMPONENTS USING THE INTERMEDIATE-SCALE, MULTISTORY TEST APPARATUS  
2. NFPA 268, STANDARD TEST METHOD FOR DETERMINING IGNITABILITY OF EXTERIOR WALL ASSEMBLIES USING A RADIANT HEAT ENERGY SOURCE  
H. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SOUTH COAST AQMD)  
1. RULE 1113 (2019) - BUILDING ENVELOPE COATINGS, ARCHITECTURAL COATINGS  
2. STO CORP. BUILDING CODE EVALUATION REPORTS, INSTALLATION GUIDES, AND PRODUCT BULLETINS  
1. ICC ESR-1233, STOGUARD AIR BARRIER AND WATER-RESISTIVE BARRIER SYSTEM AND STONEERGY GUARD (STOGUARD WITH CONTINUOUS INSULATION)  
2. STO RAPIDGUARD® - INSTALLATION GUIDE  
3. STOGUARD CONFORMABLE MEMBRANE - INSTALLATION GUIDE  
4. STOPOWERWALL CI DESIGN GUIDE AND DETAIL BOOKLET  
I. US EPA (UNITED STATES ENVIRONMENTAL PROTECTION AGENCY)  
1. US EPA (UNITED STATES ENVIRONMENTAL PROTECTION AGENCY)  
1. 40 CFR PART 59 (CODE OF FEDERAL REGULATIONS TITLE 40) PART 59 – NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR CONSUMER AND COMMERCIAL PRODUCTS  
1.04 DESIGN REQUIREMENTS

A. STRUCTURAL (WIND AND AXIAL LOADS)  
1. DESIGN FOR MAXIMUM ALLOWABLE DEFLECTION, NORMAL, TO THE PLANE OF THE WALL, OF L360  
2. DESIGN FOR WIND LOAD IN CONFORMANCE WITH CODE REQUIREMENTS  
3. METAL FRAMING: 18 GAUGE (0.043 MIL) OR HEAVIER, MAXIMUM 1'-5"

1. 8-INCH FLANGE WIDTH, COLD FORMED STEEL, STUD FRAMING IN CONFORMANCE WITH AISI STANDARD S200-07  
4. MAXIMUM STUD SPACING: 16-INCHES (408 MM) ON CENTER  
5. SHEATHING: MINIMUM 5  
6. INSULATION BOARD: MINIMUM 1-INCH (25 MM), MAXIMUM 2'-1"  
1. 8-INCH (51 MM) GRAPHITE ENHANCED POLYSTYRENE (GPS) IN CONFORMANCE WITH ASTM C 578 TYPE I OR EXTRUDED POLYSTYRENE (XPS) INSULATION IN CONFORMANCE WITH TYPE IV REQUIREMENTS  
7. DRAINAGE MAT: MAXIMUM 3  
8-INCH (19 MM) THICK TANGLED FILAMENT NYLON CORE WITH FABRIC FACING  
8. METAL LATH: MINIMUM 2.5 LB / YD2 (14 KG / M2)  
1. SELF-FLURRED GALVANIZED STEEL DIAMOND MESH METAL LATH IN CONFORMANCE WITH ASTM C847 OR EQUIVALENT SELF-FURRING WELDED WIRE LATH  
9. LATH FASTENERS AND PLATES: CORROSION RESISTANT FASTENERS IN COMPLIANCE WITH AISI STANDARD S200-2007 AND ASTM C1513 WITH MINIMUM THREE-THREAD PENETRATION BEYOND STEEL FRAMING MEMBERS, AND MINIMUM 1'-5"

1. 4"-INCH (32 MM) CORROSION RESISTANT LATH PLATES, WITH MINIMUM FASTENER SIZE AND LENGTH OF:  
• #8 X 3-INCH (76 MM) FOR 1-INCH (25 MM) INSULATION BOARD THICKNESS  
• #10 X 3-1/2 -INCHES (89 MM) FOR 1'-1"  
2. 2-INCH (38 MM) INSULATION BOARD THICKNESS  
• #10 X 4-INCH (102 MM) FOR 2-INCH OR 2'-1"  
1. 8-INCH (51 OR 54 MM) INSULATION BOARD THICKNESS  
• WOOD FRAMING—MINIMUM #10 TYPE S WAFER HEAD CORROSION RESISTANT SCREWS WITH MINIMUM 1-INCH (25 MM) PENETRATION INTO STUDS  
• CONCRETE OR CMU SUBSTRATES—MINIMUM #10 TAPCON TYPE CORROSION RESISTANT SCREWS WITH MINIMUM 7/8-INCH THREADED PENETRATION INTO CONCRETE OR CMU SUBSTRATE  
10. LATH FASTENER SPACING: MAXIMUM 6-INCHES (152 MM) VERTICALLY ALONG STUDS  
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11. STUCCO: 4-INCH (19 MM) OR 7  
8-INCH (22 MM) PORTLAND CEMENT STUCCO IN CONFORMANCE WITH ASTM C 926 OF UNIFORM THICKNESS APPLIED IN TWO COATS: SCRATCH AND BROWN COAT.  
B. MOISTURE CONTROL  
1. PREVENT THE ACCUMULATION OF WATER INTO OR BEHIND THE STUCCO, EITHER BY CONDENSATION OR LEAKAGE INTO THE WALL CONSTRUCTION, IN THE DESIGN AND DETAILING OF THE WALL ASSEMBLY.  
A. PROVIDE CORROSION RESISTANT FLASHING TO PROTECT EXPOSED ELEMENTS AND TO DIRECT WATER TO THE EXTERIOR, INCLUDING, ABOVE WINDOW AND DOOR HEADS, BENEATH WINDOW AND DOOR SILLS, AT FLOOR LINES, AT ROOF/WALL INTERSECTIONS, DECKS, ABUTMENTS OF LOWER WALLS WITH HIGHER WALLS, ABOVE PROJECTING FEATURES, AND AT THE BASE OF THE WALL.  
B. AIR LEAKAGE PREVENTION-PREVENT EXCESS AIR LEAKAGE IN THE DESIGN AND DETAILING OF THE WALL ASSEMBLY.  
C. PROVIDE CONTINUITY BETWEEN AIR BARRIER COMPONENTS IN THE WALL ASSEMBLY.  
D. STUCCO DIFFUSION AND CONDENSATION - PERFORM A DEW POINT ANALYSIS OF THE WALL ASSEMBLY TO DETERMINE THE POTENTIAL FOR ACCUMULATION OF MOISTURE IN THE WALL ASSEMBLY AS A RESULT OF WATER VAPOR DIFFUSION AND CONDENSATION. ADJUST WALL ASSEMBLY COMPONENTS ACCORDINGLY TO MINIMIZE THE RISK OF CONDENSATION. AVOID THE USE OF VAPOR RETARDERS ON THE INTERIOR SIDE OF THE WALL, IN HOT, HUMID CLIMATES.  
D. PROVIDE STOGUARD AIR AND WATER-RESISTIVE BARRIER OVER SHEATHING.  
E. AT THROUGH WALL EXPANSION JOINTS AND AT JOINTS FORMED WITH BACK-TO-BACK CASING BEADS, BACK JOINTS WITH STOGUARD CONFORMABLE MEMBRANE OR STOGUARD TRANSITION MEMBRANE. REFER TO STO GUIDE DETAILS AT WWW.STOORP.COM.  
F. SEAL STUCCO TERMINATIONS AND ACCESSORY BUTT JOINTS WITH APPROPRIATE SEALANT. SEAL ALL PENETRATIONS THROUGH THE STUCCO WALL ASSEMBLY WITH APPROPRIATE SEALANT, OR BACKER ROD AND SEALANT, AS DICTATED BY JOINT TYPE.

C. GRADE CONDITION  
1. DO NOT SPECIFY STUCCO FOR USE BELOW GRADE OR ON SURFACES SUBJECT TO CONTINUOUS OR INTERMITTENT WATER IMMERSION OR HYDROLYTIC EFFECTS.  
2. PROVIDE MINIMUM 2-INCH (51 MM) CLEARANCE ABOVE FINISHED GRADE (PAVERS/SIDEWALK), PROVIDE INCREASED CLEARANCE IN FREEZE/THAW CLIMATE ZONES.  
3. SLOPED SURFACES, INCLUDING GPS OR EPS FOAM TRIM AND PROJECTING ARCHITECTURAL FEATURES ATTACHED TO STUCCO, AVOID THE USE OF STUCCO ON BUILD-UPS OR WEATHER EXPOSED SLOPED AND HORIZONTAL SURFACES (REFER TO 2 AND 3 BELOW).  
2. BUILD OUT TRIM AND PROJECTING ARCHITECTURAL FEATURES FROM THE STUCCO WALL SURFACE WITH CODE COMPLIANT GPS OR EPS FOAM. ALL FOAM TRIM AND PROJECTING ARCHITECTURAL FEATURES MUST HAVE A MINIMUM 1:2 [27°] SLOPE ALONG THEIR TOP SURFACE. ALL FOAM HORIZONTAL REVEALS MUST HAVE A MINIMUM 1:2 [27°] SLOPE ALONG THEIR BOTTOM SURFACE. INCREASED SLOPE FOR NORTHWARD EXPOSURE TO PREVENT ACCUMULATION OF ICE/SNOW AND WATER ON SURFACE. WHERE TRIM/FABRIC OR BOTTOM SURFACE OF REVEAL PROJECTS MORE THAN 2-INCHES (51 MM) FROM THE FACE OF THE WALL PLANE, PROTECT THE TOP SURFACE WITH WATERPROOF BASE COAT, LIMIT FOAM THICKNESS TO A MAXIMUM OF 4-INCHES (102 MM), PROVIDE INSPECTIONS AND INCREASED MAINTENANCE MAY BE REQUIRED TO MAINTAIN SURFACE INTEGRITY OF FINISHES ON WEATHER EXPOSED SLOPED SURFACES. LIMIT PROJECTING FEATURES TO EASILY ACCESSIBLE AREAS AND LIMIT TOTAL AREA TO FACILITATE MAINTENANCE AND MINIMIZE MAINTENANCE BURDEN. REFER TO STO GUIDE DETAILS AT WWW.STOORP.COM.  
3. DO NOT USE FOAM ON WEATHER EXPOSED PROJECTING LEDGES, SILLS, OR OTHER PROJECTING FEATURES UNLESS SUPPORTED BY FRAMING OR OTHER STRUCTURAL SUPPORT AND PROTECTED WITH METAL COPING OR FLASHING. REFER TO STO GUIDE DETAILS AT WWW.STOORP.COM.  
D. JOINTS AND ACCESSORIES

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1. PROVIDE TWO-PIECE EXPANSION JOINTS IN THE STUCCO SYSTEM WHERE BUILDING MOVEMENT IS ANTICIPATED: AT JOINTS IN THE SUBSTRATE OR SUPPORTING CONSTRUCTION, BEHIND THE SYSTEM AS TO BE INSTALLED OVER INSULAR CONSTRUCTION OR SUBSTRATES AT CHANGES IN BUILDING HEIGHT, AT FLOOR LINES, AT COLUMNS AND CANTILEVERED AREAS.  
2. PROVIDE ONE PIECE EXPANSION JOINTS EVERY 144 FT2 (13 M2)  
C. CUT AND WIRE TIE LATH TO THE EXPANSION JOINT  
ACCESSORY SO LATH IS DISCONTINUOUS AT OR BENEATH THE ACCESSORY. DO NOT EXCEED LENGTH TO WIDTH RATIO OF 2-1.  
1. IN EXPANSION JOINT LAYOUT AND DO NOT EXCEED MORE THAN 18 FEET (5.5 M) IN ANY DIRECTION WITHOUT AN EXPANSION JOINT WHERE CASING BEAD IS USED BACK-TO-BACK AS EXPANSION JOINT, BACK THE JOINT WITH STOGUARD CONFORMABLE MEMBRANE OR STOGUARD TRANSITION MEMBRANE.  
3. PROVIDE ONE PIECE EXPANSION JOINTS AT THROUGH WALL PENETRATIONS, FOR EXAMPLE, ABOVE AND BELOW DOORS OR WINDOWS.  
C. PROVIDE MINIMUMS  
8-INCH (9 MM) WIDE JOINTS WHERE THE SYSTEM ABUTS WINDOWS, DOORS AND OTHER THROUGH WALL PENETRATIONS.  
5. PROVIDE APPROPRIATE ACCESSORIES AT STUCCO TERMINATIONS AND JOINTS.  
6. AVOID THE USE OF CHANNEL REVEAL ACCESSORIES WHICH CAN INTERFERE WITH PROPER DRAINAGE AND PROPER STRESS RELIEF.  
7. PROVIDE APPROPRIATE SEALANT AT STUCCO TERMINATIONS AND AT STUCCO ACCESSORY BUTT JOINTS.  
8. INDICATE LOCATION OF PENETRATIONS AND ACCESSORY TYPE ON ARCHITECTURAL DRAWINGS.  
F. FIRE PROTECTION  
1. PROVIDE 15-MINUTE THERMAL BARRIER, TYPICALLY MINIMUM ½-INCH THICK INTERIOR GYPSUM WALL BOARD, TO SEPARATE CMU PLASTIC INSULATION FROM INTERIOR.  
2. NONCOMBUSTIBLE TYPE CONSTRUCTION: PROVIDE FULL WIDTH FIRESTOPS AT FLOOR LINES, TYPICALLY 4 PCF (64 KG/M3) SEMIRIGID MINERAL WOOL, WHERE METAL FRAMINGS RUNS CONTINUOUSLY FAST FLOOR LINE AND PROVIDE MINIMUM ½-INCH (19 MM) STUCCO THICKNESS.  
3. FIRE RESISTANCE RATED NON-LOAD BEARING WALL ASSEMBLY: PROVIDE 1/2" OR 7/8-INCH (19 OR 22 MM) UNIFORM STUCCO THICKNESS. REFER TO STO GUIDE DETAILS FOR ONE-HOUR NON-LOAD BEARING FIRE-RESISTIVE RATED WALL ASSEMBLY.

G. STUCCO THICKNESS (DOES NOT INCLUDE PRIMER OR TEXTURED FINISH COAT)  
1. APPLICATION TO METAL PLASTER BASES: STUCCO THICKNESS SHALL BE UNIFORM ½-INCH OR 7/8-INCH (19 OR 22 MM). STUCCO THICKNESS SHALL NOT EXCEED 7/8-INCH (22 MM).  
2. STUCCO SHALL BE APPLIED IN TWO COATS, SCRATCH AND BROWN COAT, TO ACHIEVE THE PRESCRIBED THICKNESS.  
3. THICKNESS SHALL BE UNIFORM THROUGHOUT THE WALL AREA.  
1.03 PERFORMANCE REQUIREMENTS  
A. CONTINUOUS INSULATION  
1. GPS INSULATION: COMPLIANCE WITH ASTM C578 TYPE I REQUIREMENTS AND LISTED BY AN APPROVED AGENCY  
2. XPS INSULATION: COMPLIANCE WITH ASTM C578 TYPE IV REQUIREMENTS AND LISTED BY AN APPROVED AGENCY  
B. AIR AND WATER-RESISTIVE BARRIER  
1. COMPLIANT WITH ICC ES ACCEPTANCE CRITERIA AC 212 (ICC ESR 1233)  
2. MATERIAL AIR LEAKAGE RESISTANCE, ASTM E 2337: LESS THAN 0.02 L5/M2 (0.04 CFM/FT2)  
3. ASSEMBLY AIR LEAKAGE RESISTANCE, ASTM E 2337: LESS THAN 0.2 L5/M2 (0.4 CFM/FT2)  
4. WATER VAPOR PERMEANCE, ASTM E 96, METHOD B: GREATER THAN 10 PERMS [573 NG/(PA·S·M2)]  
5. VAPOR IMPERMEABLE, WATER VAPOR PERMEANCE, ASTM E96, METHOD A: LESS THAN 0.1 PERM [5.73 NG/(PA·S·M2)]  
6. SURFACE BURNING, ASTM E 84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED, LESS THAN 450, CLASS A BUILDING MATERIAL  
7. TENSILE ADHESION, ASTM C 297: GREATER THAN 15 PSI (103 KPA)  
8. VOC, CALCULATION:

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B. COMPLIANT WITH US EPA 40 CFR 59 FOR WATERPROOFING SEALER  
C. COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR BUILDING ENVELOPE COATING  
B. DRAINAGE MAT  
1. SURFACE BURNING, ASTM E 84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL.  
2. FLAME PROPAGATION, NFPA 285: MEETS REQUIREMENTS FOR USE ON NONCOMBUSTIBLE (TYPES III,III, AND IV) CONSTRUCTION.  
C. STUCCO BASE (SELECT ONE)  
1. STUCCO SCRATCH AND BROWN COAT MATERIAL IN COMPLIANCE WITH ASTM C 926 AND MANUFACTURED OR LISTED BY STO CORP. (SEE ADDENDUM)  
2. PRIMERS (SELECT ONE)

1. ALKALINE RESISTANT PRIMER FOR FRESHLY PLACED (MINIMUM 4 DAY OLD) STUCCO SURFACES:  
A. RESISTANT TO ALKALINE SURFACES WITH PH OF 13 OR LESS  
B. SURFACE BURNING, ASTM E 84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
C. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
2. ACRYLIC PRIMER FOR FULLY CURED (MINIMUM 28 DAY OLD OR PH LESS THAN 10) STUCCO SURFACES:  
A. SURFACE BURNING, ASTM E 84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
B. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
E. TEXTURED FINISHES (SELECT ONE)  
1. LOTUS-EFFECT TECHNOLOGY FINISH (STOLT® LOTUSAN®)  
A. SUPER-HYDROPHOBIC TEXTURED FINISH WITH LOTUS-EFFECT TECHNOLOGY  
B. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
C. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 30 PERMS [(1172 NG/(PA·S·M2)]  
D. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS BUILDING MATERIAL  
E. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
2. HYDROPHOBIC FINISH (STOLT HDP  
8)  
A. ACCELERATED WEATHERING, ASTM G155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 40 PERMS [(2288 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
4. ELASTOMER FINISH (STO POWERFLEX)  
A. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [574 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
A. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 15 PERMS [861 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
5. FLEXIBLE ACRYLIC FINISH (STOPOWERWALL)  
A. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 5 PERMS [287 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
6. ACRYLIC FINISH (STOLT, STOLT X, STO ESSENCE DPR)  
A. ACCELERATED WEATHERING, ASTM G154 OR G 155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [572 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
H. PRE-FORMED VENER UNITS (SELECT ONE)  
1. STOCAT BRICK OR STOCAT WOOD  
A. ACCELERATED WEATHERING, ASTM G154 OR G 155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [572 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
I. STOCAT BRICK OR STOCAT WOOD  
A. ACCELERATED WEATHERING, ASTM G154 OR G 155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [572 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
J. SPECIALTY FINISHES (SELECT ONE)  
1. STO SIGNATURE SERIES OR STO SPECIALTY AGGREGATE FINISHES  
A. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL

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A. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [574 NG/(PA·S·M2)]  
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A. ACCELERATED WEATHERING, ASTM G154: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 15 PERMS [861 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
6. ACRYLIC FINISH (STOLT, STOLT X, STO ESSENCE DPR)  
A. ACCELERATED WEATHERING, ASTM G154 OR G 155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [572 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
H. PRE-FORMED VENER UNITS (SELECT ONE)  
1. STOCAT BRICK OR STOCAT WOOD  
A. ACCELERATED WEATHERING, ASTM G154 OR G 155: 2000 HOURS, NO BLISTERING, CHECKING, CRACKING, CRAZING, OR OTHER DELETERIOUS EFFECTS  
B. WATER VAPOR PERMEABILITY, ASTM E96, METHOD B: > 10 PERMS [572 NG/(PA·S·M2)]  
C. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL  
D. VOC: LESS THAN 50 G/L, COMPLIANT WITH SOUTH COAST AQMD RULE 1113 FOR ARCHITECTURAL COATINGS  
J. SPECIALTY FINISHES (SELECT ONE)  
1. STO SIGNATURE SERIES OR STO SPECIALTY AGGREGATE FINISHES  
A. SURFACE BURNING, ASTM E84: FLAME SPREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 450, CLASS A BUILDING MATERIAL

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C. MANUFACTURER'S CODE COMPLIANCE REPORT FOR AIR AND WATER-RESISTIVE BARRIER  
D. MANUFACTURER'S NFPA 285 ASSEMBLY REPORT OR ICC ESR INDICATING COMPLIANCE OF STUCCO ASSEMBLY, INCLUDING CONTINUOUS INSULATION, AIR AND WATER-RESISTIVE BARRIER, AND DRAINAGE MAT, WITH REQUIREMENTS OF NFPA 285 FOR USE ON TYPES I, II, III, AND IV CONSTRUCTION  
E. MANUFACTURER'S STANDARD WARRANTY  
F. SAMPLES FOR APPROVAL AS DIRECTED BY ARCHITECT OR OWNER  
G. FASTENER MANUFACTURER'S PULL-OUT OR WITHDRAWAL CAPACITY FOR APPLICABLE SUBSTRATES  
H. PREPARE AND SUBMIT PROJECT-SPECIFIC DETAILS (WHEN REQUIRED BY CONTRACT DOCUMENTS)  
1.07 QUALITY ASSURANCE  
A. MANUFACTURER REQUIREMENTS  
1. STUCCO AND AIR BARRIER PRODUCTS MANUFACTURER FOR A MINIMUM OF TWENTY (20) YEARS.  
2. STUCCO FINISH PRODUCTS AND AIR AND WATER-RESISTIVE BARRIER PRODUCTS MANUFACTURED UNDER ISO 9001 QUALITY SYSTEM AND 14001 ENVIRONMENTAL MANAGEMENT SYSTEM.  
B. CONTRACTOR REQUIREMENTS  
1. LICENSED, INSURED AND ENGAGED IN APPLICATION OF PORTLAND CEMENT STUCCO FOR A MINIMUM OF THREE (3) YEARS.  
2. KNOWLEDGEABLE IN THE PROPER USE AND HANDLING OF STO MATERIALS.  
3. EMPLOY SKILLED MECHANICS WHO ARE EXPERIENCED AND KNOWLEDGEABLE IN PORTLAND CEMENT STUCCO APPLICATION, AND FAMILIAR WITH THE REQUIREMENTS OF THE SPECIFIED WORK.  
4. SUCCESSFUL COMPLETION OF MINIMUM OF THREE (3) PROJECTS OF SIMILAR SIZE AND COMPLEXITY TO THE SPECIFIED PROJECT.  
5. PROVIDE THE PROPER EQUIPMENT, MANPOWER AND SUPERVISION ON THE JOB SITE TO INSTALL THE SYSTEM IN COMPLIANCE WITH STO'S PUBLISHED SPECIFICATIONS AND DETAILS AND THE PROJECT PLANS AND SPECIFICATIONS.  
C. INSULATION BOARD MANUFACTURER REQUIREMENTS  
1. LISTED BY AN APPROVED AGENCY, LABEL INSULATION BOARD WITH INFORMATION REQUIRED BY STO, THE APPROVED LISTING AGENCY, AND THE APPLICABLE BUILDING CODE.  
D. TESTING  
1. CONSTRUCT FULL-SCALE MOCK-UP OF TYPICAL STUCCO/WINDOW WALL ASSEMBLY WITH SPECIFIED TOOLS AND MATERIALS AND TEST AIR AND WATER INFILTRATION AND STRUCTURAL PERFORMANCE IN ACCORDANCE WITH ASTM E283, E331 AND E330.  
2. RESPECTIVELY CONDUCT PULL-OUT OR WITHDRAWAL CAPACITY OF FASTENERS.  
3. SPECIFICATIONS, WHERE MOCK-UP IS TESTED AT JOB SITE MAINTAIN APPROVED MOCK-UP AT SITE AS REFERENCE STANDARD. IF TESTED OFF SITE ACCURATELY RECORD CONSTRUCTION DETAILING AND SEQUENCING OF APPROVED MOCK-UP FOR REFLECTION ON CONSTRUCTION DOCUMENTS.  
2. CONDUCT AIR BARRIER ADHESION TESTING IN ACCORDANCE WITH ASTM D4841.  
3. CONDUCT AIR BARRIER ASSEMBLY TESTING IN ACCORDANCE WITH ASTM E783.  
4. VERIFY STUCCO THICKNESS AND FASTENER CAPACITY OF FASTENERS USED FOR FRAME CONSTRUCTION WITH MANUFACTURER IN RELATION TO NEGATIVE DESIGN WIND PRESSURES.  
5. CONDUCT PH TESTING TO CHECK STUCCO SURFACE ALKALINITY BEFORE APPLICATION OF PRIMER OR FINISH MATERIALS, WHERE ALKALINE RESISTANT PRIMER IS USED PH TESTING MAY BE WAIVED.

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6. CONDUCT WET SEALANT ADHESION TESTING IN ACCORDANCE WITH SEALANT MANUFACTURER'S FIELD QUALITY CONTROL TEST PROCEDURE.  
7. NOTIFY COMPETENT DESIGN PROFESSIONAL MINIMUM 7-DAYS PRIOR TO TESTING.  
E. INSPECTIONS  
1. PROVIDE INDEPENDENT THIRD-PARTY INSPECTION WHERE REQUIRED BY CODE OR CONTRACT DOCUMENTS.  
2. CONDUCT INSPECTIONS IN ACCORDANCE WITH CODE REQUIREMENTS AND CONTRACT DOCUMENTS.  
1.08 DELIVERY, STORAGE AND HANDLING  
A. DELIVER ALL MATERIALS IN THEIR ORIGINAL SEALED CONTAINERS BEARING MANUFACTURER'S NAME AND IDENTIFICATION OF PRODUCT.  
B. PROTECT INSULATION MATERIALS FROM PROLONGED UV EXPOSURE, KEEP AWAY FROM SOURCES OF HEAT, SPARKS, FLAME, FLAMMABLE OR VOLATILE MATERIALS (STORE ON A CLEAN, FLAT SURFACE, OFF THE GROUND IN A DRY AREA).  
C. PROTECT COATINGS (PAINT PRODUCTS) FROM FREEZING AND TEMPERATURES IN EXCESS OF 90° F (3







1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. CONCEALED-FASTENER, LAP-SEAM METAL WALL PANELS.

1.3 PREINSTALLATION MEETINGS

A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT THE PROJECT SITE

1. MEET WITH OWNER, ARCHITECT, OWNER'S INSURER IF APPLICABLE, METAL PANEL INSTALLER, METAL PANEL MANUFACTURERS REPRESENTATIVE, STRUCTURAL-SUPPORT INSTALLER, AND INSTALLERS WHOSE WORK INTERFACES WITH OR AFFECTS METAL PANELS, INCLUDING INSTALLERS OF DOORS, WINDOWS, AND LOUVERS.

2. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLERS' PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.

3. REVIEW METHODS AND PROCEDURES RELATED TO METAL PANEL INSTALLATION, INCLUDING MANUFACTURERS' WRITTEN INSTRUCTIONS.

4. EXAMINE SUPPORT CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS, INCLUDING ALIGNMENT BETWEEN AND ATTACHMENT TO STRUCTURAL MEMBERS.

5. REVIEW FLASHINGS, SPECIAL SIDING DETAILS, WALL PENETRATIONS, OPENINGS, AND CONDITION OF OTHER CONSTRUCTION THAT AFFECT METAL PANELS.

6. REVIEW GOVERNING REGULATIONS AND REQUIREMENTS FOR INSURANCE, CERTIFICATES, AND TESTS AND INSPECTIONS IF APPLICABLE.

7. REVIEW TEMPORARY PROTECTION REQUIREMENTS FOR METAL PANEL ASSEMBLY DURING AND AFTER INSTALLATION.

8. REVIEW OR PROCEDURES FOR REPAIR OF METAL PANELS DAMAGED AFTER INSTALLATION.

9. DOCUMENT PROCEEDINGS, INCLUDING CORRECTIVE MEASURES AND ACTIONS REQUIRED, AND FURNISH COPY OF RECORD TO EACH PARTICIPANT.

1.4 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

1. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES FOR EACH TYPE OF PANEL AND ACCESSORY.

B. SHOP DRAWINGS:

1. INCLUDE FABRICATION AND INSTALLATION LAYOUTS OF METAL PANELS, DETAILS OF EDGE CONDITIONS, JOINTS, PANEL PROFILES, CORNERS, ANCHORAGES, ATTACHMENT SYSTEM, TRIM, FLASHINGS, CLOSURES, AND ACCESSORIES; AND SPECIAL DETAILS.

2. ACCESSORIES: INCLUDE DETAILS OF THE FLASHING, TRIM, AND ANCHORAGE SYSTEMS, AT A SCALE OF NOT LESS THAN 3" = 1"0" (1:9).

C. CALCULATIONS:

1. INCLUDE CALCULATIONS WITH REGISTERED ENGINEER SEAL, VERIFYING WALL PANEL AND ATTACHMENT METHOD RESIST WIND PRESSURES IMPOSED ON IT PURSUANT TO APPLICABLE BUILDING CODES.

D. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF METAL PANEL INDICATED WITH FACTORY-APPLIED FINISHES.

1. INCLUDE SAMPLES OF TRIM AND ACCESSORIES INVOLVING COLOR SELECTION.

E. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF EXPOSED FINISH, PREPARE 10 SAMPLES OF SIZE INDICATED BELOW:

1. METAL PANELS: 12 INCHES (305 MM) LONG BY ACTUAL PANEL WIDTH. INCLUDE FASTENERS, CLOSURES, AND OTHER METAL PANEL ACCESSORIES.

1.5 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR INSTALLER AND MANUFACTURER.

B. PRODUCT TEST REPORTS: FOR EACH PRODUCT, FOR TESTS PERFORMED BY A QUALIFIED TESTING AGENCY.

C. FIELD QUALITY-CONTROL REPORTS.

D. SAMPLE WARRANTIES: FOR SPECIAL WARRANTIES.

1.6 CLOSEOUT SUBMITTALS

A. MAINTENANCE DATA: FOR METAL PANELS TO INCLUDE IN MAINTENANCE MANUALS.

1.7 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: AN ENTITY THAT EMPLOYS INSTALLERS AND SUPERVISORS WHO ARE TRAINED AND APPROVED BY MANUFACTURER.

B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN ARCHITECTURAL SHEET METAL PRODUCTS.

C. MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR FABRICATION AND INSTALLATION.

1. BUILD MOCKUP OF TYPICAL METAL PANEL ASSEMBLY, INCLUDING CORNER, SUPPORTS, ATTACHMENTS, AND ACCESSORIES.

2. WATER-SPRAY TEST: CONDUCT WATER-SPRAY TEST OF METAL PANEL ASSEMBLY MOCKUP, TESTING FOR WATER PENETRATION ACCORDING TO AAMA 501.2.

3. APPROVAL OF MOCKUPS DOES NOT CONSTITUTE APPROVAL OF DEVIATIONS FROM THE CONTRACT DOCUMENTS CONTAINED IN MOCKUPS UNLESS ARCHITECT SPECIFICALLY APPROVES SUCH DEVIATIONS IN WRITING.

4. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IF UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

1.8 DELIVERY, STORAGE, AND HANDLING

A. DELIVER COMPONENTS, METAL PANELS, AND OTHER MANUFACTURED ITEMS SO AS NOT TO BE DAMAGED OR DEFORMED. PACKAGE METAL PANELS FOR PROTECTION DURING TRANSPORTATION AND HANDLING.

B. UNLOAD, STORE, AND ERECT METAL PANELS IN A MANNER TO PREVENT BENDING, WARPING, TWISTING, AND SURFACE DAMAGE.

C. STACK METAL PANELS HORIZONTALLY ON PLATFORMS OR PALLETS, COVERED WITH SUITABLE WEATERTIGHT AND VENTILATED COVERING. STORE METAL PANELS TO ENSURE DRYNESS, WITH POSITIVE SLOPE FOR DRAINAGE OF WATER. DO NOT STORE METAL PANELS IN CONTACT WITH OTHER MATERIALS THAT MIGHT CAUSE STAINING, DENTING, OR OTHER SURFACE DAMAGE.

D. REMOVE STRIPPABLE PROTECTIVE COVERING ON METAL PANELS AS PANELS ARE BEING INSTALLED. DO NOT LEAVE THE FILM ON INSTALLED PANELS.

1.9 FIELD CONDITIONS

A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT ASSEMBLY OF METAL PANELS TO BE PERFORMED ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.

1.10 COORDINATION

A. COORDINATE METAL PANEL INSTALLATION WITH RAIN DRAINAGE WORK, FLASHING, TRIM, CONSTRUCTION OF SOFFITS, AND OTHER ADJOINING WORK TO PROVIDE A LEAKPROOF, SECURE, AND NONCORROSIVE INSTALLATION.

1.11 WARRANTY

A. GALVALUME SUBSTRATE: WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF METAL PANEL SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

a. STRUCTURAL FAILURES INCLUDING RUPTURING OR PERFORATING.

b. DETERIORATION OF METALS AND OTHER MATERIALS BEYOND NORMAL WEATHERING.

2. WARRANTY PERIOD: 20 YEARS AND 6 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION.

B. SPECIAL WARRANTY ON PANEL FINISHES: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISH OR REPLACE METAL PANELS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.

1. EXPOSED PANEL FINISH: DETERIORATION INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

a. COLOR FADING MORE THAN 5 HUNTER UNITS WHEN TESTED ACCORDING TO ASTM D 2244.

b. CHALKING IN EXCESS OF A NO. 8 RATING WHEN TESTED ACCORDING TO ASTM D 4214.

c. CRACKING, CHIPPING, PEELING, OR FAILURE OF PAINT TO ADHERE TO BARE METAL.

2. FINISH WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. RECYCLED CONTENT: POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRECONSUMER RECYCLED CONTENT NOT LESS THAN 29 PERCENT.

B. STRUCTURAL PERFORMANCE: PROVIDE METAL PANEL SYSTEMS CAPABLE OF WITHSTANDING THE EFFECTS OF THE FOLLOWING LOADS, BASED ON TESTING ACCORDING TO ASTM E 1992:

1. WIND LOADS: AS INDICATED ON DRAWINGS.

2. DEFLECTION LIMITS: FOR WIND LOADS, NO GREATER THAN  $\frac{1}{1180}$   $\left[\frac{1}{1240}\right]$  -INSERT DEFLECTION- OF THE SPAN.

C. AIR INFILTRATION: AIR LEAKAGE OF NOT MORE THAN 0.01 CFM/SQ. FT. (0.05 L/S PER SQ. M) TESTED ACCORDING TO ASTM E 283 AT THE FOLLOWING TEST-PRESSURE DIFFERENCE:

1. TEST-PRESSURE DIFFERENCE: 6.24 LBF/SQ. FT. (300 PA)

D. WATER PENETRATION UNDER STATIC PRESSURE: NO WATER PENETRATION WHEN TESTED ACCORDING TO ASTM E 331 AT THE FOLLOWING TEST-PRESSURE DIFFERENCE:

1. TEST-PRESSURE DIFFERENCE: 15 LBF/SQ. FT. (718.2 PA)

2.2 CONCEALED-FASTENER, LAP-SEAM METAL WALL PANELS

A. GENERAL: PROVIDE FACTORY-FORMED METAL PANELS DESIGNED TO BE FIELD ASSEMBLED BY LAPPING AND INTERCONNECTING SIDE EDGES OF ADJACENT PANELS AND MECHANICALLY ATTACHING THROUGH PANELS TO SUPPORTS USING CONCEALED FASTENERS. IN SIDE LAPS, INCLUDE ACCESSORIES REQUIRED FOR WEATERTIGHT INSTALLATION.

B. WIDE-REVEAL-JOINT, CONCEALED-FASTENER METAL WALL PANELS, FORMED WITH HORIZONTAL PANEL EDGES AND A STEPPED PROFILE BETWEEN PANEL EDGES, RESULTING IN A WIDE REVEAL JOINT BETWEEN PANELS.

1. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE BERRIDGE MANUFACTURING COMPANY; HR-16 OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

a. BERRIDGE OR EQUAL.

2. METALLIC-COATED STEEL SHEET: ALUMINUM-ZINC ALLOY-COATED STEEL SHEET COMPLYING WITH ASTM A 792A 792M, CLASS AZ50  $\left(\text{CLASS AZM150}\right)$  COATING DESIGNATION; STRUCTURAL QUALITY. PREPAINTED BY THE COIL-COATING PROCESS TO COMPLY WITH ASTM A 755A 755M.

a. NOMINAL THICKNESS: 0.029 INCH (0.74 MM)

b. SURFACE: SMOOTH FINISH.

c. EXTERIOR FINISH: PROVIDE FOLLOWING FINISH SAMPLES FOR DESIGN TEAM'S APPROVAL:

1) TWO-COAT FLUOROPOLYMER

2) MICA FLUOROPOLYMER

3) METALLIC FLUOROPOLYMER

d. COLOR: AS SELECTED BY DESIGN TEAM FROM MANUFACTURER'S FULL RANGE

4. PANEL COVERAGE: 16 INCHES (406 MM).

5. PANEL HEIGHT: 0.875 INCHES (22 MM).

2.3 UNDERLAYMENT MATERIALS

A. SELF-ADHERING, HIGH-TENSILE UNDERLAYMENT: PROVIDE SELF-ADHERING, COLD-FORMED, METALLIC-COATED STEEL SHEET, A MINIMUM OF 40 MILS (1.02 MM) THICK, CONSISTING OF SLIP-RESISTANT, POLYETHYLENE-FILM TOP SURFACE LAMINATED TO A LAYER OF BUTYL OR SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE-PAPER BACKING. PROVIDE PRIMER WHEN RECOMMENDED BY UNDERLAYMENT MANUFACTURER.

1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

a. GRACE ULTRA

b. MID-STATES ASPHALT QUICK STICK HT PRO

c. POLYGLASS POLYSTICK MTS

d. SOPREMA LASTOBOND SHIELD HT

e. TAMKO TW UNDERLAYMENT OR TW METAL & TILE UNDERLAYMENT

2. THERMAL STABILITY: STABLE AFTER TESTING AT 240 DEG F (119 DEG C); ASTM D 1970.

3. LOW-TEMPERATURE FLEXIBILITY: PASSES AFTER TESTING AT MINUS 20 DEG F (29 DEG C); ASTM D 1970.

B. FELT UNDERLAYMENT: ASTM D 226/22M, TYPE II (NO. 30), ASPHALT-SATURATED ORGANIC FELTS.

2.4 MISCELLANEOUS MATERIALS

A. MISCELLANEOUS METAL SUBFRAMING AND FURRING: ASTM C 645, COLD-FORMED, METALLIC-COATED STEEL SHEET, ASTM A 653/A 653M, G90 (2775) HOT-DIP GALVANIZED COATING DESIGNATION OR ASTM A 792A 792M, CLASS AZ50  $\left(\text{CLASS AZM150}\right)$  ALUMINUM-ZINC-ALLOY COATING DESIGNATION UNLESS OTHERWISE INDICATED. PROVIDE MANUFACTURER'S STANDARD SECTIONS AS REQUIRED FOR SUPPORT AND ALIGNMENT OF METAL PANEL SYSTEM.

B. PANEL ACCESSORIES: PROVIDE COMPONENTS REQUIRED FOR A COMPLETE, WEATERTIGHT PANEL SYSTEM INCLUDING TRIM, COPINGS, FASCIAE, MULLIONS, SILLS, CORNER UNITS, CLIPS, FLASHINGS, SEALANTS, GASKETS, FILLERS, CLOSURE STRIPS, AND SIMILAR ITEMS. MATCH MATERIAL AND FINISH OF METAL PANELS UNLESS OTHERWISE INDICATED.

1. CLOSURES: PROVIDE CLOSURES AT EAVES AND RAKES, FABRICATED OF SAME METAL AS METAL PANELS.

2. BACKING PLATES: PROVIDE METAL BACKING PLATES AT PANEL END SPLICES, FABRICATED FROM MATERIAL RECOMMENDED BY MANUFACTURER.

3. CLOSURE STRIPS: CLOSED-CELL, EXPANDED, CELLULAR, RUBBER OR CROSSLINKED, POLYOLEFIN-FOAM OR CLOSED-CELL LAMINATED POLYETHYLENE; MINIMUM 1-INCH- (25-MM) THICK, FLEXIBLE CLOSURE STRIPS; CUT OR PREMOULDED TO MATCH METAL PANEL PROFILE. PROVIDE CLOSURE STRIPS WHERE INDICATED OR NECESSARY TO ENSURE WEATERTIGHT CONSTRUCTION.

C. FLASHING AND TRIM: PROVIDE FLASHING AND TRIM FORMED FROM SAME MATERIAL AS METAL PANELS AS REQUIRED TO SEAL AGAINST WEATHER AND TO PROVIDE FINISHES WHERE REQUIRED, BUT ARE NOT LIMITED TO: BASES, DRIPS, SILLS, JAMBS, CORNERS, ENDWALLS, FRAMED OPENINGS, RAKES, FASCIAE, PARAPET CAPS, SOFFITS, REVEALS, AND FILLERS. FINISH FLASHING AND TRIM WITH SAME FINISH SYSTEM AS ADJACENT METAL PANELS.

D. PANEL FASTENERS: SELF-TAPPING SCREWS DESIGNED TO WITHSTAND DESIGN LOADS. PROVIDE EXPANDED FASTENERS WITH HEADS MATCHING COLOR OF METAL PANELS BY MEANS OF FACTORY-APPLIED COATING. PROVIDE EPDM OR PVC SEALING WASHERS FOR EXPOSED FASTENERS.

E. PANEL SEALANTS: PROVIDE SEALANT TYPE RECOMMENDED BY MANUFACTURER THAT ARE COMPATIBLE WITH PANEL MATERIALS, ARE NONSTAINING, AND DO NOT DAMAGE PANEL FINISH.

1. SEALANT TAPE: PRESSURE-SENSITIVE, 100 PERCENT SOLIDS, GRAY POLYSORBUTYLENE COMPOUND SEALANT TAPE WITH RELEASE-PAPER BACKING. PROVIDE PERMANENTLY ELASTIC, NONSAG, NONTXIC, NONSTAINING TAPE 1/2 INCH (13 MM) WIDE AND 1/8 INCH (3.18 MM) THICK.

2. JOINT SEALANT: ASTM C 920; ELASTOMERIC POLYURETHANE OR SILICONE SEALANT; OF TYPE, GRADE, CLASS, AND USE CLASSIFICATIONS REQUIRED TO SEAL JOINTS IN METAL PANELS AND REMAIN WEATERTIGHT; AND AS RECOMMENDED IN WRITING BY METAL PANEL MANUFACTURER.

3. BUTYL-RUBBER-BASED, SOLVENT-RELEASE SEALANT: ASTM C 1311.

2.5 FABRICATION

A. GENERAL: FABRICATE AND FINISH METAL PANELS AND ACCESSORIES AT THE FACTORY, BY MANUFACTURER'S STANDARD PROCEDURES AND PROCESSES, AS NECESSARY TO FULFILL INDICATED PERFORMANCE REQUIREMENTS DEMONSTRATED BY LABORATORY TESTING, COMPLY WITH INDICATED PROFILES AND WITH DIMENSIONAL AND STRUCTURAL REQUIREMENTS.

B. PROVIDE PANEL PROFILE, INCLUDING MAJOR RIBS AND INTERMEDIATE STIFFENING RIBS, IF ANY, FOR FULL LENGTH OF PANEL.

C. SHEET METAL FLASHING AND TRIM: FABRICATE FLASHING AND TRIM TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS AND RECOMMENDATIONS IN SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL," THAT APPLY TO DESIGN, DIMENSIONS, METAL, AND OTHER CHARACTERISTICS OF ITEM INDICATED.

1. FORM EXPOSED SHEET METAL ACCESSORIES THAT ARE WITHOUT EXCESSIVE OIL, CANNING, BUCKLING, AND TOOL MARKS AND THAT ARE TRUE TO LINE AND LEVELS INDICATED, WITH EXPOSED EDGES FOLDED BACK TO FORM HEIMS.

2. SEAMS FOR ALUMINUM: FABRICATE NONMOVING SEAMS WITH FLAT-LOCK SEAMS. FORM SEAMS AND SEAL WITH EPOXY SEAM SEALER. RIVET JOINTS FOR ADDITIONAL STRENGTH.

3. SEAMS FOR OTHER THAN ALUMINUM: FABRICATE NONMOVING SEAMS IN ACCESSORIES WITH FLAT-LOCK SEAMS. TIG EDGES TO BE SEALED, FORM SEAMS, AND SOLDER.

4. SEALED JOINTS: FORM NONEXPANSION, BUT MOVABLE, JOINTS IN METAL TO ACCOMMODATE SEALANT AND TO COMPLY WITH SMACNA STANDARDS.

5. CONCEAL FASTENERS AND EXPANSION PROVISIONS WHERE POSSIBLE. EXPOSED FASTENERS ARE NOT ALLOWED ON FACES OF ACCESSORIES EXPOSED TO VIEW.

6. FABRICATE CLEATS AND ATTACHMENT DEVICES FROM SAME MATERIAL AS ACCESSORY BEING ANCHORED OR FROM COMPATIBLE, NONCORROSIVE METAL RECOMMENDED IN WRITING BY METAL PANEL MANUFACTURER.

a. SIZE: AS RECOMMENDED BY SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL" OR METAL WALL PANEL MANUFACTURER FOR APPLICATION BUT NOT LESS THAN THICKNESS OF METAL BEING SECURED.

2.6 FINISHES

A. PROTECT MECHANICAL AND PAINTED FINISHES ON EXPOSED SURFACES FROM DAMAGE BY APPLYING A STRIPPABLE, TEMPORARY PROTECTIVE COVERING BEFORE SHIPPING.

B. APPEARANCE OF FINISHED WORK: VARIATIONS IN APPEARANCE OF ABUTTING OR ADJACENT PIECES ARE ACCEPTABLE IF THEY ARE WITHIN ONE-HALF OF THE RANGE OF APPROVED SAMPLES. NOTICEABLE VARIATIONS IN SAME PIECE ARE NOT ACCEPTABLE. VARIATIONS IN APPEARANCE OF OTHER COMPONENTS ARE ACCEPTABLE IF THEY ARE WITHIN THE RANGE OF APPROVED SAMPLES AND ARE ASSEMBLED OR INSTALLED TO MINIMIZE CONTRAST.

C. STEEL PANELS AND ACCESSORIES:

1. TWO-COAT FLUOROPOLYMER: AAMA 621, FLUOROPOLYMER FINISH CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

2. MICA FLUOROPOLYMER: AAMA 621, TWO-COAT FLUOROPOLYMER FINISH WITH SUSPENDED MICA FLAKES CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

3. METALLIC FLUOROPOLYMER: AAMA 621, TWO-COAT FLUOROPOLYMER FINISH WITH SUSPENDED METALLIC FLAKES CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

D. CONCEALED FINISH: APPLY PRETREATMENT AND MANUFACTURERS' STANDARD WHITE OR LIGHT-COLORED ACRYLIC OR POLYESTER BACKER FINISH CONSISTING OF PRIME COAT AND WASH COAT WITH A MINIMUM TOTAL DRY FILM THICKNESS OF 0.35 MIL (0.009 MM).

E. ALUMINUM PANELS AND ACCESSORIES:

1. TWO-COAT FLUOROPOLYMER: AAMA 2605, FLUOROPOLYMER FINISH CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

2. MICA FLUOROPOLYMER: AAMA 2605, TWO-COAT FLUOROPOLYMER FINISH WITH SUSPENDED MICA FLAKES CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

3. METALLIC FLUOROPOLYMER: AAMA 2605, TWO-COAT FLUOROPOLYMER FINISH WITH SUSPENDED METALLIC FLAKES CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT APPLIED BY PANEL MANUFACTURER ON A CONTINUOUS COIL COATING LINE, WITH A TOP-SIDE DRY FILM THICKNESS OF 0.75x 0.05 MIL (0.019x 0.0013 MM) OVER 0.2x 0.05 MIL (0.05x 0.0013 MM) PRIMER COAT, TO PROVIDE A TOTAL DRY FILM THICKNESS OF 0.95x 0.10 MIL (0.024x 0.0025 MM). PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' WRITTEN INSTRUCTIONS.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES, METAL PANEL SUPPORTS, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.

1. EXAMINE WALL FRAMING TO VERIFY THAT GIRTS, ANGLES, CHANNELS, STUDS, AND OTHER STRUCTURAL PANEL SUPPORT MEMBERS AND ANCHORAGE HAVE BEEN INSTALLED WITHIN ALIGNMENT TOLERANCES REQUIRED BY METAL WALL PANEL MANUFACTURER.

2. EXAMINE WALL SHEATHING TO VERIFY THAT SHEATHING JOINTS ARE SUPPORTED BY FRAMING OR BLOCKING AND THAT INSTALLATION IS WITHIN FLATNESS TOLERANCES REQUIRED BY METAL WALL PANEL MANUFACTURER.

B. VERIFY THAT AIR- OR WATER-RESISTIVE BARRIERS HAVE BEEN INSTALLED OVER SHEATHING OR BACKING SUBSTRATE TO PREVENT AIR INFILTRATION OR WATER PENETRATION.

C. EXAMINE ROUGHING-IN FOR COMPONENTS AND SYSTEMS PENETRATING METAL PANELS TO VERIFY ACTUAL LOCATIONS OF PENETRATIONS RELATIVE TO SEAM LOCATIONS OF METAL PANELS BEFORE INSTALLATION.

D. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION

A. MISCELLANEOUS SUPPORTS: INSTALL SUBFRAMING, FURRING, AND OTHER MISCELLANEOUS PANEL SUPPORT MEMBERS AND ANCHORAGES ACCORDING TO ASTM C 754 AND METAL PANEL MANUFACTURERS' WRITTEN RECOMMENDATIONS.

3.3 METAL PANEL INSTALLATION

A. GENERAL: INSTALL METAL PANELS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS IN ORIENTATION, SIZES, AND LOCATIONS INDICATED. INSTALL PANELS PERPENDICULAR TO SUPPORTS UNLESS OTHERWISE INDICATED. ANCHOR METAL PANELS AND OTHER COMPONENTS OF THE WORK SECURELY IN PLACE, WITH PROVISIONS FOR THERMAL AND STRUCTURAL MOVEMENT.

1. SHIM OR OTHERWISE PLUMB SUBSTRATES RECEIVING METAL PANELS.

2. FLASH AND SEAL METAL PANELS AT PERIMETER OF ALL OPENINGS. FASTEN WITH SELF-TAPPING SCREWS. DO NOT BEGIN INSTALLATION UNTIL AIR- OR WATER-RESISTIVE BARRIERS AND FLASHINGS THAT WILL BE CONCEALED BY METAL PANELS ARE INSTALLED.

3. INSTALL SCREW FASTENERS IN UNIFORM VERTICAL AND HORIZONTAL ALIGNMENT.

4. LOCATE AND SPACE FASTENINGS IN UNIFORM VERTICAL AND HORIZONTAL ALIGNMENT.

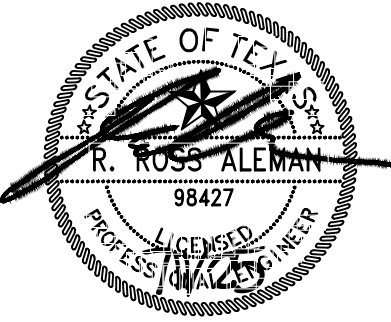
5. INSTALL FLASHING AND TRIM AS METAL PANEL WORK PROCEEDS.

6. LOCATE PANEL SPLICES OVER, BUT NOT ATTACHED TO, STRUCTURAL SUPPORTS. STAGGER PANEL SPLICES AND END LAPS TO AVOID A FOUR-PANEL LAP SPLICE CONDITION.

7. ALIGN BOTTOMS OF METAL PANELS AND FASTEN WITH BLIND RIVETS, BOLTS, OR SELF-TAPPING SCREWS. FASTEN FLASHINGS AND TRIM AROUND OPENINGS AND SIMILAR ELEMENTS WITH SELF-TAPPING SCREWS.

8. PROVIDE WEATERTIGHT ESCUTCHEONS FOR PIPE- AND CONDUIT-PENETRATING PANELS.





Original Date: 07/11/2025  
Issue Log  
ISSUED FOR PERMIT: 07/11/2025

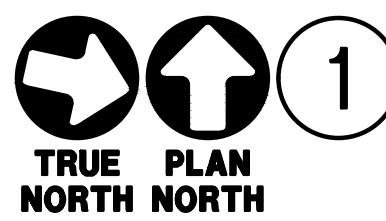
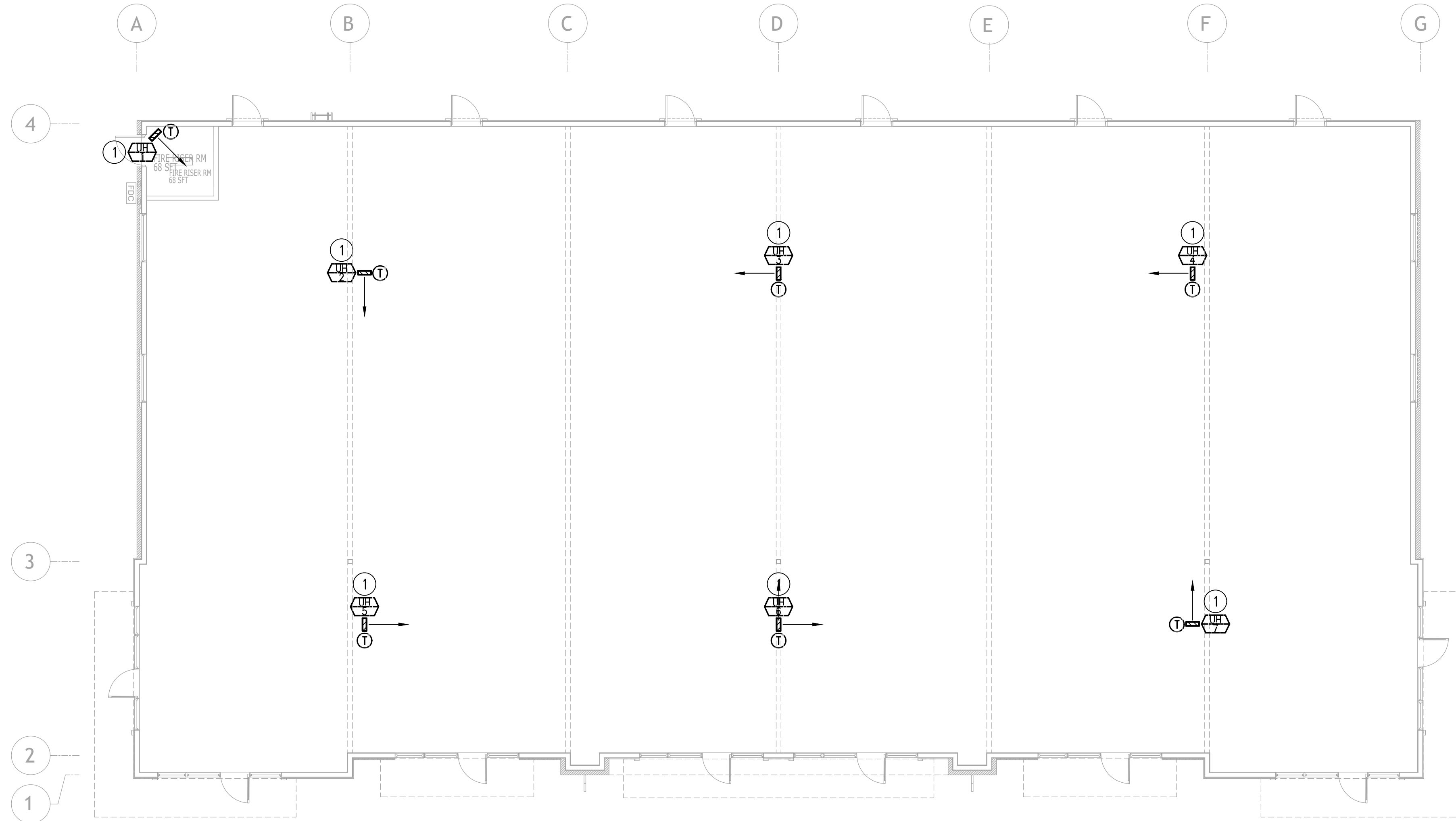
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THE SHOPS AT MONARCH  
RETAIL CENTER, SHELL BUILDING  
LEANDER, TEXAS 78641



Sheet Number:  
**M100**  
Project Number:  
24-015



**FLOOR PLAN - MECHANICAL**  
SCALE: 1/8" = 1'-0"

ELECTRIC UNIT HEATER SCHEDULE							
MARK	LOCATION MOUNTING HEIGHT	VOLTS/ PH/HZ	K.W.	BTUH CAPACITY	AMPS	WEIGHT	REMARKS
UH-1, 2, 3, 4, 5, 6, 7	APPROX. 9'-0"	208/3/60	3.3	11,200	9.2	36 LBS.	REDD-I F3FUH03C03

NOTES FOR ALL:  
1. AUTOMATIC PRIMARY HI-LIMIT CUTOUTS.  
2. ADJUSTABLE LOUVERS.  
3. PROVIDE MOUNTING BRACKETS AND SUPPORTS.  
4. PROVIDE ADJUSTABLE THERMOSTAT.

MECHANICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
(T)	THERMOSTAT
UH	EQUIPMENT DESIGNATION NUMBER IN SEQUENTIAL ORDER

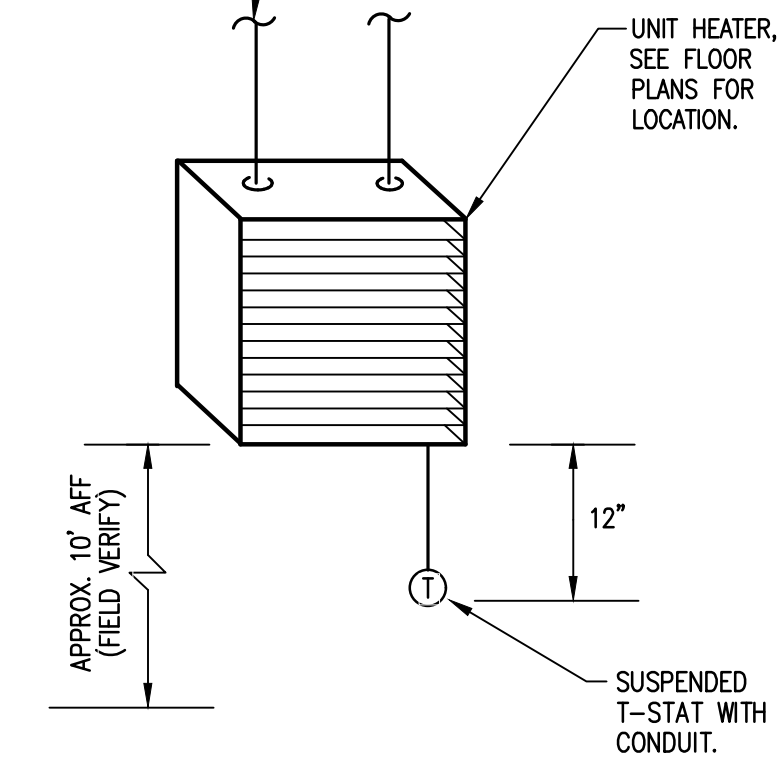
**GENERAL NOTES**

- MECHANICAL CONTRACTOR TO COORDINATE WITH EXISTING SYSTEMS AND ALL OTHER TRADES PRIOR TO INSTALLING NEW SYSTEMS.
- THESE PLANS ARE DIAGRAMMATIC IN NATURE, CONTRACTORS SHALL INCLUDE APPROPRIATE ALLOWANCES FOR OFFSETS, TRANSITIONS, FITTINGS, ETC. AS REQUIRED TO ACCOMMODATE VERTICAL AND HORIZONTAL VARIATIONS IN THE LOCATIONS AND ELEVATIONS OF PIPING AND EXISTING AND/OR OTHER TRADES CONDITIONS.
- PENETRATIONS OF WALLS OR FLOORS SHALL BE PROPERLY SEALED AFTER INSTALLATION OF EQUIPMENT. FIELD VERIFY EXISTING WALL PENETRATIONS AND PROPERLY SEAL AS REQUIRED TO MAINTAIN WALL OR FLOOR RATING.
- PROVIDE CODE AND MANUFACTURER-REQUIRED ACCESS TO ALL EQUIPMENT.
- ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
- MECHANICAL CONTRACTOR TO COORDINATE WITH LIGHTING AND FIRE SPRINKLER PIPING LAYOUT ON ELECTRICAL AND ARCHITECTURAL PLANS.

**KEYED NOTES**

- 1 MOUNT ELECTRIC UNIT HEATER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS TO PREVENT FREEZING. THERMOSTAT TO CONTROL UNIT HEATER AND TO BE SET AT 50 DEGREES (ADJUSTABLE).

HANGER RODS, (PROVIDE STRUCTURAL STEEL ANGLE BETWEEN JOISTS FOR SUPPORT OF UNIT HEATER).





**UNIT HEATER DETAIL**  
SCALE: NOT TO SCALE

















































DRAWING ABBREVIATIONS AND SYMBOLS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ABV AFF ARCH	ABOVE ABOVE FINISHED FLOOR ARCHITECT	MECH MFR MIN	MECHANICAL MANUFACTURER MINIMUM
BALA VA BLDG BTUH	BALANCING VALVE BUILDING BRITISH THERMAL UNIT PER HOUR	NTS	NOT TO SCALE
CFH CO CW	CUBIC FEET PER HOUR CLEANOUT COLD WATER	PLBG PVC	PLUMBING POLYVINYL CHLORIDE
D DIA DWG	DRAIN LINE (CONDENSATE) DIAMETER DRAWING	RECIRC REF REQ RTU	RECIRCULATION REFERENCE REQUIRED ROOFTOP UNIT
EXIST. EXT FCO EWH	EXISTING EXTERIOR FLOOR CLEANOUT ELECTRIC WATER HEATER	SAN SIM SPECS	SANITARY SEWER SIMILAR SPECIFICATIONS
FCO FD FF FT	FLOOR CLEAN OUT FLOOR DRAIN FINISH FLOOR FEET/FOOT (')	TEMP TI TYP	TEMPERATURE TEMP. INDICATOR (THERMOMETER) TYPICAL
GPM GW GV	GALLONS PER MINUTE NATURAL GAS GREASE WASTE GREASE VENT	V VTR W/O WCO WHA	SANITARY VENT VENT THROUGH ROOF WITHOUT WALL CLEAN OUT WATER HAMMER ARRESTOR
HPC HW LAV	HIGH PRESSURE NATURAL GAS HOT WATER LAVATORY		




### GENERAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NOTE BY SYMBOL DESIGNATION		CONTINUATION OF SYSTEM OR LINE
NOTES: 1. ALL ABBREVIATIONS AND SYMBOLS ARE NOT NECESSARILY USED. 2. ALL MATERIALS, LABOR, COORDINATION, AND SUPERVISION IS BY CONTRACTOR UNLESS SPECIFICALLY NOTED "BY OWNER" OR "NIC". CONTRACTOR SHALL COORDINATE AND INSTALL EQUIPMENT WHEN NOTED "OWNER FURNISHED". 3. SYMBOLS USED, BUT NOT ON THE LEGEND ARE NOTED ON THE PLAN.			

### PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SANITARY SEWER		SANITARY WASTE OR VENT STACK WASTE OR VENT NO.
	GREASE WASTE		GREASE WASTE OR VENT STACK GREASE WASTE OR VENT NO.
	PLUMBING VENT		CIRCUIT SETTER, BALANCING VALVE (B&G CB--SERIES)
	DOMESTIC COLD WATER		GATE VALVE WITH C.I. VALVE BOX
	DOMESTIC HOT WATER		VALVE ON VERTICAL
	DOMESTIC HOT WATER RETURN		DIRT LEG (6" LONG)
	FIRE LINE		HOSE BIBB
	GAS LINE		WALL HYDRANT
	DIRECTION OF FLOW		FLOOR DRAIN
	BALL VALVE		FLOOR SINK
	PLUG VALVE		HUB DRAIN
	SOLENOID VALVE		VENT THRU ROOF
	CHECK VALVE		FLOOR CLEANOUT
	NEEDLE VALVE		WALL CLEANOUT
	GAS PRESSURE REGULATOR		EXTERIOR FLOOR CLEANOUT
	THERMOMETER		EXT FCO
	STRAINER W/ BLOWDOWN GATE VALVE		DOUBLE TWO-WAY EXTERIOR FLOOR CLEANOUT
	TEMPERATURE/ PRESSURE RELIEF VALVE		ELBOW TURNING DOWN
	PRESSURE GAUGE W/ GAUGE COCK (Pi)		ELBOW TURNING UP
	UNION		CAPPED PIPE
			PIPE SLEEVE
			DIRECTION OF SLOPE (DNWARD)
			UNION

### PIPING SCHEDULE

SYMBOL	SERVICE	PIPE MATERIAL	TYPE JOINT	FITTINGS	TEST
	SANITARY WASTE AND UNDERGROUND	STANDARD WEIGHT DWV CAST IRON	NEOPRENE GASKET	STANDARD WEIGHT DWV CAST IRON	10 ft. FOR 6-HOURS
	SANITARY VENT	DWV CAST IRON	S.S. NO-HUB	DWV CAST IRON	10 ft. FOR 6-HOURS
	DOMESTIC WATER AND ABOVE GROUND	TYPE 'L' HARD DRAWN COPPER	SWEAT WITH LEAD FREE SOLDER,	WROUGHT COPPER	15 ft. FOR 24 HOURS

### PLUMBING SPECIFICATIONS

#### PART 1 – GENERAL

- MATERIALS AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES AND REQUIREMENTS.
- OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTION FEES, TAPPING FEES, CONNECTION CHARGES, AND UTILITY COMPANY SERVICE CHARGES.
- INSTALLATION SHALL BE DONE IN A NEAT AND WORKABLE MANNER.
- DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED FOR EXACT SIZES OR LOCATIONS. THEY ARE NOT INTENDED TO DISCLOSE ABSOLUTE OR UNCONDITIONAL KNOWLEDGE OF ACTUAL FIELD CONDITIONS.

#### PART 2 – PRODUCTS

- ALL DOMESTIC WATER PIPING INSIDE THE BUILDING ABOVE SLAB SHALL BE TYPE 'L' HARD DRAWN COPPER (TYPE 'K' FOR UNDERGROUND) WITH WROUGHT COPPER FITTINGS, SWEAT WITH LEAD FREE SOLDER.
- ALL CONDENSATE PIPING ON THE ROOF SHALL BE TYPE 'M' COPPER, OR PVC WHERE ALLOWED BY CODE
- DOMESTIC WATER AND CONDENSATE DRAIN PIPING BELOW SLAB AND OUTSIDE SHALL BE TYPE "K" SOFT SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB. ALL SLAB PENETRATIONS SHALL BE SLEEVED TO PROTECT PIPING FROM CORROSION BY CONCRETE.
- COPPER PIPE FITTINGS SHALL BE WROUGHT COPPER SWEEP PATTERN FITTINGS, SOLDERED USING 95-5 LEAD-FREE SOLDER OR BRAZED WITH SIL-FOS.
- ALL SANITARY WASTE, VENT AND STORM DRAINAGE PIPING INSIDE AND EXTENDING 30" OUTSIDE THE BUILDING SHALL BE SERVICE WEIGHT CAST IRON DWV EQUIVALENT TO CHARLOTTE PIPE.
- JOINTS FOR PVC PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB TO A POINT 30" OUTSIDE THE BUILDING AND NEOPRENE PUSH-ON TYPE JOINTS BEYOND OUTSIDE 30" FROM THE BUILDING.
- INSULATE AND HEAT TRACE ALL DOMESTIC HOT AND COLD WATER PIPING LOCATED IN AREAS SUBJECT TO FREEZING. INSULATION SHALL BE 1" THICK FIBERGLASS AS MANUFACTURED BY MANVILLE, OWENS-CORNING, OR KNAUF.
- ALL NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. 2" AND SMALLER – SCREWED, 2 1/4" AND LARGER WELDED
- ALL UNDERGROUND NATURAL GAS PIPING SHALL BE POLYETHYLENE (PE-2306) WITH HEAT FUSION JOINTS.

### FIRE SPRINKLER SPECS.

- THE PURPOSE OF THE NEW WORK IS TO PROVIDE A COMPLETE, WORKING AND APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM FOR ALL THE AREAS/COMPARTMENTS RELATED TO THE RENOVATION AREA AS REQUIRED TO MEET THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION LEAVING IN PLACE AND IN SERVICE. ALL EXISTING PIPING SERVING ALL OTHER AREAS OF THE BUILDING; CONTRACTOR SHALL PERFORM WHATEVER WORK IS NECESSARY TO SATISFY THE PURPOSE OF THE NEW WORK AND LEAVE EXISTING SERVICES AND STRUCTURES IN A SATISFACTORY AND SERVICEABLE CONDITION.
- CONTRACTOR SHALL INCLUDE IN HIS BID THE COST FOR REHABILITATING THE EXISTING FIRE SPRINKLER SYSTEM TO ENSURE THE NEW AND EXISTING SYSTEM MEET THE MINIMUM ACCEPTABLE STANDARDS OF THE, NFPA, THE CITY OF AUSTIN FIRE MARSHAL'S OFFICE AND THE STANDARDS LISTED IN THE SPECIFICATIONS. CONTRACTOR SHALL CORRECT ALL EXISTING DEFICIENCIES.
- IT IS A REQUIREMENT OF THIS CONTRACT TO VISIT THE SITE PRIOR TO BID TO DETERMINE THE CONDITION OF THE EXISTING SYSTEM AND THE EXTENT OF WORK REQUIRED. FIELD VERIFY ALL EXISTING PIPE RUNS, SIZES, CONNECTIONS, SUPPORTS, RISERS, SPRINKLER HEAD LOCATIONS, AVAILABLE PRESSURE, AVAILABLE FLOW RATES AND THE LOCATION OF ALL EXISTING SPRINKLER SYSTEM COMPONENTS. VISITING THE SITE, CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS. CONTRACTOR SHALL BE FULLY KNOWLEDGEABLE OF THE EXISTING CONDITIONS AND THE PLANS OF THE NEW WORK, INCLUDING THE HVAC, ARCHITECTURAL AND ELECTRICAL PLANS TO DETERMINE THE EXTENT OF WORK REQUIRED.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AVAILABLE FLOW AND PRESSURE CHARACTERISTICS BEFORE BEGINNING THE DESIGN OF THE FIRE PROTECTION SYSTEM. PERFORM A HYDRAULIC TEST ON THE EXISTING FIRE MAIN USING EXISTING FIRE HYDRANTS TO DETERMINE THE AVAILABLE FLOW AND PRESSURE. TEST SHALL BE TAKEN AT HYDRANTS LOCATED AT AREAS CAPABLE OF PROVIDING TRUE AND REPRESENTATIVE FLOW AND PRESSURE CHARACTERISTICS OF THE EXISTING FIRE MAINS. TEST SHALL BE PERFORMED AND DOCUMENTED PER NFPA PAMPHLETS AND WITH FULL AUTHORIZATION FROM THE BUILDING OWNER. THIS CONTRACTOR SHALL SCHEDULE THE FLOW TEST WITH THE OWNER AND PROVIDE A MINIMUM 72-HOUR NOTICE TO THE OWNERS REPRESENTATIVE, THE ARCHITECT/ENGINEER AND THE BUILDING INSURANCE UNDERWRITER REPRESENTATIVE. THE CONTRACTORS LICENSED PROFESSIONAL ENGINEER SHALL BE PRESENT TO WITNESS THE HYDRAULIC TEST.
- SYSTEM DESIGN. THE SPRINKLER SYSTEM CONTRACTOR IS REQUIRED TO DEVELOP, SUBMIT AND INSTALL A COMPLETE AND APPROVED FIRE PROTECTION SYSTEM DESIGN. DESIGN THE SYSTEM IN ACCORDANCE WITH STATUTES, ORDINANCES, CODES AND REGULATIONS OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (U.L.), OSHA, UNIFORM BUILDING CODE, CITY OF AUSTIN FIRE MARSHAL'S AND ANY STATE, LOCAL OR OTHER GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.
- PREPARE COMPLETE AND DETAILED SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FOR THE ENTIRE FIRE PROTECTION SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE FIRE PROTECTION SYSTEM. ALL PRESSURE LOSSES THROUGH THE DISTRIBUTION SYSTEM AND FLUCTUATIONS IN SUPPLY SYSTEM PRESSURES SHALL BE ADEQUATELY ACCOUNTED FOR. INCLUDE AN ADEQUATE SAFETY FACTOR IN ALL HYDRAULIC CALCULATION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE OR OTHERWISE CORRECT ANY PORTION OF THE EXISTING FIRE SPRINKLER SYSTEM THAT DOES NOT MEET AVAILABLE PRESSURES AND FLOW RATES. FUTURE CHANGES IN WATER SUPPLIES SHALL BE CONSIDERED.
- IN ADDITION TO THE DETAILED SHOP DRAWINGS AND HYDRAULIC CALCULATIONS, OBTAIN AND PAY FOR THE SERVICES OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS AND EXPERIENCED IN HYDRAULIC CALCULATIONS AND FIRE PROTECTION SYSTEM INSTALLATION TO REVIEW, APPROVE AND CERTIFY THE DRAWINGS, CALCULATIONS AND INSTALLATION. SUBMIT A SIGNED LETTER FROM THE LICENSED PROFESSIONAL ENGINEER STATING THE SYSTEM PLANS HAVE BEEN REVIEWED, COMPLY WITH THE REQUIREMENTS OF NFPA 13 AND THE INSTALLED SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND CALCULATIONS. COPIES OF THIS LETTER SHALL BE SUBMITTED TO, THE CITY OF AUSTIN FIRE MARSHAL, THE OWNERS REPRESENTATIVE AND THE ARCHITECT/ENGINEER. THE PROFESSIONAL ENGINEER SHALL NOT BE AN EMPLOYEE OF THE CONTRACTOR.
- SUBMIT THE RESULTS OF THE HYDRAULIC TEST, THE PROFESSIONAL ENGINEER'S CERTIFICATION CERTIFICATION OF THE DRAWINGS AND HYDRAULIC CALCULATIONS, THE DETAILED SHOP DRAWINGS AND THE HYDRAULIC CALCULATIONS TO THE CITY OF AUSTIN FIRE MARSHALL AND ANY OTHER STATE OR LOCAL GOVERNING BODY HAVING JURISDICTION FOR APPROVAL. CONTRACTOR SHALL COMMENCE DESIGN WORK ON SUBMITTAL DRAWINGS IMMEDIATELY AFTER AWARD OF CONTRACT AND SHALL SUBMIT APPROVED DRAWINGS TO THE ARCHITECT IN A REASONABLE AMOUNT OF TIME (FOR ENGINEER'S ACKNOWLEDGMENT) PRIOR TO INSTALLATION OF ANY PORTION OF THE FIRE SYSTEMS.
- APPROVED DATA SHALL BEAR SEAL OF THE CITY OF AUSTIN FIRE MARSHAL, AND THE PROFESSIONAL ENGINEER. SUBMIT APPROVED DRAWINGS ONLY. DO NOT SUBMIT DRAWINGS WITHOUT APPROVAL SEAL AND SIGNATURE. DRAWINGS SHALL INCLUDE ALL REQUIRED INFORMATION REQUIRED BY NFPA

#### GENERAL NOTE:

(THIS NOTE APPLIES TO ALL SHEETS)  
ALL MATERIALS, FIXTURES AND DEVICES SHALL CONFORM TO APPROVED APPLICABLE STANDARDS (INTERNATIONAL PLUMBING CODE, SECTION 301.1.1.)

#### GENERAL NOTE:

(THIS NOTE APPLIES TO ALL SHEETS)  
ALL PLUMBING SHALL BE IN ACCORDANCE WITH CITY OF LEANDER PLUMBING CODES (2021 IPC)

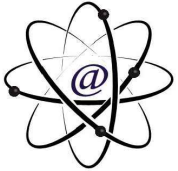
#### GENERAL NOTE:

(THIS NOTE APPLIES TO ALL SHEETS)  
BACKFLOW PREVENTION ASSEMBLIS SHALL:  
A. HAVE FULL USC, FCC&HR APPROVAL.  
B. BE OPERATIONALLY TESTED BY A BACKFLOW TESTER REGISTERED W/ WW&W.  
DIRECT QUESTIONS TO WW&W.

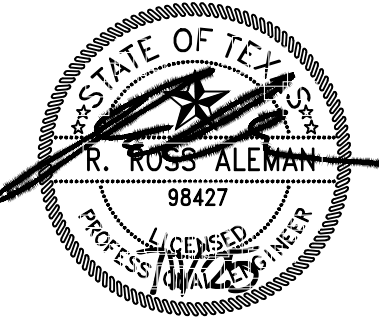
#### NOTE:

- ROUTE ALL PIPING HIDDEN FROM VIEW AS HIGH AS POSSIBLE ABV. CLG.
- COORDINATE ROUTING OF ALL PIPING WITH ALL OTHER TRADES. OFFSET PIPING AS NECESSARY.
- UNLESS OTHERWISE NOTED, ALL PIPING SHOWN SHALL BE ROUTED ABV. CLG.
- REFERENCE PLUMBING RISER DIAGRAMS FOR ADDITIONAL SIZES, WHA SIZES AND LOCATIONS, AND ADDITIONAL INFO.

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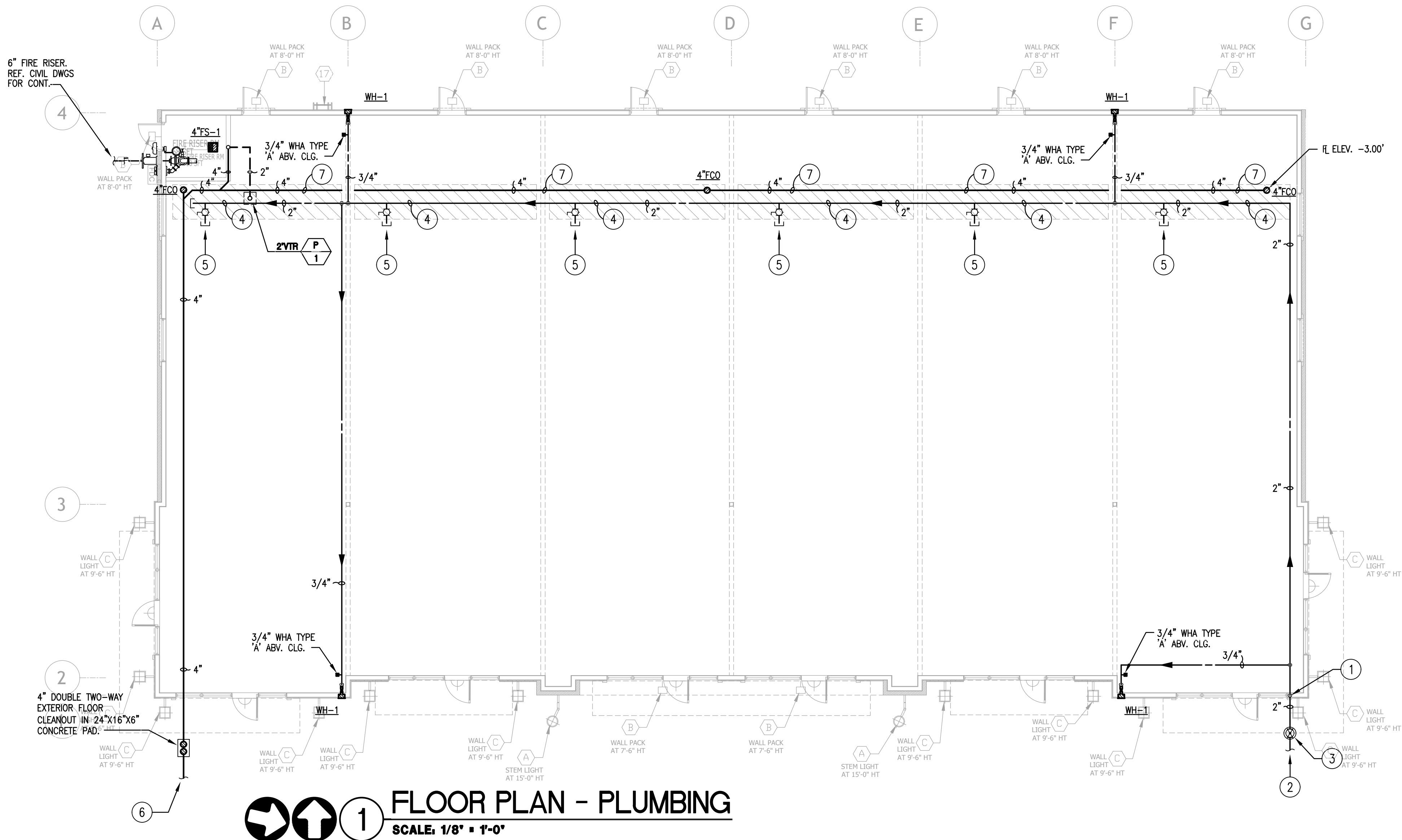
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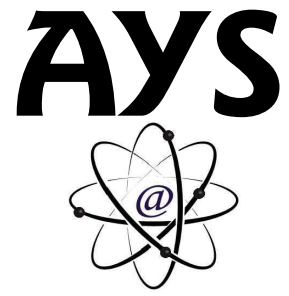
### GENERAL PLUMBING NOTES:

(THESE NOTES APPLY TO ALL SHEETS)  
(REFER TO SHEETS FOR ANY ADDITIONAL GENERAL NOTES)

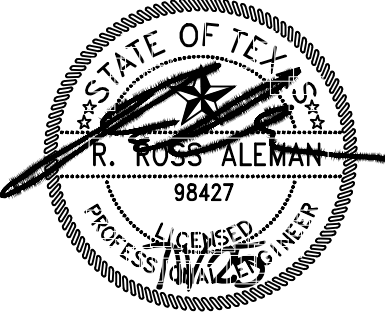
1. FOR CONTINUATION OF WATER AND SANITARY SEWER SERVICES, REFER TO CIVIL DRAWINGS.
2. WATER LINES SHALL BE RUN ABOVE CEILING AND SANITARY SEWER LINES UNDER FLOOR UNLESS NOTED OTHERWISE. CONFORM TO ALL STRUCTURAL AND FINISH CONDITIONS OF BUILDING. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
3. ALL DIMENSION AND FIELD CONDITIONS SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT SITE, ALL NEW PIPING, EQUIPMENT, LOCATIONS, SIZES, SCALES, AND DIMENSION SHALL BE CHECKED AND VERIFIED AT SITE.
4. CONTRACTOR TO CHANGE LOCATION OF NEW PIPING, AS SHOWN, TO MEET FIELD CONDITIONS.
5. CONTRACTOR SHALL NOT SCALE DRAWINGS.
6. ANY PENETRATIONS OF THE CLG. WALLS OR FLOORS SHALL BE RESTORED TO THE ORIGINAL FIRE RATINGS, OPENING CUTS, AND CEILING SHALL BE PATCHED SLEEVE, SEALED, AND ESCUTCHEONED.
7. CONTRACTOR SHALL LAYOUT HIS WORK FROM ACTUAL FIELD MEASUREMENTS AND ACTUAL DIMENSIONS OF EQUIPMENT INSTALLED, ALL PIPING AND EQUIPMENT OF ALL TRADES SHALL BE PROPERLY COORDINATED AND SET TO MAINTAIN REQUIRED CLEARANCES. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL LOCATIONS SUBJECT TO APPROVAL OF ARCHITECT.
8. LOCATE EQUIPMENT AND FIXTURES APPROXIMATELY AS SHOWN CONFORMING TO ALL ARCHITECTURAL AND STRUCTURAL ITEMS. PROVIDE ALL SUPPORTS, HANGERS AND OPENINGS AS REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR CLEARANCES, AND EXACT LOCATIONS OF EQUIPMENT. ALL EQUIPMENT AND FIXTURES SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND IN FULL COMPLIANCE WITH ALL APPLICABLE CODES HAVING JURISDICTION.
9. ROUTE ALL PIPING CONCEALED, HIDDEN FROM VIEW AND AS HIGH AS POSSIBLE ABOVE CEILING LEVELS.
10. CONTRACTOR TO CONTACT OWNER'S REPRESENTATIVE TO COORDINATE ALL CORE DRILLING WITH BUILDING OPERATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF FLOOR DRAINS AND PLUMBING FIXTURES.
11. WATER LINES LOCATED IN EXTERIOR WALL SHALL BE INSTALLED BETWEEN INSULATION AND INTERIOR OF WALL. WATER PIPING INDICATED UNDER THIS SLAB SHALL BE SEAMLESS COPPER WITH NO JOINTS AND LONG RADIUS CURVES FOR TURNS, PROTECTED USING ARMAFLEX INSULATION. INSULATE COPPER LINES FROM CONTACT WITH CONCRETE, REINFORCING STEEL, OR OTHER PIPING AND CONDUIT.
12. ALL FLOOR DRAINS, HUB DRAINS, AND FLOOR SINK SHALL BE PROTECTED BY A TRAP PRIMER WHETHER SHOWN ON THE PLANS OR NOT. EXTEND 1/2" WATERLINE UNDER FLOOR AND CONNECT TO TRAP PRIMER CONNECTION ON FLOOR DRAIN.
13. PLUMBING VENTS AND FLUES THRU ROOF SHALL BE LOCATED 10'-0" FROM ALL OUTSIDE AIR INTAKES AND 2'-0" FROM ALL VERTICAL STRUCTURES. TERMINATIONS ARE TO BE 12" MINIMUM ABOVE ROOF. IF WITH 10'-0" OF A PARAPET, TERMINATIONS SHALL BE AT TOP OF PARAPET. REFER TO ARCHITECTURAL DRAWINGS FOR PARAPET HEIGHT.
14. ISOLATION VALVES ARE TO BE INSTALLED AT EACH PLUMBING FIXTURE AND/OR GROUP OF PLUMBING FIXTURES. LOCATE VALVES IN ACCESSIBLE LOCATIONS; ABOVE LAY-IN CEILINGS IN GYP. BD. CEILINGS OR WALLS WITH ACCESS DOORS.
15. PLUMBING CONTRACTOR IS TO ROUGH-IN FOR EACH ITEM WITH DRAIN, WATER AND GAS CONNECTION AS SCHEDULED. COORDINATE WITH OWNER'S REPRESENTATIVE, PLUMBING ROUGH-IN DRAWINGS, AND SHOP DRAWINGS FOR EXACT LOCATIONS AND REQUIREMENTS. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS AS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE WITH GENERAL CONTRACTOR AND WITH OTHER TRADES.
16. INSULATE ALL DOMESTIC WATER SUPPLY (HOT AND COLD) PIPING WITH 1-INCH THICK FIBERGLASS PIPE INSULATION. FIBERGLASS PIPE INSULATION SHALL HAVE AN ALL SERVICE JACKET (ASJ) WITH SELF-SEALING LAPS (OWENS CORNING SSL-11 OR EQUAL). ALL PIPING INSULATION USED ON THE PROJECT SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AN A SMOKE DEVELOPED RATING NOT EXCEEDING 50 AS DETERMINED BY TEST PROCEDURES ASTM E 84 NFPA 225 AND U.L. 723. THESE RATINGS MUST BE AS TESTED ON THE COMPOSITE OF INSULATION JACKET OR FACING AND ADHESIVE. COMPONENTS SUCH AS ADHESIVES MASTIC AND CEMENTS SHALL MEET THE SAME INDIVIDUAL RATINGS AS THE MINIMUM REQUIREMENTS.
17. SUPPORT INSULATION AT HANGERS AND SUPPORTS WITH A SHIELD OF GALVANIZED METAL EXTENDING NOT LESS THAN 4-INCHES ON EITHER SIDE OF THE SUPPORT BEARING AREA COVERING AT LEAST HALF OF THE PIPE CIRCUMFERENCE.
18. PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES, AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS. REMOVE AND REPLACE EXISTING CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW
19. SLEEVE ALL PIPING THRU FLOOR AND CONFORM TO ALL STRUCTURAL AND FINISH CONDITIONS OF BUILDING. 10. PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL A.D.A. APPROVED INSULATION KITS TO ALL LAVATORIES IN ALL TOILET ROOMS.

### PLUMBING KEYED NOTES:

- 1 2" COLD WATER SUPPLY LINE UP FROM UNDERFLOOR. RISE WITH 2" LINE UP AS HIGH AS POSSIBLE A.F.F.
- 2 2" COLD WATER SUPPLY LINE. REF. CIVIL DWGS. FOR CONT.
- 3 2" GATE VALVE IN CAST IRON VALVE BOX.
- 4 COLD WATER MAIN. ROUTE IN JOIST SPACE. DIRECTLY OVER SANITARY SEWER. LINE SHOWN OFFSET FOR CLARITY.
- 5 VALVE AND CAP 1" BRANCH LINE FOR FUTURE CONNECTION (IN JOIST SPACE).
- 6 6" SANITARY SEWER LINE. REF. CIVIL DWGS FOR CONT. FLOW LINE = 5.00' INV. ELEV.
- 7 SLOPE BUILDING DRAIN AT 1/8" PER FOOT TYP.



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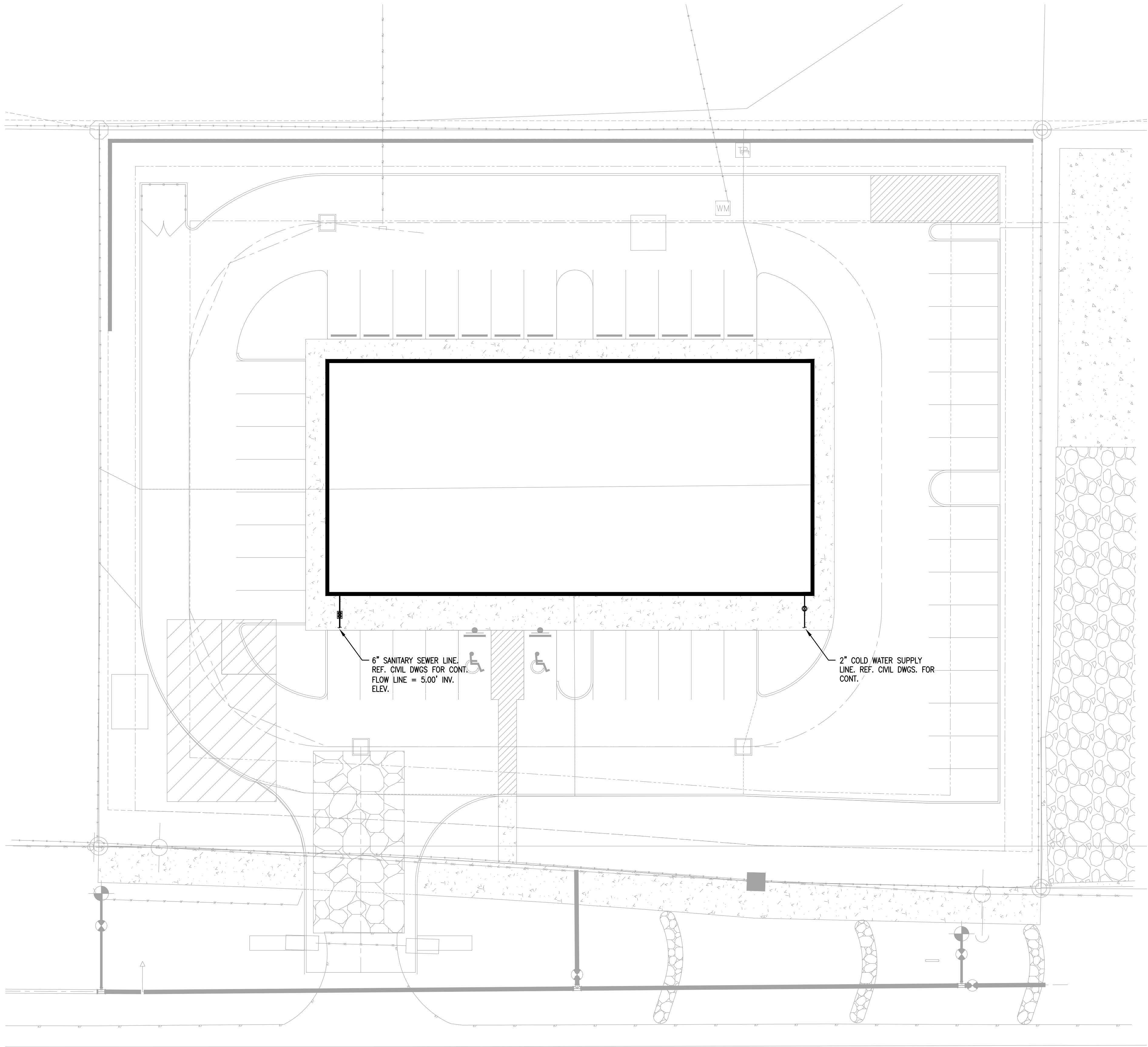
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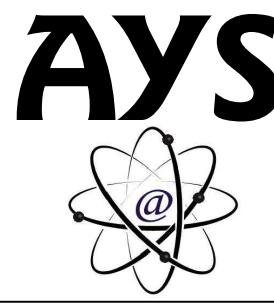
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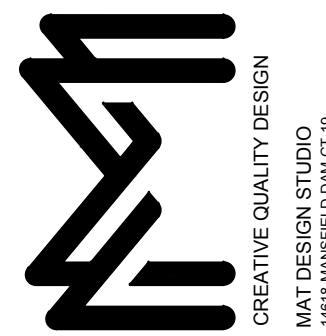
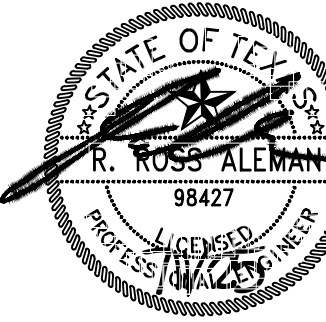




**1 SITE PLAN - PLUMBING**  
SCALE: 1/16" = 1'-0"



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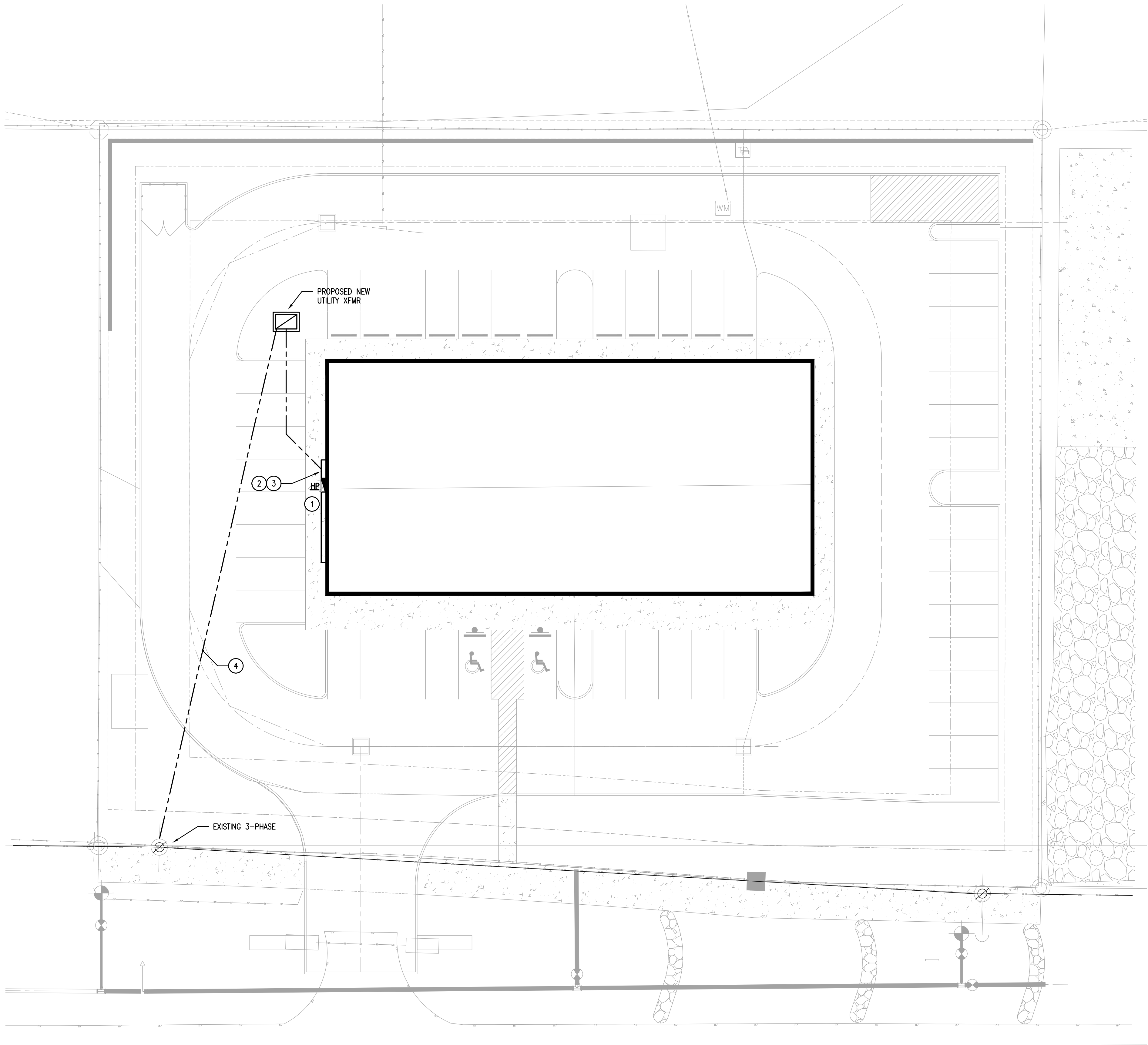
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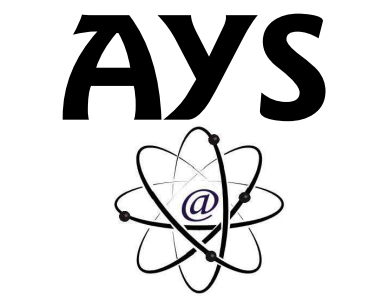




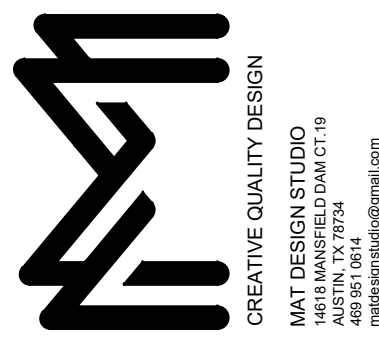
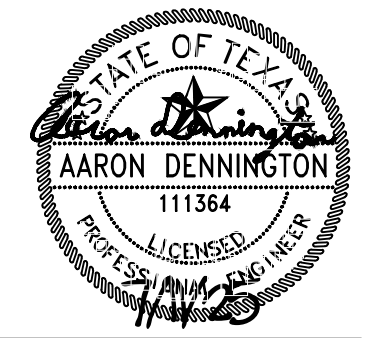
**KEYED NOTES:**

GENERAL: REFER ALSO TO GENERAL ELECTRICAL NOTES ON SHEET E100.

1. ELECTRICAL SERVICE ENTRANCE LOCATION. REFER TO ELECTRICAL RISER DIAGRAM ON SHEET E300.
2. COORDINATE TERMINATION/CONNECTION REQUIREMENTS FOR TELEPHONE AND CATV AT SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
3. DATA/TELECOMM CONDUITS TO BE QTY (2)2" AND QTY (2)1", IN COMMON TRENCH WITH ELECTRICAL SECONDARY CONDUITS. INSTALLATION SHALL ADHERE TO PEC UTILITY SHARED TRENCH CRITERIA. THE COMM CONDUITS ARE SHOWN FOR PRICING PURPOSES ONLY AND SHALL BE COORDINATED WITH THE DATA/COMM UTILITY PROVIDER AND OWNER PRIOR TO BEGINNING WORK. QUANTITY OF CONDUITS, SIZES, ROUTING, AND PULL BOX LOCATIONS ARE TO BE FULLY COORDINATED PRIOR TO PURCHASE OF ANY MATERIALS OR BEGINNING OF ANY DIRT WORK.
4. UNDERGROUND PRIMARY ELECTRIC PER PEC REQUIREMENTS.



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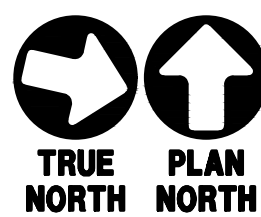
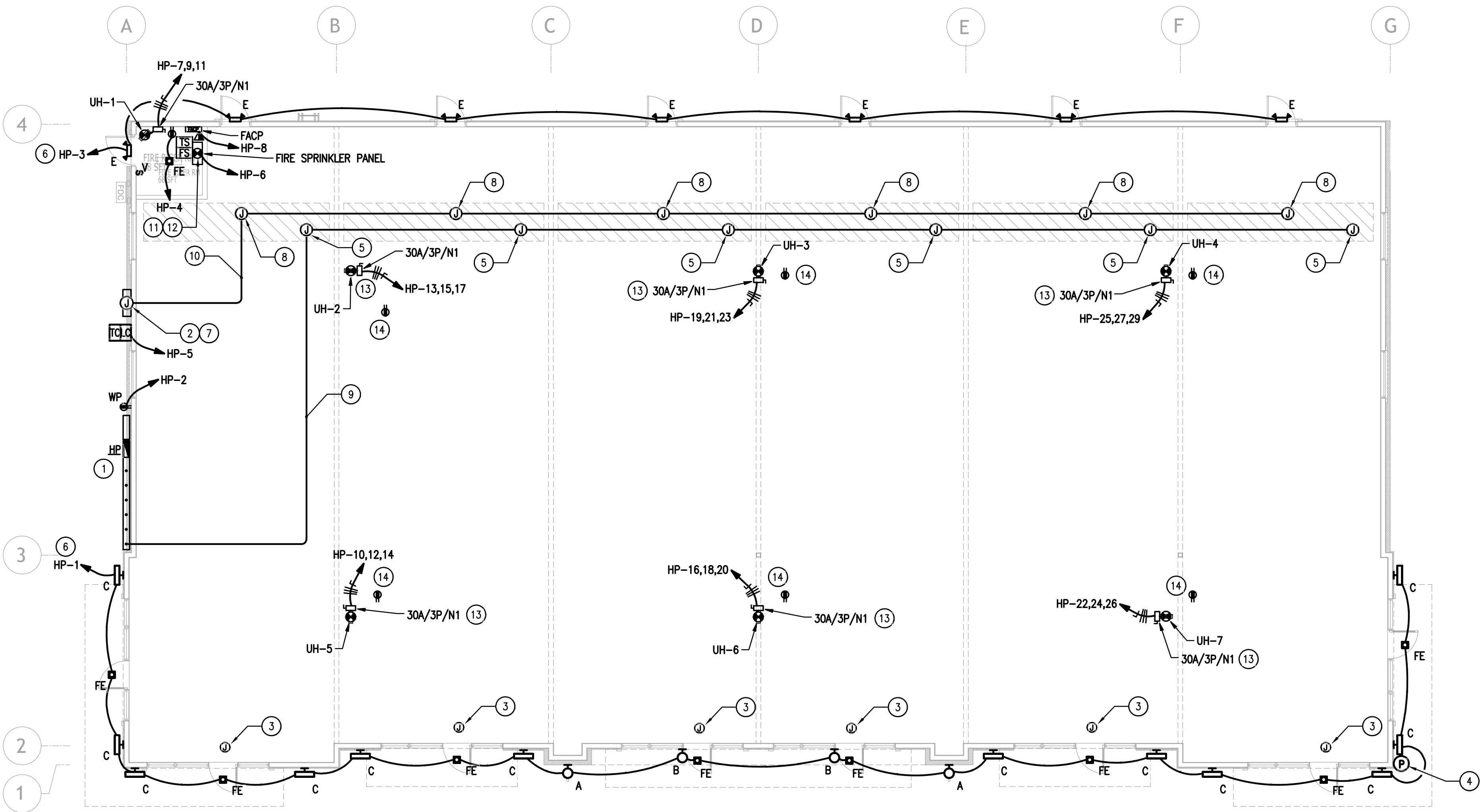
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## FLOOR PLAN - LIGHTING + POWER

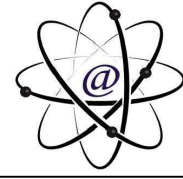
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### KEYED NOTES:

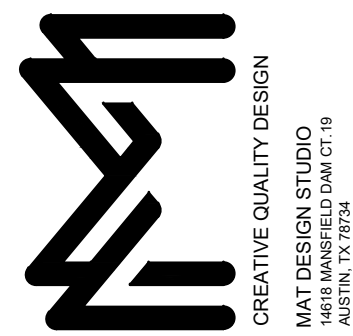
GENERAL: REFER ALSO TO GENERAL ELECTRICAL NOTES ON SHEET E100.

- ELECTRIC SERVICE ENTRANCE LOCATION. REFER TO ELECTRICAL RISER DIAGRAM ON SHEET E300.
- COORDINATE CONNECTION AND REQUIREMENTS FOR TELEPHONE SERVICE ENTRANCE WITH LOCAL TELEPHONE COMPANY.
- ROUTE 1" CONDUIT W/ PULL STRING FROM PANEL "HP" TO J-BOX IN JOISTS FOR TENANT SIGNAGE RELAY (FUTURE).
- MOUNT PHOTOCELL HIGH ON WALL FACING NORTHEAST. REF. SHEET E300 FOR LIGHTING CONTROLS DIAGRAM.
- PROVIDE J-BOX AND 2" CONDUIT W/ PULL STRING FROM FUTURE TENANT SPACE BACK TO TELECOMMUNICATION SERVICE ENTRANCE.
- TIME CLOCK CONTROLLED. REFER TO LIGHTING CONTROLS DIAGRAM ON SHEET E300 FOR FURTHER INFORMATION.
- PROVIDE 12"x12"x18" N3R JUNCTION BOX ABOVE TELEPHONE PEDESTAL ON EXTERIOR WALL AT HEIGHT MATCHING INTERIOR BAR JOISTS. ROUTE 4" PVC CONDUIT (PAINTED WITH COLOR SPECIFIED BY ARCHITECT) W/ PULL STRING FROM TELEPHONE PEDESTAL TO J-BOX. CAULK AROUND BOX. SHOWN OFFSET FOR CLARITY.
- PROVIDE PULL BOX AT CEILING FOR TENANT FEEDERS. ROUTE 1-2" EMPTY CONDUIT WITH PULL STRINGS TO ABOVE ELECTRICAL SERVICE GUTTER.
- PROVIDE 2" CONDUITS, (1) 2" CONDUIT FOR EACH TENANT TELECOMMUNICATION. REFER TO KEYED NOTE 5, THIS SHEET. CONTRACTOR TO RUN CONDUIT HIGH IN JOIST.
- PROVIDE 2" CONDUIT FOR TENANT FEEDERS, (2) 2" CONDUIT FOR EACH TENANT FEEDER. REFER TO KEYED NOTE 8, THIS SHEET. CONTRACTOR TO RUN CONDUIT HIGH IN JOIST.
- FLOW AND TAMPER SWITCHES AT SPRINKLER SYSTEM OS&Y VALVES TO BE MONITORED BY THE FIRE ALARM SYSTEM. COORDINATE THE EXACT LOCATION AND QUANTITY WITH THE SPRINKLER SYSTEM CONTRACTOR.
- SPRINKLER MONITORING SYSTEM PANEL PROVIDE PANEL MANUFACTURED BY EDWARDS TECHNOLOGY SYSTEM, OR APPROVED EQUAL. THE CONTRACTOR SHALL ROUTE 1- 1" EMPTY CONDUIT WITH PULLWIRE FROM SPRINKLER MONITORING SYSTEM PANEL TO BUILDING TELEPHONE SERVICE PANEL.
- MOUNT DISCONNECT SWITCH TO NEAREST STRUCTURAL MEMBER WITH NEC-REQUIRED CLEARANCES ADJACENT TO UNIT SERVED. TYPICAL FOR ALL TOGGLE DISCONNECT SWITCHES, U.N.O.\
- MOUNT GFCI MAINTENANCE RECEPTACLE TO NEAREST STRUCTURAL ELEMENT ADJACENT TO UNIT SERVED.

# AYS



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LEANDER, TEXAS 78641

Sheet Number:

E200

Project Number:

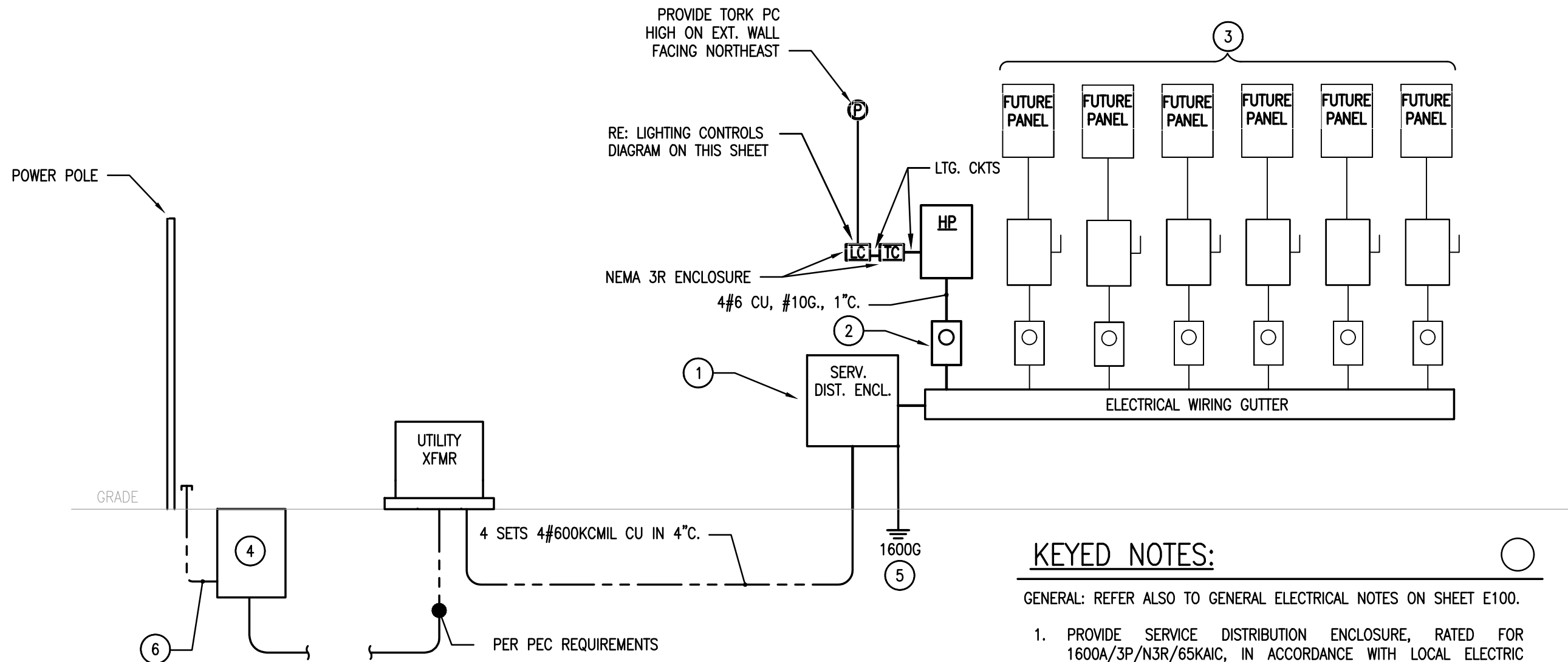
24-015



HP														
ROOM BUILDING EXTERIOR			VOLTS 208Y/120V 3P 4W						AIC 22,000					
MOUNTING SURFACE			BUS AMPS 60						MAIN BKR 60					
FED FROM UTILITY			NEUTRAL 100%						LUGS STANDARD					
NOTE NEMA 3R ENCLOSURE														
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA					
			A	B	C				A	B	C			
1	20/1	FOH LIGHTING	0.48	0.02	0.25	2	20/1	ELEC. SERVICE RECEPTACLE	0.18	0.198	0.528			
3	20/1	BOH LIGHTING				4	20/1	FIRE RISER LIGHTING, RECEPTACLE						
5	20/1	TIMECLOCK	0	0	0	6	20/1	FIRE SPRINKLER PANEL	0.4	0	0			
7	-/1	SPACE				8	20/1	FACP						
9	-/1	SPACE	0	0	0	10	-/1	SPACE	0	0	0			
11	-/1	SPACE				12	-/1	SPACE						
13	-/1	SPACE	0	0	0	14	-/1	SPACE	0	0	0			
15	-/1	SPACE				16	-/1	SPACE						
17	-/1	SPACE	0	0	0	18	-/1	SPACE	0	0	0			
19	-/1	SPACE				20	-/1	SPACE						
21	-/1	SPACE	0	0	0	22	-/1	SPACE	0	0	0			
23	-/1	SPACE				24	-/1	SPACE						
25	-/1	SPACE	0	0	0	26	-/1	SPACE	0	0	0			
27	-/1	SPACE				28	-/1	SPACE						
29	-/1	SPACE				30	-/1	SPACE						
			TOTAL CONNECTED KVA BY PHASE						1.06	0.217	0.778			

\* = PROVIDE LOCKABLE-TYPE CIRCUIT BREAKER  
LC = LIGHTING CONTROLS ASSIGNMENT. REFER TO LIGHTING CONTROLS DIAGRAM ON THIS SHEET

	Feeder	Parallel	SHORT CIRCUIT CALCULATIONS											
	Length (ft)	Sets	Conduit	Wire Type	Wire Size	KVA	L-L Voltage	%Z	C-Value	Load Served (A)	Upstream I[SCA]	f-Value	Multiplier (M)	Calculated Values (A)
Equipment Name						500	208							
Utility Transformer*							208	1.4	28033	1387.9			71.429	99133
SDE	50	4	Non-magnetic	Copper	#600kcmil		208		28033		99133	0.368	0.731	72461
PANEL 'HP'	10	1	Steel	Copper	#6		208		2425		72461	2.488	0.287	20773
* = Assumed Values Used for Calculation														

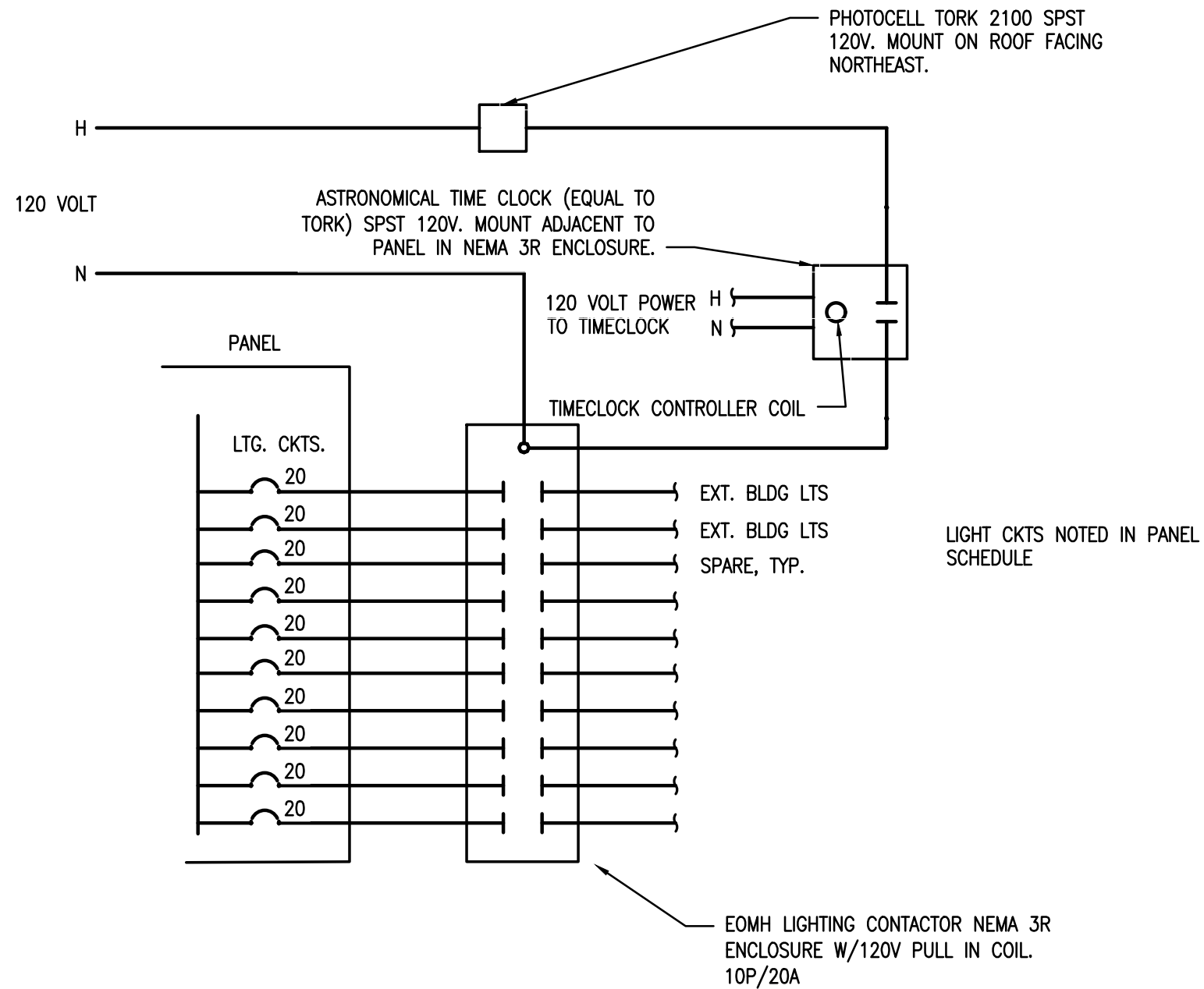


## 1 ELECTRICAL RISER DIAGRAM

SCALE: NONE

### KEYED NOTES:

- PROVIDE SERVICE DISTRIBUTION ENCLOSURE, RATED FOR 1600A/3P/N3R/65KAIC, IN ACCORDANCE WITH LOCAL ELECTRIC COMPANY STANDARDS. PROVIDE ARC FLASH LABELING TO ALL NEW EQUIPMENT.
- PROVIDE ELECTRICAL SERVICE METER PER LOCAL ELECTRIC COMPANY REQUIREMENTS.
- FUTURE PANEL, METER & FUSED DISCONNECT TO BE PROVIDED UNDER THE TENANT FINISH-OUT CONTRACT.
- PROVIDE PRIMARY ENCLOSURE AS REQUIRED BY THE UTILITY PROVIDER.
- REFER TO GROUNDING ELECTRODE CONDUCTOR SCHEDULE ON THIS SHEET.
- CONDUIT PROVIDED BY DEVELOPER, INSTALLED PER P.E.C. SPECIFICATIONS.



## 2 LIGHTING CONTROLS DIAGRAM

SCALE: NONE

DESIGNATION RANGE (ID)	GROUNDING ELECTRODE CONDUCTOR CU WIRE SIZE FOR:		
	GROUND ROD	CONCRETE-ENCASED ELECTRODE	STRUCTURAL STEEL AND METAL WATER PIPING (IF ANY)
20G-100G	#8	#8	#8
125G-150G	#6	#6	#6
175G-200G	#6	#4	#4
225G-300G	#6	#4	#2
350G-500G	#6	#4	#1/0
600G-800G	#6	#4	#2/0
1000G+	#6	#4	#3/0

NOTES:

- DESIGNATIONS REFER TO AMPERAGE FOLLOWED BY A "G." FOR EXAMPLE, 30G WOULD FALL WITHIN THE 20G-100G RANGE.
- CONDUCTOR CONNECTED TO FIRST ELECTRODE IN SYSTEM SHALL BE SIZED ACCORDING TO THE GROUNDING ELECTRODE REQUIRING THE LARGEST CONDUCTOR. ONLY AVAILABLE GROUNDING ELECTRODES IN SYSTEM SHALL BE CONSIDERED. ALL BONDING BETWEEN REMAINING ELECTRODES SHALL BE SIZED ACCORDING TO VALUE LISTED IN TABLE.
- GROUNDING ELECTRODE SYSTEMS SHALL CONSIST OF ALL AVAILABLE GROUNDING ELECTRODES.
- THIS TABLE IS BASED ON ARTICLE 250.66 OF THE NEC.

ELECTRICAL LOAD ANALYSIS	
RETAIL BUILDING LOAD DESCRIPTION 120/208V., 3Ø, 4W	LOAD KVA
FUTURE TENANT LOAD - (8885 S.F. x 50W) RETAIL/RESTAURANT =	444.3
HOUSE LOADS =	2.4
TOTAL ESTIMATED CONNECTED LOAD =	446.7
446.5 KVA / 208 / $\sqrt{3}$ = AMPS	1239
BUILDING SERVICE AMPACITY	1600 AMPS
BUILDING SERVICE SPARE CAPACITY	361 AMPS

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Sheet Number:  
**E300**  
Project Number:  
24-015



ELECTRICAL SPECIFICATIONS:

PART 1 – GENERAL

1.01 SCOPE OF WORK:  
FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT AND PROVIDE ALL LABOR, TOOLS, TRANSPORTATION, SUPERINTENDENCE AND SERVICES REQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN.

ALSO INCLUDED WILL BE ALL OTHER WORK AND MISCELLANEOUS ITEMS, NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED FOR A COMPLETE INSTALLATION INCLUDING ALL ACCESSORIES AND APPURTENANCES REQUIRED FOR TESTING THE SYSTEM. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE AND READY FOR OPERATION.

1.02 REGULATORY REQUIREMENTS:  
ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST RULES, CODES AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

- A. 2021 INTERNATIONAL BUILDING CODE
- B. 2021 INTERNATIONAL FIRE CODE
- C. 2021 INTERNATIONAL PLUMBING CODE
- D. 2021 INTERNATIONAL FUEL GAS CODE
- E. 2021 INTERNATIONAL MECHANICAL CODE
- F. 2021 INTERNATIONAL ENERGY CONSERVATION CODE/ASHRAE 90.1–2019 ENERGY CODE COMPLIANCE
- G. 2025 NATIONAL ELECTRIC CODE
- H. LOCAL CODE ORDINANCES AND AMENDMENTS
- I. NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION (NEMA)
- J. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- K. NATIONAL ELECTRICAL SAFETY CODE (NEC)
- L. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
- M. UNDERWRITERS' LABORATORIES (UL)
- N. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- O. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- P. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
- Q. AMERICANS WITH DISABILITIES ACT (ADA)
- R. APPLICABLE UTILITY COMPANIES

1.03 LICENSE, FEES AND PERMITS:  
ELECTRICAL CONTRACTOR SHALL PAY FOR ALL LICENSES, PERMITS AND INSPECTION FEES REQUIRED BY THE AUTHORITY HAVING JURISDICTION AND SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS.

1.04 SAFETY AND INDEMNITY:  
THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

NO ACT, SERVICE, DRAWING REVIEW OR CONSTRUCTION REVIEW BY THE OWNER, THE ENGINEERS OR THEIR CONSULTANTS, IS INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON, OR NEAR THE CONSTRUCTION SITE.

1.05 DRAWINGS AND SPECIFICATIONS:  
ALL DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED AS A WHOLE AND WORK OF THIS DIVISION SHOWN ANYWHERE THEREIN SHALL BE FURNISHED UNDER THIS DIVISION.

DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF EQUIPMENT AND WIRING. MOST DIRECT ROUTING OF CONDUITS AND WIRING IS NOT ASSURED. EXACT REQUIREMENTS SHALL BE GOVERNED BY CONDITIONS OF THE JOB. CONSULT ALL OTHER DRAWINGS IN PREPARATION OF THE BID. EXTRA LENGTHS OF WIRING OR ADDITION OF PULL OR JUNCTION BOXES, ETC. NECESSITATED BY SUCH CONDITIONS SHALL BE INCLUDED.

1.06 CONDITIONS AT SITE:  
THE ELECTRICAL CONTRACTOR SHALL HAVE EXAMINED THE SITE AND FAMILIARIZED THEMSELVES WITH ALL DISCERNIBLE EXISTING CONDITIONS. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK REQUIRED BECAUSE OF THESE CONDITIONS, WHETHER SPECIFICALLY MENTIONED OR NOT.

1.07 WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS:  
ONLY QUALITY WORKMANSHIP WILL BE ACCEPTED. HAPHAZARD OR POOR INSTALLATION WILL BE CAUSE FOR REJECTION OF WORK. THE CONTRACTOR SHALL BE LICENSED IN THE STATE IN WHICH THE JOB IS LOCATED.

1.08 SHOP DRAWINGS AND MATERIALS LIST:  
SUBMIT TO OWNER IN A SINGLE PACKAGE SIX (6) COPIES OF COMPLETE SHOP DRAWINGS AND MATERIALS LIST, AS NOTED BELOW, FOR REVIEW WITHIN FIFTEEN (15) DAYS AFTER AWARD OF CONTRACT. SUBMITTALS REQUIRED AS FOLLOWS:

- A. WIRING DEVICES: SWITCHES, RECEPTACLES, DEVICE PLATES.
- B. ENCLOSURES FOR UTILITY COMPANY METERING.
- C. PANELBOARDS.
- D. LIGHTING FIXTURES, LAMPS AND LIGHTING CONTROL EQUIPMENT.

1.09 SUBSTITUTIONS:  
ONE OR MORE MAKES OF MATERIALS OR METHODS MAY HAVE BEEN SPECIFIED TO ESTABLISH THE STANDARD OF QUALITY, WORKMANSHIP, FINISH AND DESIGN REQUIRED, BUT OTHER MATERIALS OR METHODS EQUAL IN QUALITY, WORKMANSHIP, FINISH, DESIGN, AND GUARANTEED PERFORMANCE WILL BE ACCEPTED. HOWEVER, ALL CHANGES AND SUBSTITUTIONS SHALL BE REQUIRED IN LETTER FORM AND SHALL BE ACCOMPANIED WITH A STATEMENT OF THE AMOUNT OF MONEY TO BE RETURNED TO THE CONTRACT IF THE SUBSTITUTION IS PERMITTED.

NO WORK INVOLVING MATERIALS SUBMITTED FOR SUBSTITUTION SHALL PROCEED UNTIL WRITTEN ACCEPTANCE IS RECEIVED FROM THE OWNER. THE OWNER IS THE SOLE JUDGE OF ACCEPTABILITY OF PREFERRED SUBSTITUTIONS. IF A SUBSTITUTION ITEM IS PERMITTED, AND ANY RE-DESIGN EFFORT IS THEREBY NECESSITATED, THE REQUIRED RE-DESIGN SHALL BE AT THE CONTRACTOR'S EXPENSE.

1.10 COORDINATION:  
COORDINATE WORK WITH OTHER TRADES TO AVOID CONFLICT AND TO PROVIDE CORRECT ROUGH-IN AND CONNECTION FOR EQUIPMENT FURNISHED UNDER OTHER TRADES THAT REQUIRE ELECTRICAL CONNECTIONS. INFORM CONTRACTORS OF OTHER TRADES OF THE REQUIRED ACCESS TO AND CLEARANCES AROUND ELECTRICAL EQUIPMENT TO MAINTAIN SERVICE ABILITY AND CODE COMPLIANCE.

VERIFY EQUIPMENT DIMENSIONS AND REQUIREMENTS WITH PROVISIONS SPECIFIED UNDER THIS SECTION. CHECK ACTUAL JOB CONDITIONS BEFORE FABRICATING WORK. REPORT NECESSARY CHANGES IN TIME TO PREVENT NEEDLESS WORK. CHANGES OR ADDITIONS, SUBJECT TO ADDITIONAL COMPENSATION, WHICH ARE MADE WITHOUT WRITTEN AUTHORIZATION AND IN AGREED PRICE, SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.

1.11 ROUTINGS:  
ALL CONDUIT ROUTINGS, INCLUDING MC CABLE, SHALL BE PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE AND LINES. CONDUITS SHALL BE CONCEALED WHERE POSSIBLE UNLESS NOTED OTHERWISE. AESTHETIC APPEARANCE IS VERY IMPORTANT FOR THE WORK OF THIS PROJECT – THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE WORK THAT IS NOT NEAT AND ACCURATE.

1.12 CUTTING AND PATCHING:  
ALL CUTTING AND PATCHING REQUIRED FOR WORK OF THIS DIVISION IS INCLUDED HEREIN. COORDINATION WITH GENERAL CONTRACTOR AND OTHER TRADES IS IMPERATIVE. CONTRACTOR SHALL BEAR THE RESPONSIBILITY FOR AND THE ADDED EXPENSE OF ADJUSTING FOR IMPROPER HOLES, SUPPORTS, ETC.

1.13 ACCEPTANCE DEMONSTRATION:  
UPON COMPLETION OF THE WORK, AT A TIME TO BE DESIGNATED BY THE OWNER, THE CONTRACTOR SHALL DEMONSTRATE FOR THE OWNER THE OPERATION OF THE ELECTRICAL INSTALLATION, INCLUDING ANY AND ALL SPECIAL ITEMS INSTALLED BY HIM/HER OR INSTALLED UNDER THEIR SUPERVISION. PROPERLY SET AUTOMATIC TIME SWITCHES TO PERFORM SWITCHING OPERATIONS IN ACCORDANCE WITH SCHEDULES PROVIDED BY THE OWNER'S REPRESENTATIVE AND DEMONSTRATE (USING THE MANUFACTURER'S OPERATING INSTRUCTIONS) HOW TO OVERRIDE AND/OR TEST TIME SWITCHES' PROGRAMMING.

1.14 RECORD DRAWINGS, EQUIPMENT DATA:  
MAINTAIN ONE SET OF CLEAN WORKING DRAWINGS AT THE JOB SITE AND ENTER DAILY SUCH "AS-BUILTS" INFORMATION AS FEEDER AND SERVICE ROUTES, PULL BOX LOCATIONS AND CHANGES IN LAYOUT OR ARRANGEMENT WHICH OCCUR DURING CONSTRUCTION. DELIVER COMPLETED DRAWINGS TO THE OWNER.

DELIVER TO THE OWNER'S REPRESENTATIVE THREE COPIES OF DATA SHEETS OR OTHER CURRENT MANUFACTURERS' PUBLICATIONS FOR EACH ITEM OF ELECTRICAL EQUIPMENT FURNISHED FOR THE PROJECT INCLUDING AT LEAST THESE DATA:

- A. TECHNICAL DESCRIPTION AND REPLACEABLE PARTS LIST.
- B. PHYSICAL DESCRIPTION AND INSTALLATION INSTRUCTIONS.
- C. USER'S MANUAL AND OPERATING INSTRUCTIONS.
- D. MANUFACTURER'S WARRANTY.

1.15 CLEAN-UP:  
RID THE PREMISES OF SCRAP MATERIALS, TRASH AND DEBRIS BOTH DURING CONSTRUCTION AND AT COMPLETION OF THE PROJECT. LEAVE THE BUILDING AND SURROUNDING AREA IN A CLEAN AND ORDERLY CONDITION.

1.16 TEMPORARY SERVICES:  
PROVIDE ADEQUATE AND SAFE TEMPORARY ELECTRICAL POWER AND LIGHTING THROUGHOUT THE CONSTRUCTION AND FINISHING OF THE PREMISES FOR BENEFACTORY OCCUPANCY. IN ADDITION TO THE SPECIAL OR UNUSUAL REQUIREMENTS, PROVIDE AT LEAST THESE ITEMS:

- A. SIX 20-AMP CIRCUITS FOR CONSTRUCTION POWER TOOLS. PROVIDE GFI TEMPORARY CIRCUITS WITH COVERPLATES TO MEET OSHA REQUIREMENTS.
- B. EIGHT OR MORE LIGHT STRINGS SUSPENDED APPROXIMATELY ONE FOOT BELOW THE HEIGHT OF FINISH CEILING WITH LAMPS SPACED NOT MORE THAN TWELVE FEET ON CENTERS. STRINGS SHALL BE RUN THE LENGTH OF THE BUILDING FOOTPRINT WITH ONE STRING WITHIN EIGHT FEET OF EACH WALL AND ONE (OR MORE) INTERMEDIATE STRING(S) ARRANGED TO LIMIT THE SPACING BETWEEN ROWS TO SIXTEEN FEET OR LESS.
- C. FLOOD LIGHTING AND TASK LIGHTING FOR PAINTING AND OTHER FINISH WORK. WHEN PERMANENT ELECTRICAL SERVICE IS OPERABLE, DISCONNECT AND REMOVE FROM THE PREMISES THE MATERIALS AND EQUIPMENT USED FOR TEMPORARY POWER AND LIGHTING, AND RESTORE MODIFICATIONS AND REPAIR DAMAGE CAUSED BY THE INSTALLATION, USE OR REMOVAL OF TEMPORARY SERVICE PROVISIONS.

1.17 WARRANTY:  
THE CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.

PART 2 – PRODUCTS

2.01 MATERIAL APPROVAL:

ALL MATERIALS MUST BE NEW AND BEAR UNDERWRITER'S LABORATORIES LABEL. MATERIALS THAT ARE NOT COVERED BY UL TESTING STANDARDS SHALL BE TESTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY OR A GOVERNMENTAL AGENCY.

MATERIAL NOT IN ACCORDANCE WITH THESE SPECIFICATIONS MAY BE REJECTED EITHER BEFORE OR AFTER INSTALLATION.

2.02 CONDUITS AND OTHER RACEWAYS:

- A. RIGID STEEL: HOT-DIPPED GALVANIZED.
- B. INTERMEDIATE METAL CONDUIT (IMC): HOT-DIPPED GALVANIZED.
- C. ELECTRICAL METALLIC TUBING (EMT): ELECTRO-GALVANIZED.
- D. WIREWAY: CODE GAUGE STEEL, WITH KNOCKOUTS AND HINGED COVER, CORROSION RESISTANT, GRAY BAKED ENAMEL FINISH.
- E. PROVIDE FITTINGS AND ACCESSORIES APPROVED FOR THE PURPOSE EQUAL IN ALL RESPECTS TO THE CONDUIT OR RACEWAY. EMT CONNECTORS AND COUPLINGS SHALL BE STEEL SETSCREW TYPE. INDOORS AND STEEL COMPRESSION TYPE IN WET LOCATIONS AND OUTDOORS.

2.03 WIRES AND CABLES:

- A. FOR POWER AND LIGHTING SYSTEM 600V OR LESS:
  - 1. CONDUCTOR: MINIMUM SIZE #12 AWG.
    - a. #12 AND #10 AWG SOLID COPPER.
    - b. #8 AWG AND LARGER SHALL BE STRANDED COPPER FOR BRANCH CIRCUITS, ALUMINUM FOR SERVICE AND FEEDERS.
  - 2. INSULATION TYPE:
    - a. #12 TO #1 AWG: THWN FOR WET OR UNDERGROUND AND THHN FOR DRY LOCATIONS.
    - b. #1/0 THROUGH #4/0 AWG: XHHW (55 MILS).
    - c. #250 KCMIL AND LARGER: XHHW (65 MILS).
    - d. GROUNDING WIRE: TW.
- B. FOR SIGNAL AND COMMUNICATIONS CIRCUIT:
  - 1. CONDUCTORS FOR GENERAL USE SHALL BE STRANDED COPPER CONDUCTOR, #16 AWG MINIMUM, WITH THWN INSULATION FOR UNDERGROUND OR WET LOCATIONS AND THHN INSULATION FOR DRY LOCATIONS.
- C. ACCEPTABLE PRODUCTS: GENERAL ELECTRIC, ANACONDA, OKONITE, PARANITE OR TRIANGLE PRODUCTS CONFORMING OR EXCEEDING APPLICABLE IPCEA STANDARDS.

2.04 OUTLET BOXES, JUNCTION AND PULL BOXES:

- A. OUTLET BOXES: 4" SQUARE X 1-1/2" DEEP (OR LARGER) GALVANIZED SHEET STEEL KO-TYPE WITH PLASTER RING AND COVER FOR GENERAL INTERIOR USE AND CAST METAL TYPE FS OR FD WITH MATCHING SCREW COVERS FOR EXTERIOR AND EXPOSED INTERIOR LOCATIONS (GASKETED IN DAMP OR WET LOCATIONS).
- B. JUNCTION BOXES SHALL BE SAME AS OUTLET BOXES UP TO 42 CU. IN. AND CODE-GAUGE STEEL IN LARGER SIZES WITH SURFACE OR FLUSH-TYPE SCREW-MOUNTED TRIM COVERS, BOTH BOXES AND COVERS INHIBITOR-PRIMED AND PAINTED INSIDE OUT.

C. PULL BOXES SHALL BE SAME AS JUNCTION BOXES UNLESS INDICATED OTHERWISE ON THE DRAWINGS, WITH COVERS.

D. ALL BOXES AND ASSOCIATED COMPONENTS SHALL BE STEEL CITY 663 SERIES, WITH P60-3B COVERPLATE OR EQUAL.

2.05 WIRING DEVICES AND PLATES SHALL BE HUBBELL, ARROW HART, LEVITON, GE OR P&S WITH HUBBELL NUMBERS USED TO SPECIFY TYPE USED.

A. STANDARD DESIGN:

- 1. SWITCH AND RECEPTACLE DEVICES SHALL BE AS SPECIFIED BY ARCHITECT.
- 2. WALL PLATES SHALL BE AS SPECIFIED BY ARCHITECT.
- 3. SWITCHES SHALL BE 20 AMP, 120/277 VOLT A.C. RATED: SINGLE POLE SWITCHES SHALL BE #1221 (HUBBELL NUMBERS).
- 4. RECEPTACLES SHALL BE GROUNDING TYPE #5362 (HUBBELL NUMBER).
- 5. WALL-SWITCH VACANCY SENSORS SHALL BE DUAL-RELAY, MULTI-TECHNOLOGY, WALL-SWITCH TYPE, 120/277V, ADJUSTABLE TIME DELAY UP TO 30 MINUTES, 180-DEGREE FIELD OF VIEW, EQUAL TO WATSTOPPER LSW-10X. LUTRON OR NUGHT PRODUCTS ARE ALSO ACCEPTABLE.

2.06 CONDUIT HANGERS:

FOR INDIVIDUAL CONDUIT RUNS NOT DIRECTLY FASTENED TO THE STRUCTURE, USE ROD HANGERS MANUFACTURED BY CADDY, UNISTRUT, OR POWERSTRUT. FOR MULTIPLE CONDUIT RUNS, USE UNISTRUT OR POWERSTRUT TRAPEZE TYPE CONDUIT SUPPORT DESIGNED FOR MAXIMUM DEFLECTION NOT GREATER THAN 1/8".

2.07 WIRE CONNECTORS:

FOR WIRE SIZES #8 AWG AND SMALLER: INSULATED PRESSURE TYPE (WITH LIVE SPRING) RATED 105 DEGREES C., 600V. FOR BUILDING WIRING AND 1000V IN SIGNS OR FIXTURES: SCOTCHLOK OR IDEAL. FOR WIRE SIZE #6 AWG AND LARGER: T & B OR EQUIVALENT COMPRESSION TYPE WITH SM #33+ OR PLYMOUTH "SLIPKNOT GRAY" TAPE INSULATION.

2.08 PANELBOARDS:

- A. CONSTRUCTION: CABINETS SHALL BE OF CODE GAUGE, GALVANIZED STEEL, SURFACE OR FLUSH MOUNTED AS INDICATED. DOORS SHALL BE OF COLD-ROLLED STEEL WITH CONCEALED HINGES AND FLUSH CATCH AND LOCK. ALL PANELS SHALL BE KEYPED ALIKE. PANELS LOCATED ADJACENT TO EACH OTHER SHALL HAVE IDENTICALLY SIZED ENCLOSURE AND TRIMS. MINIMUM PANEL WIDTH SHALL BE 20". FINISH EXPOSED PART WITH ONE COAT OF PRIMER AND ONE COAT OF LIGHT GRAY ENAMEL SUITABLE FOR OVERPAINTING IN FIELD IF DESIRED.
- B. BUS BARS: PROVIDE GROUND BLOCK WITH FULL COMPLEMENT OF TERMINALS IN ADDITION TO INSULATED NEUTRAL BUS. FUTURE BREAKER SPACES SHALL HAVE COMPLETE PROVISION INCLUDING BUSES AND CONNECTING HARDWARE.
- C. MANUFACTURERS: PANELBOARDS SHALL BE GENERAL ELECTRIC, SQUARE D, EATON, OR SIEMENS-ITE.
- D. CIRCUIT BREAKERS: SHALL BE QUICK-MAKE, QUICK-BREAK, MOLDED CASE TYPE:
  - 1. 120/208–240 VOLT PANELS: SHALL BE BOLT-ON TYPE WITH MINIMUM SYMMETRICAL INTERRUPTING CAPACITY AS SHOWN ON THE PLANS.
  - 2. ALL BREAKERS MUST BE FULLY RATED. SERIES RATING NOT ALLOWED.
  - 3. PROVIDE MULTI-POLE UNITS WITH COMMON TRIP ELEMENT.
- E. IDENTIFICATION: PROVIDE SCREWED-ON (NO ADHESIVES) BAKELITE OR PHOTO-ETCHED METALLIC NAMEPLATE IDENTIFICATION ON OUTSIDE OF EACH PANEL SHOWING PANEL DESIGNATION, VOLTAGE, AND PHASE IN MINIMUM 1/4" HIGH LETTERS. EACH PANEL SHALL CONTAIN A METAL-FRAMED CIRCUIT DIRECTORY INSIDE COVER, WITH PLASTIC PROTECTOR.
- F. COMPLETE SHOP DRAWINGS ARE REQUIRED. SEE ARTICLE 1.08.

2.09 INDIVIDUALLY MOUNTED MOTOR CONTROLLERS:  
A. STARTERS FOR FRACTIONAL HORSEPOWER 120V MOTORS SHALL BE MANUAL TYPE UNLESS SHOWN OTHERWISE, EQUIPPED WITH BUILT-IN OVERLOAD PROTECTION.

B. ACCEPTABLE MANUFACTURERS: GENERAL ELECTRIC, EATON, SIEMENS, SQUARE D, AND ALLEN BRADLEY.

2.10 MISCELLANEOUS MATERIALS:

- A. SAFETY SWITCHES: HEAVY DUTY TYPE, 600V, HORSEPOWER RATED FOR MOTORS, FUSED OR NON-FUSED AS REQUIRED. MOUNT IN ENCLOSURE WITH NEMA RATING AS REQUIRED FOR THE SPECIFIC APPLICATION. GENERAL ELECTRIC, SQUARE D, EATON OR SIEMENS-ITS.
- B. TIME CLOCK: TORK #DGLC, OR ACCEPTED SUBSTITUTE.
- C. PHOTOCELLS: TORK EPC1, OR ACCEPTED SUBSTITUTE.
- D. CONTACTORS/RELAYS: AS MANUFACTURED BY ASCO, OR ACCEPTED SUBSTITUTE, MECHANICALLY HELD WITH RELAYS AS REQUIRED TO OPERATE ON TWO WIRE CONTROL CIRCUITS.

2.11 LIGHTING:

- A. LIGHTING TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE DRAWINGS. SUBCONTRACTORS TO INSTALL ALL FIXTURES COMPLETE, INCLUDING LAMPS AND BALLASTS, READY FOR SERVICE.
- B. SUPPORTS: PROPER SUPPORTS AND MOUNTING ACCESSORIES, SUCH AS HANGERS, STEMS, YOKES, PLASTER FRAMES, ETC. SHALL BE PROVIDED AS REQUIRED BY THE TYPE OF CEILING INSTALLED. FIXTURES SHALL HANG PLUMB REGARDLESS OF CEILING SLOPE.
- C. FIXTURE DESIGNATION: FIXTURE TYPES ARE DESIGNATED ON DRAWINGS. FOR EXACT FIXTURE COUNT AND LOCATION, REFER TO REFLECTED CEILING PLAN.

PART 3 – EXECUTION

3.01 GENERAL:

A. ELECTRIC SYSTEM LAYOUTS INDICATED ON THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. OBTAIN EXACT ROUTING OF CABLE AND WIRING AND THE LOCATIONS OF OUTLETS BY THE STRUCTURE AND EQUIPMENT SERVED. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS.

B. CONSULT ALL OTHER DRAWINGS, VERIFY SCALES AND REPORT ANY DIMENSIONAL DISCREPANCIES OR OTHER CONFLICTS WITH THE ARCHITECT BEFORE SUBMITTING BID.

C. ALL HOME RUNS TO PANELBOARDS ARE INDICATED AS STARTING FROM THE OUTLET NEAREST THE PANEL AND CONTINUING IN THE GENERAL DIRECTION OF THAT PANEL. CONTINUE SUCH CIRCUITS TO THE PANEL AS THOUGH THE ROUTES WERE COMPLETELY INDICATED. TERMINATE HOMERUNS OF SIGNAL, ALARM, AND COMMUNICATION SYSTEMS IN A SIMILAR MANNER.

D. AVOID CUTTING AND BORING HOLES THROUGH STRUCTURE OR STRUCTURAL MEMBERS WHEREVER POSSIBLE. OBTAIN PRIOR APPROVAL OF OWNER AND CONFORM TO ALL STRUCTURAL REQUIREMENTS WHEN CUTTING OR BORING THE STRUCTURE IS NECESSARY AND PERMITTED.

E. FURNISH AND INSTALL ALL NECESSARY HARDWARE, HANGERS, BLOCKING, BRACKETS, BRACING, RUNNERS, ETC. REQUIRED FOR EQUIPMENT SPECIFIED UNDER THIS SECTION.

F. PROVIDE NECESSARY BACKING REQUIRED TO INSURE RIGID MOUNTING OF OUTLET BOXES.

3.02 WIRING METHODS:

A. NO "ROMEX" OR ARMORED CABLE WIRING IS PERMITTED – ALL ELECTRICAL WIRING MUST BE IN CONDUIT.

B. CONDUIT SHALL BE RIGID STEEL, IMC, EMT, METAL CLAD (MC) CABLE, OR SCHEDULE 40 PVC AS FOLLOWS:

1. ABOVE GROUND: USE RIGID STEEL, IMC, MC, OR EMT. MC CABLE SHALL BE INSTALLED ONLY WHERE PERMITTED BY CODE AND THE AUTHORITY HAVING JURISDICTION.

- a. WET LOCATIONS: RIGID STEEL OR IMC ONLY.
- b. LOCATIONS SUBJECT TO MECHANICAL DEFORMATION: RIGID STEEL OR IMC ONLY.
- c. DRY INTERIOR LOCATIONS FOR BRANCH CIRCUIT WIRING AND NOT SUBJECT TO MECHANICAL DEFORMATION: EMT, IMC, MC, OR RIGID STEEL CONDUIT.
- d. DRY INTERIOR LOCATIONS FOR OTHER THAN BRANCH CIRCUIT WIRING AND NOT SUBJECT TO MECHANICAL DEFORMATION: EMT, IMC, OR RIGID STEEL CONDUIT.

2. UNDERGROUND: USE RIGID STEEL OR SCHEDULE 40 PVC WITH RIGID STEEL ELLS AND RIGID STEEL CONDUIT/FITTINGS WHEN EMERGING FROM GRADE, UNLESS NOTED OTHERWISE.

C. USE FLEXIBLE CONDUITS IN THE FOLLOWING APPLICATIONS (MAX. 6-FT):

- 1. RECESSED LIGHTING FIXTURES.
- 2. MOTOR CONNECTIONS.
- 3. AT BUILDING JOINTS.
- 4. AT WET LOCATIONS, FLEXIBLE CONDUIT SHALL BE LIQUIDTIGHT TYPE.

D. LIGHT FIXTURES INSTALLED IN GYP BOARD CEILINGS MAY BE WIRED FROM FIXTURE TO FIXTURE USING MC CABLE UNLESS PROHIBITED BY THE AHJ. VERIFY THAT LIGHT FIXTURES ARE PROVIDED WITH JUNCTION BOXES APPROVED FOR THIS PURPOSE. MC TYPE CABLE TO MEET ANSI/NFPA 70 REQUIREMENTS. CABLE ARMOR TO BE INTERLOCKED STEEL METAL TAPE. MC TYPE CABLE MANUFACTURED BY AFC CABLE SYSTEMS, PIRELLI CABLE CORPORATION AND SOUTHWIRE COMPANY ARE APPROVED. MC CABLE SHALL NOT BE USED TO WIRE LIGHT FIXTURES INSTALLED IN EXPOSED CEILINGS FROM FIXTURE TO FIXTURE (6-FT LIGHT FIXTURE WHIPS ARE PERMITTED).

E. ALL WIRING SHALL BE IN CONDUIT.

F. ALL CONDUIT AND MC CABLE SHALL BE SUPPORTED AS REQUIRED BY THE NEC.

3.03 INSTALLATION OF CONDUITS:

A. GENERAL:

- 1. RUN ALL CONDUIT CONCEALED, IF POSSIBLE, UNLESS NOTED OTHERWISE ON THE PLANS.
- 2. RUN ALL CONDUIT PARALLEL TO OR AT RIGHT ANGLES TO CENTER LINES OF COLUMNS AND BEAMS.
- 3. CONDUITS SHALL NOT CROSS ANY DUCT SHAFT OR AREA DESIGNATED AS FUTURE DUCT SHAFT HORIZONTALLY. CONDUIT RISERS, WHEN ALLOWED IN DUCT SHAFT, MUST BE COORDINATED WITH MECHANICAL WORK TO AVOID ANY CONFLICT.
- 4. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR COMMUNICATIONS CONDUITS, FOR WHICH ONLY TWO BENDS ARE ALLOWED. PROVIDE J-BOXES AS NEEDED WHERE MORE BENDS ARE NEEDED.

B. CONDUIT SUPPORTS:

1. SUPPORT CONDUITS WITH UNDERWRITER'S LABORATORIES LISTED STEEL CONDUIT SUPPORTS AT INTERVALS REQUIRED BY THE NATIONAL ELECTRIC CODE. WIRES OR SHEET METAL STRIPS ARE NOT ACCEPTABLE FOR CONDUIT SUPPORT. USE CONDUIT HANGERS FOR ALL CONDUITS NOT DIRECTLY FASTENED TO STRUCTURE AND FOR ALL MULTIPLE CONDUIT RUNS. DO NOT ATTACH ANY CONDUIT TO MECHANICAL DUCTS OR PIPES.

2. AN NFPA 251 TESTED AND APPROVED CEILING SYSTEM CAN BE USED TO SUPPORT BRANCH CIRCUIT CABLING WHERE APPROVED BY THE AHJ.

C. CONDUIT PENETRATION:

- 1. PENETRATING FIRE RATED FLOOR, CEILING OR WALL: INSTALL CONDUIT IN CONDUIT SLEEVE OR FRAMED OPENING. SEAL PENETRATION WITH FIRE RETARDANT SEALANT.
- 2. PENETRATING EXTERIOR WALL: AVOID PENETRATING EXTERIOR WALL WHERE POSSIBLE. IF PENETRATIONS ARE NECESSARY, BUILDING WEATHERPROOF INTEGRITY MUST BE PRESERVED. CONDUITS PENETRATING THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTERFLASHING SLEEVE.
- 3. PENETRATING NON-FIRE RATED DRY WALL: CONDUIT SLEEVES ARE NOT REQUIRED. PENETRATIONS MUST BE SEALED WITH PLASTER PRIOR TO PAINTING. PENETRATIONS MADE AFTER WALL FINISH IS APPLIED MUST BE AS SMALL AS POSSIBLE AND PROVIDED WITH ESCUTCHEONS, ONE ON EACH SIDE OF WALL.

3.04 CONNECTIONS TO EQUIPMENT:

A. GENERAL:

- 1. FURNISH AND INSTALL REQUIRED POWER SUPPLY CONDUIT AND WIRING TO ALL EQUIPMENT. SEE BELOW FOR OTHER WIRING REQUIRED.
- 2. FURNISH AND INSTALL A DISCONNECT SWITCH IMMEDIATELY AHEAD OF AND ADJACENT TO EACH MAGNETIC MOTOR STARTER OR APPLANCE UNLESS THE MOTOR APPLANCE IS LOCATED ADJACENT AND WITHIN SIGHT OF THE SERVING PANELBOARD, CIRCUIT BREAKER OR SWITCH. VERIFY ALL EQUIPMENT NAMEPLATE CURRENT RATINGS PRIOR TO INSTALLATION.
- 3. INSTALL ALL ROUGH-IN WORK FOR EQUIPMENT FROM APPROVED SHOP DRAWINGS TO SUIT THE SPECIFIC REQUIREMENTS OF THE EQUIPMENT.

FIRE ALARM SYSTEM SPECIFICATIONS:

1. WHERE REQUIRED BY CODE, FIRE ALARM SYSTEM SHALL BE FURNISHED, INSTALLED AND WIRED BY THE FIRE ALARM CONTRACTOR. SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED BY A NICET LEVEL III MINIMUM CERTIFIED FIRE ALARM TECHNICIAN, TRAINED AND CERTIFIED BY MANUFACTURER IN FIRE ALARM SYSTEM DESIGN. FIRE ALARM CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM EQUAL TO NOTIFIER SYSTEM 500 OR EQUAL OF PYROTRONICS, EDWARDS SYSTEMS TECHNOLOGIES OR SIMPLEX. CONTROL PANEL TO BE MICROPROCESSOR BASED SYSTEM CONTAINING FIRE ALARM ZONES IN QTY NEEDED FOR COMPLETE SYSTEM. INITIATING ALARM POWER MODULES FOR HORNS & STROBES, CONTROL RELAY MODULE FOR CONTROL OF H.V.A.C. EQUIPMENT, AND ALL OTHER MISCELLANEOUS ITEMS FOR A COMPLETE AND OPERATING FIRE ALARM SYSTEM. CONTROL PANEL TO BE PROGRAMMED SO THAT IF ANY ONE ZONE IS IN ALARM, ALL H.V.A.C. UNITS ARE TO BE SHUT DOWN AND SMOKE PURGE SEQUENCE SHALL BE ACTIVATED.

ZONE #1 = MANUAL PULL STATIONS  
ZONE #2 = DUCT DETECTORS FOR H.V.A.C. UNITS

2. THE FOLLOWING PERIPHERAL DEVICES TO BE INSTALLED AS A PART OF THE FIRE ALARM SYSTEM:

2.1. MANUAL PULL STATION, NON-CODED, DUAL-ACTION, UNIT, +3"-10" A.F.F. #NBS-10.

2.2. AREA SMOKE DETECTORS, PHOTO-ELECTRIC TYPE #2451-B402B.

2.3. DUCT MOUNTED SMOKE DETECTORS, PHOTO-ELECTRIC TYPE #2451-DH40QADC WITH REQUIRED SAMPLING TUBES (PROVIDED BY MECHANICAL CONTRACTOR, CONNECTED BY ELECTRICAL CONTRACTOR). COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATIONS.

2.4. HORN/STROBE UNIT, MINIMUM 75cd, 80" TO BOTTOM OF UNIT, OR SOME OTHER CONSISTENT HEIGHT AT LEAST 6 INCHES BELOW THE CEILING, #SS2475ADA.

2.5. STROBE ONLY UNIT, MINIMUM 75cd, 80" TO BOTTOM OF UNIT, OR SOME OTHER CONSISTENT HEIGHT AT LEAST 6 INCHES BELOW THE CEILING, #S1-24-VFR.

2.6. EXTERIOR BELL, 6" GONG WITH WEATHERPROOF BACKBOX, +10"-0" ABOVE FINISHED GRADE, #KMS-624.

2.7. ANNUNCIATOR PANEL, COMPATIBLE WITH AND WITH SAME MANUFACTURER AS THAT OF THE FIRE ALARM CONTROL PANEL. INSTALL WITH TOP OF PANEL NOT MORE THAN 72 INCHES A.F.F.

2.8. MAGNETIC DOOR HOLD-OPENS DESIGNED TO CLOSE AUTOMATICALLY UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

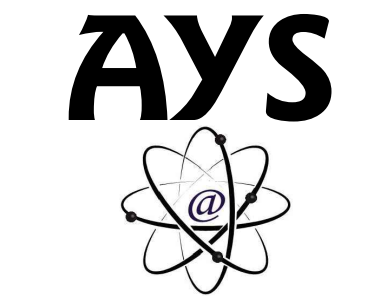
3. CONTRACTOR TO PROVIDE 1/2" EMPTY CONDUIT FROM FIRE ALARM CONTROL CABINET TO OWNER'S TELEPHONE TERMINAL BOARD. OWNER TO PROVIDE WIRING AND CONNECTION TO LOCAL ENERGY MUNICIPAL BOX OUTPUT. ALL FIRE ALARM CONDUITS TO BE AS RECOMMENDED BY MANUFACTURER AND MUST BE INSTALLED IN CONDUIT.

4. ALL FIRE ALARM MATERIALS AND INSTALLATION TO BE IN CONFORMANCE WITH N.F.P.A. 72 AND A.D.A. (AMERICANS WITH DISABILITIES ACT). IN AREAS AND CORRIDORS WHERE TWO OR MORE VISUAL STROBE UNITS ARE INSTALLED, PROVIDE SYNCHRONIZED STROBE UNITS SO AS TO PROVIDE A FLASH RATE MINIMUM OF 1 Hz AND A MAXIMUM OF 3 Hz.

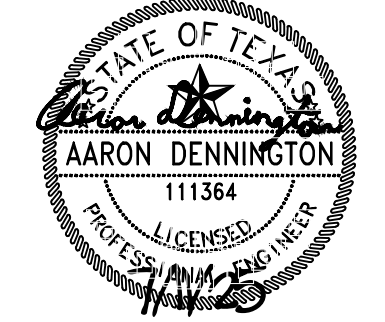
5. ADDRESSABLE NOTIFICATION APPLIANCES ARE ACCEPTABLE.

6. ALL PERIPHERAL DEVICE ADDS SHALL BE PRICED TO THE OWNER MATCHING CURRENT GSA PRICING.

7. ELECTRICAL AND FIRE ALARM CONTRACTOR SHALL PROVIDE SUBMITTAL DOCUMENTS FOR EQUIPMENT AND DEVICES BEING INSTALLED FOR APPROVAL BY THE ENGINEER OR ARCHITECT.



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