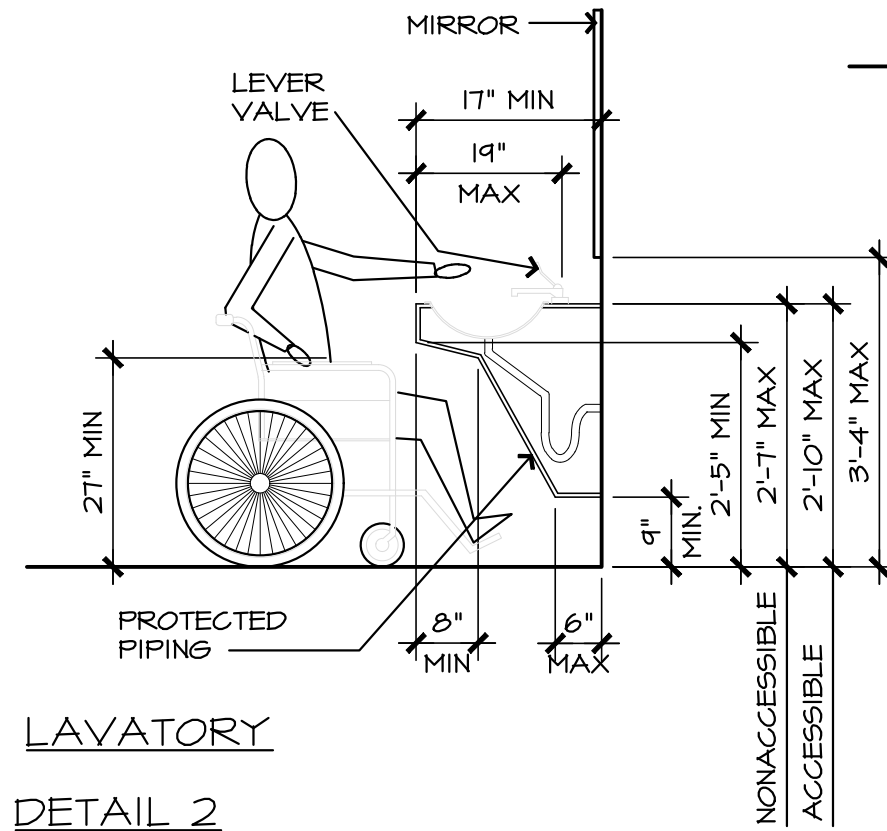


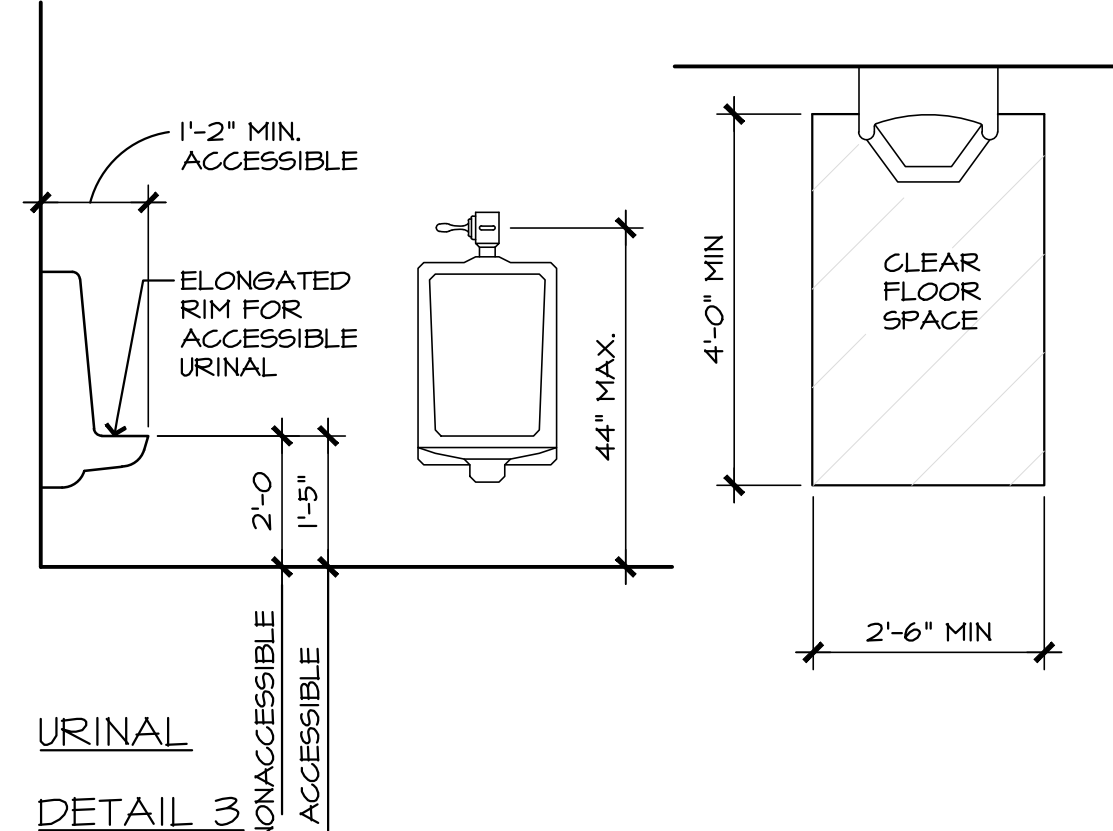
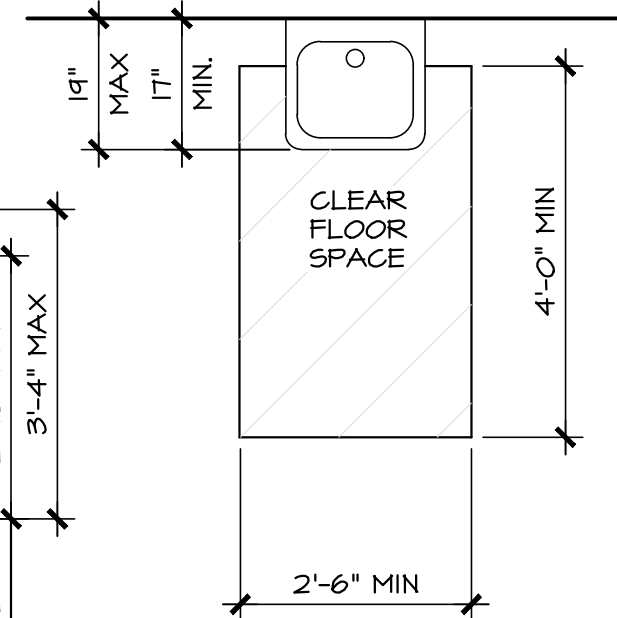
WASHROOM ACCESSORIES

DETAIL 1



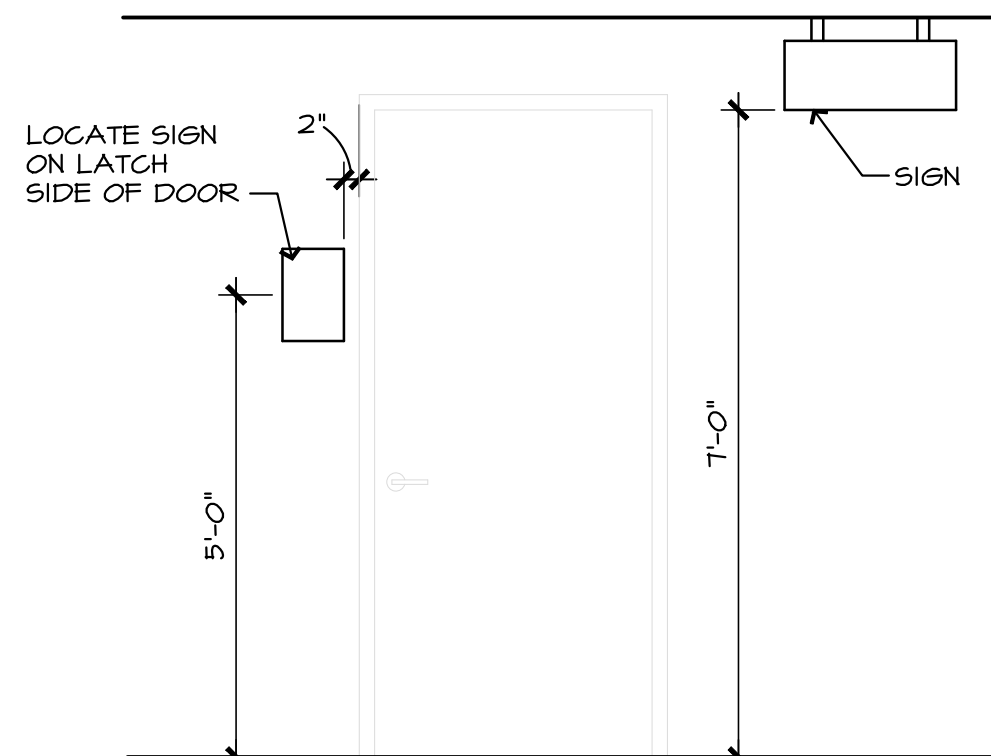
LAVATORY

DETAIL 2



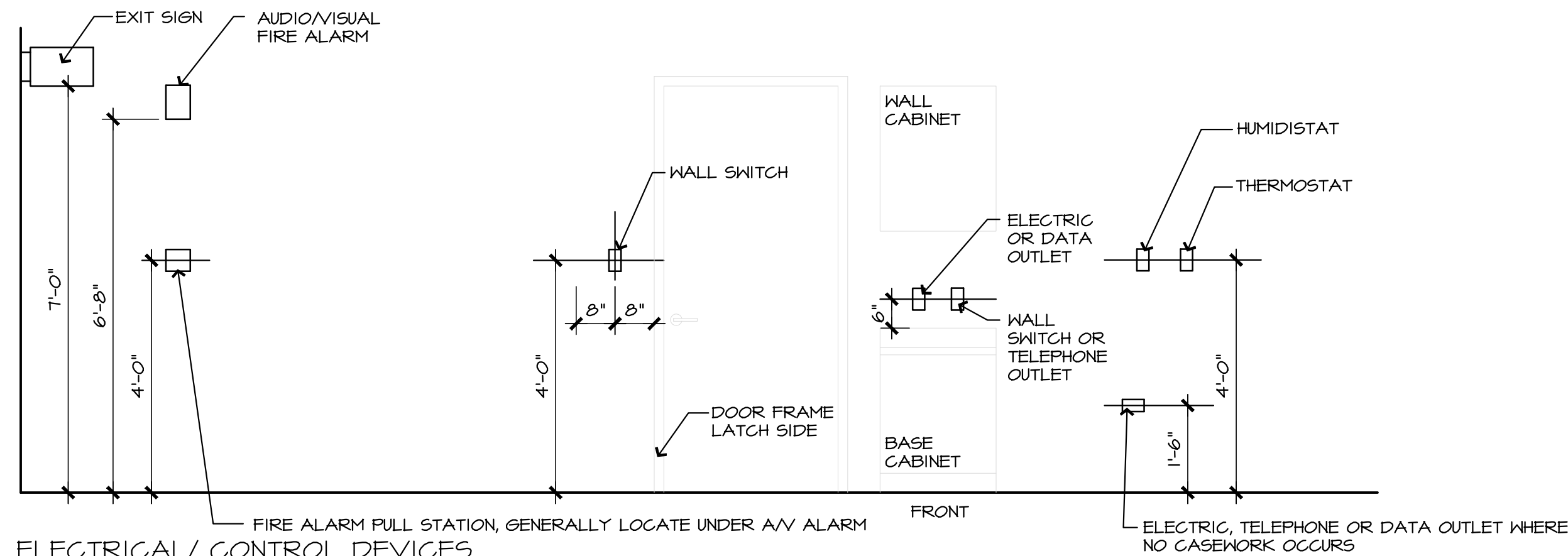
URINAL

DETAIL 3



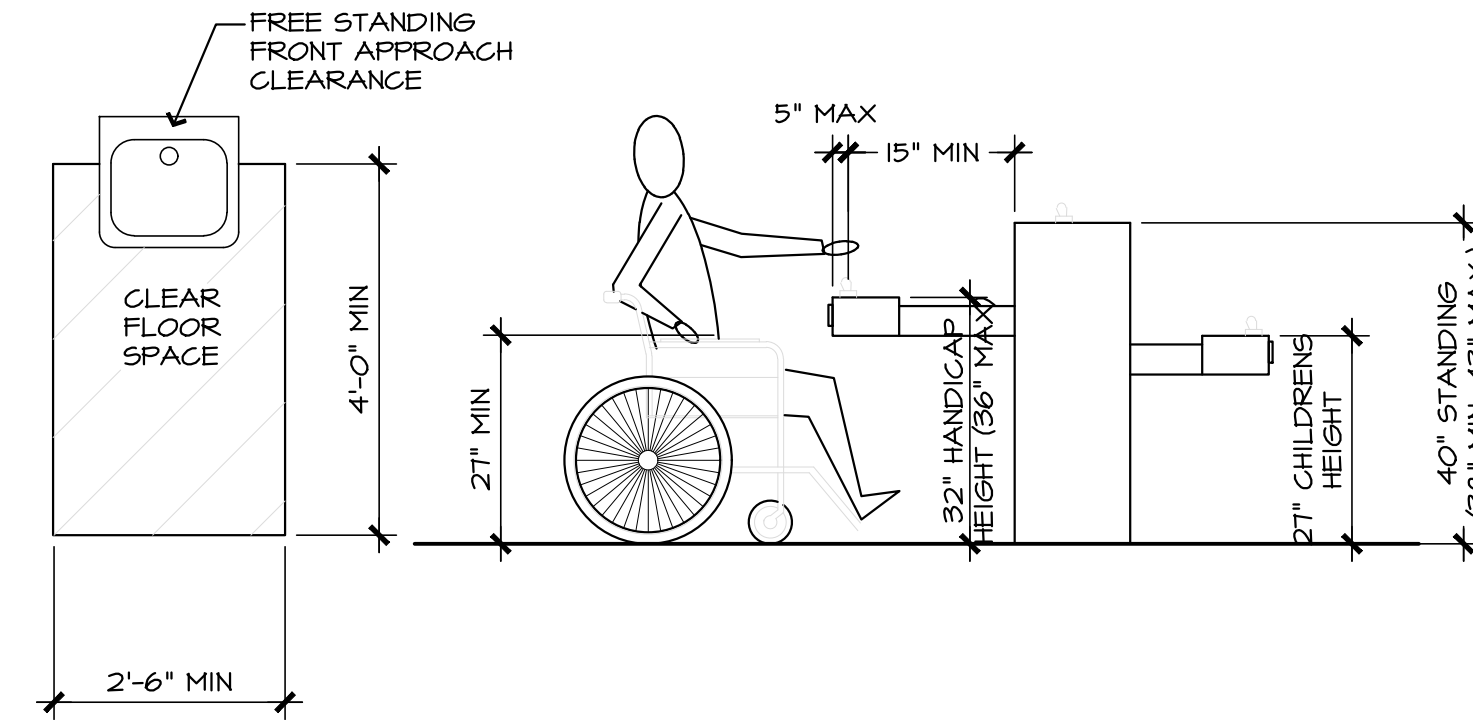
ROOM & SPACE SIGNAGE

DETAIL 6



ELECTRICAL/ CONTROL DEVICES

DETAIL 7



DRINKING FOUNTAIN REQUIREMENTS

DETAIL 8

NOTE: ALL DIMS ARE TO CENTER LINE OF SWITCH - NOT THE BOX.



37 East Washington Avenue
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MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732.277.8033

No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22
4	ISSUED FOR BID	05.19.23

JOB NO. 22.031

DRAWN BY: JLS CHECKED BY: KMS

DATE: 05.19.23

CAD FILE:

ADDITION AND RENOVATIONS TO:

LOCKER
FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

ADA STANDARDS

G-001



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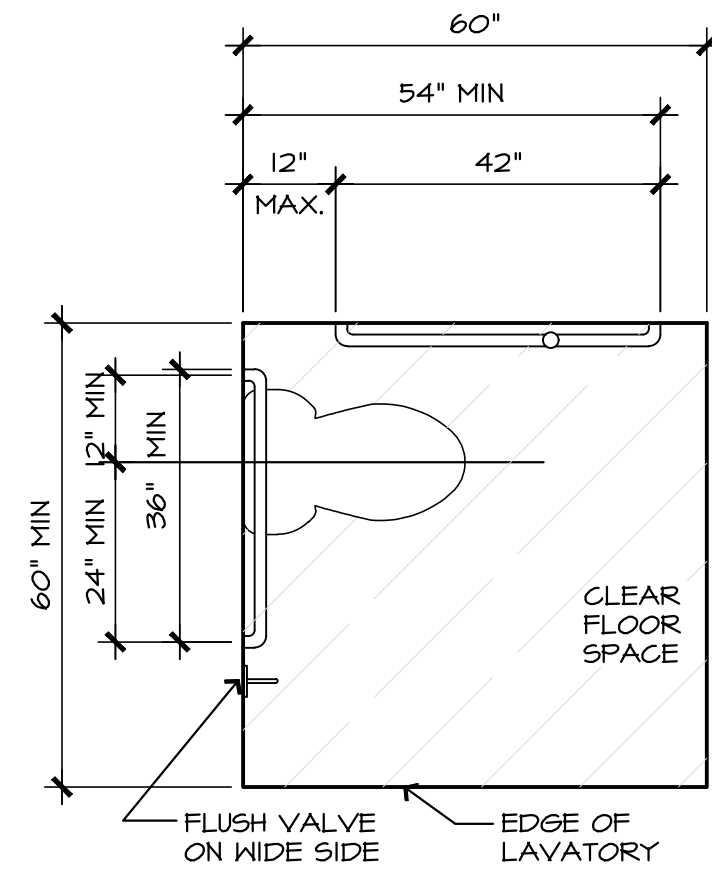
ADDITION AND RENOVATIONS TO:

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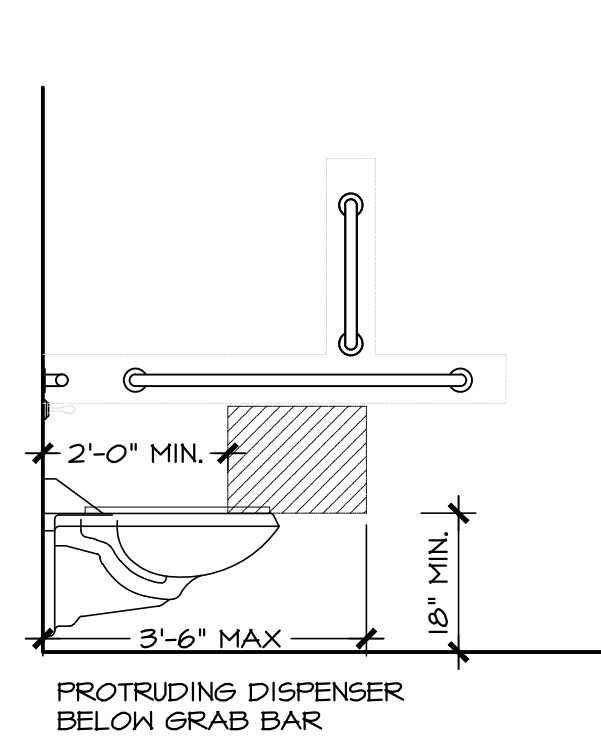
WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

ADA STANDARDS

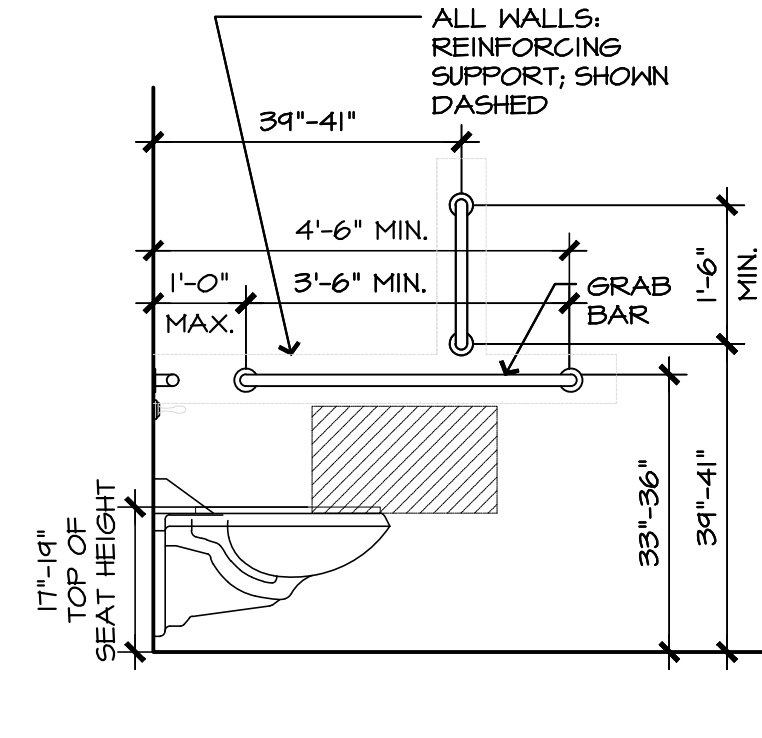
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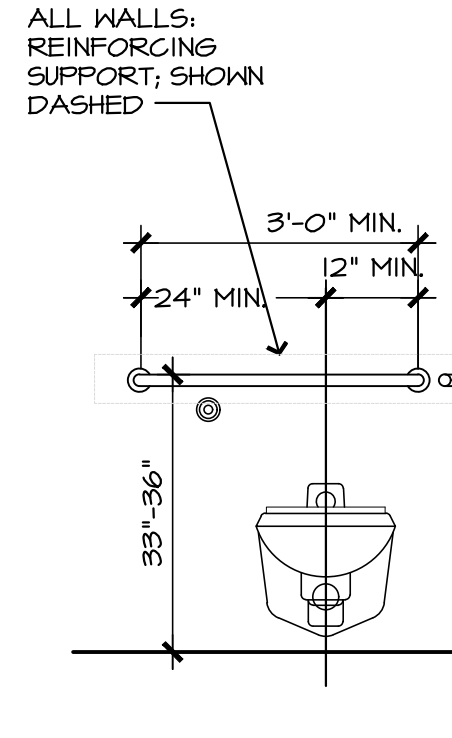
WATER CLOSET
DETAIL 1



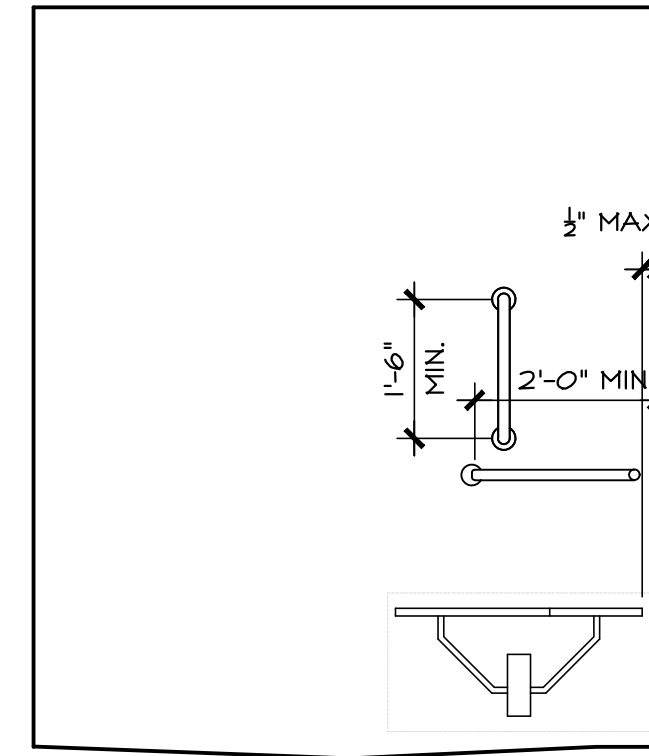
DISPENSER OUTLET
LOCATION
DETAIL 2



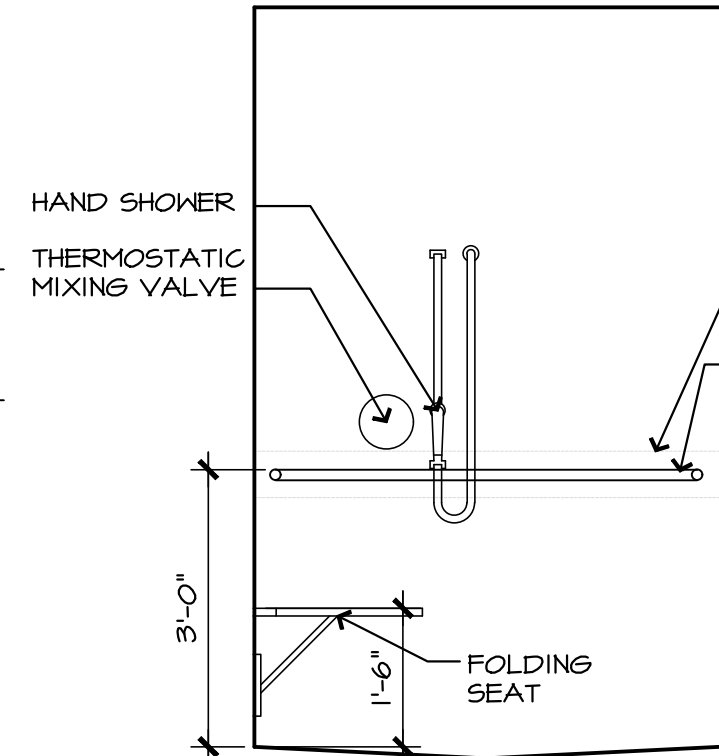
WALL MOUNTED FLUSH
VALVE TOILET
DETAIL 3



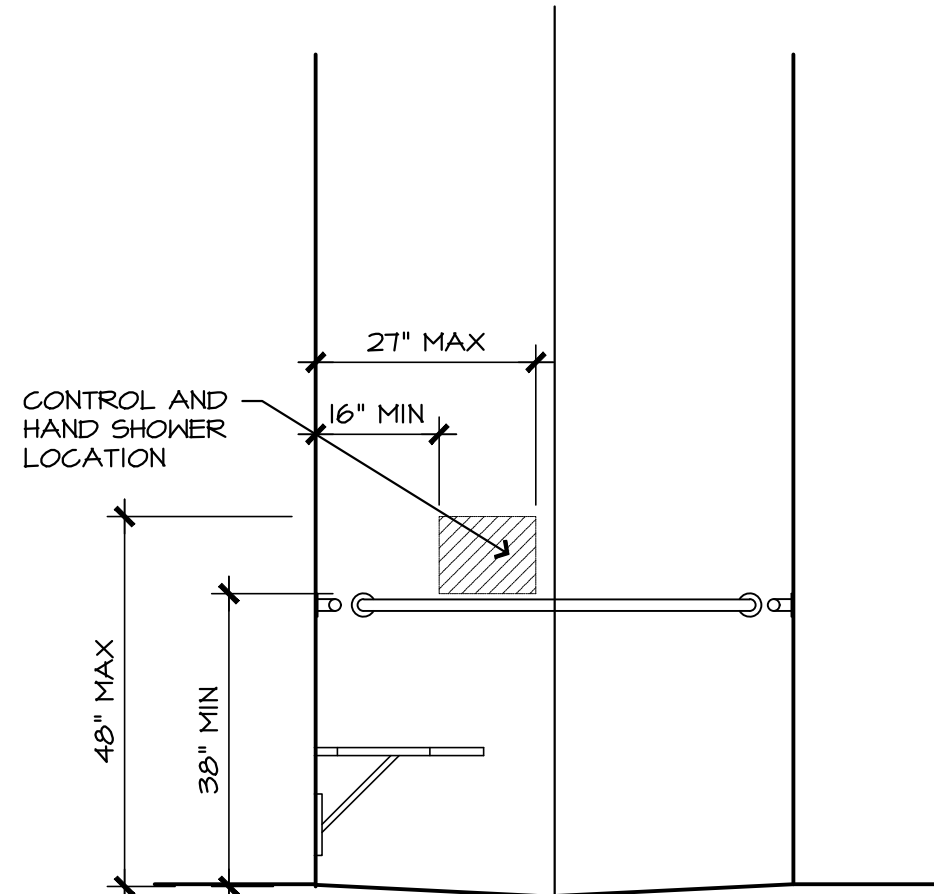
ADA ACCESSIBLE SHOWER DOOR (SIDE
APPROACH)
(MIRROR FOR FEMALE TOILET ADA
SHOWER)
DETAIL 4



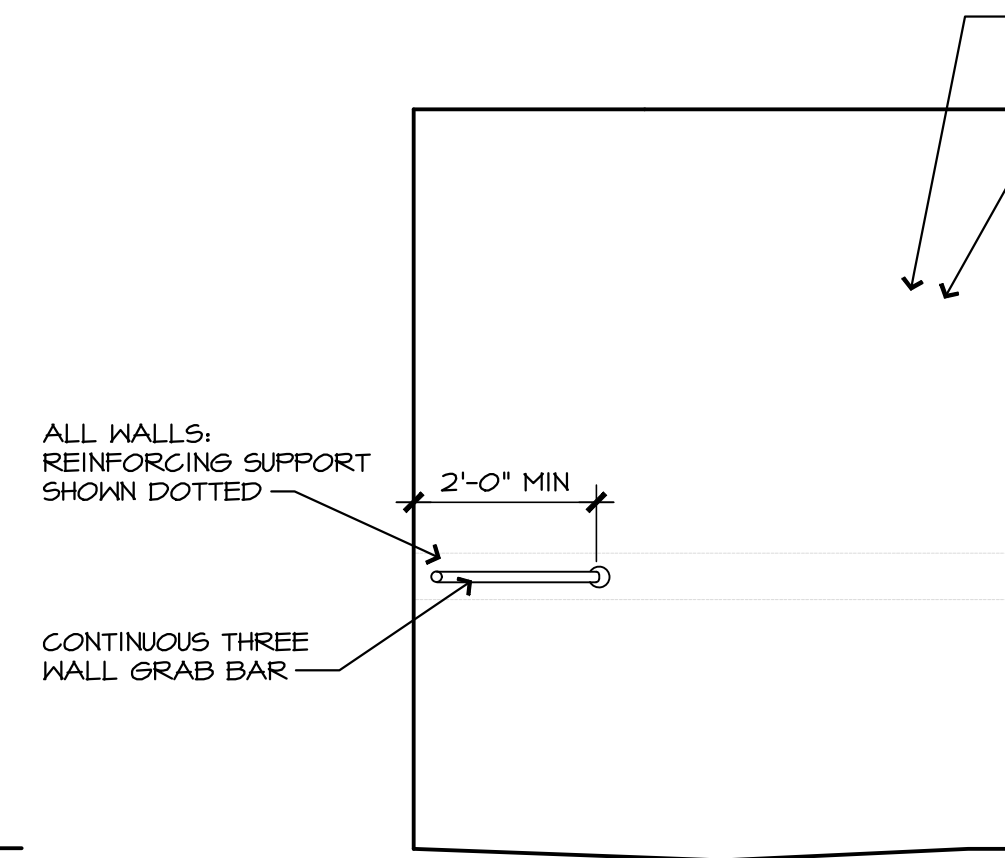
SEAT WALL
DETAIL 5A
ACCESSIBLE SHOWER -60"X80" COMPARTMENT



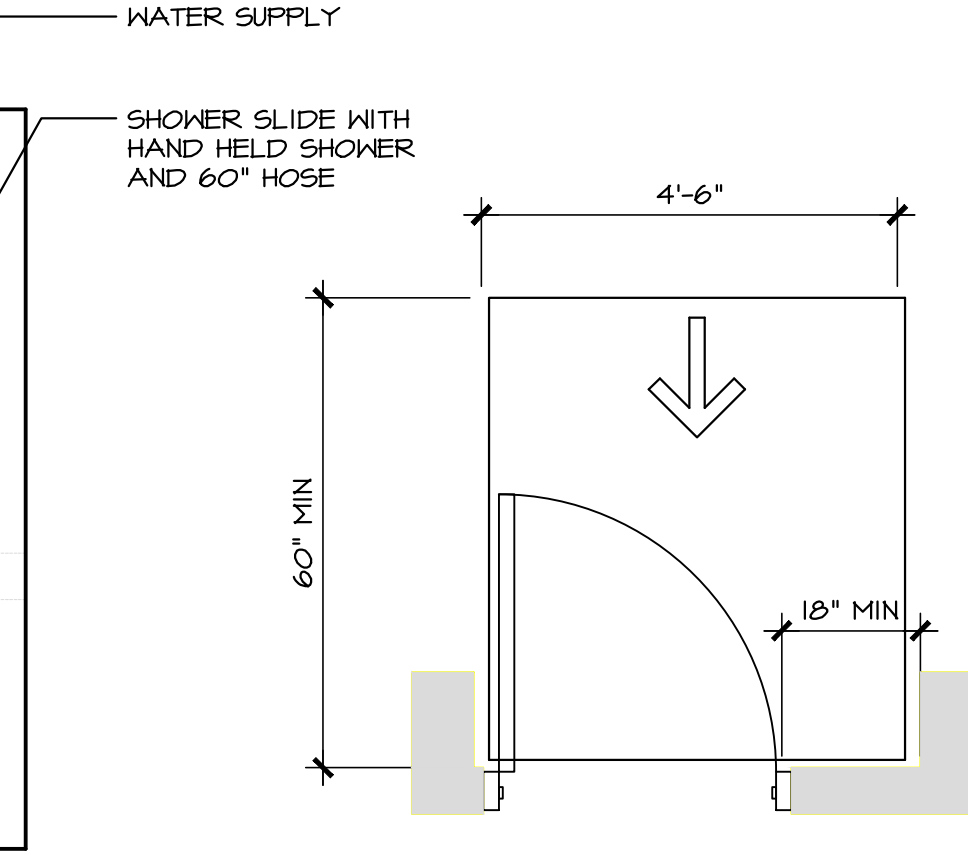
CONTROL WALL
DETAIL 5B



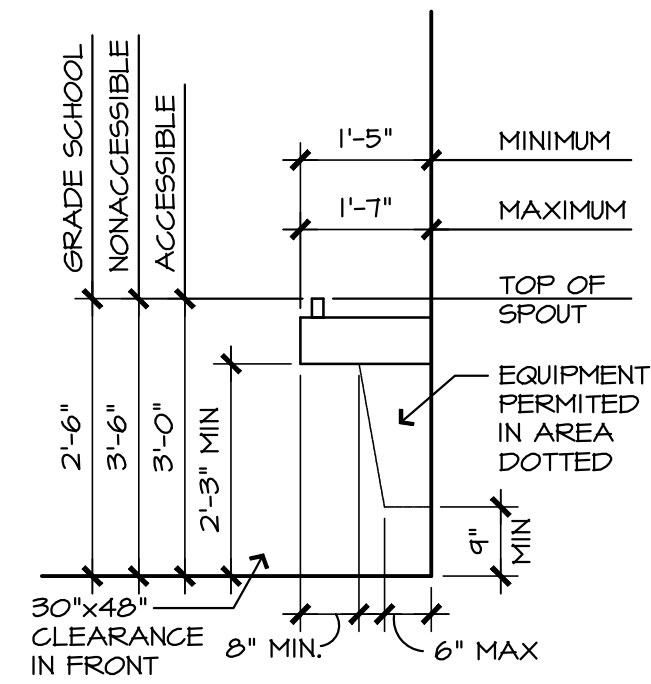
CONTROL MOUNTING LOCATION
DETAIL 5C



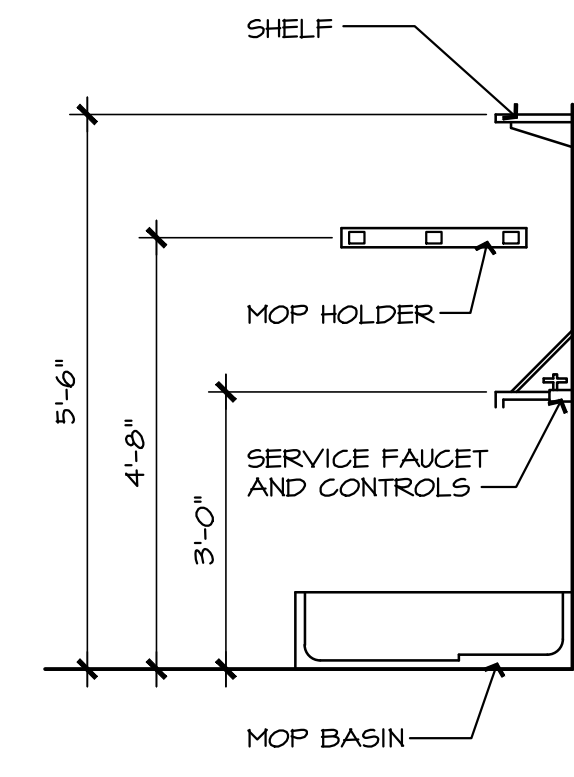
SIDE WALL
DETAIL 5D



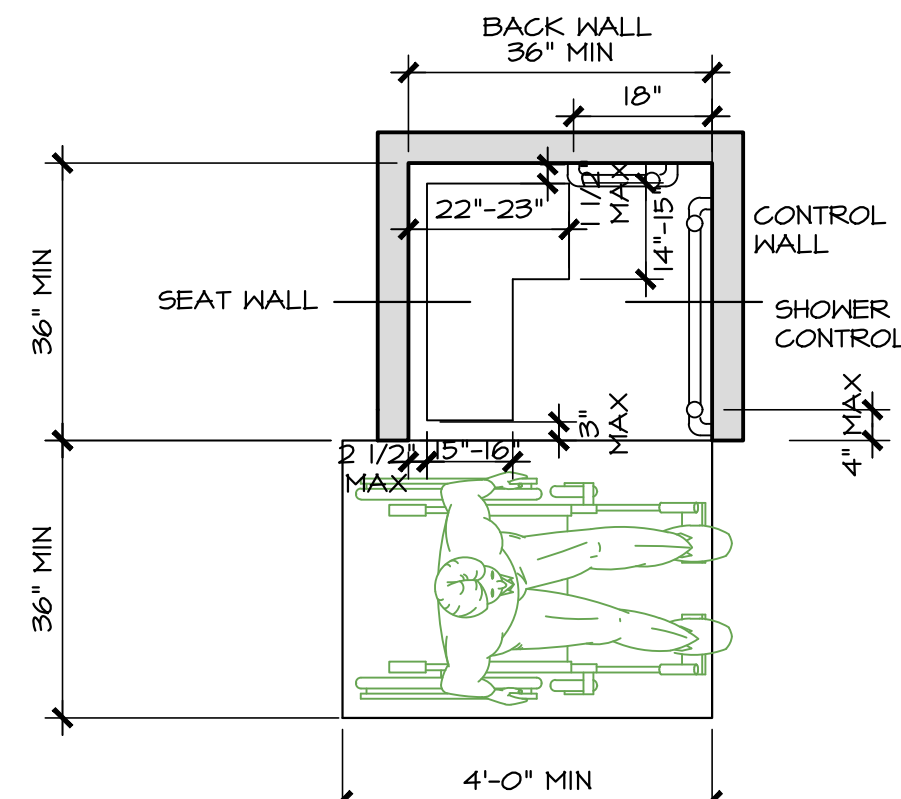
DETAIL 5E



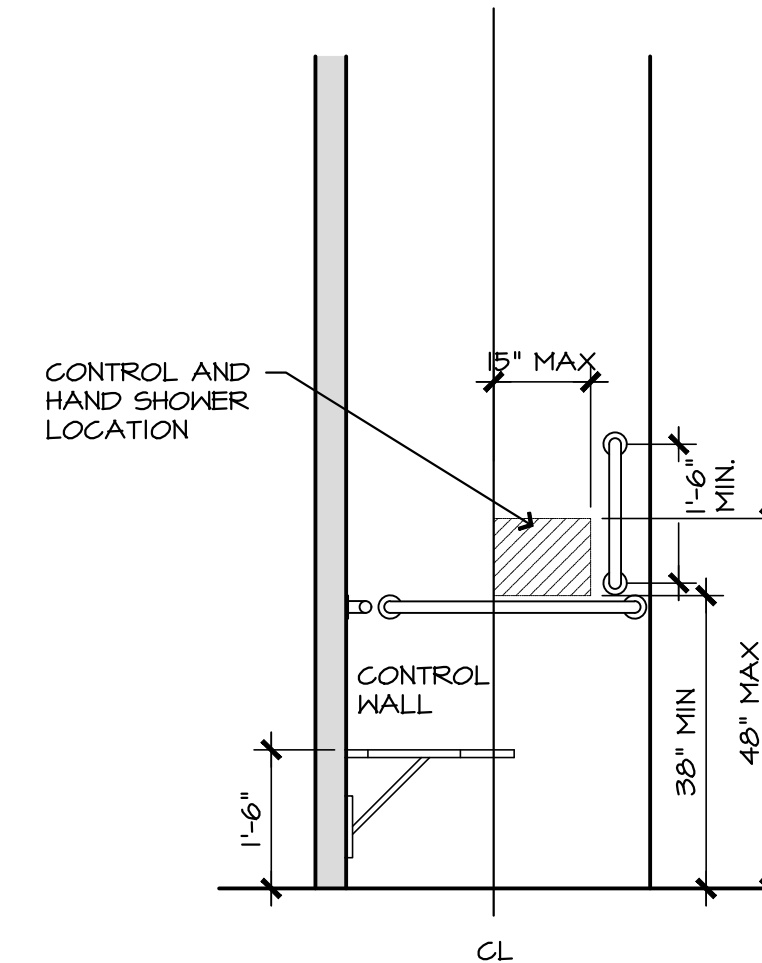
WATER COOLER
DETAIL 6



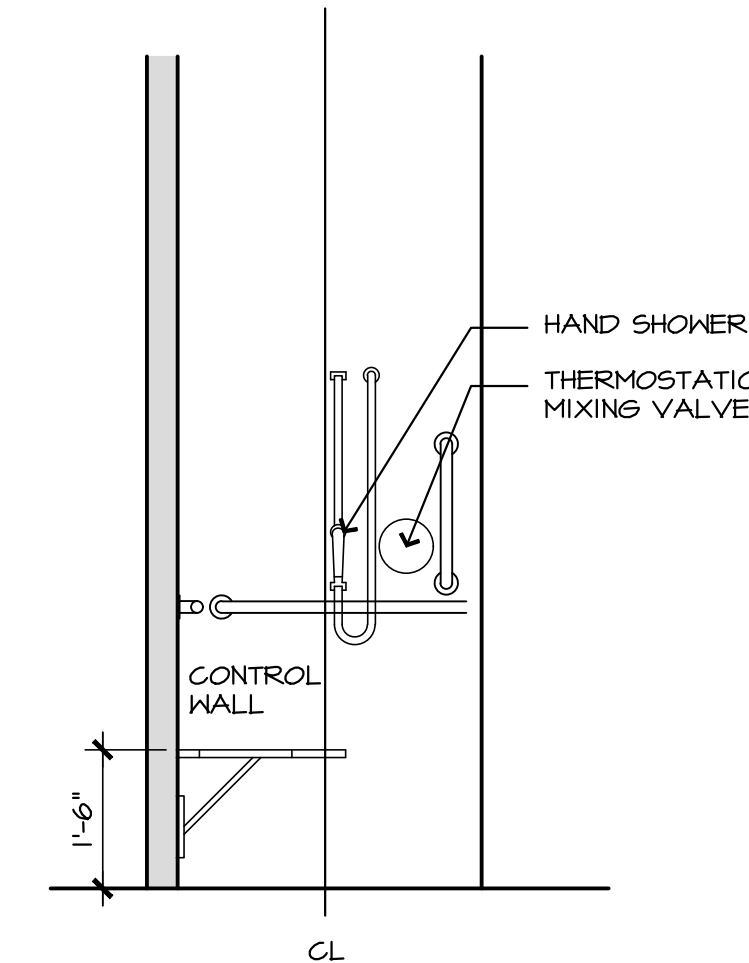
JANITOR CLOSET
DETAIL 7



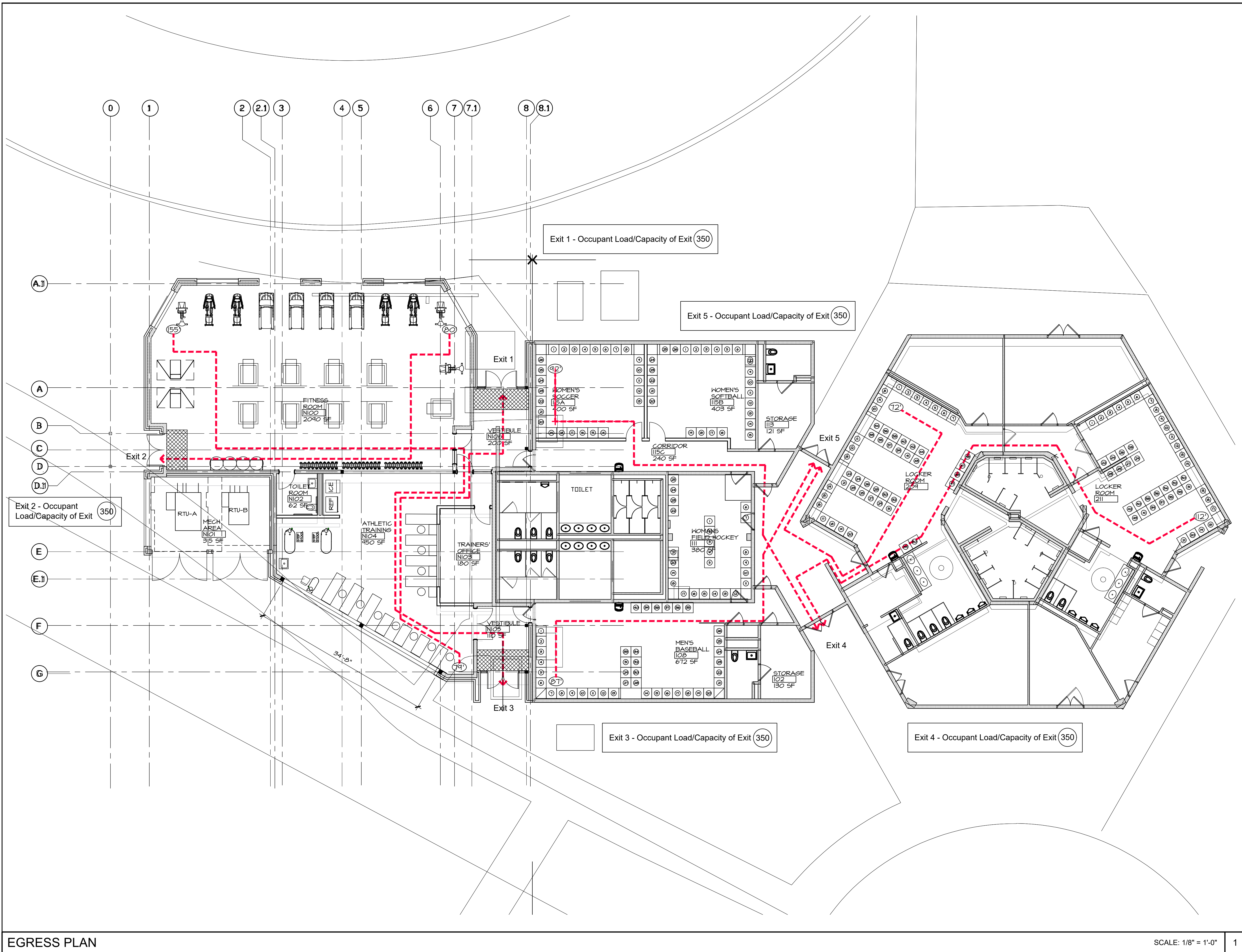
DETAIL 8A
TRANSFER-SHOWER
DETAIL



DETAIL 9B
TRANSFER-SHOWER
DETAIL AT
SINGLE OCC
TOILET



DETAIL 9C



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DATE: 05.19.23

CAD FILE:

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

EGRESS PLAN

A-001

BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE, NJ EDITION	
USE GROUP:	A3 ASSEMBLY B BUSINESS	
CONSTRUCTION TYPE:	II B – UN-PROTECTED, NON-COMBUSTIBLE	
TOTAL BUILDING AREA:		NEW ADDITION
	ONE STORY	4,366 SF

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION IIB
A-3	2 STORIES
B	3 STORIES

BUILDING ELEMENT	TYPE II-B
STRUCTURAL FRAME	0
BEARING WALLS	
EXTERIOR	0
INTERIOR	0
NONBEARING WALLS & PARTITIONS	
EXTERIOR	0

FIRE SEPARATION DIST (X)	CONST. TYPE II-B	OCCUPANCY B/A
$X < 5'$	ALL	1
$5' < X < 10'$	OTHERS	1
$10' < X < 30'$	OTHERS	1
$X > 30'$	ALL	0

FIRE SEPARATION DISTANCE	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA	PROVIDED AREA
0 TO LESS THAN 3'	UNPROTECT NON SPRINKLERED	NOT PERMITTED	
3' TO LESS THAN 5'	UNPROTECT NON SPRINKLERED	NOT PERMITTED	
5' TO LESS THAN 10'	UNPROTECT NON SPRINKLERED	10%	
10' TO LESS THAN 15'	UNPROTECT NON SPRINKLERED	15%	
15' TO LESS THAN 20'	UNPROTECT NON SPRINKLERED	25%	
20' TO LESS THAN 25'	UNPROTECT NON SPRINKLERED	45%	
25' TO LESS THAN 30'	UNPROTECT NON SPRINKLERED	70%	
30' OR GREATER	UNPROTECT NON SPRINKLERED	NO LIMIT	

BUILDING ELEMENT	CODE SECTION	MIN. REQ'D	DESIGN No.	REMARKS
CORRIDOR	1020	0 HRS		SPRINKLERED

BUILDING ELEMENT	CODE SECTION	REQ'D MIN. WIDTH	REMARKS
CORRIDOR	1020.2	44"	GOVERNS
CORRIDOR > 50 OCC.	1020.2	36"	NOT APPLICABLE
EXIT PASAGEWAYS	1005.1 & 1024	44"	NOT APPLICABLE
AREA OF REFUGE	1009.6	30"x48"	NOT APPLICABLE

OCCUPANCY	WITHOUT SUPPRESSION (in feet)
A3	200'
B	200'

BUILDING CODE:	THE ALTERATION WORK TO THE EXISTING BUILDING SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 5:23-6.6 "ALTERATIONS" OF N.J.A.C. AND THE 2021 INTERNATIONAL BUILDING CODE, NJ EDITION	
USE GROUP:	B BUSINESS	
CONSTRUCTION TYPE:	II-B – UN-PROTECTED, NON-COMBUSTIBLE	
TOTAL BUILDING AREA:		EXISTING BLDG
	ONE STORY	8,427 SF

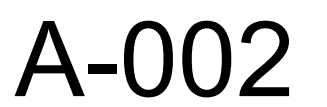
OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION IIB
A	2 STORIES
B	3 STORIES

BUILDING ELEMENT	TYPE II-B
STRUCTURAL FRAME	0
BEARING WALLS	
EXTERIOR	0
INTERIOR	0
NONBEARING WALLS & PARTITIONS	

BUILDING ELEMENT	CODE SECTION	MIN. REQ'D	DESIGN No.	REMARKS
CORRIDOR	1020	1 HR		
EXIT STAIRS	1023.2	1 HR < 2 STY.	UL No. U906	RATING NOT LESS THAN FLOOR PENETRATED
SHAFT ENCLOSURE	713	1 HR < 2 STY	VARIES (SEE PART. TYPES)	
ELEVATOR HOISTWAY	3002 & 713	1 HR < 2 STY.		

BUILDING ELEMENT	CODE SECTION	REQ'D MIN. WIDTH	REMARKS
CORRIDOR	1020.2	44"	GOVERNS
CORRIDOR > 50 OCC.	1020.2	36"	NOT APPLICABLE
EXIT PASAGEWAYS	1005.1 & 1024	44"	NOT APPLICABLE
AREA OF REFUGE	1009.6	30"x48"	NOT APPLICABLE

Dead end corridors may be up to 50'-0" in length if building has automatic alarm system installed in conformance with the building code in effect at the time of its installation.





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JOB NO. 22.031

DRAWN BY: JLS CHECKED BY: KMS

DATE: 05.19.23

CAD FILE:

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

CODE ANALYSIS

A-003

PLUMBING FIXTURES

Total occupancy based on egress requirements - 135 occupants

50% of 135 68 persons per sex.

Based on A3/ B occupancy the following fixtures are required according to table 7.21.1 of National Plumbing Code:

	Female:	Required	Provided
	1-100 PERSONS	3 wc's 2 lav.	3 wc's 4 lav.
	Male:	3 wc's	6 wc's
	1-200 PERSONS	2 lav.	11 lav. 6 urinals
Female LOCKER ROOM			3 wc's 4 sinks
Male LOCKER ROOM			3 wc's 7 sinks 6 urinal
Male Baseball LOCKER ROOM			3 wc's 4 sinks
Officals Locker Room ADA TOILET			1 wc's 1 sinks
Coach's Room TOILET			1 wc's 1 sinks
Unisex ADA TOILET			1 wc's 1 sinks

- Maximum travel Distance to Exit
- Actual Number of Occupants using Exit.
- Maximum Occupant Load/Capacity of Exit.

USE AND OCCUPANCY B AND S
FIRE AND SMOKE PROTECTION: IIB - FULLY SPRINKLERED

OCCUPANT LOAD

ROOM	FUNCTION	AREA IN SQ. FEET	MAX. AREA PER OCCUPANT	# OF OCC.
100	LOBBY	348 SQ. FEET		
102	STORAGE	130 SQ. FEET	300 SF/OCC.	1 OCC.
108	MEN'S BASEBALL	612 SQ. FEET	50 SF/OCC.	14 OCC.
104	TOILET ROOM	215 SQ. FEET		
110	SHOWERS	90 SQ. FEET		
111	FIELD HOCKEY	380 SQ. FEET	50 SF/OCC.	8 OCC.
113	STORAGE	121 SQ. FEET	300 SF/OCC.	1 OCC.
115A	WOMEN'S SOFTBALL	400 SQ. FEET	50 SF/OCC.	8 OCC.
115B	WOMEN'S SOFTBALL	403 SQ. FEET	50 SF/OCC.	8 OCC.
115C	CORRIDOR	240 SQ. FEET		
116	SHOWERS	90 SQ. FEET		
117	TOILET ROOM	232 SQ. FEET		
201	SHOWERS	213 SQ. FEET		
202	DRYING	64 SQ. FEET		
203	SHOWERS	151 SQ. FEET		
204	DRYING	61 SQ. FEET		
205	ELECTRICAL ROOM	221 SQ. FEET	300 SF/OCC.	1 OCC.
206	MECHANICAL ROOM	344 SQ. FEET	300 SF/OCC.	2 OCC.
207	COACH'S ROOM	92 SQ. FEET	150 SF/OCC.	1 OCC.
208	TOILET ROOM	201 SQ. FEET		
209	LOCKER ROOM	716 SQ. FEET	50 SF/OCC.	15 OCC.
210	EQUIPMENT STORAGE	258 SQ. FEET	300 SF/OCC.	1 OCC.
211	LOCKER ROOM	611 SQ. FEET	50 SF/OCC.	13 OCC.
212	TOILET ROOM	175 SQ. FEET		
214	OFFICIALS LOCKERS	161 SQ. FEET	50 SF/OCC.	4 OCC.
215	LAUNDRY ROOM	363 SQ. FEET	300 SF/OCC.	2 OCC.
TOTAL OCCUPANTS EXISTING BUILDING				79 OCC.
N100	FITNESS ROOM	2,090 SQ. FEET	50 SF/OCC.	42 OCC.
N101	MECH. AREA	315 SQ. FEET	300 SF/OCC.	2 OCC.
N102	TOILET ROOM	62 SQ. FEET		
N103	TRAINERS' OFFICE	180 SQ. FEET	150 SF/OCC.	2 OCC.
N104	ATHLETIC TRAINING	450 SQ. FEET	100 SF/OCC.	10 OCC.
N105	VESTIBULE	110 SQ. FEET		
N106	VESTIBULE	200 SQ. FEET		
TOTAL OCCUPANTS NEW BUILDING				56 OCC.
TOTAL OCCUPANTS ENTIRE BUILDING				135 OCC.

PLUMBING FIXTUES

2

OCCUPANT LOAD

1

SYMBOL LEGEND			
	CONC. MONUMENT FND		MAIL BOX
	I.P. / L.B. FND		CABLE TV BOX
	TACK / STAKE FND		TELEPHONE BOX
	SPOT ELEVATIONS		A/C UNIT
	TRAFFIC SIGNAL POLE		TRANSFORMER
	UTILITY POLE		ELECTRIC METER
	GUY WIRE		GAS METER
	UTILITY POLE W/LIGHT		WATER METER
	LIGHT POLE		WATER VALVE
	SIGN		GAS VALVE
	FIRE HYDRANT		CLEAN OUT
	D.W.P. DETECTABLE WARNING PAD		GAS
	D.C. DEPRESSED CURB		WATER
	L.S.A. LANDSCAPED AREA		ELECTRIC
	WELL		TELEPHONE
	MANHOLE		CABLE TV
	"A"-INLET		TREE
	"B"-INLET		SHRUB
	"C"-INLET		BOLLARD
	YARD INLET		MONITORING WELL
	FLARED END SECTION		WETLAND FLAG

PARTIAL TOPOGRAPHIC SURVEY INFORMATION TAKEN FROM SURVEY ENTITLED "TOPOGRAPHIC SURVEY – WILLIAM PATTERSON UNIVERSITY, 300 MILLS DRIVE, TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY", PREPARED BY JAMES J. HEISER, PLS. OF DPK CONSULTING, LLC, DATED AUGUST 10, 2022.

GENERAL NOTES:

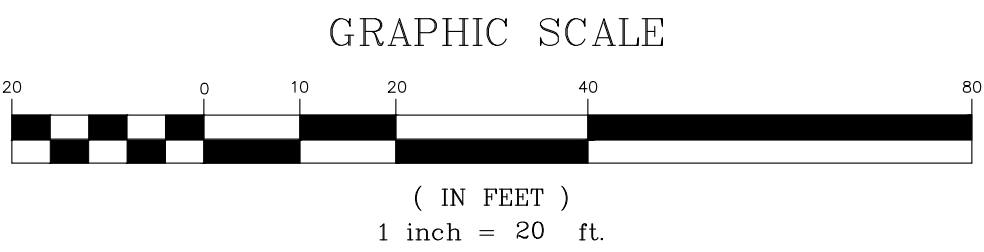
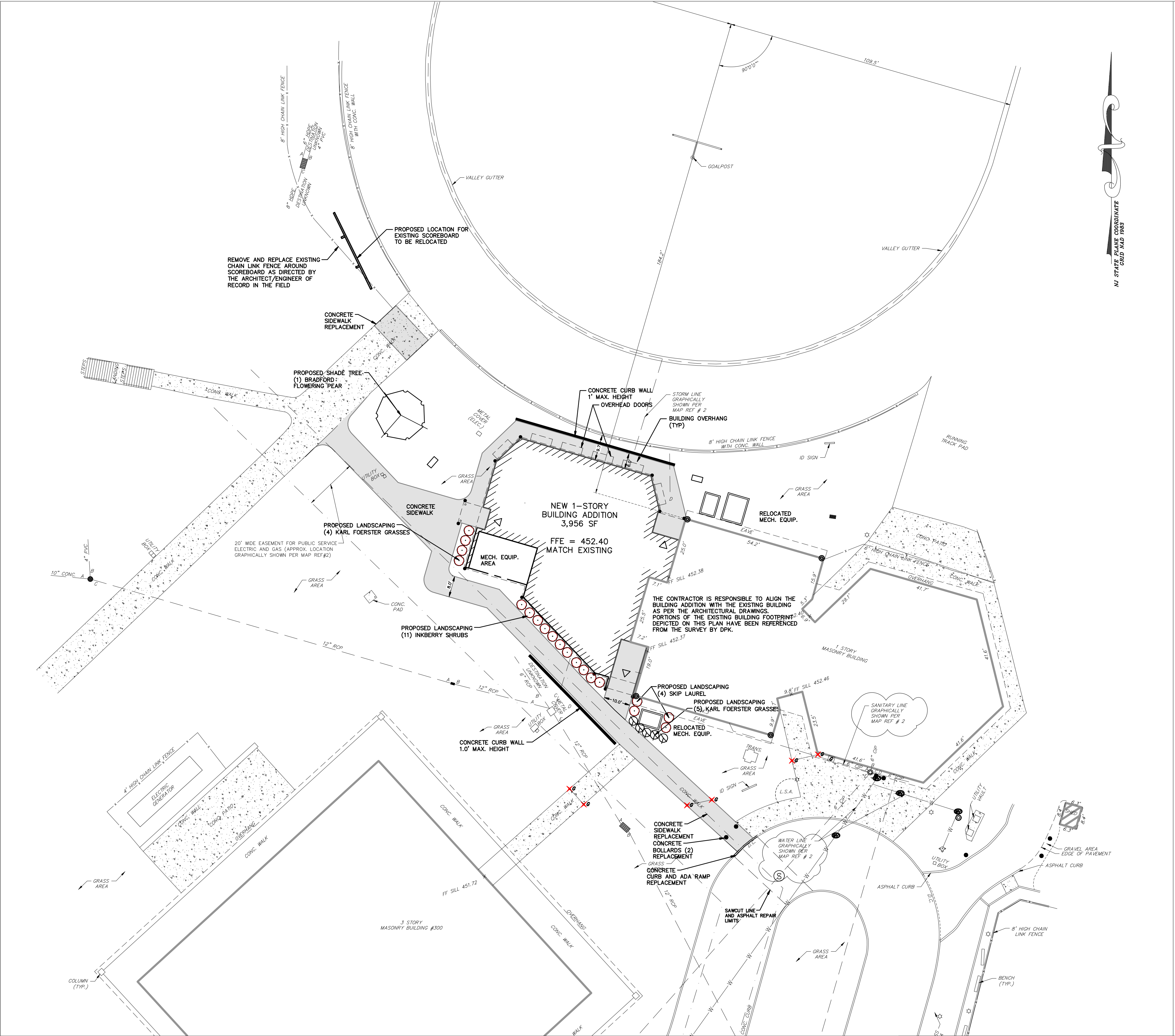
1. DPK CONSULTING DID NOT PERFORM A BOUNDARY SURVEY OF THIS PROPERTY. NO PROPERTY LINES ARE SHOWN.
2. THIS SURVEY REPRESENTS FIELD CONDITIONS AS OF JULY 18 2022.
3. THE UTILITIES SHOWN HAVE BEEN LOCATED FROM EVIDENCE OBSERVED ON THE SURFACE ONLY OR HAVE BEEN SHOWN GRAPHICALLY PER SUPPLIED MATERIALS. DPK CONSULTING MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. DPK CONSULTING FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. DPK CONSULTING HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
4. PREMISES ARE COMMONLY KNOWN AS 300 POMPTON ROAD, WAYNE TOWNSHIP, NEW JERSEY.
5. ALSO KNOWN AS A PORTION OF LOT 1 IN BLOCK 2904 AS SHOWN ON THE OFFICIAL TAX MAPS OF THE TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY.
6. THE PROJECT VERTICAL DATUM IS BASED UPON NAVD 88 DERIVED USING RTK RECEIVERS AND KEYNET.
7. IF THIS DOCUMENT DOES NOT CONTAIN A VALID SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

MAP REFERENCES:



1. PLAN ENTITLED "CAMPUS PLAN, LOCATION MAP, LOCKER FACILITY ADDITION AT WILLIAM PATERSON COLLEGE" SHEET S1, PREPARED BY THE RBA GROUP, DATED 02/23/93, LAST REVISED 12/05/94.
2. MAP ENTITLED "SANITARY SEWER MAP, WILLIAM PATERSON UNIVERSITY TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY" PREPARED BY STAGG ASSOCIATES P.A. DATED 09/05/2003.

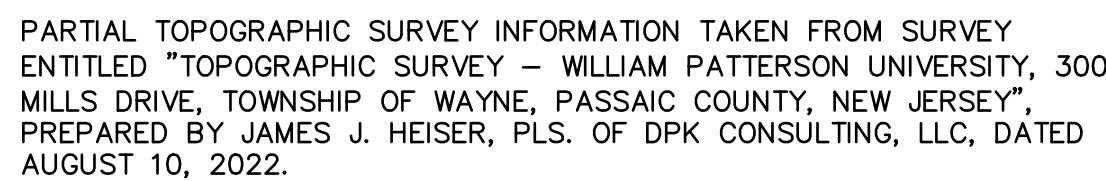


Know what's below.
Call before you dig.



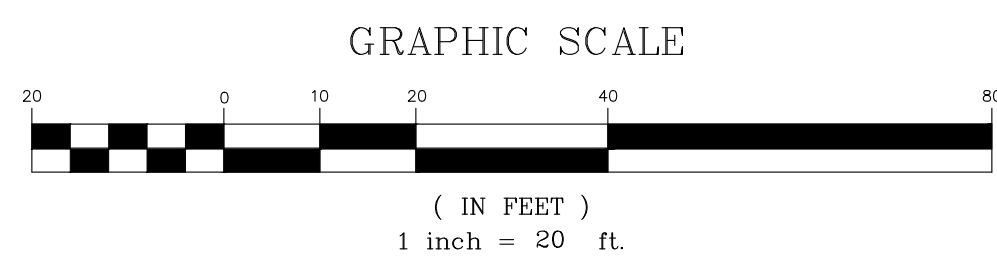
100% CD REVIEW SET
NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION	
SITE PLAN			
<div><div><div><div>EAST POINT</div><div>ENGINEERING, LLC</div><div><div>11 South Main Street Marlboro, NJ 07746 Tel: 732.577.0180</div><div><div>DATE: 12/09/22</div><div>PROJECT NUMBER: 22-147</div></div></div></div><div><div></div><div><div>BRENT N. PAPI, JR.</div><div>N.J. PROFESSIONAL ENGINEER, LICENSE NO. 246A28169800</div></div></div></div></div>			
DATE		SCALE: 1" = 20'	CHECKED BY: M.S.L.
BRENT N. PAPI, JR. N.J. PROFESSIONAL ENGINEER, LICENSE NO. 246A28169800		SHEET NO. 1 OF 8	





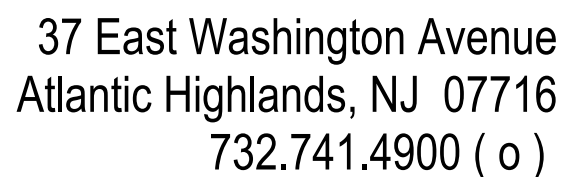
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7. IF THIS DOCUMENT DOES NOT CONTAIN A VALID SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

1. PLAN ENTITLED "CAMPUS PLAN, LOCATION MAP, LOCKER FACILITY ADDITION AT WILLIAM PATERSON COLLEGE" SHEET S1. PREPARED BY THE RBA GROUP, DATED 02/23/93, LAST REVISED 12/05/94.
2. MAP ENTITLED "SANITARY SEWER MAP, WILLIAM PATERSON UNIVERSITY TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY" PREPARED BY STAGG ASSOCIATES P.A. DATED 09/05/2003.



**100% CD REVIEW SET
NOT FOR CONSTRUCTION**

NO.	DATE	DESCRIPTION	
<h1>EXISTING CONDITION AND DEMOLITION PLAN</h1>			
		<p>11 South Main Street Marlboro, NJ 07746 Tel: 732.577.0180</p>	
<h2>EAST POINT</h2> <p>ENGINEERING, LLC</p> <p>IN A CERTIFICATE OF AUTH. No. 24G0428169800</p>		<p>DATE: 09/22/22</p> <p>PROJECT NUMBER: 22-147</p>	
		<p>SCALE: 1" = 20'</p> <p>CHECKED BY: M.S.L.</p>	
<p>BRENT N. PAPI, JR.</p> <p>N.J. PROFESSIONAL ENGINEER, LICENSE NO. 24G04732700</p>		<p>DATE</p> <p>25SHEET NO. 2 OF 8</p>	



OWNER
William Paterson
University
300 Pompton Road
Wayne, NJ 07470

STRUCTURAL ENGINEER
MPP Engineers
34 S Main Street
Allentown, N.J. 08501
609 489 5511
F. 609 489 5916

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732 277 8033

JOB NO. 22.031

DRAWN BY: CHECKED BY:

DATE:

CAD FILE:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

C.102

GENERAL NOTES

1.

THE PROPERTY IS KNOWN AS WILLIAM PATERSON UNIVERSITY – WIGHTMAN FIELD, 300 MILLS DRIVE, WAYNE TOWNSHIP, PASSAIC COUNTY, NEW JERSEY.
2.

WILLIAM PATERSON UNIVERSITY PROPOSES TO CONSTRUCT A 4,200 SF ADDITION TO THE EXISTING LOCKER ROOM FACILITY AT WIGHTMAN FIELD WITH ASSOCIATED MECHANICAL SYSTEMS AND CONCRETE WALKS. THE EXISTING SCOREBOARD WILL BE LOCATED JUST ADJACENT TO THE CURRENT LOCATION AT THE STADIUM.
3.

THE PROJECT SITE IS NOT LOCATED WITHIN A KNOWN FLOOD HAZARD AREA.
4.

THE PROJECT SITE DOES NOT HAVE ANY MAPPED FRESHWATER WETLANDS.
5.

DO NOT SCALE DRAWINGS WITH RESPECT TO THE LOCATION OF SURROUNDING EXISTING FEATURES. ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC., ARE SCHEMATIC ONLY EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
6.

THIS SET OF PLANS HAS BEEN PREPARED FOR THE APPLICANT NAMED HEREON FOR THE PURPOSE OF MUNICIPAL AND REGULATORY AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION PLANS UNTIL ALL REQUIRED APPROVALS HAVE BEEN OBTAINED. NO OTHER PURPOSE IS INTENDED OR IMPLIED.
7.

THE CONTRACTOR SHALL STRICTLY ADHERE TO THESE CONSTRUCTION PLANS AND ANY ACCOMPANYING SPECIFICATIONS. ANY DEVIATION FROM THE APPROVED CONSTRUCTION DOCUMENTS, TECHNICAL SPECIFICATIONS AND MANUFACTURERS' SPECIFICATIONS SHALL BE AT THE EXPRESS WRITTEN CONSENT OF THE SUPERVISING ENGINEER.
8.

ONCE ENGINEERING PLANS ARE ISSUED FOR CONSTRUCTION, IT IS EXPLICITLY UNDERSTOOD THAT THE ENGINEER IS NOT RESPONSIBLE FOR THE PROSECUTION OF THE WORK, THE MEANS AND METHODS OF CONSTRUCTION, PROTECTION OF ADJACENT STRUCTURES OR PROPERTY, AND IS NOT TO BE HELD RESPONSIBLE FOR ANY DAMAGE WHATSOEVER TO ANY PROPERTY, INCLUDING OFFSITE LANDS, ASSOCIATED WITH CONSTRUCTION OF THE PROJECT.
9.

PROPOSED BUILDING DIMENSIONS ARE APPROXIMATE. REFERENCE ARCHITECTURAL BUILDING PLANS PREPARED BY SETTEMBRINO ARCHITECTS FOR ALL BUILDING DETAILS.
10.

CONSTRUCTION OF SITE IMPROVEMENTS AND BUILDINGS SHALL BE IN COMPLIANCE WITH THE RESIDENTIAL SITE IMPROVEMENT STANDARDS (R.S.I.S.), APPLICABLE BUILDING CODES, FEDERAL AND STATE BARRIER FREE AND A.D.A. REQUIREMENTS, TOWNSHIP DESIGN STANDARDS, AND NOISE CODE.

(A) FOR SITES AND FACILITIES LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY, ACCESSIBILITY SHALL BE IN COMPLIANCE WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, STANDARDS FOR PUBLIC ACCOMMODATIONS AND COMMERCIAL FACILITIES: TITLE III.

(B) FOR SITES AND FACILITIES LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY, ACCESSIBILITY SHALL BE IN COMPLIANCE WITH THE CURRENT PUBLIC RIGHTS-OF-WAY ACCESS ADVISORY COMMITTEE GUIDELINE (PROWAG).

(ALL HANDICAP RAMPS AND FACILITIES WILL BE SUBJECT TO INSPECTION DURING CONSTRUCTION TO ENSURE COMPLIANCE WITH ADA SPECIFICATIONS.)

12.

AN ONSITE SOILS INVESTIGATION WAS PERFORMED AND THE RESULTS ARE INCLUDED IN THE SEPARATE REPORT PREPARED BY MELICK-TULLY & ASSOCIATES A DIVISION OF GZA, DATED OCTOBER 3, 2022.

13.

STRUCTURAL / GEOTECHNICAL ENGINEER TO PROVIDE PLANS AND CALCULATIONS FOR ALL STRUCTURES AND FOUNDATIONS AS SHOWN ON THIS PLAN. THIS PLAN DOES NOT INCLUDE BUILDING CALCULATIONS EITHER STRUCTURAL OR GEOTECHNICAL AND THE UNDERSIGNED ASSUMES NO RESPONSIBILITY FOR SAME.

14.

THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF SITE CONDITIONS OR TOPOGRAPHY DIFFER MATERIALLY FROM THOSE PRESENTED HEREON. THE UNDERSIGNED PROFESSIONAL SHALL BE GRANTED ACCESS TO REVIEW SAID CONDITION, AND/OR RENDER THE DESIGN SHOWN HEREON TO THE APPROPRIATE MUNICIPAL, COUNTY OR STATE OFFICIAL'S AND/OR UNDERSIGNED PROFESSIONAL SATISFACTION.

15.

THESE NOTES APPLY TO ALL SHEETS IN THIS SET.
- A. SITE CONDITIONS
1.

EXISTING CONDITIONS ARE BASED ON SURVEY INFORMATION PREPARED BY:

PARTIAL BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION OBTAINED FROM A PLAN ENTITLED, "TOPOGRAPHIC SURVEY – WILLIAM PATERSON UNIVERSITY, 300 MILLS DRIVE, TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY", PREPARED BY JAMES J. HEISER, PLS OF DPK CONSULTING, LLC, DATED AUGUST 10, 2022 (NO REVISIONS)

2.

HORIZONTAL CONTROL BASED ON ASSUMED (PROJECT). VERTICAL DATUM BASED ON NAVD 1988 BY GPS OBSERVATION CONTROL.

3.

ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ENTIRELY WITHIN THE EXISTING TRACK AT WIGHTMAN FIELD AS DEPICTED ON THE SITE PLANS.

4.

ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.

5.

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL EXISTING SITE ELEVATIONS AND INVERTS PRIOR TO THE START OF CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE OWNER'S ATTENTION PRIOR TO THE START OF ANY WORK.

6.

ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT HIS WORK. TEST PITS SHALL BE CONSTRUCTED BY THE CONTRACTOR AT ALL UTILITY CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

7.

IN THE EVENT A SITUATION ARISES IN WHICH MATERIALS NOT SPECIFIED ON THE PLANS ARE TO BE USED, THEN THE MATERIALS SHALL CONFORM TO THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 ED., AS CURRENTLY SUPPLEMENTED AND AMENDED OR LATEST EDITION.

8.

NO WORK SHALL BE DONE BETWEEN THE HOURS OF 6:00 P.M. AND 7:00 A.M., PREVAILING TIME, OR AS OUTLINED UNDER UNIVERSITY REGULATIONS, WHICHEVER PROVIDES THE LATER START AND EARLIER FINISH.

9.

THE CONTRACTOR SHALL NOTIFY/COORDINATE ALL WORK WITH THE UNIVERSITY SECURITY, OWNER AND ENGINEER, 72 HOURS PRIOR TO START OF ANY WORK.

10.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROVISION OF ALL MATERIALS, LABOR AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION FOR THE SUCCESSFUL COMPLETION AND OPERATION OF THE PROJECT SATISFACTORY TO THE OWNER AND THEIR REPRESENTATIVE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

11.

THE CONTRACTOR SHALL PROVIDE HIS OWN LAYOUT AND STAKEOUT OF ALL PROPOSED IMPROVEMENTS BOTH HORIZONTALLY AND VERTICALLY BY A LICENSED PROFESSIONAL SURVEYOR IN THE STATE OF NEW JERSEY. OFFSET LINES WITH STAKES SHALL BE SET AT APPROPRIATE INTERVALS TO FACILITATE CONSTRUCTION. CUT SHEETS SHALL BE SUBMITTED FOR APPROVAL TO THE CITY ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL NOT BEAR ANY RESPONSIBILITY OR LIABILITY FOR THE CONSTRUCTION OF ANY PROPOSED IMPROVEMENTS, SPECIFICALLY IF BUILT IN LOCATIONS OTHER THAN THOSE DEPICTED, OR AT ELEVATIONS THAT DIFFER FROM THE PLAN.

12.

THE CONTRACTOR SHALL OBTAIN SHOP DRAWING APPROVAL FOR ALL ITEMS PRIOR TO INSTALLATION OF EACH ITEM.

13.

PRIOR TO USE OF ANY PRODUCTS BY MANUFACTURERS OTHER THAN THOSE SPECIFIED ON THESE PLANS OR TECHNICAL SPECIFICATIONS MUST BE SUBMITTED FOR APPROVAL WITH DOCUMENTATION CERTIFIED BY A LICENSED N.J. PROFESSIONAL ENGINEER THAT THE PARTICULAR PROPOSED ALTERNATE PRODUCT MEETS OR EXCEEDS THE PHYSICAL CHARACTERISTICS OF THE SPECIFIED ACCEPTABLE PRODUCTS.

14.

ANY EXISTING AND NEW CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND LAWFULLY DISPOSED OF BY THE CONTRACTOR.

15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE DURATION OF THE PROJECT AND SHALL PROVIDE AND MAINTAIN SECURITY FENCING, MEASURES, AND PERSONNEL AS REQUIRED AND AS DIRECTED BY THE CITY ENGINEER.

16.

ALL DEMOLITION ACTIVITIES TO BE IN ACCORDANCE WITH ALL APPLICABLE AUTHORITIES INCLUDING BUT NOT LIMITED TO COUNTY RULES AND REGULATIONS, THE MUNICIPAL ORDINANCE, NJDEP RULES AND REGULATIONS, AND BOCA CODE.

17.

THE OWNER AND ENGINEER SHALL ASSUME NO RESPONSIBILITY AND/OR LIABILITY FOR THE SAFETY OF THE WORKERS WHERE THE WORK IS BEING PERFORMED OR DAMAGE TO ANY PROPERTY.

18.

THE CONTRACTOR SHALL PROTECT ALL BENCH MARKS AND MONUMENTS FROM DAMAGE AND SHALL ESTABLISH OFFSET POINTS AS REQUIRED FOR HIS WORK.

19.

DEPRESSED CURBING SHALL BE CONSTRUCTED AT ALL WALKWAY CROSSINGS. DEPRESSED CURBS FOR HANDICAP ACCESS SHALL BE FLUSH WITH PAVEMENT. ALL HANDICAP ACCESS FACILITIES MUST COMPLY WITH THE CURRENT AMERICAN WITH DISABILITIES ACT, PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS WITH CURRENT REVISIONS AND NEW JERSEY BARRIER-FREE SUB-CODE (NJAC 5:23-7.1). PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS MODIFIED BY THE SUPPLEMENTAL SPECIFICATIONS.

20.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL PERMITS AND APPROVALS GOVERNING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN ALL BUILDING PERMITS, AND ANY OTHER PERMITS AND/OR APPROVALS AS MAY BE REQUIRED FOR THE PROSECUTION OF THE WORK.

21.

THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS PRIOR TO THE START OF CONSTRUCTION.

22.

ALL JOINTS WITH EXISTING CONCRETE OR PAVEMENT SHALL BE SAWCUT.

23.

ALL NEW SURFACE CONCRETE SHALL BE PROTECTED FROM DE-ICING SALTS FOR AT LEAST 60 DAYS AFTER THE POUR DATE.

24.

ALL UNUSED SIGNS, SIGN POSTS, STORM SEWER CASTINGS AND GRATES REMOVED DURING CONSTRUCTION AND NOT REPLACED ELSEWHERE ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE OWNER. IF THE OWNER DECLINES OWNERSHIP OF THE MATERIALS, THE CONTRACTOR SHALL REMOVE THE MATERIALS FROM THE SITE.

25.

CURBING AND SIDEWALKS SHALL BE CONSTRUCTED WITH NJDOT CLASS 'B' – CONCRETE 4,500 PSI.

26.

THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE ALL EXISTING AND PROPOSED SITE IMPROVEMENTS THAT MAY HAVE BEEN REMOVED AND/OR DAMAGED DURING THE COURSE OF CONSTRUCTION TO THEIR PRE CONSTRUCTION OR SPECIFIED CONDITION AS APPROVED BY THE TOWNSHIP ENGINEER.

27.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FINAL AS-BUILT PLANS DEPICTING THE EXACT LOCATIONS OF THE PROPOSED IMPROVEMENTS WHICH ALSO INCLUDES ELECTRICAL CONDUIT RUNS, WATER LINES, DRAINAGE SYSTEM AND ALL UNDERGROUND UTILITIES.
- B. UTILITIES
1.

AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONTRACT DRAWING, ARE NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL CONTACT NEW JERSEY ONE-CALL (1-800-272-1000) AT LEAST 3 BUSINESS DAYS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, IDENTIFY AND PROTECT UTILITIES WITHIN THE PROJECT LIMITS. IF ONE WILL NOT MARK OUT THE PROPERTY, THE CONTRACTOR MUST HIRE AN UNDERGROUND UTILITY LOCATING COMPANY TO INVESTIGATE ALL AREAS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL DIG TEST PITS TO LOCATE UTILITIES WITHIN THE PROJECT LIMITS AS NEEDED. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK. NEW JERSEY ONE-CALL PHONE # 1-800-272-1000.

2.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST TWO (2) WEEKS PRIOR TO CONSTRUCTION FOR PHYSICAL MARK OUTS OF UTILITIES.

3.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, REPLACE, MAINTAIN, RELOCATE, AND/OR REMOVE ANY EXISTING ABOVEGROUND AND UNDERGROUND UTILITIES, CONDUITS, STRUCTURES, EQUIPMENT, FOUNDATIONS, PIPES, ETC. AS NECESSARY TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE OWNERS OF THE UTILITY PRIOR TO STARTING WORK.

4.

ALL PROPOSED UTILITIES SHALL BE INSTALLED BY THE CONTRACTOR AND SHALL BE LOCATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY. SAID UTILITIES INCLUDE ELECTRIC, GAS, CABLE, TELEPHONE, POTABLE WATER AND SANITARY SEWER SERVICES.

5.

THERE MAY BE UTILITY ADJUSTMENTS OR RELOCATION WHICH MAY BE NECESSITATED BY THE PROPOSED CONSTRUCTION. IF SO, THE CONTRACTOR SHALL COMPLETE SAID WORK AND COORDINATE HIS WORK WITH THE MUNICIPALITY, OWNER, AND THE UTILITY COMPANIES WITH FACILITIES IN THE PROJECT LIMITS. ALL CLEAN-OUTS, VALVE BOXES, ETC. SHALL BE SET FLUSH WITH GRADE AND CONSTRUCTED WITH CONCRETE COLLARS AS REQUIRED IN THE PROJECT SPECIFICATIONS.

6.

THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO DETERMINE THEIR SCHEDULE FOR PERFORMING UTILITY RELOCATION AND INSTALLATION WORK AND HE SHALL SCHEDULE HIS WORK ACCORDINGLY SO AS NOT TO INTERFERE WITH THE WORK OF THE UTILITY COMPANIES. THE CONTRACTOR SHALL NOTIFY THE WATER AND SEWER COMPANIES AT LEAST 72 HOURS IN ADVANCE OF ANY WORK ON THEIR FACILITIES.

7.

EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND FACILITIES OR UTILITY POLES WILL REQUIRE PROTECTION/SHORING TO PREVENT DAMAGE OR INTERRUPTION OF SERVICE TO THESE FACILITIES.

9.

THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL REQUIRED UTILITY CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANY.

11.

ALL PROPOSED WATER SERVICES SHALL BE LOCATED A MINIMUM OF SEPARATION DISTANCE OF 10 HORIZONTAL FEET AND 1.5 VERTICAL FEET FROM ALL SANITARY SEWER FACILITIES. A MINIMUM 4 FEET OF COVER SHALL BE PROVIDED OVER ALL WATER AND SANITARY SEWER LINES.

12.

ALL TRENCHES SHALL BE BACK FILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. OPEN TRENCHES SHALL BE STEEL PLATED WHEN WORK IS NOT IN PROGRESS. NO EXCAVATION AREAS SHALL REMAIN OPEN OVERNIGHT.

13.

ALL NATURAL GAS FACILITY CONSTRUCTION, RESETTNG AND/OR RELOCATION SHALL BE PERFORMED BY THEIR REPRESENTATIVES.
- C. SITE CLEARING AND GRADING
1.

SITE CLEARING SHALL INCLUDE, BUT IS NOT LIMITED TO, THE REMOVAL OF ALL DEBRIS, RUBBLE, FENCES, TREES, EXISTING UTILITIES, EXISTING STRUCTURES, FOUNDATIONS, SUBSURFACE STRUCTURES, UNSUITABLE MATERIALS, EXISTING PAVEMENT, THE RELOCATION OF EXISTING UTILITIES AND COORDINATION, GRUBBING, ETC. AND ALL OTHER WORK REQUIRED TO COMPLETE THE PROJECT.

2.

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY AND ALL EXISTING IRRIGATION FOR THE FIELD INCLUDING, BUT NOT LIMITED TO, VALVE BOXES, CONTROLS, SPRINKLER HEADS, PIPING AND ELECTRICAL CONTROLS.

3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL MATERIALS EXCAVATED OF WHATEVER NATURE IN ACCORDANCE WITH APPROVED NJDOT/NJDEP METHODS AND MEANS.

4.

EXISTING ONSITE SUITABLE SOIL SHALL BE EXCAVATED, TRANSPORTED, SPREAD, GRADED, AND COMPACTED AS REQUIRED BY THE PROPOSED GRADES. ALL EARTHWORK OPERATIONS INVOLVING ONSITE SOILS SHALL BE COMPLETED PRIOR TO IMPORTING ANY OFFSITE MATERIALS.

5.

ALL AREAS OF REGRADING SHOULD BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND BUILDINGS. ALL GRADING OF LAWNS SHOULD BE A MINIMUM OF 2% AND MAXIMUM 3" HORIZONTALLY TO 1" VERTICALLY.

6.

NO TOPSOIL IS TO BE REMOVED FROM THE PROJECT SITE UNLESS AUTHORIZED BY THE OWNER.
- D. SOIL EROSION, SEDIMENT, AND DUST CONTROL
1.

THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE CITY ENGINEER AND LOCAL SOIL CONSERVATION DISTRICT. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED FREE OF CONSTRUCTION DEBRIS AND SOIL.

2.

ALL SEDIMENT AND SOIL EROSION CONTROLS PRACTICES ARE TO BE INSTALLED IN CONFORMANCE WITH LOCAL AND SOIL CONSERVATION DISTRICT STANDARDS PRIOR TO ANY MAJOR SOIL DISTURBANCES. ALL WORK SHALL BE COMPLETED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

3.

THE SOIL EROSION AND SEDIMENT CONTROL PLAN SHEET INCLUDES ADDITIONAL NOTES WHICH SHALL BE ADHERED TO BY THE CONTRACTOR.
- E. PEDESTRIAN AND TRAFFIC FLOW
1.

THE CONTRACTOR IS REQUIRED TO ENSURE THE SAFE, ORDERLY, AND EXPEDITIOUS FLOW OF TRAFFIC (BOTH VEHICULAR AND PEDESTRIAN) AT ALL TIMES. THE CONTRACTOR SHALL EMPLOY ALL APPROPRIATE SAFETY PROCEDURES, PERSONNEL, AND DEVICES AS MAY BE NECESSARY DURING THE PROSECUTION OF THE WORK.

2.

ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE COORDINATED WITH THE LOCAL MUNICIPALITY. WHERE TRAFFIC DIRECTORS ARE DEEMED NECESSARY BY THE MUNICIPALITY OR UNIVERSITY, THE CONTRACTOR SHALL REQUEST THAT THE LOCAL POLICE DEPARTMENT PROVIDE DIRECTORS.

3.

ALL EXISTING SIDEWALK SHALL BE MAINTAINED IN A SAFE AND ORDERLY MANNER BY THE GENERAL CONTRACTOR DURING THE COURSE OF CONSTRUCTION.

4.

ALL EXISTING INGRESS/EGRESS SHALL REMAIN UNOBSTRUCTED AT ALL TIMES DURING THE CONSTRUCTION OF ALL SITE IMPROVEMENTS.

5.

ALL DEVICES AND PROCEDURES FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD HIGHWAY SIGNS", THE CONTRACTOR SHALL PLAN AND CARRY OUT HIS WORK TO PROVIDE FOR THE CONVENIENT AND SAFE PASSAGE OF ALL VEHICULAR AND PEDESTRIAN TRAFFIC.

6.

DURING CONSTRUCTION, ALL ROADS SHALL REMAIN OPEN AND BE PROPERLY MAINTAINED TO ACCOMMODATE EMERGENCY VEHICLES AT ALL TIMES.

7.

TRAFFIC FLOW SHALL BE MAINTAINED AT ALL TIMES ALONG THE VARIOUS STREET FRONTAGES DURING CONSTRUCTION. ROAD CLOSURE WILL NOT BE PERMITTED FOR THIS PROJECT.
- F. STORM SEWERS
1.

THE CONTRACTOR SHALL MAINTAIN SUFFICIENT COVER (TEMPORARY AND PERMANENT) OVER ALL PIPES DURING THE CONSTRUCTION OF THE PROJECT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS..

2.

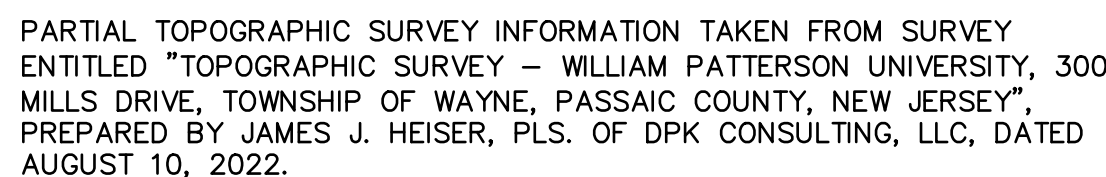
UNLESS OTHERWISE INDICATED, ALL GRATES ARE TO BE BICYCLE SAFE CAMPBELL FOUNDRY NO. 2618 ('B' INLET), 3405 ('A' INLET), 3425 ('E' INLET), OR EQUIVALENT.

3.

UNLESS OTHERWISE INDICATED, ALL STORM PIPES ARE TO BE (AS NOTED ON THE PLANS) REINFORCED CONCRETE, ADS N-12 DUAL WALL OR APPROVED EQUAL.
- SAFETY NOTE
- ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE SAFETY CODES. APPLY CABLE SAFETY CODES SHALL MEAN THE LATEST EDITION INCLUDING ANY AND ALL AMENDMENTS, REVISIONS AND ADDITIONS THERETO OF THE FEDERAL DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S "OCCUPATIONAL SAFETY AND HEALTH STANDARDS"(OSHA); "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION" OF THE STATE OF NEW JERSEY, DEPARTMENT OF LABOR AND INDUSTRY, BUREAU OF ENGINEERING AND SAFETY; "CONSTRUCTION SAFETY CODE,"AND "MAINTENANCE, CONSTRUCTION AND DEMOLITION," AND"BUILDING CODE."
-
- 100% CD REVIEW SET
NOT FOR CONSTRUCTION
-
- 37 East Washington Avenue
Atlantic Highlands, NJ 07716
732.741.4900 (o)
- Kevin M Settembrino, AIA, LEED AP
License No. AI 15163
- OWNER
William Paterson
University
300 Pompton Road
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- CIVIL ENGINEER
East Point
Engineering, LLC
11 South Main Street
Marlboro, NJ 07746
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- STRUCTURAL ENGINEER
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- MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS
- M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732 277 8033
- | No. | Description | Date |
|-----|------------------------|----------|
| | COST ESTIMATE COMMENTS | 10.25.22 |
| | 50% CD SET | 11.23.22 |
| | 100 % CD REVIEW SET | 12.09.22 |
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| | | |
- JOB NO. 22.031
- DRAWN BY: CHECKED BY:
- DATE:
- CAD FILE:
- ADDITION AND RENOVATIONS TO:
- LOCKER
FACILITY
- WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470
- C.103
- | | | | |
|--|------|---|---------------------------|
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| | | | |
| NO. | DATE | DESCRIPTION | |
| GENERAL NOTES PLAN | | | |
| | | 11 South Main Street
Marlboro, NJ 07746
Tel: 732.577.0180 | |
| | | DATE:
12/09/22 | PROJECT NUMBER:
22-147 |
| BRENT N. PAPI, JR.
N.J. PROFESSIONAL ENGINEER, License No. 246284732700 | | SCALE:
1" = 20' | CHECKED BY:
M.S.L. |
| | | SHEET NO. 3 OF 8 | |

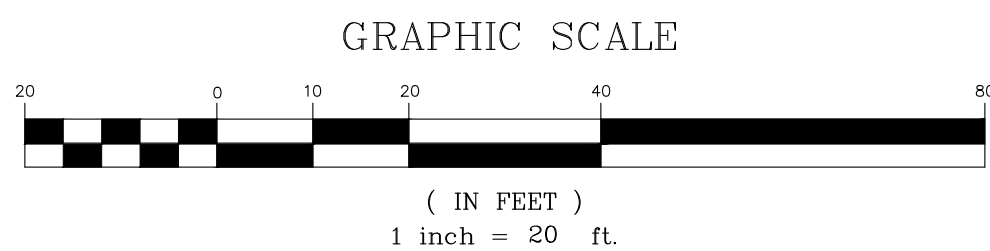


C.104

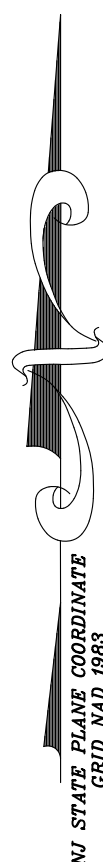


1. DPK CONSULTING DID NOT PERFORM A BOUNDARY SURVEY OF THIS PROPERTY. NO PROPERTY LINES ARE SHOWN.
2. THIS SURVEY REPRESENTS FIELD CONDITIONS AS OF JULY 18 2022.
3. THE DATA USED TO CONDUCT THIS SURVEY WAS ALL GROUND EVIDENCE OBSERVED ON THE SURFACE ONLY OR HAVE BEEN SHOWN GRAPHICALLY PER SUPPLIED MATERIALS. DPK CONSULTING MAKES NO WARRANTY AS TO THE UTILITIES SHOWN ON THIS SURVEY. ANY UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. DPK CONSULTING FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION. INDICATING HAS NOT BEEN PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
4. PREMISES ARE COMMONLY KNOWN AS 300 POMPTON ROAD, WAYNE TOWNSHIP NEW JERSEY.
5. THE UNKNOWN AS A PORTION OF LOT 1 IN BLOCK 2904 AS SHOWN ON THE OFFICIAL TAX MAPS OF THE TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY.
6. THE PROPOSED EASEMENT DATUM IS BASED UPON NAVD 88 DERIVED USING RTK RECEIVERS AND KEYNET.
7. IF THIS DOCUMENT DOES NOT CONTAIN A VALID SEAL OF A LICENSED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

1. PLAN ENTITLED "CAMPUS PLAN, LOCATION MAP, LOCKER FACILITY ADDITION AT WILLIAM PATERSON COLLEGE" SHEET S1. PREPARED BY THE RBA GROUP, DATED 02/23/93, LAST REVISED 12/05/94.
2. MAP ENTITLED "SANITARY SEWER MAP, WILLIAM PATERSON UNIVERSITY TOWNSHIP OF WAYNE, PASSAIC COUNTY, NEW JERSEY" PREPARED BY STAGG ASSOCIATES P.A. DATED 09/05/2003.



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License No. AI 15163

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Allentown, N.J. 08501
609 489 5511
F. 609 489 5916

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08521
O. 732 277 8030

No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22



CAD FILE: _____

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

C.105

No.	DATE	DESCRIPTION
GRADING AND UTILITY PLAN		
 <p>EAST POINT ENGINEERING, LLC <small>A CERTIFICATE OF AUTH. No. 24G02819800</small></p>		11 South Main Street Marlboro, NJ 07746 Tel: 732-577-0180
 BRENT N. PAPI, JR. N.J. PROFESSIONAL ENGINEER, LICENSE NO. 24G04732700		DATE: 2/20/22 PROJECT NUMBER: 22-1-47 SCALE: SHECKED BY: 1" = 20' M.S.L. SHEET NO. 5 OF 8



37 East Washington Avenue
Atlantic Highlands, NJ 07716
732.741.4900 (o)

Kevin M Settembrino, AIA, LEED AP
License No. AI 15163

OWNER
William Paterson
University
300 Pompton Road
Wayne, NJ 07470

CIVIL ENGINEER
East Point
Engineering, LLC
11 South Main Street
Marlboro, NJ 07746
732 557 0180

STRUCTURAL ENGINEER
MPP Engineers
34 S Main Street
Allentown, N.J. 08501
609 489 5511
F. 609 489 5916

MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732 277 8033

No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

DRAWN BY: CHECKED BY:

DATE:

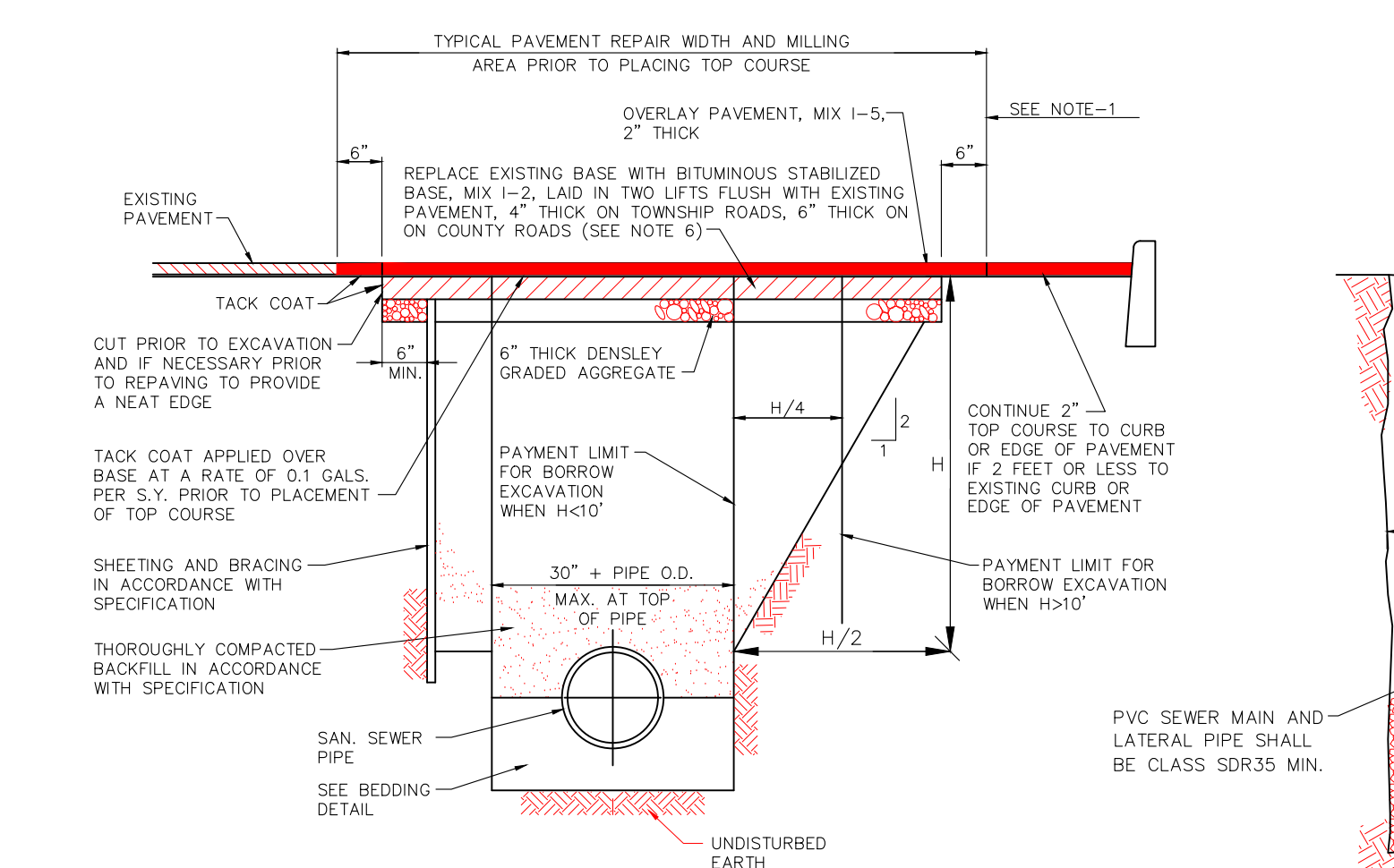
CAD FILE:

ADDITION AND RENOVATIONS TO:

LOCKER
FACILITY

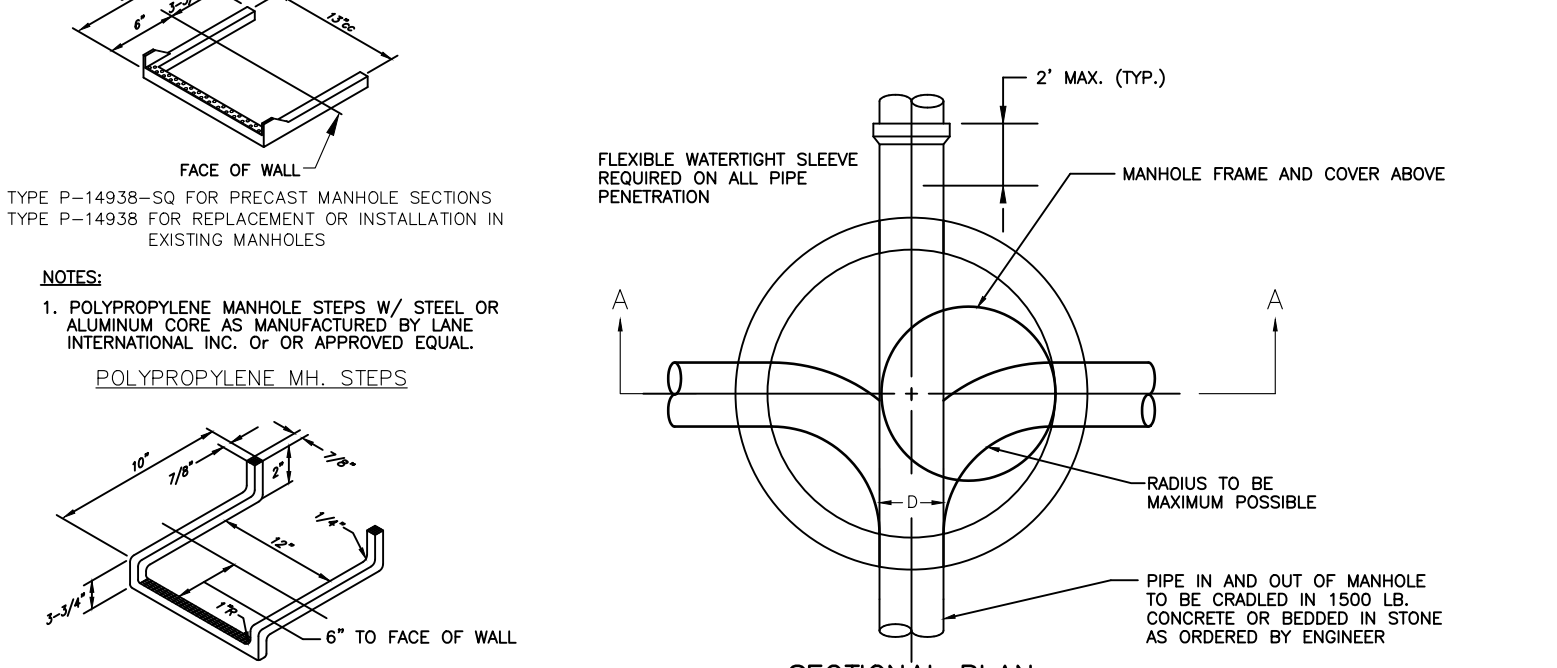
WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

C.107



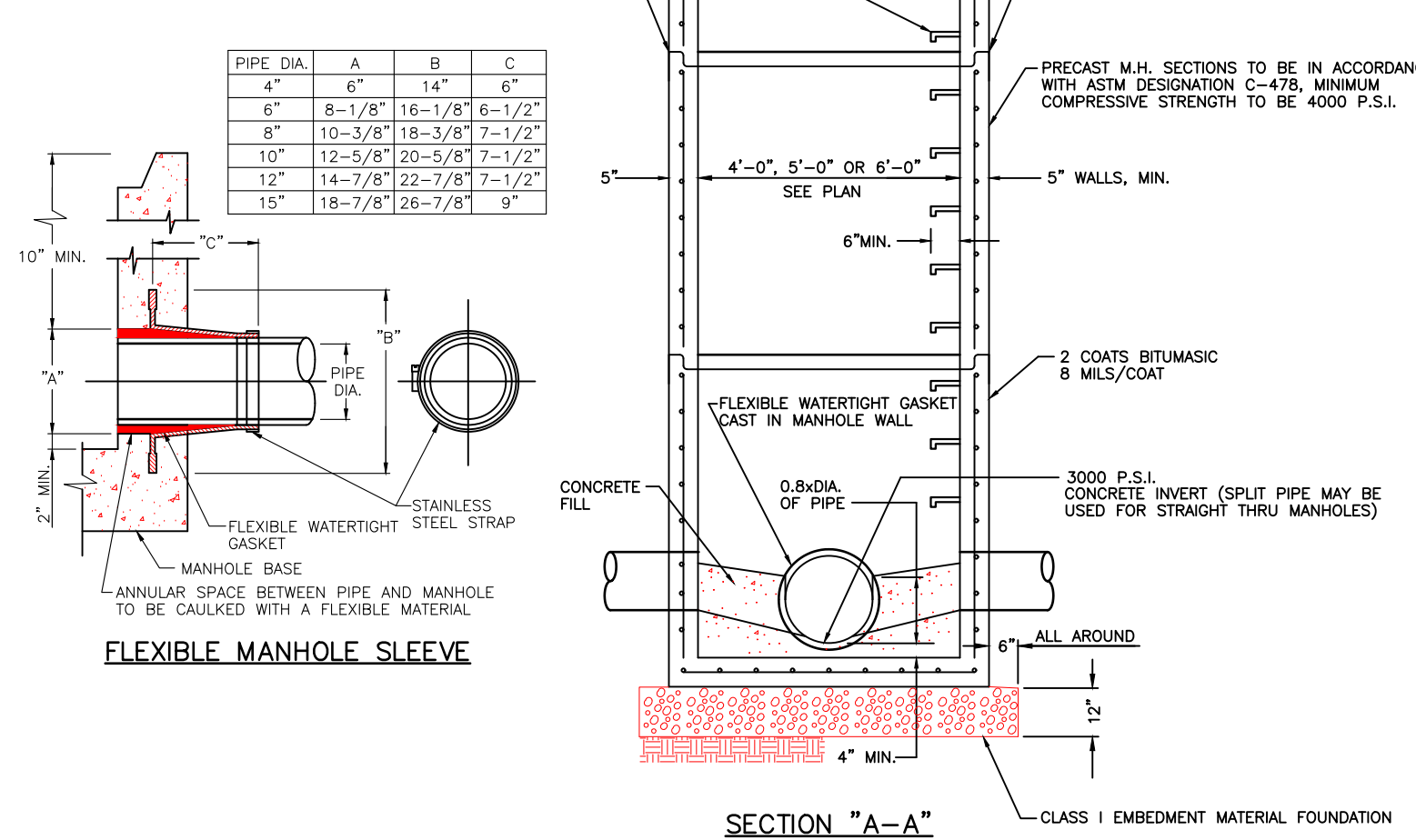
- NOTES:
- LIMIT OF PAYMENT FOR SERVICE CONNECTION, PAVING AND ADDITIONAL PAVEMENT EXCAVATION AND REPAIR.
 - MAXIMUM PAYMENT WIDTH FOR BORROW EXCAVATION SHALL BE 30" + PIPE O.D., WHEN PLACED IN A TRENCH WITH A DEPTH OF 10' OR LESS TO THE TOP OF THE PIPE. FOR TRENCHES OF GREATER DEPTH, THE MAXIMUM PAYMENT WIDTH FOR BORROW EXCAVATION SHALL BE 36" + PIPE O.D. + H/2.
 - AT MANHOLES, 6" BITUMINOUS STABILIZED BASE IS TO BE PLACED 6" BEYOND THE TRENCH LIMIT OR 6" BEYOND DAMAGED PAVEMENT BASE COURSE WHICHEVER IS GREATER.
 - SERVICE CONNECTION TRENCHES ARE TO BE REPAIRED AS ABOVE EXCEPT MINIMUM OVERLAY PAY WIDTH SHALL BE 6'.
 - ANY SUPERFICIAL SURFACE DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE THE LIMIT SHOWN, SHALL BE PAVED WITH FAB-C-1. WHEN BASE COURSE OF EXISTING PAVEMENT IS DAMAGED BEYOND LIMIT SHOWN CONTRACTOR SHALL EXCAVATE 6" BEYOND DAMAGED AREA AND REPLACE IT WITH 6" BITUMINOUS STABILIZED BASE COURSE. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS PAYMENT.
 - THICKNESS OF STABILIZED BASE SHOWN REPRESENTS THICKNESS REQUIRED AFTER MILLING IS COMPLETED. THE CONTRACTOR SHALL PAVE FLUSH WITH EXISTING PAVEMENT TO PROVIDE DRIVEABLE SURFACE FOR REQUIRED PERIOD PRIOR TO MILLING AND FINAL TOP COURSE INSTALLATION.

TRENCH AND PAVEMENT REPAIR DETAIL
N.T.S.



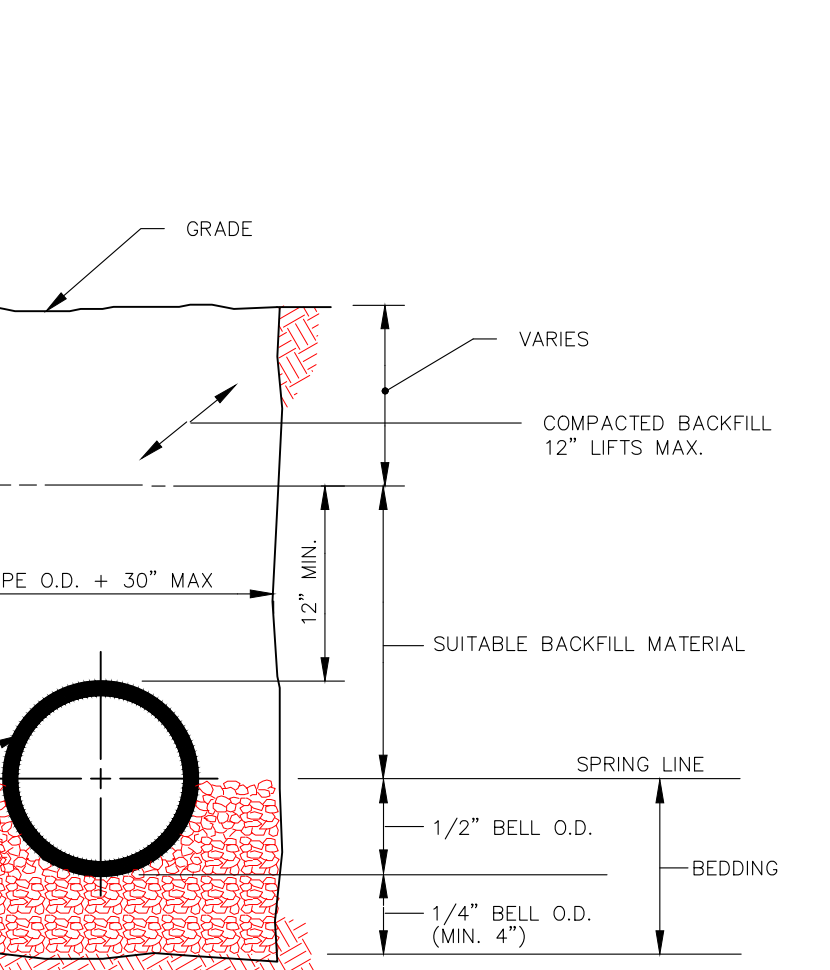
- NOTES:
- POLYPROPYLENE MANHOLE STEPS W/ STEEL OR ALUMINUM CORE AS MANUFACTURED BY LANE INTERNATIONAL INC. OR APPROVED EQUAL.
 - PORTION EMBEDDED IN MASONRY TO BE COATED WITH ZINC CHROMATE, BITUMINOUS PAINT OR APPROVED EQUAL.

PRECAST STANDARD MANHOLE DETAIL
N.T.S.

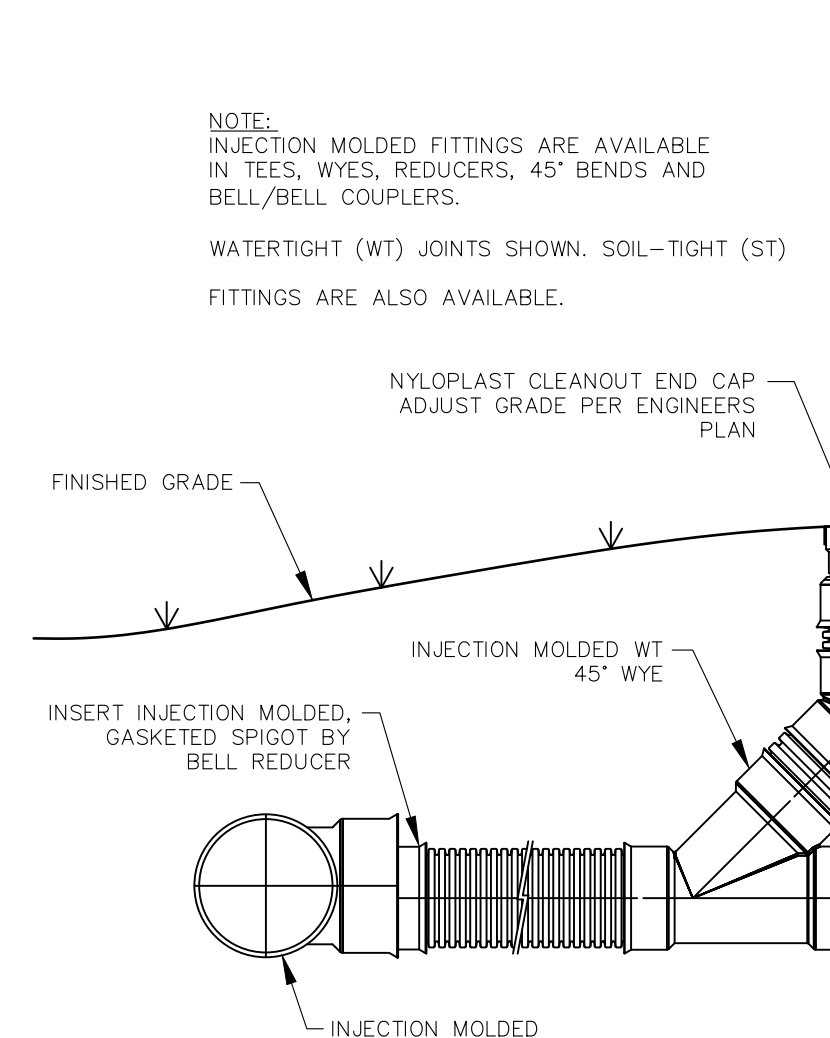


STANDARD PVC PIPE BEDDING DETAIL
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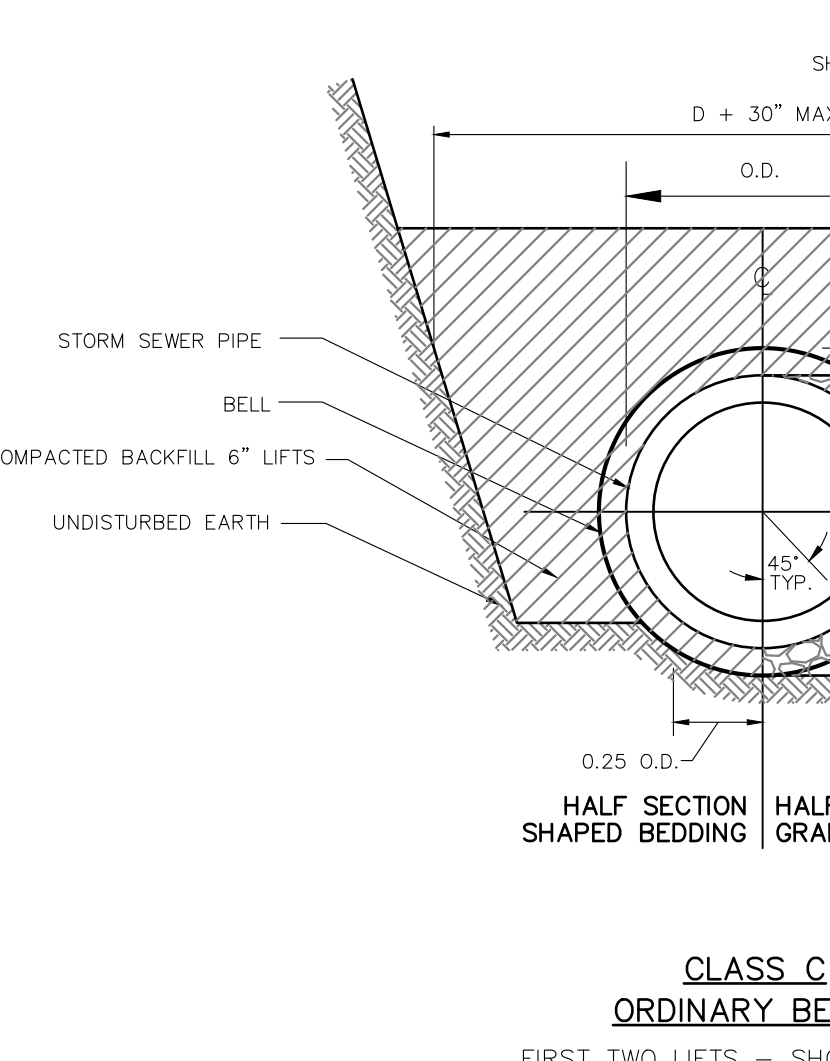
- NOTES:
- BEDDING SHALL BE 3/4" CLEAN CRUSHED STONE.
 - HYDROHAMMERS ARE NOT TO BE USED 3' OR LESS FROM TOP OF PIPE.



BRANCH AND LATERAL CONNECTION
N.T.S.

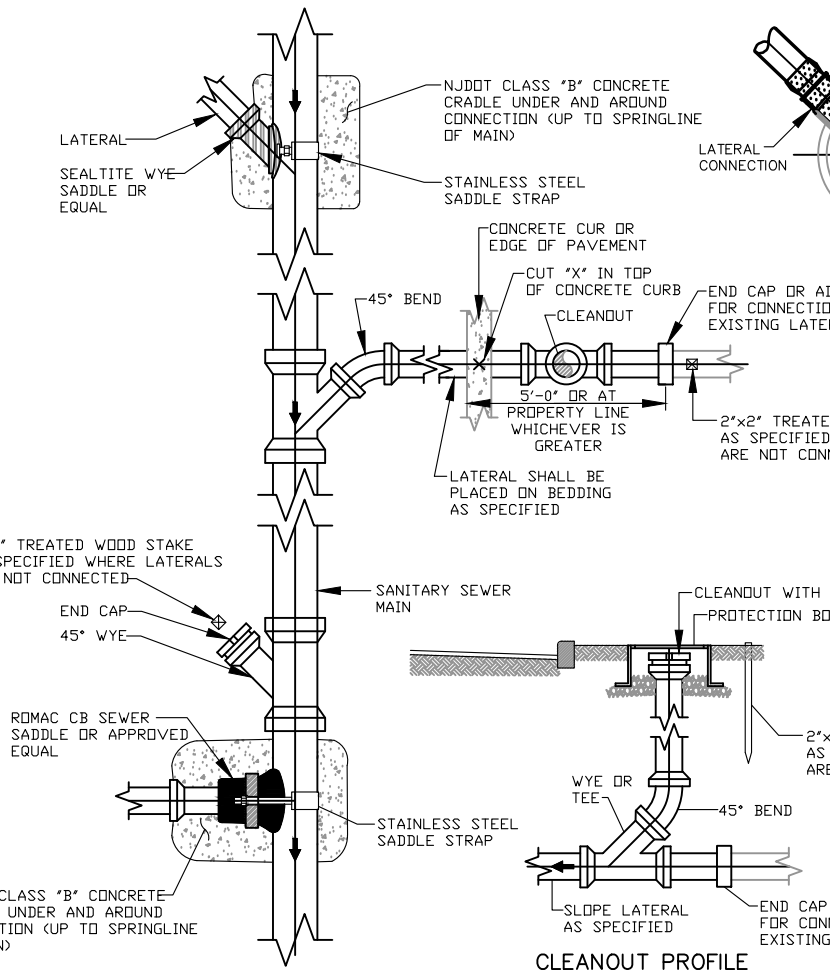


ROOF DRAIN DETAIL
N.T.S.

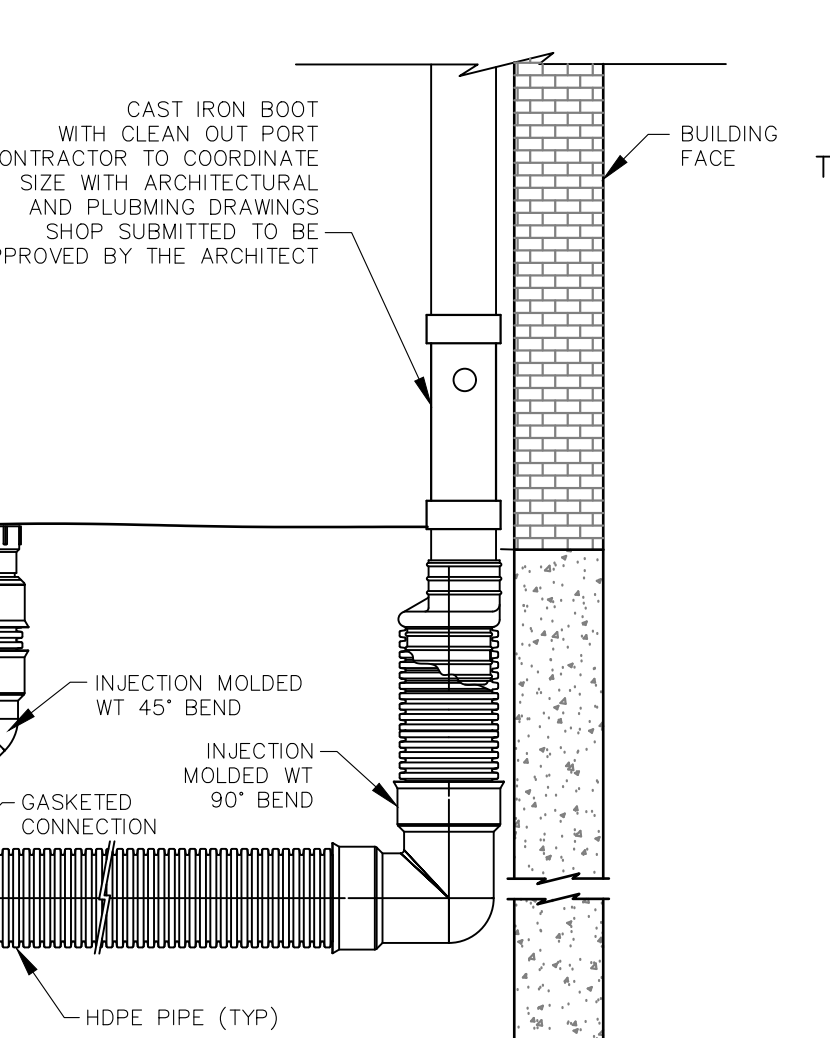


CLEAN-OUT PROTECTION BOX DETAIL
N.T.S.

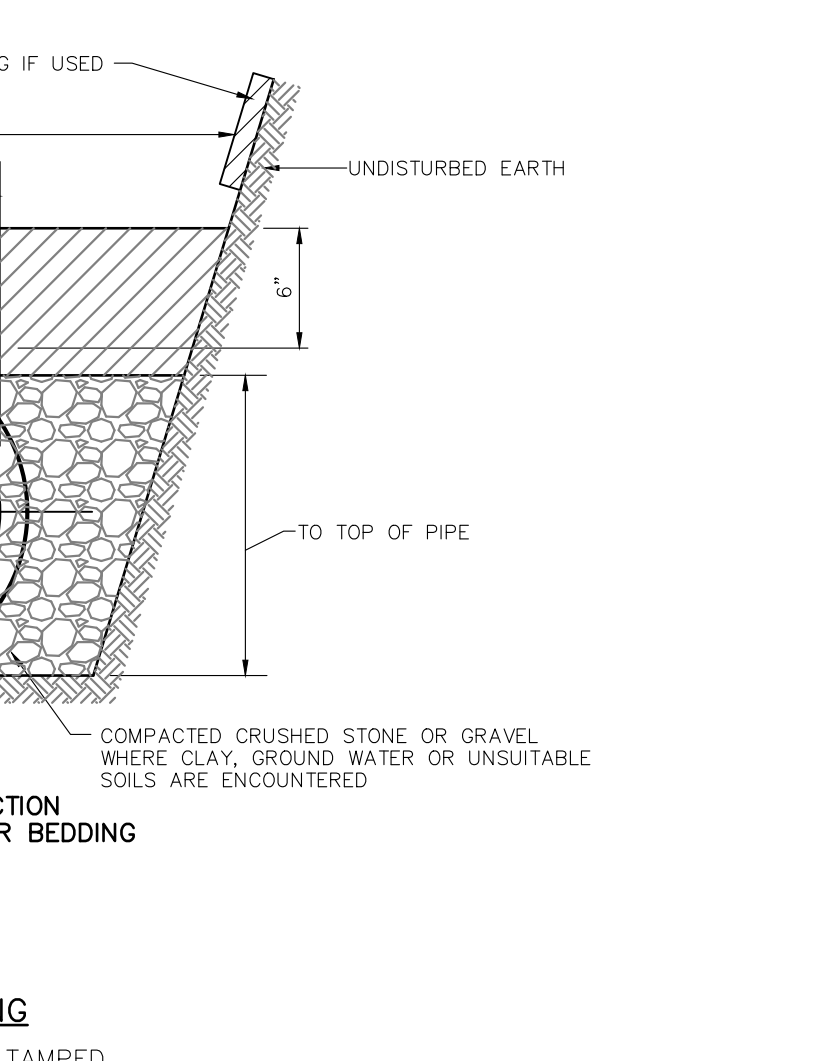
- CONSTRUCTION NOTES:
- DETAIL SHOWS CONSTRUCTION OF A NEW BRANCH CONNECTION AND OF TWO (2) DIFFERENT ACCEPTABLE TYPES OF CUT IN CONNECTION REFER TO INSERT-A-TIE DETAIL FOR ANOTHER CUT IN TYPE CONNECTION TYPE OF CUT IN CONNECTION IS AT CONTRACTOR'S OPTION.
 - SIZE OF LATERAL TO BE AS SHOWN ON THE PLANS, 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL MINIMUM.
 - WHEREVER POSSIBLE LATERAL CONNECTION TO MAIN PIPE SHALL BE POSITIONED AT 60° ANGLE OR LESS MEASURED FROM THE MAIN TOP. CONTRACTOR TO OBTAIN AUTHORITY'S APPROVAL FOR ANGLES LARGER THAN 60°.
 - ALL OPENINGS IN SANITARY SEWER MAIN FOR CUT IN TYPE OF LATERAL CONNECTION SHALL BE MADE USING CORE DRILLING. BREAK IN TECHNIQUE SHALL NOT BE USED.



TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.



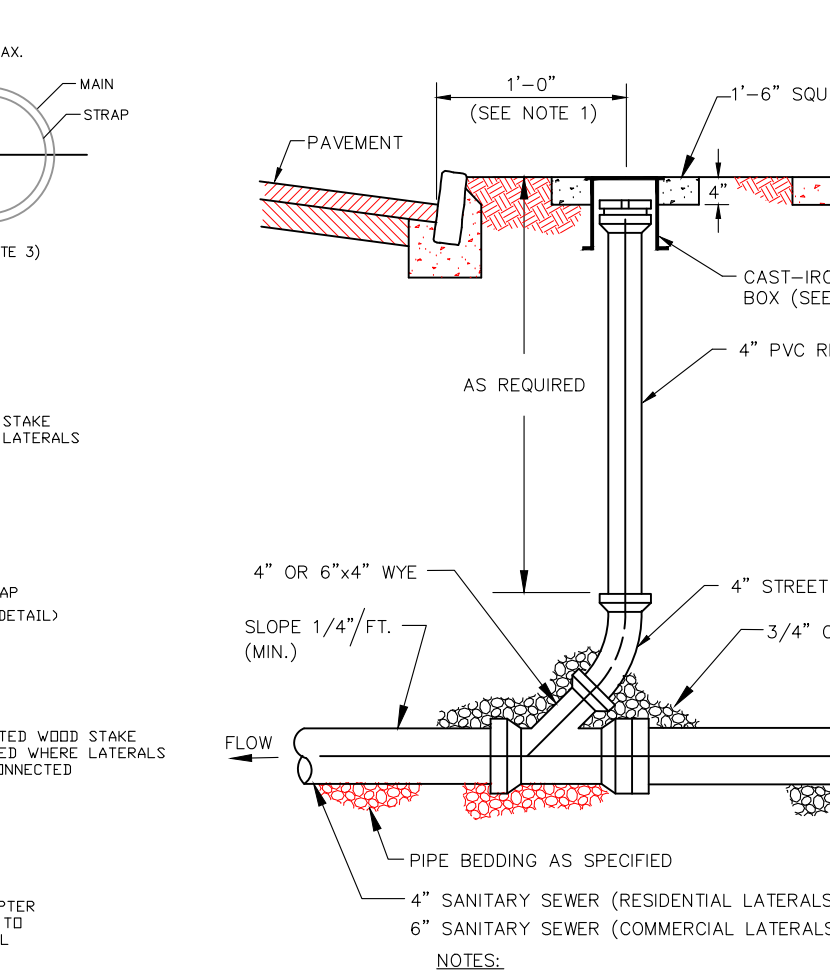
TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.



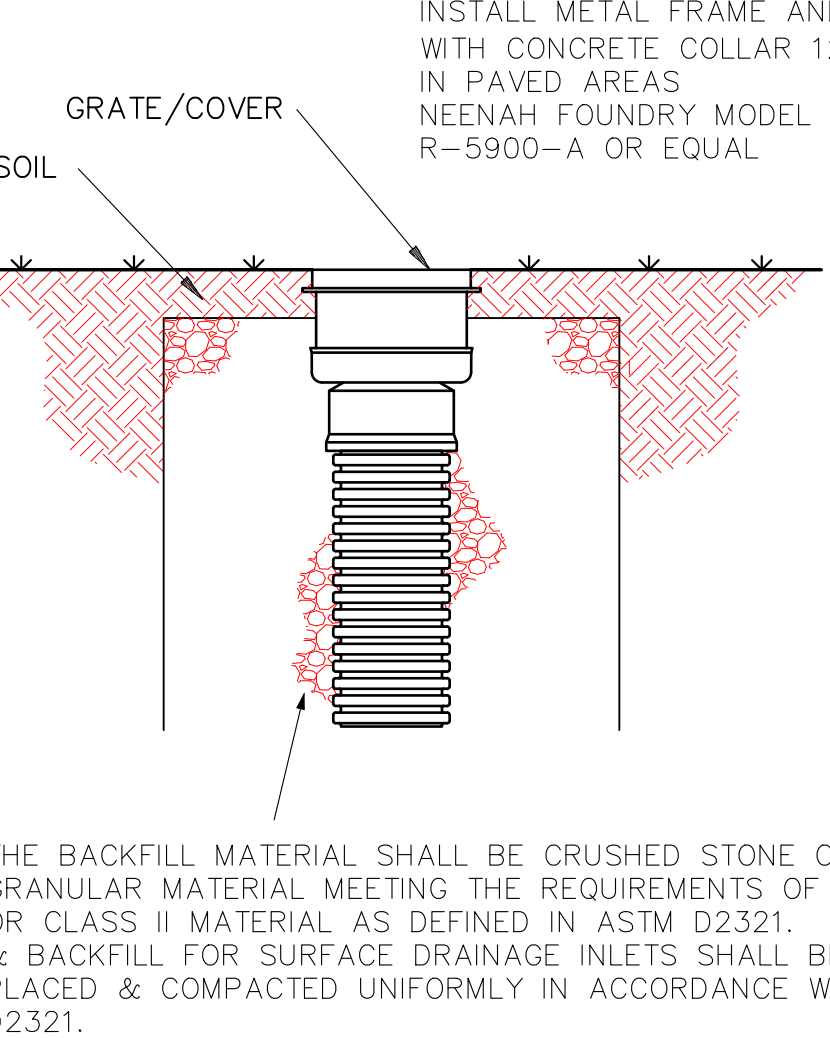
TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.

- GENERAL NOTES:
- ALL DESIGN AND/OR CONSTRUCTION OF SANITARY SEWERS SHALL BE MADE IN ACCORDANCE WITH THE PROVISIONS OF THE TOWNSHIP OF WAYNE AND WILLIAM PATTERSON UNIVERSITY RULES AND REGULATIONS FOR SEWERAGE DISPOSAL SYSTEMS.
 - LATERAL CONNECTION WHERE AN EXISTING STREET SEWER LATERAL IS AVAILABLE, THE BUILDING SERVICE CONNECTION SHALL BE CONNECTED TO THE EXISTING STREET SEWER LATERAL. WHERE NO STREET LATERAL IS AVAILABLE, CONSTRUCTION OF THE ENTIRE BUILDING SERVICE CONNECTION INCLUDING THE STREET LATERAL, CLEANOUT, CONNECTION TO THE MAINLINE SEWER, AND EXCAVATION AND RESTORATION OF THE ROAD, SIDEWALK AND CURBING SHALL BE DONE BY THE APPLICANT AT HIS EXPENSE AND SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE AUTHORITY. A ROAD OPENING PERMIT FOR THE SEWER LATERAL MUST BE OBTAINED BY THE OWNER, HIS AGENT, OR OWNER'S CONTRACTOR, FROM THE GOVERNMENT AGENCY HAVING JURISDICTION OVER THE ROAD, (STATE, COUNTY OR TOWNSHIP) AND THE REPAIR OF THE ROAD MUST COMPLY WITH THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION.
 - STREET SEWER LATERAL CONNECTIONS SHALL NOT BE MADE INTO MANHOLES UNLESS SPECIFICALLY APPROVED ON THE SEWERAGE AUTHORITY PERMIT APPLICATION FORM. IF A MANHOLE CONNECTION IS ALLOWED, IT SHALL BE CORE DRILLED AND GASKETED.
 - CONNECTIONS TO THE CTSA SYSTEM MUST BE "WATER TIGHT" AND INSPECTED AND APPROVED BY AUTHORITY PERSONNEL.

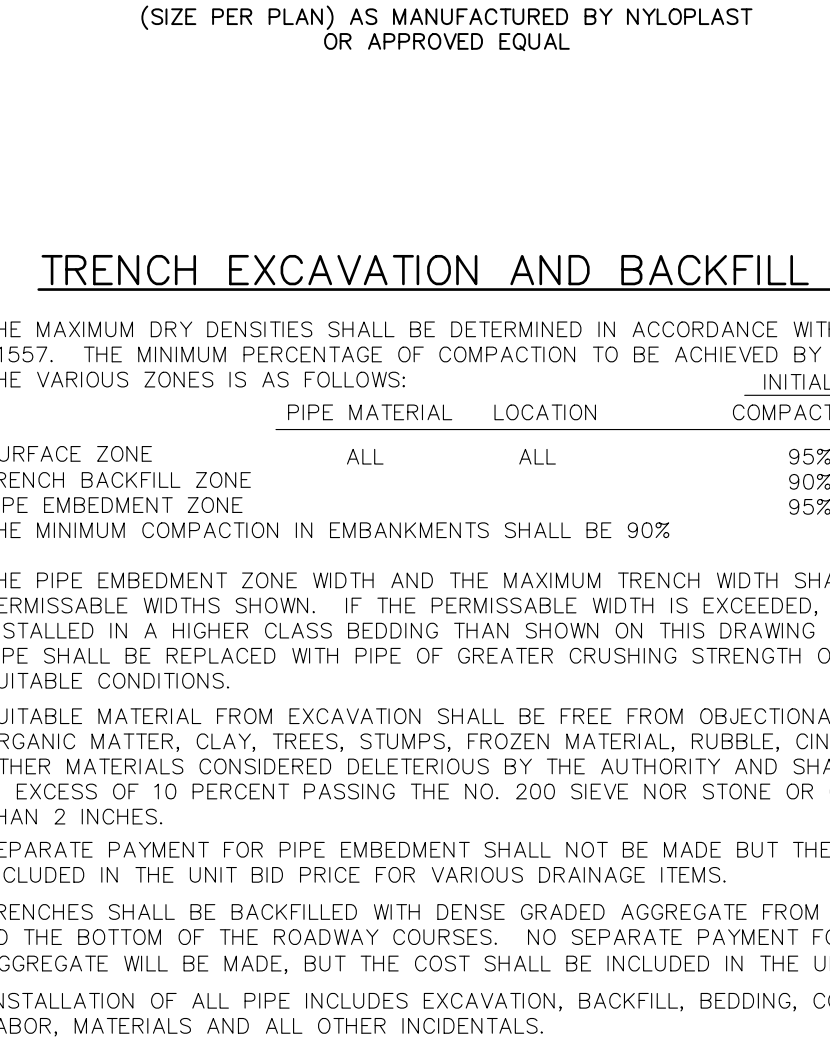
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TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.



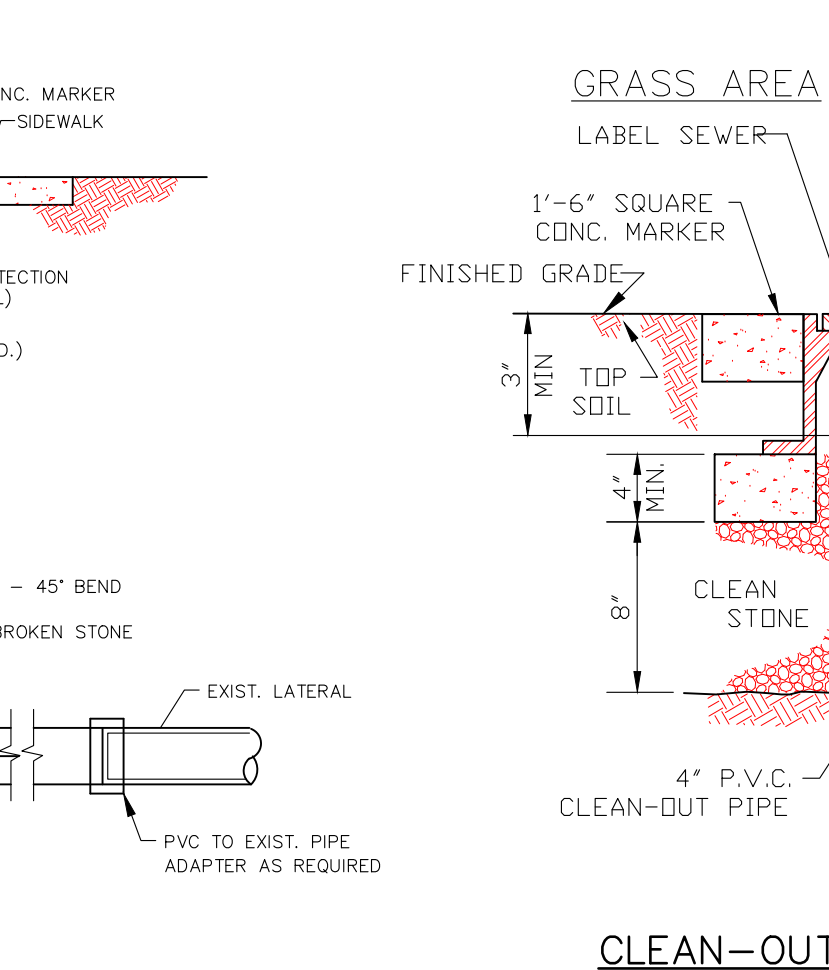
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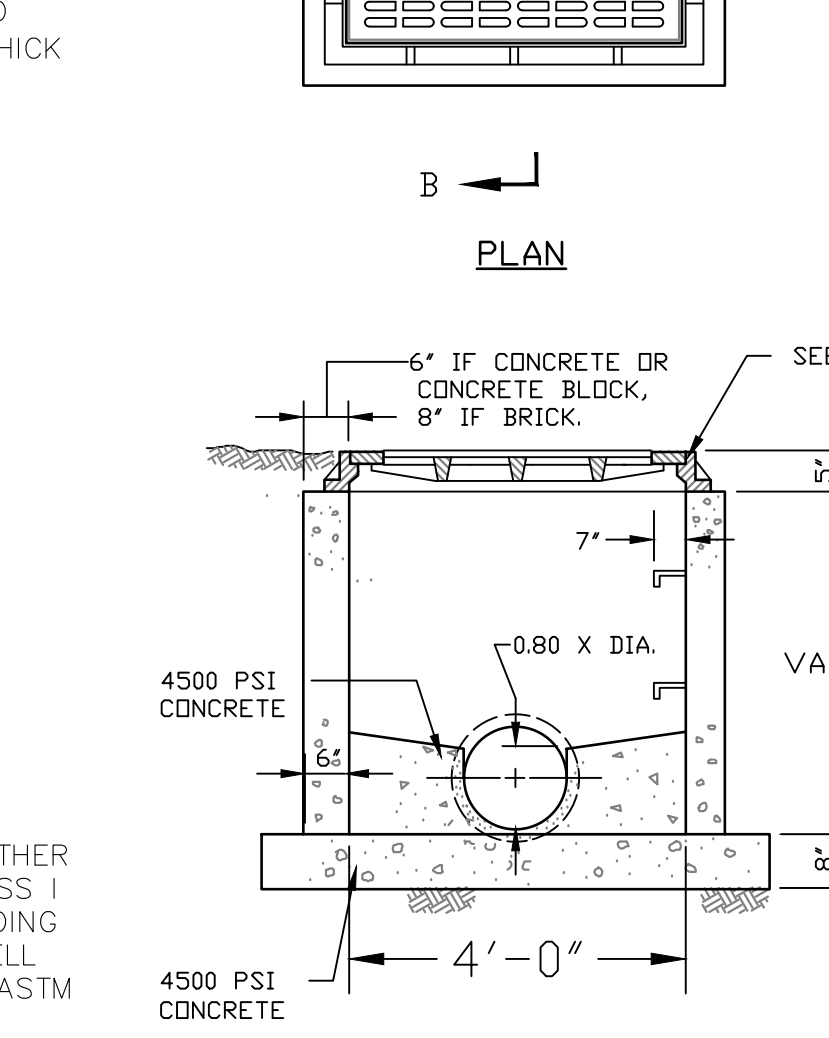
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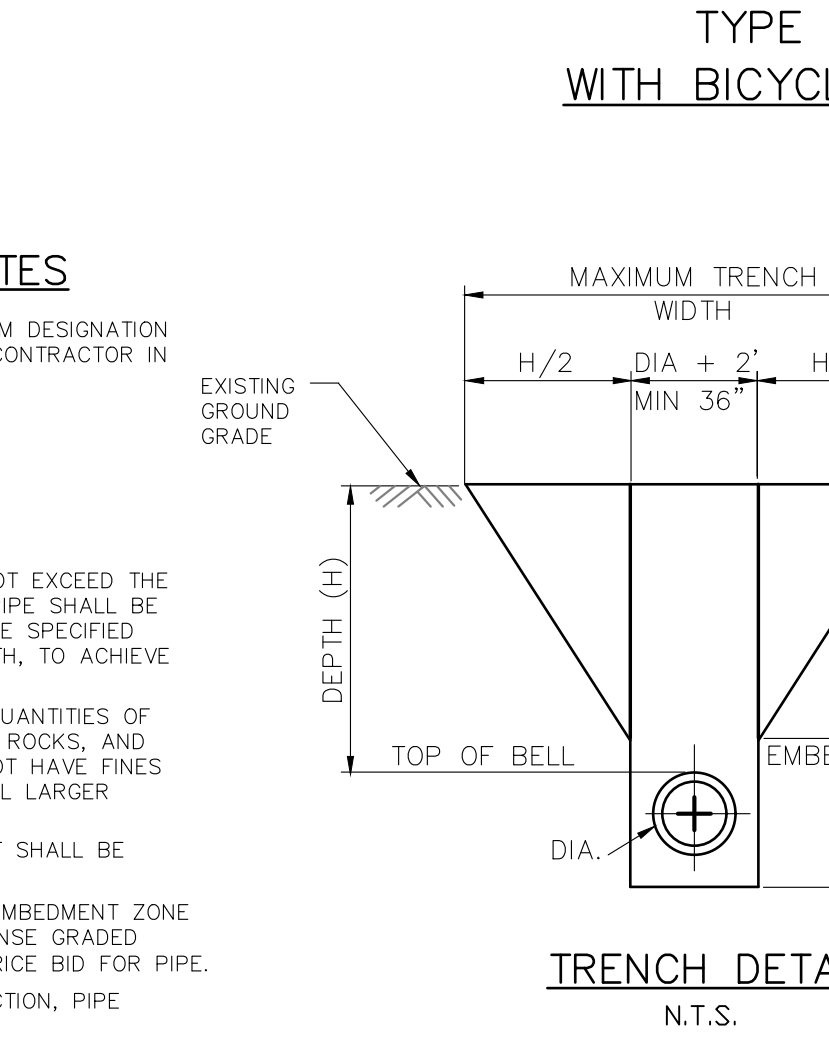
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TRENCH EXCAVATION AND BACKFILL DETAIL
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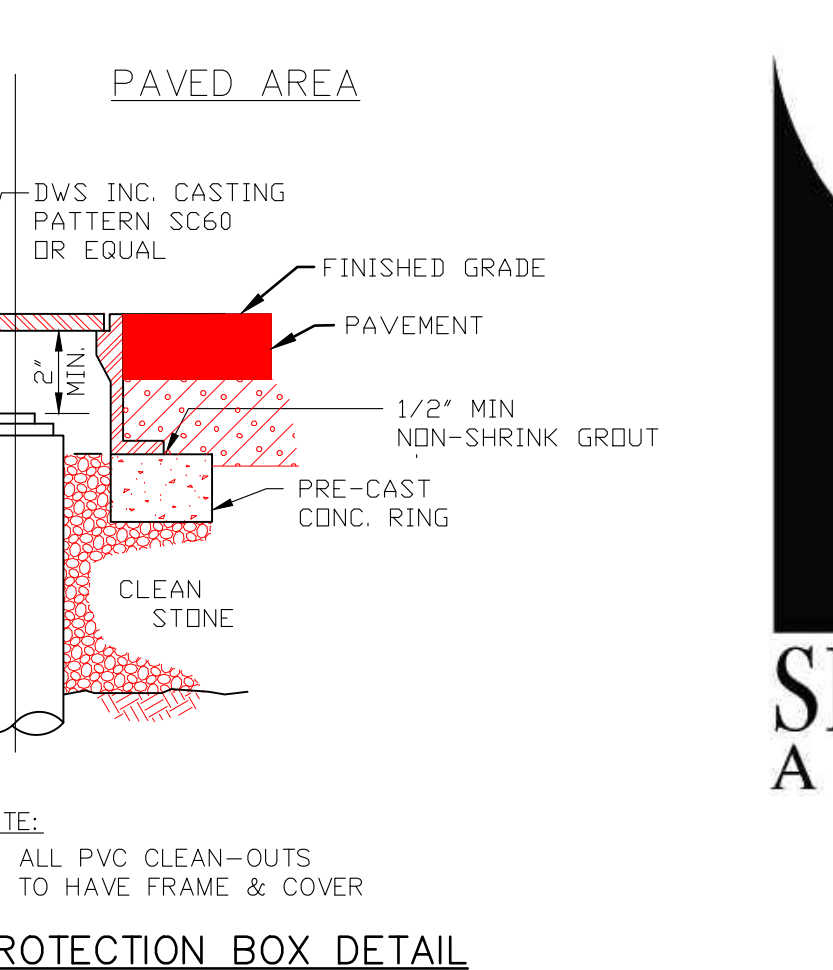
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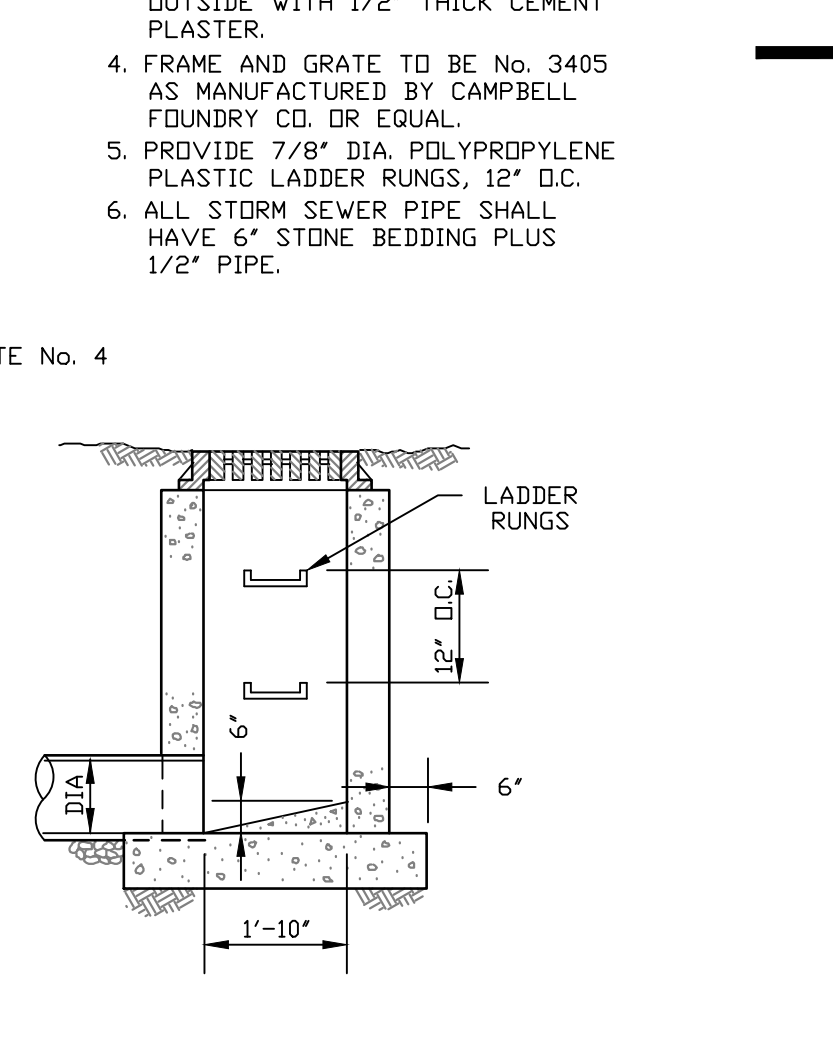
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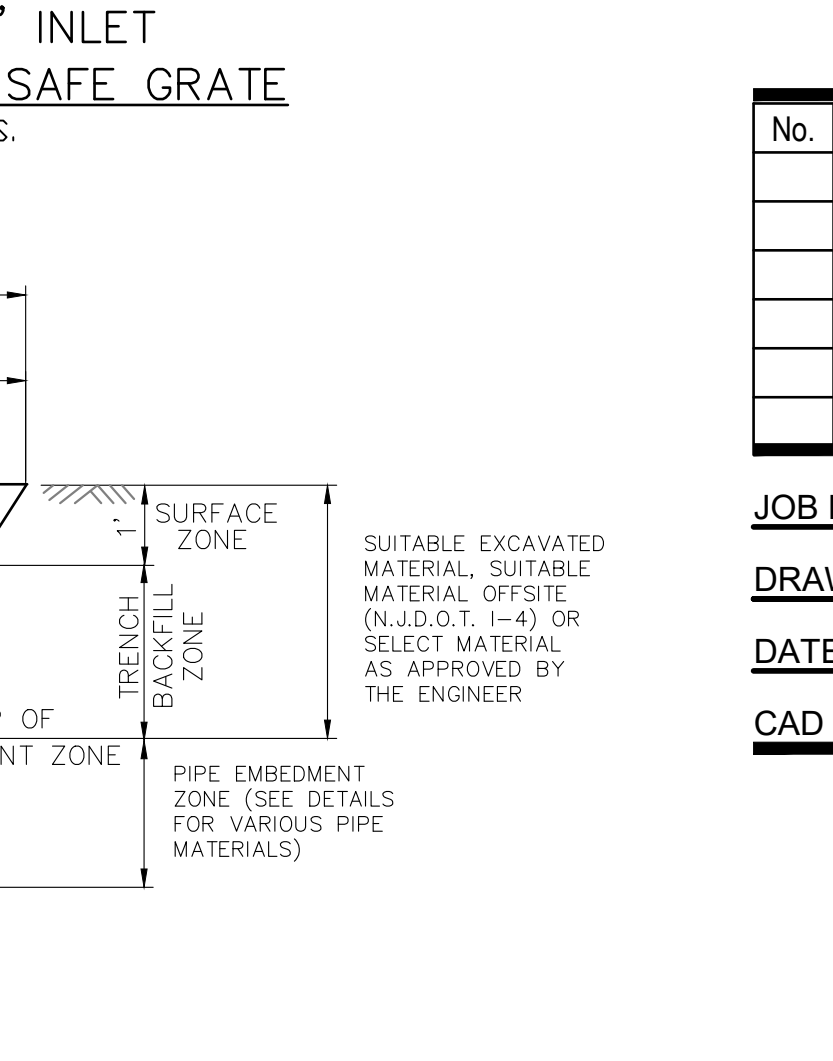
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TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.



TRENCH EXCAVATION AND BACKFILL DETAIL
N.T.S.

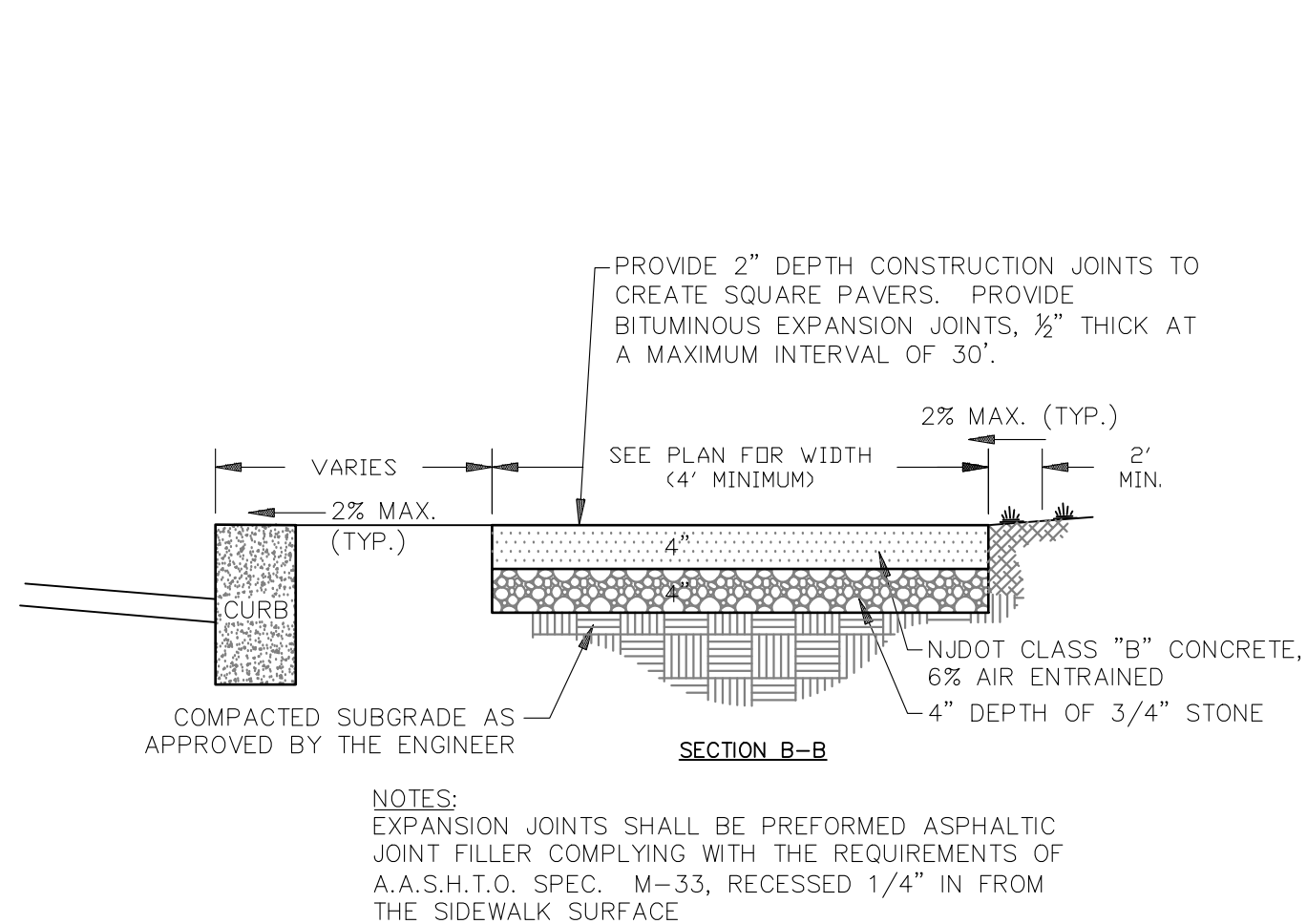


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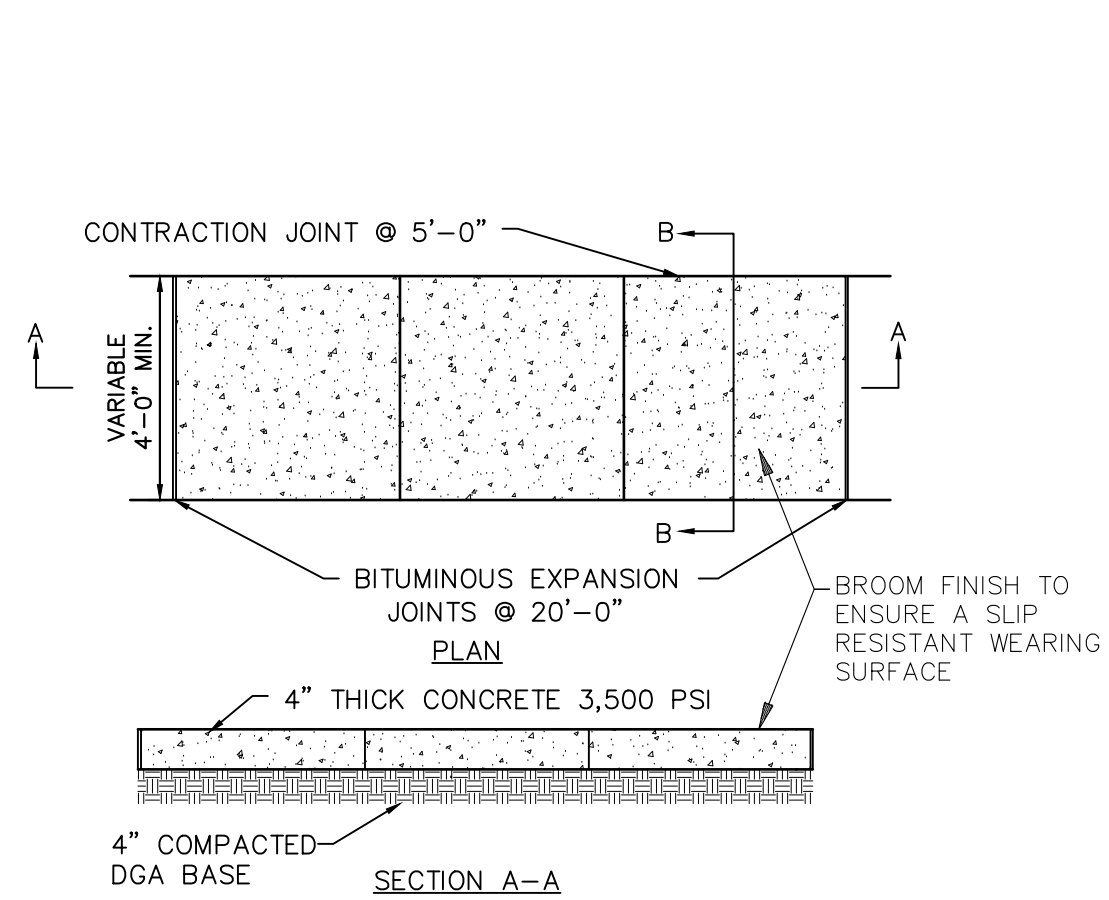
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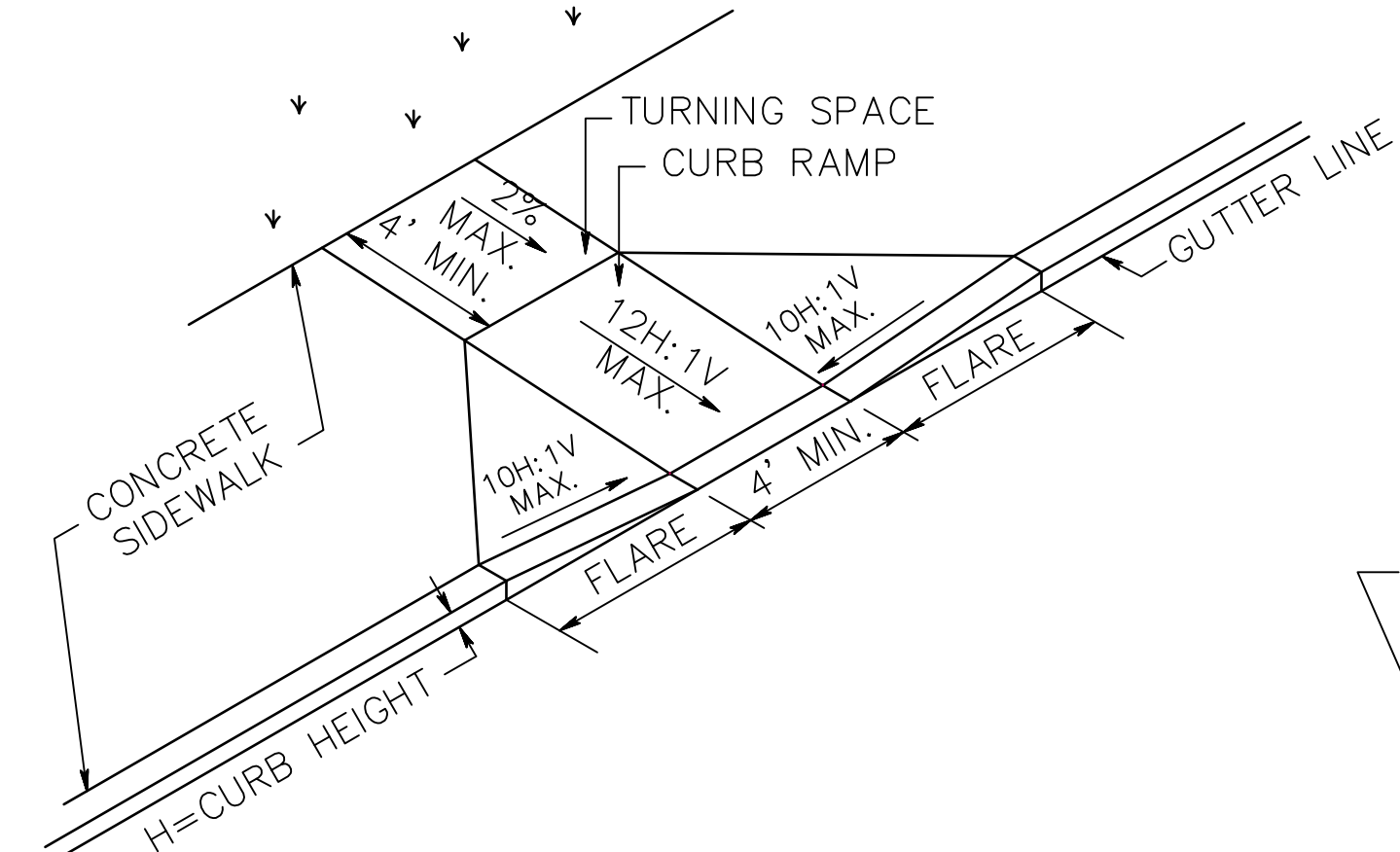
NO.		DATE		DESCRIPTION	
UTILITY DETAILS					
EAST POINT ENGINEERING, LLC					
11 South Main Street Marlboro, NJ 07746 Tel: 732.577.0180					
DATE: 12/09/22		SCALE: N.T.S.		PROJECT NUMBER: 22.031	
BRENT N. PAPI, JR.		DATE: 12/09/22		SHEET NO. 7 OF 8	
N.J. PROFESSIONAL ENGINEER, LICENSE NO. 24GE04732700					



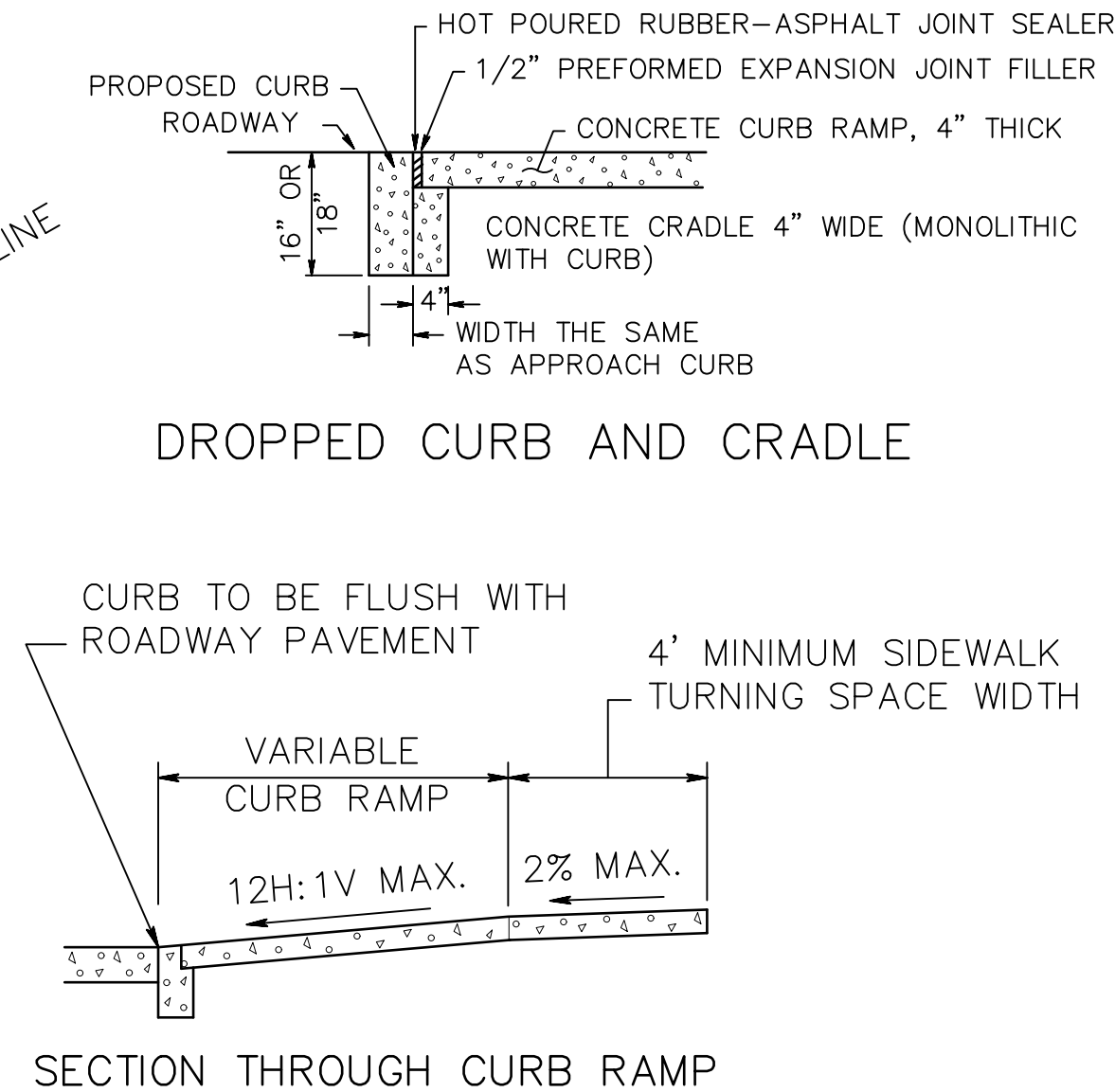
CONCRETE SIDEWALK 4" THICK
N.T.S.



CONCRETE VERTICAL CURB ABUTTING SIDEWALK
N.T.S.



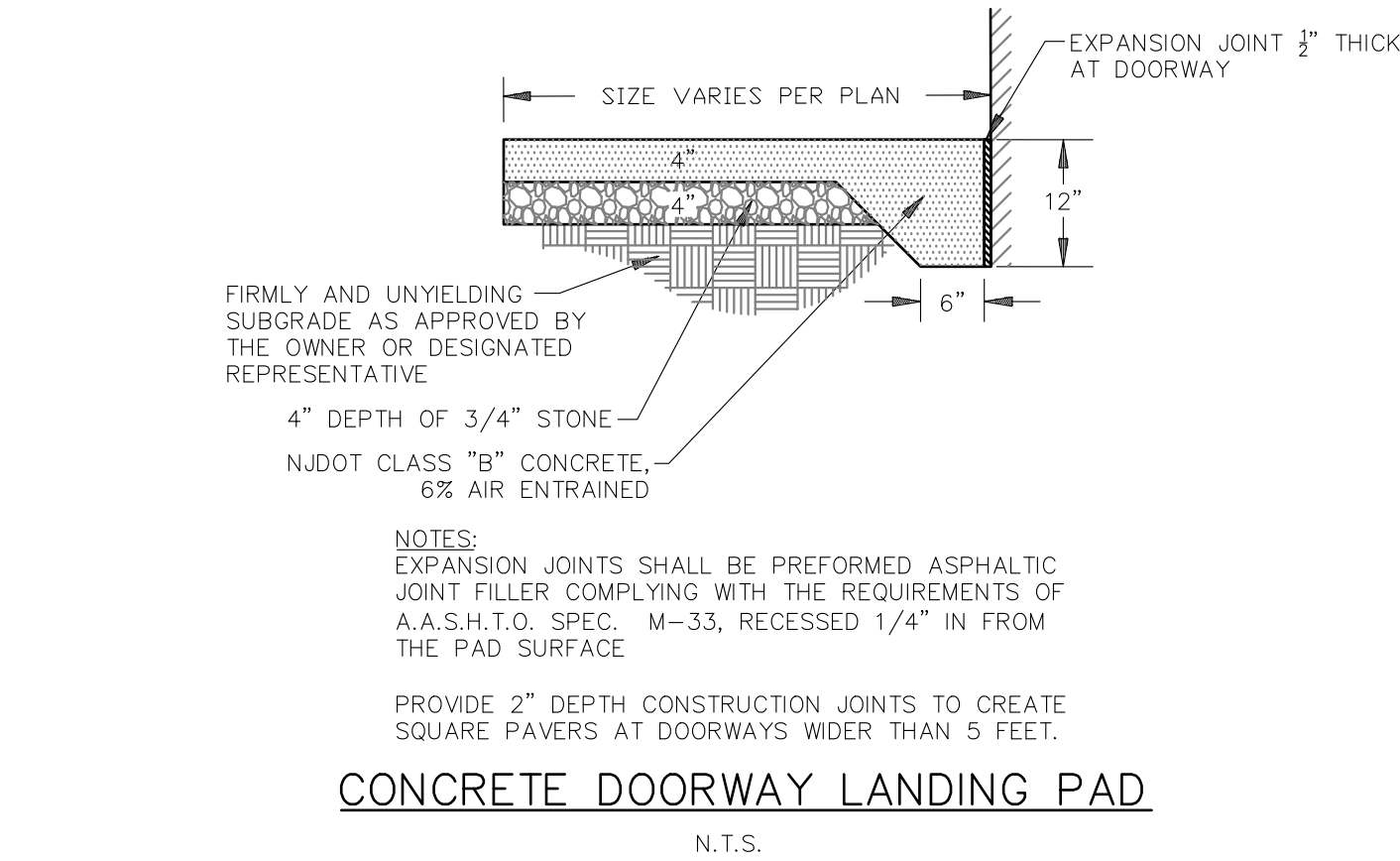
CURB RAMP TYPE 1



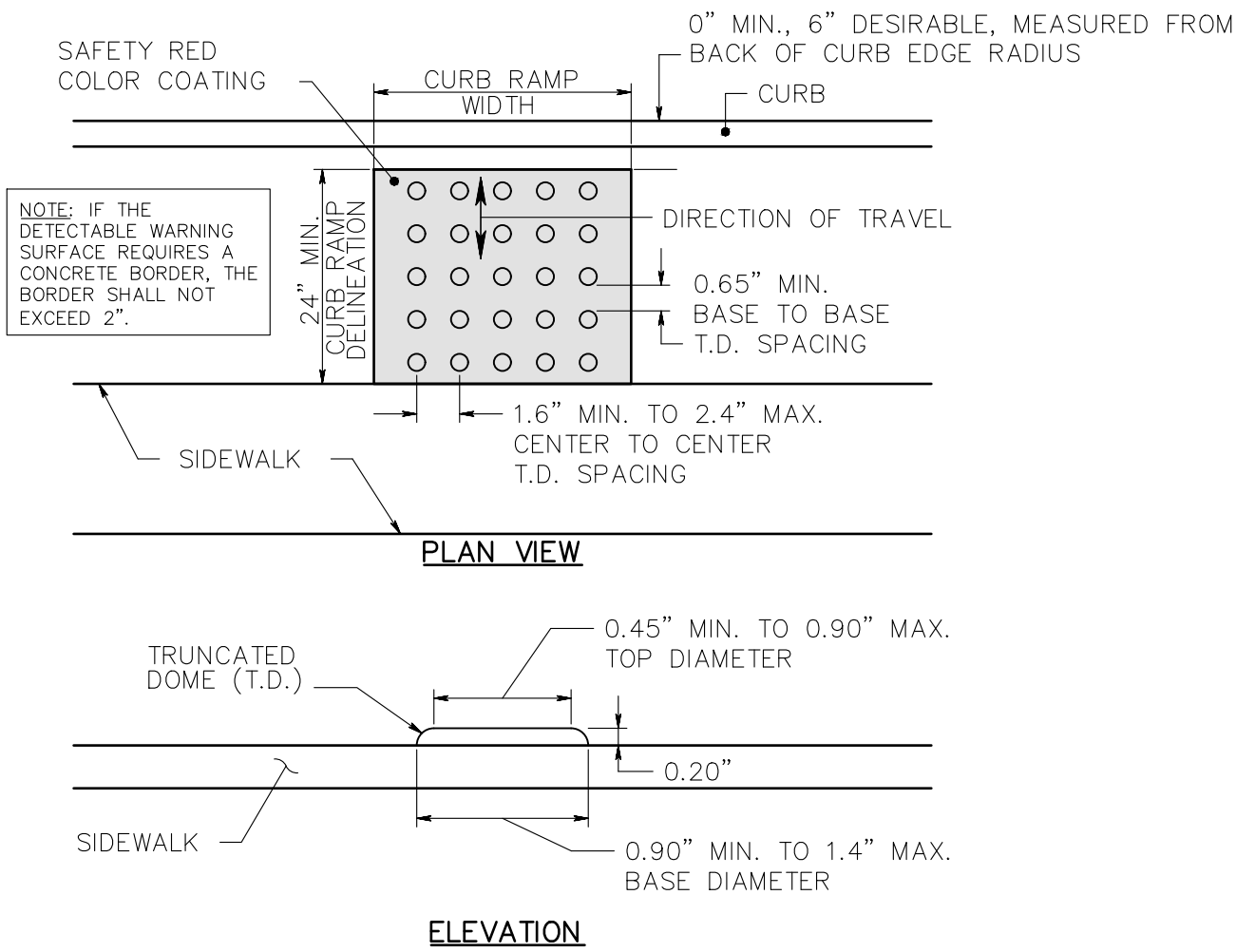
SECTION THROUGH CURB RAMP

ADA RAMP NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF THE 2007 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (OR LATEST EDITION) AS MODIFIED BY THE SUPPLEMENTAL SPECIFICATIONS. CONSTRUCT ALL PROPOSED PEDESTRIAN FACILITIES TO COMPLY WITH THE AMERICAN WITH DISABILITIES ACT AND 2010 ADA STANDARDS WITH CURRENT REVISIONS.
2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. CONSTRUCT CURB RAMPS WITH A MINIMUM 4'-0" X 4'-0" CLEAR SPACE BEYOND THE CURB FACE, WITHIN THE WIDTH OF THE CROSSWALK.
4. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
5. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
6. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB HEIGHTS WHERE THE CURB IS LESS THAN THE STANDARD HEIGHT.
7. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
8. TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB, RAMP LENGTH NOT TO EXCEED 15'-0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.
10. ALL DIMENSIONS ARE IN U.S. CUSTOMARY UNITS.
11. ALIGN DETECTABLE WARNING SURFACE TRUNCATED DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PARALLEL TO CURB.
12. PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE BACK OF CURB. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF THE RAMP.
13. FOR NEW CONSTRUCTION, DO NOT EXCEED 1.6% GROSS SLOPE ON THE CURB RAMP OR PEDESTRIAN ACCESSIBLE ROUTE.
14. FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT PARALLEL AND PERPENDICULAR CURB RAMP AND FLARE SLOPES WITH RUNNING SLOPES 5% TO 7.5% MAXIMUM. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. SLOPES THAT EXCEED THOSE INDICATED IN THE DETAILS, OR CONTRACT DOCUMENTS AS APPLICABLE, WILL NOT BE ACCEPTED AND WILL BE RECONSTRUCTED AT NO ADDITIONAL COST TO THE OWNER.
15. THE CHANGE IN GRADE AT THE BOTTOM OF CURB RAMP AND ADJOINING ROAD SURFACE IS NOT TO EXCEED AN ALGEBRAIC DIFFERENCE OF 11.00%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, LANDING OR BLENDED TRANSITION IS NOT TO EXCEED 5.00%.
16. THE CONSTRUCTION STANDARDS DEPICTED ARE MOST APPROPRIATE FOR NEW CONSTRUCTION. ALL CONSTRUCTION MUST MEET THE STANDARDS CONTAINED HEREIN UNLESS OTHERWISE NOTED OR DIRECTED.
17. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP IS NOT SOLELY DEPENDENT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 6" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 6'-0" FOR A 12:1 (1:12) SLOPE.)
19. CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT ROADWAY. GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL TURNING SPACE BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.
18. CONSTRUCT TOP OF CONCRETE DEPRESSED CURB TO BE FLUSH WITH ADJACENT SURFACES (RAMPS, SIDEWALKS, FLARES).
19. FOR CURB RAMPS THAT LEAD TO A SINGLE CROSSWALK, THE RAMP (EXCLUDING FLARES) TO BE FULLY INSIDE OF MARKED CROSSWALK LINES.
20. A MINIMUM TURNING SPACE AREA 4' X 4' (48" X 48") MUST BE PROVIDED WHERE PEDESTRIANS PERFORM TURNING MANEUVERS OR REQUIRE RESTING AREAS. WHEN THE TURNING SPACE IS CONFINED BY WALLS, CURBS OR OTHER OBSTRUCTIONS, THE LANDING MUST BE 5' X 5' (60" X 60").
21. ONCE THE CURB RAMPS ARE CONSTRUCTED THE CONTRACTOR WILL SUBMIT A SIGNED AND SEALED AS-BUILT CERTIFICATION BY A LICENSED ENGINEER IN THE STATE OF NEW JERSEY TO THE ENGINEER OR ARCHITECT OF RECORD FOR REVIEW AND ACCEPTANCE.
22. IN THE EVENT THAT THERE ARE ANY DISCREPANCIES FOUND BETWEEN THE PROPOSED SLOPES, DISTANCES, ELEVATIONS AND SITE CONSTRAINTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR ARCHITECT OF RECORD BEFORE PROCEEDING WITH CONSTRUCTION. ANY MODIFICATIONS NECESSARY TO ENSURE A COMPLIANT RAMP WILL BE CONSTRUCTED AT NO ADDITIONAL COST TO THE OWNER.
23. ALL COSTS FOR SAW-CUTTING OF DETECTABLE WARNING SURFACE, SIDEWALK, CURB, AND ASPHALT ETC. SHALL BE INCLUDED IN THE RESPECTIVE BID ITEMS WITHIN THE CONTRACT DOCUMENTS. NO SEPARATE PAYMENT SHALL BE MADE FOR SAW-CUTTING.
24. ONCE ENGINEERING PLANS ARE ISSUED FOR CONSTRUCTION, IT IS EXPLICITLY UNDERSTOOD THAT THE ENGINEER IS NOT RESPONSIBLE FOR THE PROSECUTION OF THE WORK, THE MEANS AND METHODS OF CONSTRUCTION, PROTECTION OF ADJACENT STRUCTURES OR PROPERTY, AND IS NOT TO BE HELD RESPONSIBLE FOR ANY DAMAGE WHATSOEVER TO ANY PROPERTY, INCLUDING OFFSITE LANDS, ASSOCIATED WITH CONSTRUCTION OF THE PROJECT.



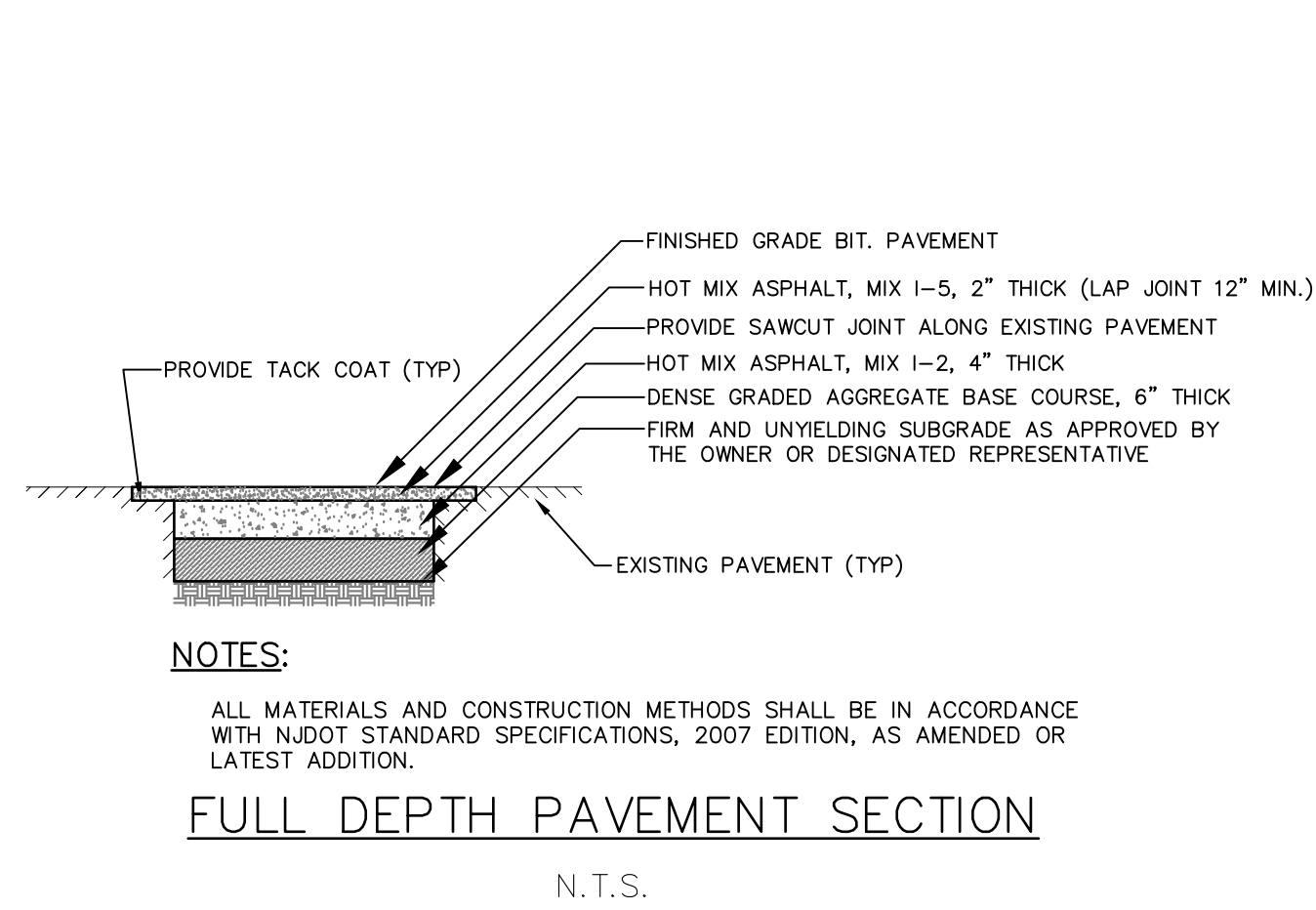
CONCRETE DOORWAY LANDING PAD
N.T.S.



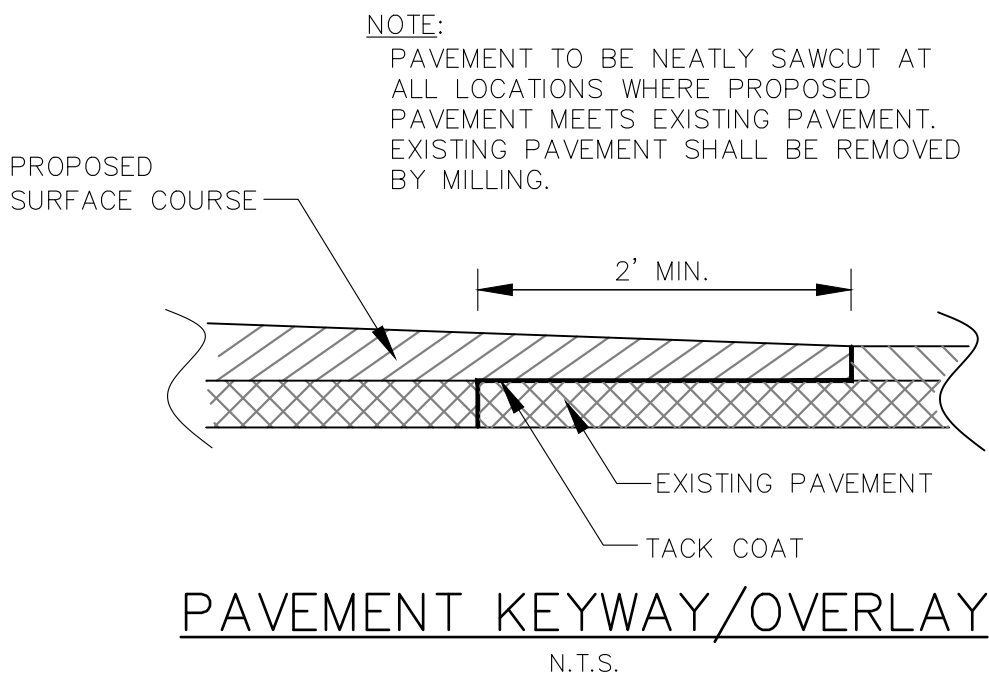
DETECTABLE WARNING SURFACE DETAIL
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NOTES:

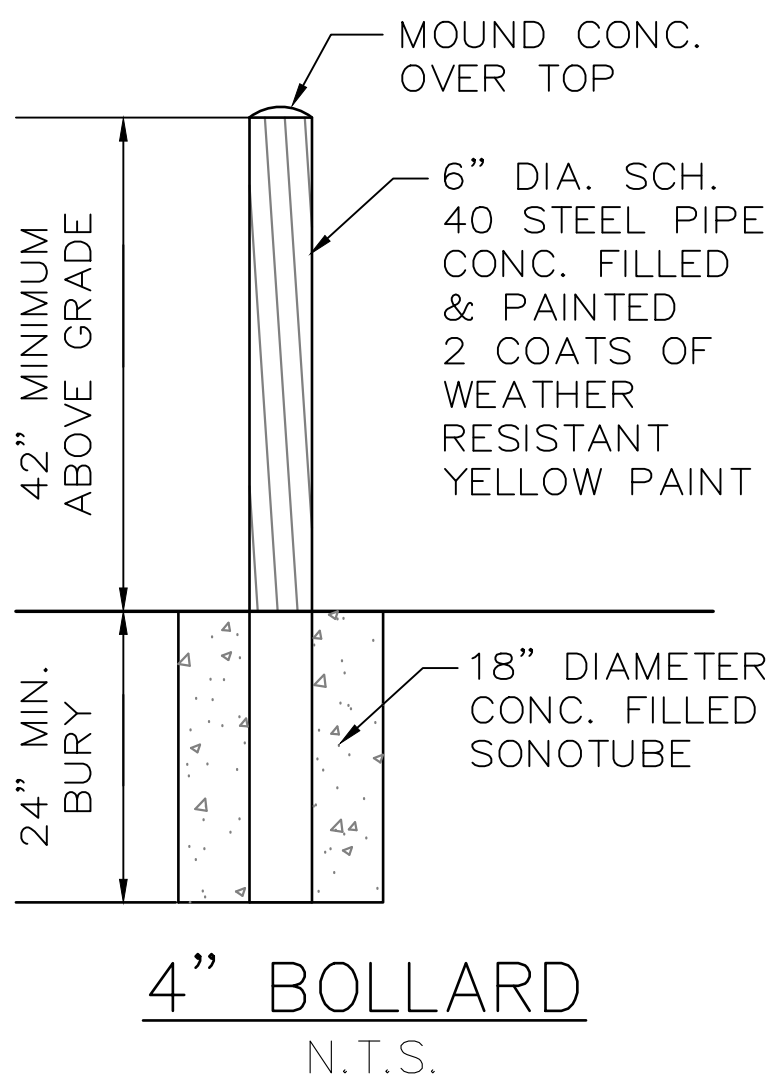
1. KEEP TURNING SPACE, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP CLEAR OF OBSTRUCTIONS THAT PROTRUDE ABOVE THE SURFACE.
2. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
3. FOR NARROW ISLAND WIDTH, SEE PEDESTRIAN REFUGE ISLAND WALKWAY OPENING AT INTERSECTIONS DETAIL.
4. FOR MEDIUM AND LARGE ISLAND WIDTH, SEE CURB RAMP TYPE 1 ON CD-606-1.
5. CONSTRUCT CURB RAMP TYPES 1, 2, 3, 4, & 7 PERPENDICULAR TO CURBLINE, AS SHOWN.
6. IF A CURB RAMP IS REQUIRED, THE LOCATION OF THE DETECTABLE WARNING SURFACE MUST BE AT THE BOTTOM OF THE RAMP AND WITHIN THE REQUIRED DISTANCE FROM THE RAIL.
7. A STANDARD DETECTABLE WARNING (DWS) SURFACE IS NOT AVAILABLE TO FIT THIS APPLICATION, AND THEREFORE ONE WILL NEED TO BE CUSTOMIZED. THE DWS SHOULD COVER THE ENTIRE WIDTH OF THE RAMP. THE ROWS OF DOMES ON THE DWS SHOULD FOLLOW THE DIRECTION OF TRAVEL OF THE RAMP, SO PEDESTRIANS WHO USE MOBILE DEVICES CAN "TRACK" BETWEEN THE DOMES.



FULL DEPTH PAVEMENT SECTION



PAVEMENT KEYWAY/OVERLAY



4" BOLLARD
N.T.S.



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732 557 0180

STRUCTURAL ENGINEER
MPP Engineers
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609 489 5511
F. 609 489 5916

MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732 277 8033

No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

DRAWN BY: CHECKED BY:

DATE:

CAD FILE:

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

C.108

100% CD REVIEW SET
NOT FOR CONSTRUCTION

NO.		DATE		DESCRIPTION	
SITE DETAILS					
				11 South Main Street Marlboro, NJ 07746 Tel: 732.577.0180	
BRENT N. PAPI, JR. N.J. PROFESSIONAL ENGINEER, LICENSE NO. 24GE04732700				DATE: 12/09/22 SCALE: N.T.S.	
				PROJECT NUMBER: CHECKED BY: M.S.L.	
				SHEET NO. 8 OF 8	



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WAYNE, NEW JERSEY 07470

DEMOLITION FLOOR PLAN

D-101

NTS

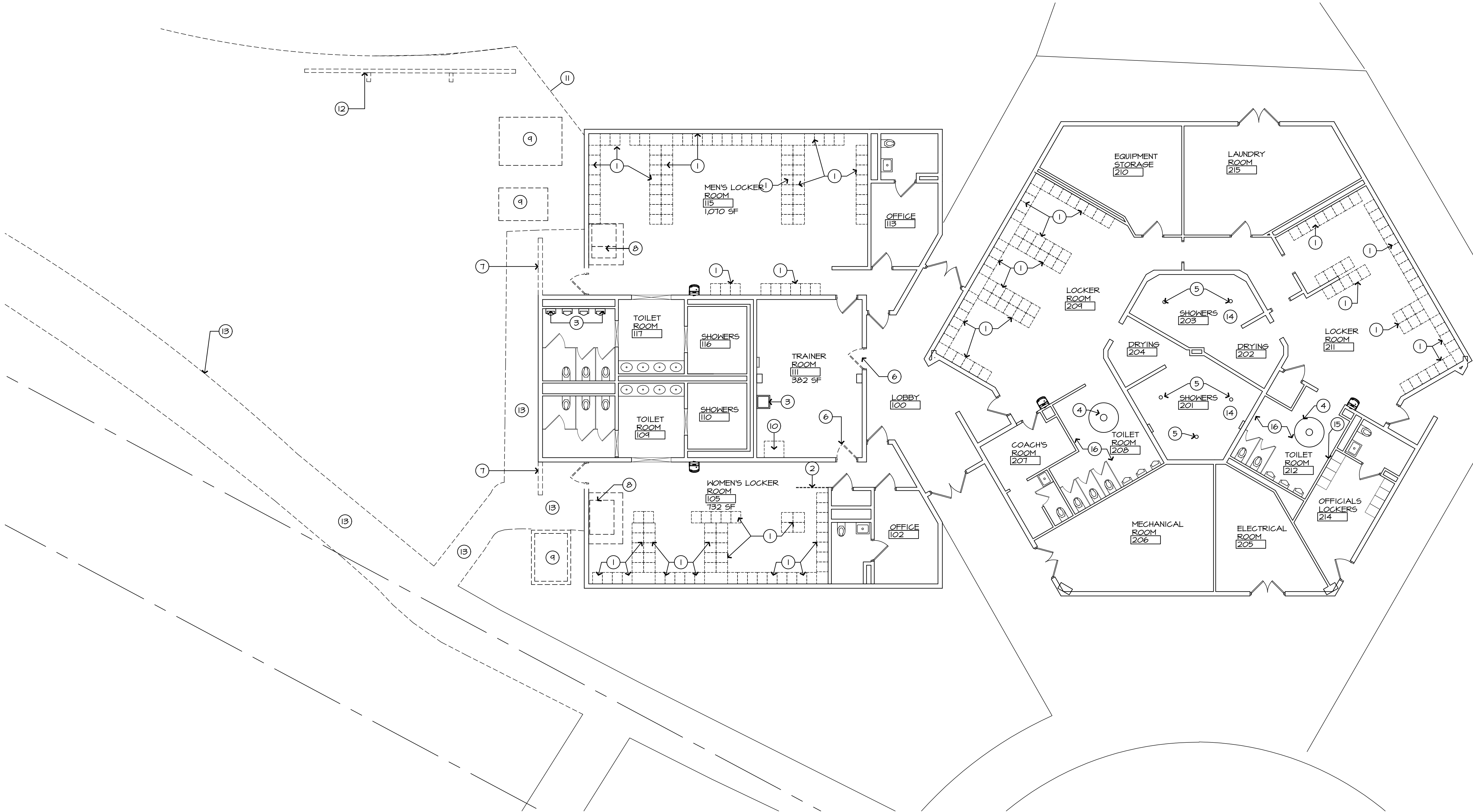
2

- 1 REMOVE AND DISPOSE OF EXISTING LOCKERS, REPAIR ANY DAMAGE TO WALLS AND FLOORS AND PREPARE TO RECEIVE NEW FINISH.
- 2 EXISTING PARTITION TO BE REMOVED
- 3 EXISTING PLUMBING FIXTURE TO BE REMOVED. CAP LINES. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION. PREPARE WALL TO RECEIVE TILING TO MATCH EXISTING.
- 4 EXISTING FLOOR SINK TO BE REMOVED. CAP LINES. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION. PREPARE FLOOR TO RECEIVE NEW FLOOR FINISH.
- 5 EXISTING POLE SHOWER UNITS TO BE REMOVED. CAP LINES. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION. PREPARE WALLS AND FLOORS TO RECEIVE NE FINISH.
- 6 EXISTING DOOR AND FRAME TO BE REMOVED. PREPARE OPENING TO RECEIVE INFILL TO MATCH ADJACENT WALL AND PREPARE FOR PAINTING.
- 7 EXISTING PORTION OF CMU SCREEN WALL AND FOOTINGS TO BE REMOVED.

- 8 EXISTING HVAC UNIT TO BE RELOCATED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. REMOVE EXISTING CHAIN LINK FENCE AROUND UNIT. REMOVE EXIST. MECH. PAD TO LEVEL W/ EXIST. ADJACENT FLOOR. PREP TO RECEIVE SELF LEVELING (ARDEX OR EQ.)
- 9 EXISTING EXTERIOR MECHANICAL UNIT TO BE RELOCATED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. EXISTING CONCRETE PAD TO BE REMOVED.
- 10 EXISTING ICE MACHINE TO BE REMOVED. CAP LINES. SEE PLUMBING DRAWINGS.
- 11 EXISTING FENCE TO BE REMOVED. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
- 12 EXISTING SCOREBOARD TO BE RELOCATED. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

- 13 EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
- 14 REMOVE ALL WALL MOUNTED TOILET ROOM ACCESSORIES AND PREP WALLS FOR NEW FINISH.
- 15 REMOVE EXIST. RECESSED PAPER TOWEL DISPENSER/ TRASH UNITS AND REPAIR WALL TO RECEIVE FINISH.
- 16 REMOVE EXIST. FLOORING AS REQ. FOR NEW SANITARY LINES. REFER TO PLUMBING DWGS FOR COORDINATION. PREPARE FLOOR TO RECEIVE NEW FINISH.

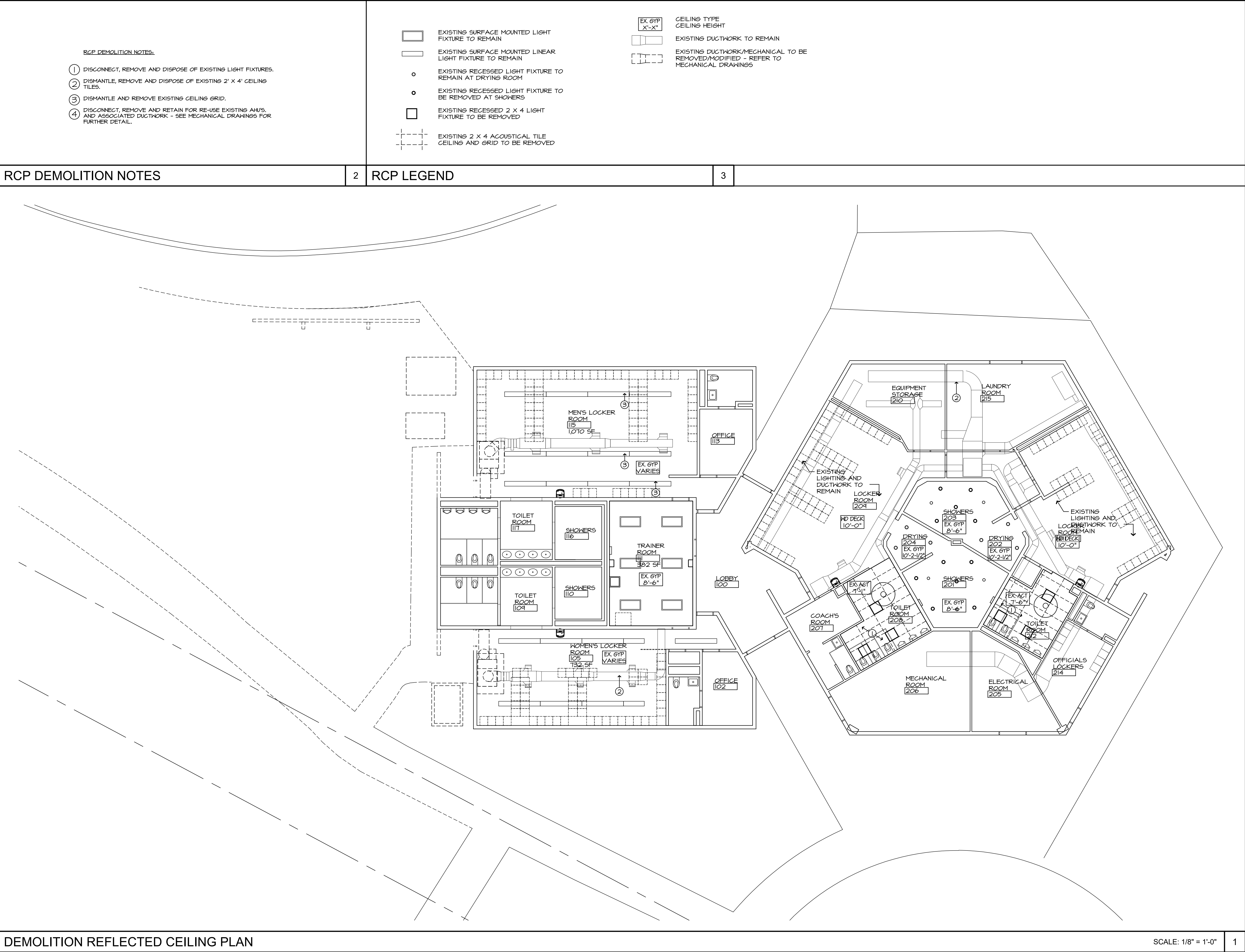
DEMOLITION KEY NOTES

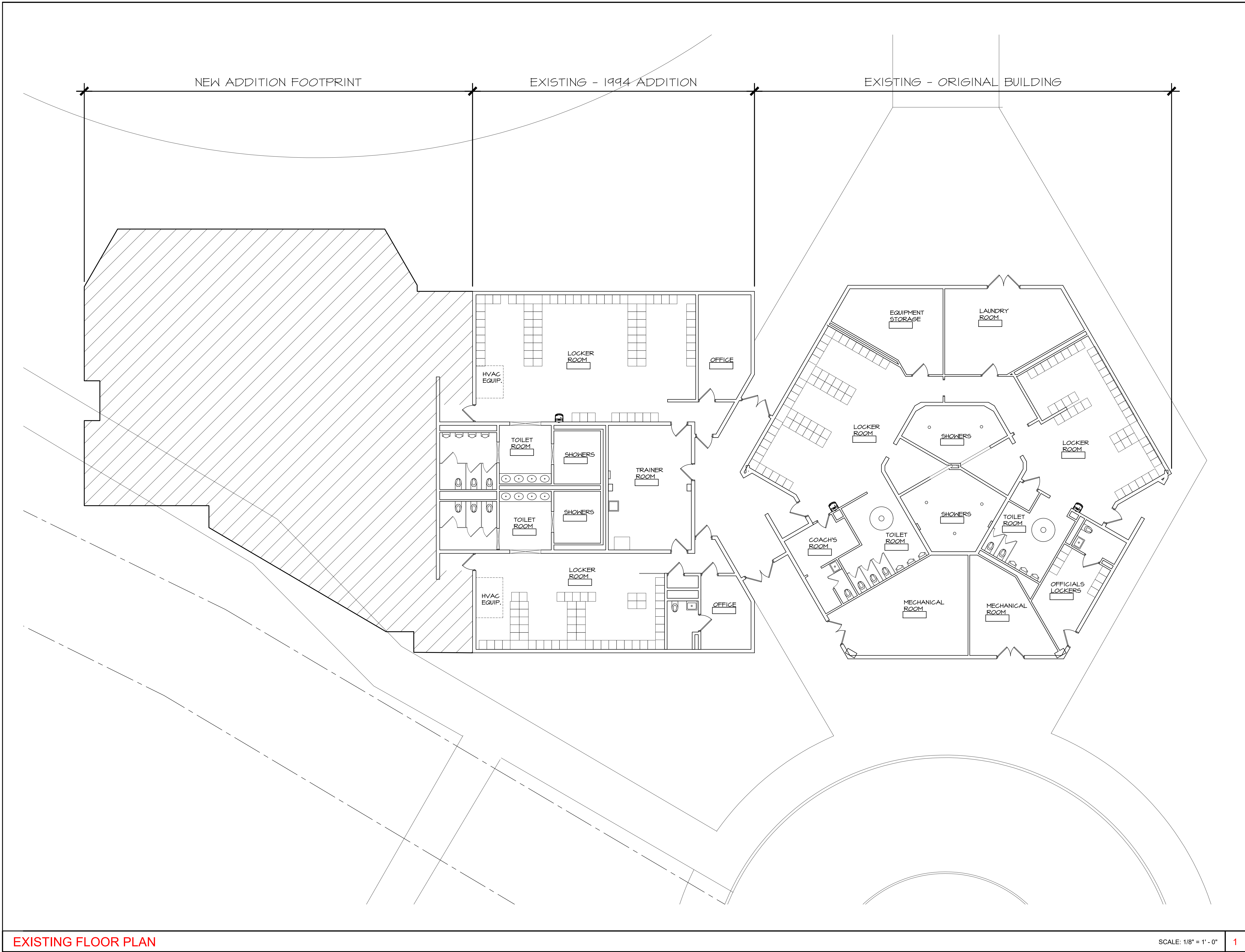


DEMOLITION FLOOR PLAN

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

1





EXISTING FLOOR PLAN

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



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WAYNE, NEW JERSEY 07470

EXISTING FLOOR PLAN



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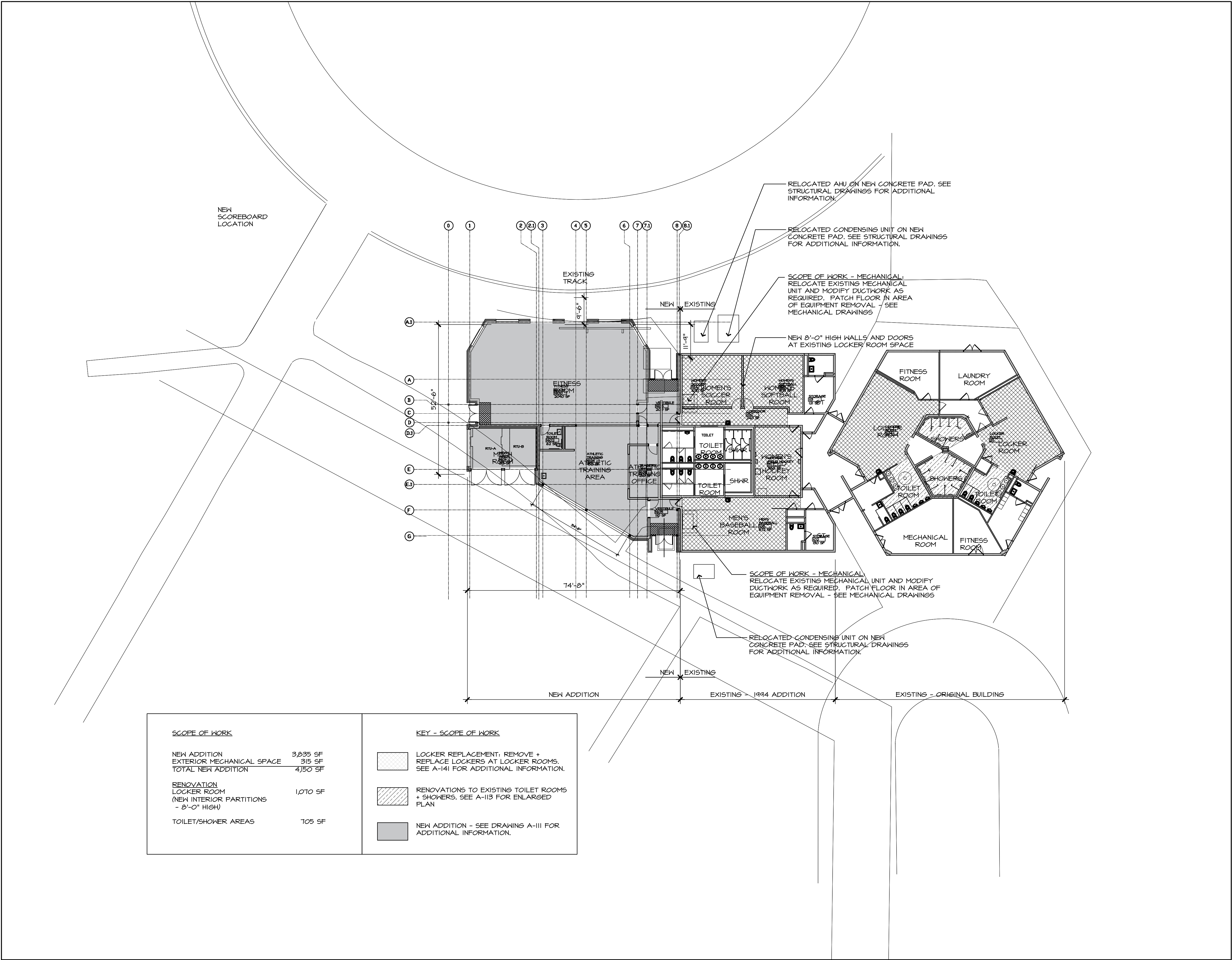
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WAYNE, NEW JERSEY 07470

OVERALL FLOOR PLAN/
PARTIAL SITE PLAN

A-111





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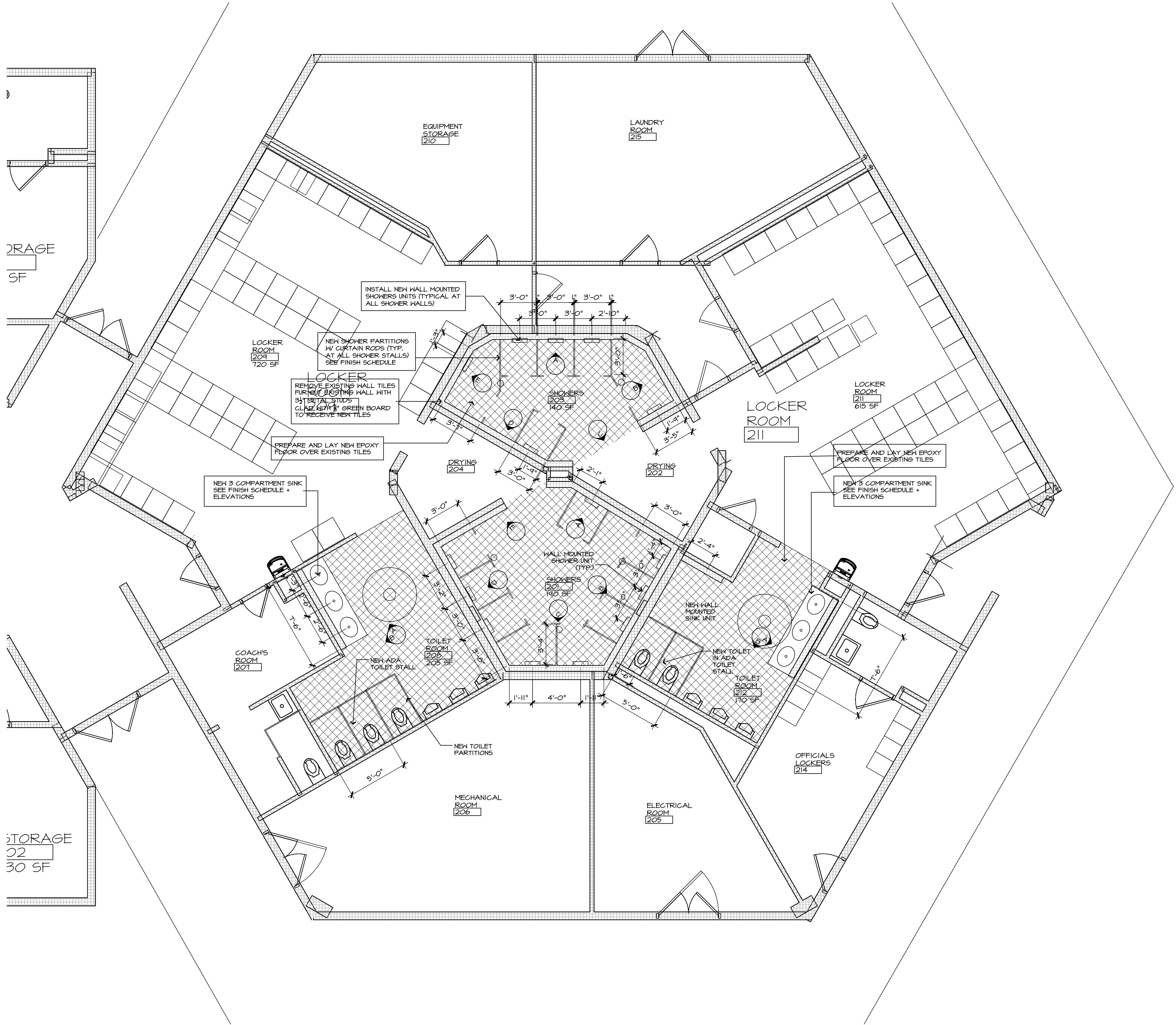
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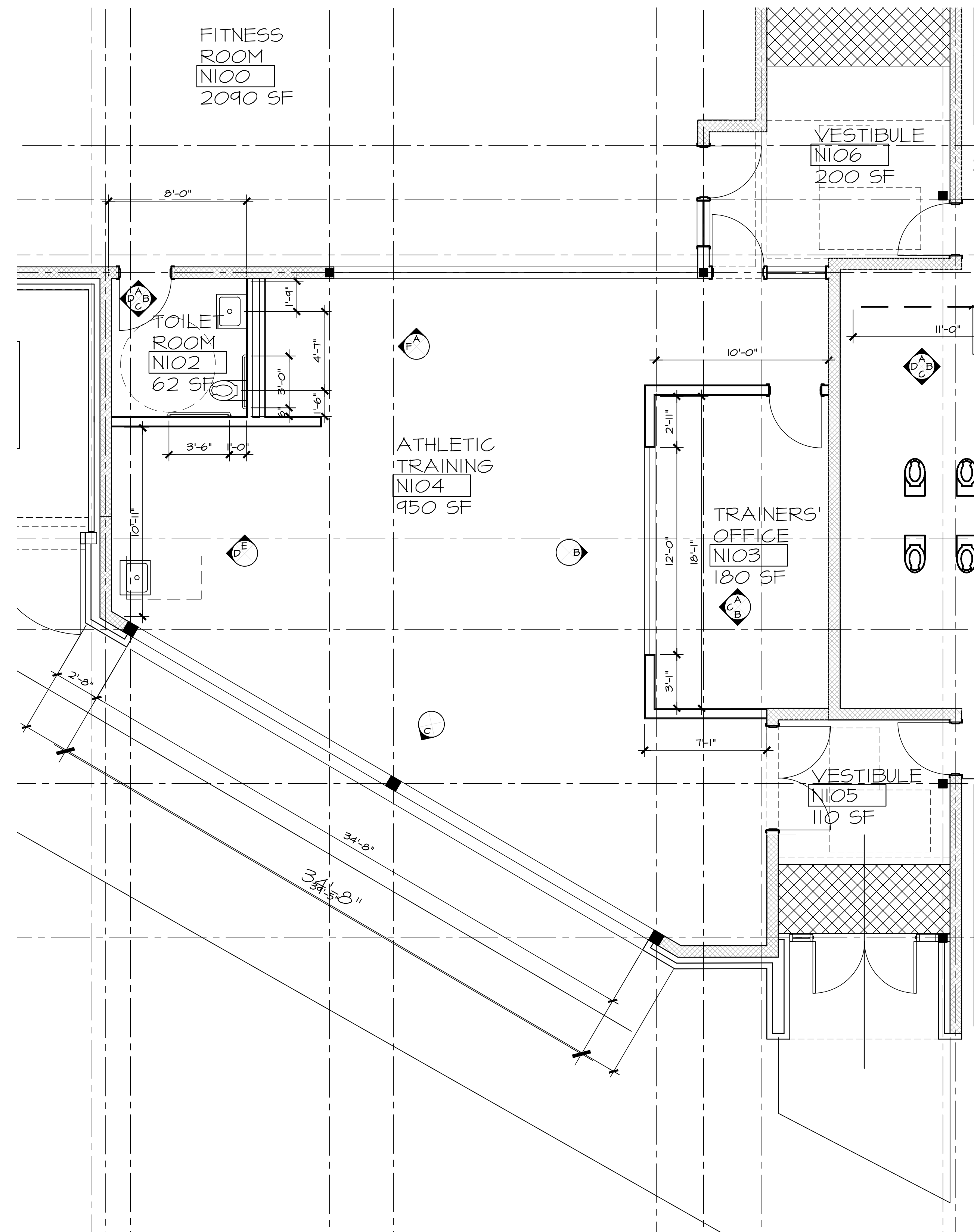
LOCKER FACILITY

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ENLARGED PLANS -
SHOWER/LOCKER ROOM

A-113





READ WITH DRAWING A.442 FOR INTERNAL ELEVATIONS



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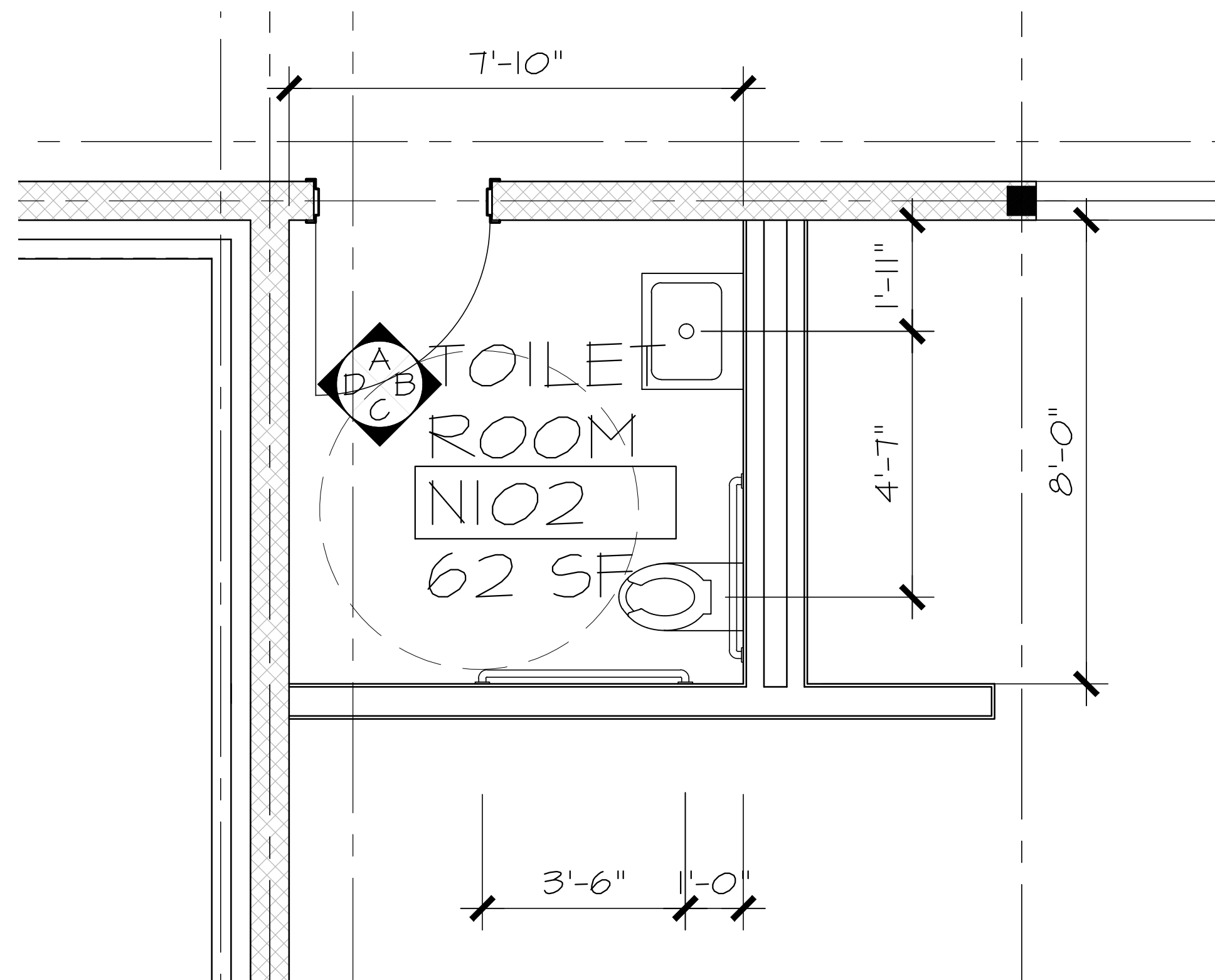
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FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

ENLARGED PLANS
ATHLETIC TRAINING

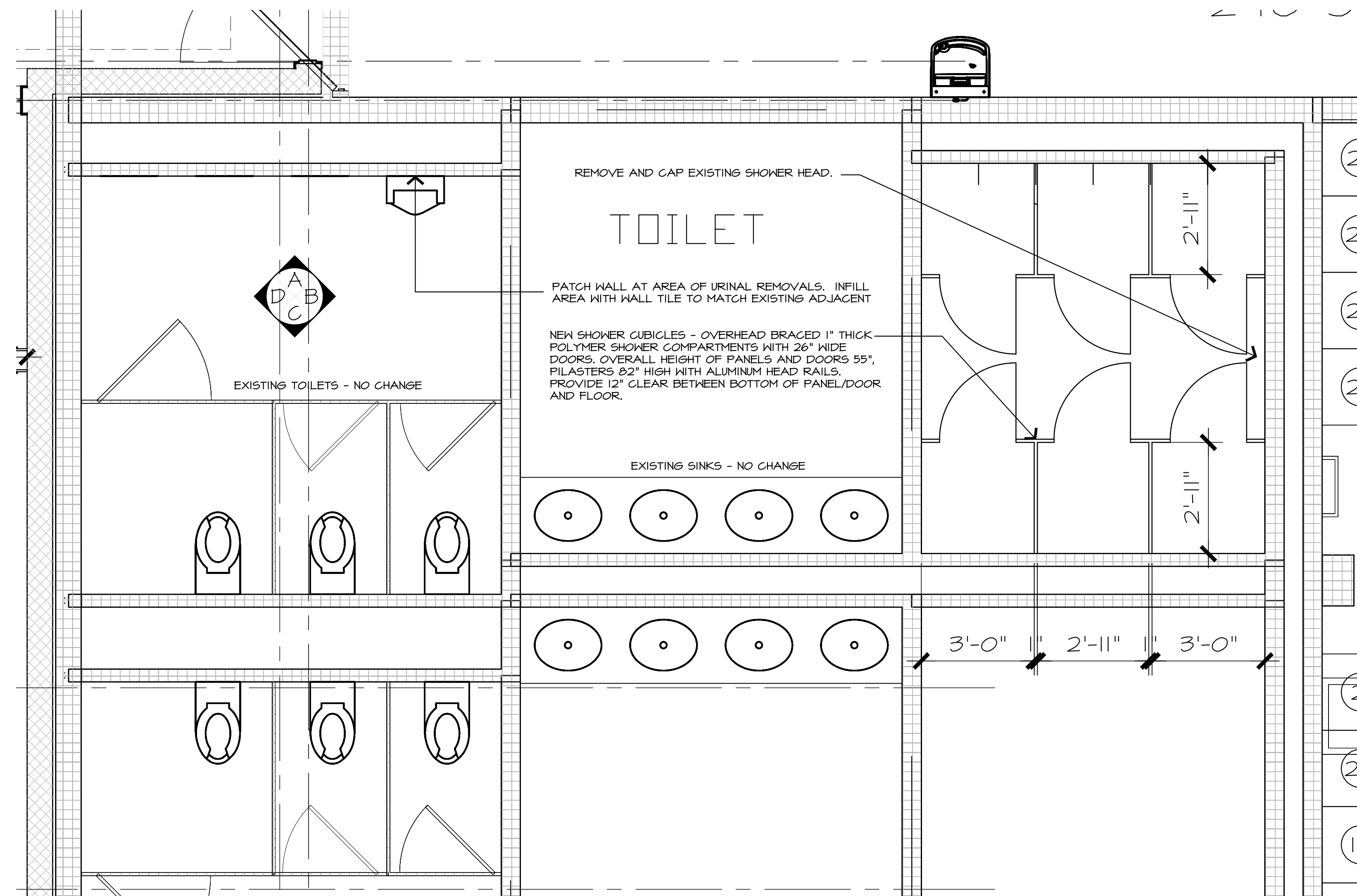
A-114



ENLARGED PLAN - TOILET N102

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

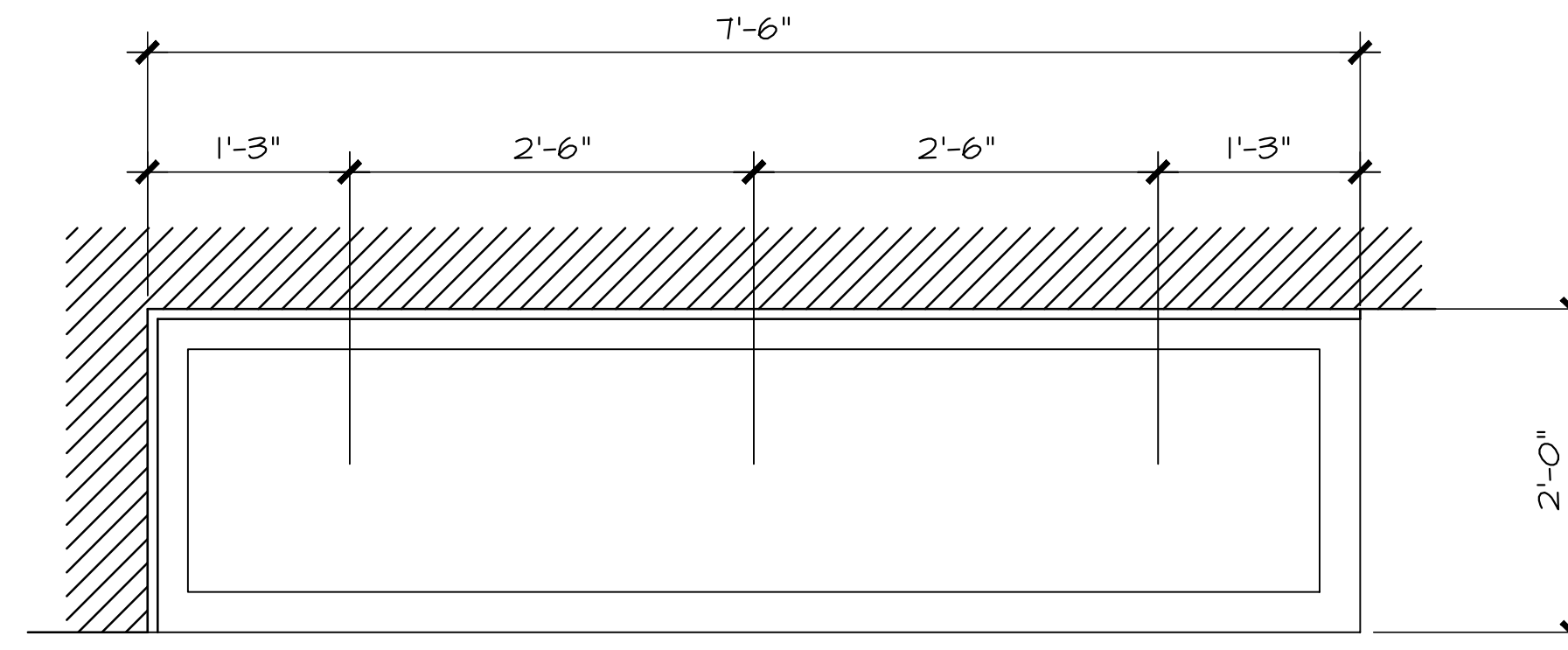
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ENLARGED PLAN - TOILET ROOM 117

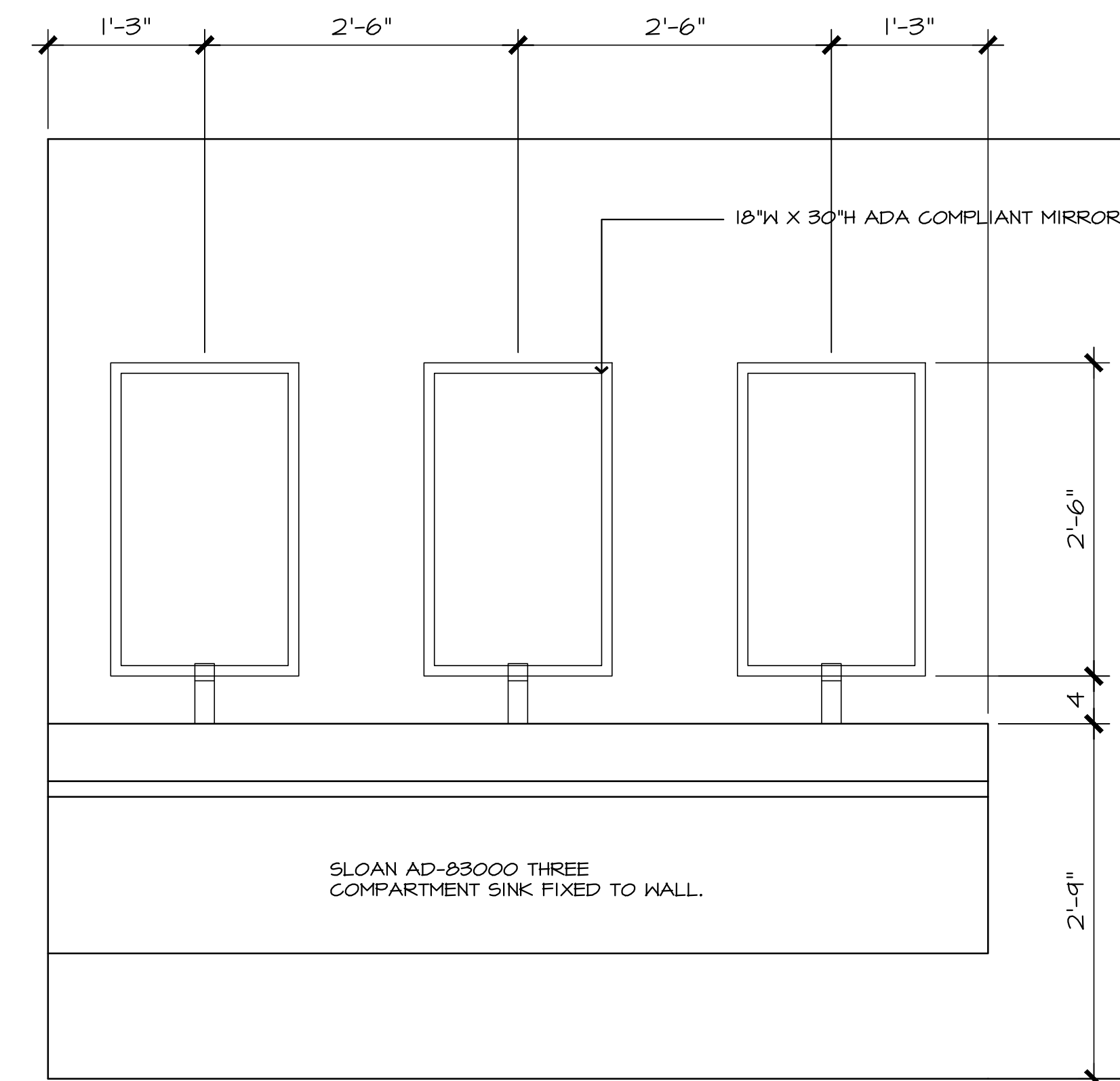
SCALE: 1/2" = 1'-0"

1



PLAN

NOTE: VERIFY ALL DIMENSIONS IN THE FIELD BEFORE COMMENCING ANY WORK OR SHOP DRAWINGS.



ELEVATION OF VANITY COUNTER

THREE COMPARTMENT SINK

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

3



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FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

ENLARGED PLANS - TOILET
ROOMS 117 & N102

A-115

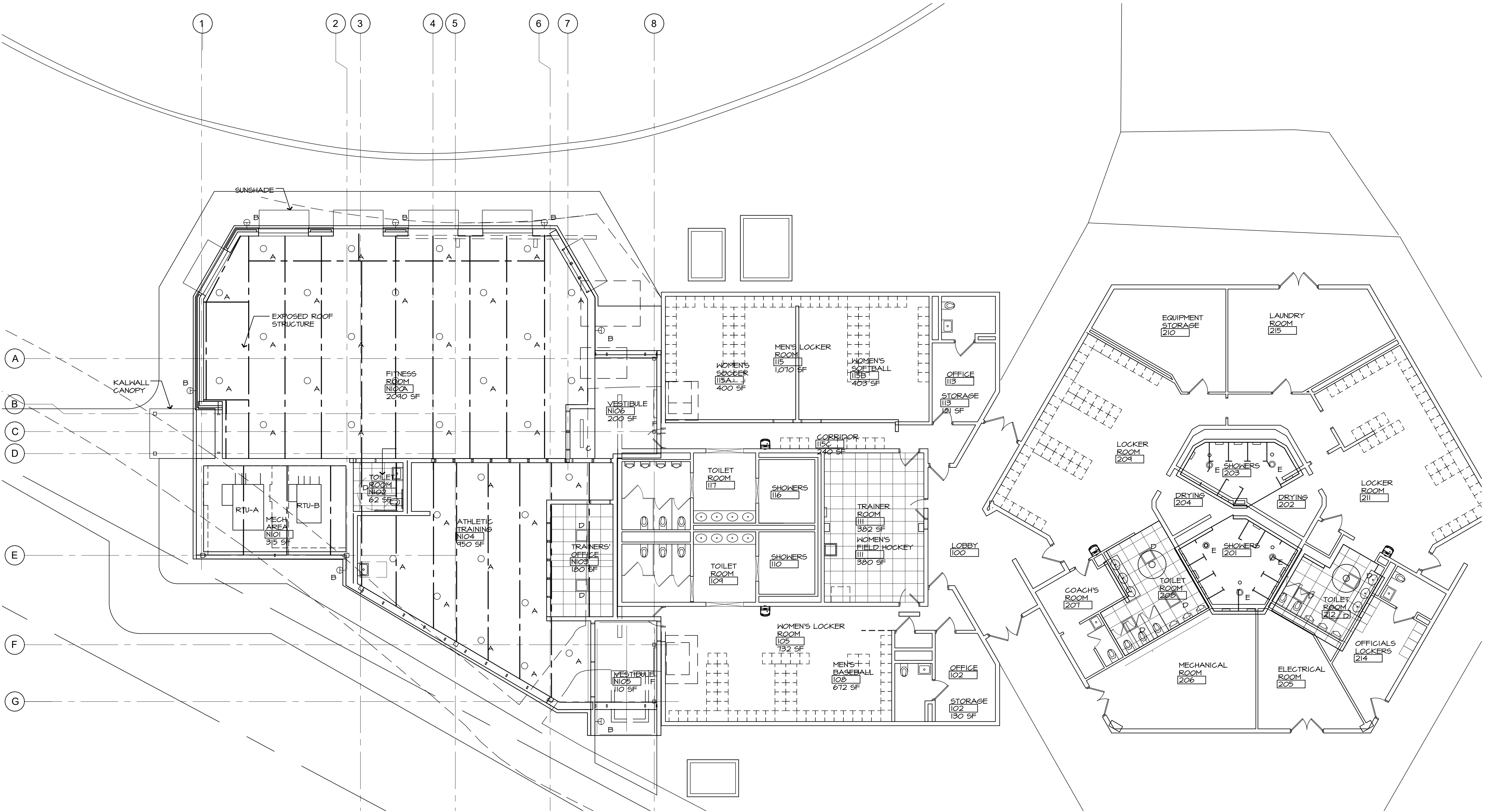
RCP NOTES:
1 MODIFY CEILING AS REQUIRED TO INSTALL NEW ABOVE CEILING WIRING/ PLUMBING. REFER TO MEP DWGS. FOR COORDINATION.

- RCP LEGEND
- A NEW PENDANT LIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)
 - B NEW EXTERIOR LIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)
 - C NEW SURFACE MTD LIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)
 - D NEW 2X2 LIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)
 - E NEW DOWNLIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)
 - F NEW WALL MOUNTED LIGHT FIXTURE (SEE ELECTRICAL FOR MORE INFORMATION)

RCP NOTES

3 RCP LEGEND

2



REFLECTED CEILING PLAN

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

1



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REFLECTED CEILING PLAN

A-121

FINISH SCHEDULE WILLIAM PATERSON UNIVERSITY - LOCKER FACILITY - NEW ADDITION AND RENOVATIONS										
	ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS		DOOR FRAME	CEILING		REMARKS
			MATERIAL	MATERIAL	MATERIAL			MATERIAL	HEIGHT	
ROOMS/AREAS - ORIGINAL BUILDING	201	SHOWERS	SFLR-1	SB-1	CWT-1	CWT-1	NA	GYP	SEE RCP	
	202	DRYING	ETR	ETR	ETR	ETR	NA	EXIST. GYP	SEE RCP	
	203	SHOWERS	SFLR-1	SB-1	CWT-1	CWT-1	NA	GYP	SEE RCP	
	204	DRYING	ETR	ETR	ETR	ETR	NA	EXIST. GYP	SEE RCP	
	205	ELECTRICAL ROOM	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	206	MECHANICAL ROOM	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	207	COACH OFFICE	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	208	TOILET ROOM	SFLR-1	SB-1	ETR	ETR	NA	ACT-1	SEE RCP	NEW TILE AT SINK WALL ONLY: CWT-1
	209	LOCKER ROOM	ETR	NA	ETR	ETR	EXYP-4	EXIST EXPOSED	SEE RCP	
	210	EQUIPMENT STORAGE	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	211	LOCKER ROOM	ETR	NA	ETR	ETR	EXYP-4	EXIST EXPOSED	SEE RCP	
	212	TOILET ROOM	SFLR-1	SB-1	ETR	ETR	NA	ACT-1	SEE RCP	NEW TILE AT SINK WALL ONLY: CWT-1
	213	LAUNDRY ROOM	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	214	OFFICIALS LOCKERS	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
ROOMS/AREAS - ORIGINAL BUILDING	102	STORAGE	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	104	TOILET ROOM	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	108	MENS BASEBALL LOCKER ROOM	ETR	ETR	ETR	ETR	ETR	EXIST EXPOSED	SEE RCP	
	111	WOMENS FIELD HOCKEY LOCKER ROOM	ETR	ETR	TBD	TBD	ETR	EXIST EXPOSED	SEE RCP	
	113	STORAGE	ETR	ETR	ETR	ETR	ETR	ETR	SEE RCP	
	115A	WOMENS SOCCER LOCKER ROOM	ETR	ETR	TBD	TBD	ETR	EXIST EXPOSED	SEE RCP	
	115B	WOMENS SOFTBALL LOCKER ROOM	ETR	ETR	TBD	TBD	ETR	EXIST EXPOSED	SEE RCP	
	115C	CORRIDOR	ETR	ETR	EXYP-1	EXYP-1	ETR	EXIST EXPOSED	SEE RCP	
117	TOILET	ETR	ETR	ETR	ETR	NA	ETR	SEE RCP	NEW TILE @ EXISTING URINAL WALL ONLY CWT-2/3/4	
NEW ADDITION	N100	FITNESS ROOM	SPTF-1	RB-1	EXYP-2	AWT-1/AWT-2	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	
	N101	MECHANICAL AREA								EXTERIOR SPACE
	N102	TOILET ROOM	SFLR-2	SB-2	CWT-1	CWT-1	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	FULL HEIGHT TILE WALLS
	N103	TRAINER'S OFFICE	SFLR-2	SB-2	EXYP-1	EXYP-1	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	
	N-104	ATHLETIC TRAINING	SFLR-2	SB-2	EXYP-2	EXYP-2	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	
	N-105	VESTIBULE	SFLR-2	SB-2	EXYP-2	EXYP-2	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	
	N-106	VESTIBULE	SFLR-2	SB-2	EXYP-2	EXYP-2	EXYP-4	EXPOSED CP-2/CP-3	SEE RCP	

FINISH SCHEDULE

FINISH SCHEDULE - FINISHES							
FINISH NOTES AND LEGENDS	FINISH NOTES AND LEGENDS:					FINISH ABBREVIATIONS	
	1. CORNER GUARDS: PROVIDE 1 PC-SM-20N C/S ACROVYN (CONSTRUCTION SPECIALTIES) OR APPROVED EQUAL.					ACT = ACOUSTICAL CEILING TILE CP = CEILING PAINT CWT = CERAMIC WALL TILE ETR = EXISTING TO REMAIN EXYP = EPOXY PAINT NA = NOT APPLICABLE P = PAINT RB = RUBBER WALL BASE SB = SEAMLESS WALL BASE SFLR = SEAMLESS FLOORING SPTF = SPORTS FLOOR SS = SOLID SURFACE TRP = TOILET ROOM PARTITION	
	2. ALL INTERIOR SOFFIT TO BE PAINTED WHITE U.N.O.						
	3. PROVIDE REQUIRED TRANSITION STRIPS AND RUBBER ACCESSORIES AT CHANGES IN MATERIALS						
	4. IN LOCATIONS WHERE TWO OR MORE PAINT COLORS ARE CALLED FOR, PROVIDE 75% FIELD PAINT COLOR AND 25% ACCENT PAINT COLOR						
	5. FLOORING PATTERNS AND GRIDS SHALL BE COORDINATED WITH INSTALLER DURING CONSTRUCTION.						
	6. "ETR" DESIGNATES EXISTING MATERIAL TO REMAIN.						
	7. COLOR SELECTIONS FOR FINISHES BY ARCHITECT FROM FULL RANGE OF MANUFACTURER'S COLORS.						
	8. FOR CEILING AND DUCTWORK/PIPING PAINTING, CONTRACTOR TO PERFORM ASTM D3359 ADHESION TEST PRIOR TO COATING						
	9. PROVIDE NEW CEILING TILES /MODIFICATIONS AT AREA OF NEW WALL IN TOILET ROOM 117						
ITEM	MATERIAL	MANUFACTURER	SERIES/PATTERN	COLOR	DIMENSIONS	REMARKS	
PAINT	EXYP-1	WALL PAINT	SHERWIN WILLIAMS	PRE CATALYZED EPOXY EGGSHELL	GRAY SCREEN / SW7071	FOR OFFICE AND CORRIDOR LOCATIONS	
	EXYP-2	WALL PAINT	SHERWIN WILLIAMS	PRE CATALYZED EPOXY EGGSHELL	NETWORK GRAY / SW7073		
	EXYP-3	HM DOOR FRAMES	SHERWIN WILLIAMS	PRE CATALYZED EPOXY SEMI GLOSS	TBD		
	EXYP-5	WALL PAINT	SHERWIN WILLIAMS	PRE CATALYZED EPOXY EGGSHELL	MATCH EXISTING COLOR	MATCH EXISTING COLOR	
	P-1	EXTERIOR SOFFIT PAINT	SHERWIN WILLIAMS	PRO INDUSTRIAL WATERBASED ACRYLIC DRY FALL	TBD		
	CP-1	CEILING PAINT	SHERWIN WILLIAMS	PRO INDUSTRIAL WATERBASED ACRYLIC DRY FALL		AT GYPSUM SOFFIT LOCATIONS	
	CP-2	CEILING PAINT	SHERWIN WILLIAMS	PRO INDUSTRIAL WATERBASED ACRYLIC DRY FALL	WEB GRAY / SW7075	EXPOSED DECK THROUGHOUT	
CP-3	CEILING PAINT	SHERWIN WILLIAMS	PRO INDUSTRIAL WATERBASED ACRYLIC DRY FALL	SOFTWARE / SW7074	EXPOSED TRUSSES/METAL STRUCTURE THROUGHOUT		
FLOORING	SFLR-1	SEAMLESS FLOORING (RESINOUS EPOXY)	EPIC BUILDING PRODUCTS	EPIC METALLIC SYSTEM	SILVER	TO BE APPLIED OVER EXISTING TILE FLOORING	
	SFLR-2	SEAMLESS FLOORING (RESINOUS EPOXY)	EPIC BUILDING PRODUCTS	EPIC FLAKE SYSTEM	PIERCE / EF616		
	SPTF-1	SPORTS FLOORING	CAPRI COLLECTIONS (SPARTAN SURFACES)	COLLEGIATE COLLECTION	COUGARS / CC003	8MM; 4FT WIDE ROLL FITNESS ROOM (N100)	
WALL BASE	SB-1	SEAMLESS WALL BASE (RESINOUS EPOXY)	EPIC BUILDING PRODUCTS	EPIC METALLIC SYSTEM	SILVER	6"H INTEGRAL BASE TO BE APPLIED OVER EXISTING TILE FLOORING	
	SB-2	SEAMLESS WALL BASE (RESINOUS EPOXY)	EPIC BUILDING PRODUCTS	EPIC FLAKE SYSTEM	PIERCE / EF616	6"H INTEGRAL BASE	
	RWB-1	RUBBER WALL BASE	JOHNSONITE	BASEWORKS - 6" TOED	TG3 IRON MOUNTAIN CG	6"H; 1/4" THICK	
	WALL TILE	AWT-1	ACOUSTIC WALL TILE	KIREI	ECHOTILE TOPO / BARCODE TILE	295 / DARK ORANGE	15.5"L X 7.8"H; 24MM THICK SEE INTERIOR ELEVATIONS FOR PATTERN LAYOUT
AWT-2		ACOUSTIC WALL TILE	KIREI	ECHOTILE TOPO / BARCODE TILE	542 / CHARCOAL	15.5"L X 7.8"H; 24MM THICK SEE INTERIOR ELEVATIONS FOR PATTERN LAYOUT	
CWT-1		CERAMIC WALL TILE	APHELION (SPARTAN SURFACES)	FLARE	GRAVITY	12 X 24" WALL TILE FINISH TO COORDINATE WITH EXISTING TILE	
CWT-2		CERAMIC WALL TILE	DALTILE	COLORWHEEL	MATCH EXISTING COLOR	4 X 4 WALL TILE TO MATCH EXISTING	
CWT-3		CERAMIC WALL TILE	DALTILE	COLORWHEEL	MATCH EXISTING COLOR	4 X 4 WALL TILE TO MATCH EXISTING	
CWT-4		CERAMIC WALL TILE	DALTILE	COLORWHEEL	MATCH EXISTING COLOR	4 X 4 WALL TILE TO MATCH EXISTING	
PARTITION	TRP-1	TOILET ROOM PARTITION (TOILET)	SCRANTON	HINY HIDERS	STAINLESS	55" HIGH PANELS HAMMERED TEXTURE	
	TRP-2	TOILET ROOM PARTITION (SHOWER)	SCRANTON	HINY HIDERS	STAINLESS	55" HIGH PANELS HAMMERED TEXTURE	
WINDOW / COUNTER / SHADE	SS-1	SOLID SURFACE	WILSONART	N/A	MIDNIGHT MELANGE / 9091ML	TO INCLUDE 4" BACKSPASH + BULLNOSE EDGE PROFILE	
	SH-1	WINDOW SHADE	DRAPER	CLUTCH OPERATED FLEXSHADE NEXD	FASCIA HARDWARE TO BE CLEAR ANODIZED & INCLUDE FASCIA HARDWARE + ENDCAPS IN SLIM OR SMALL	AT TRAINING OFFICE	
	SH-2	WINDOW SHADE	DRAPER	CLUTCH OPERATED FLEXSHADE NEXD	FASCIA HARDWARE TO BE CLEAR ANODIZED & INCLUDE FASCIA HARDWARE + ENDCAPS IN SLIM OR SMALL	AT TRAINING ROOM	



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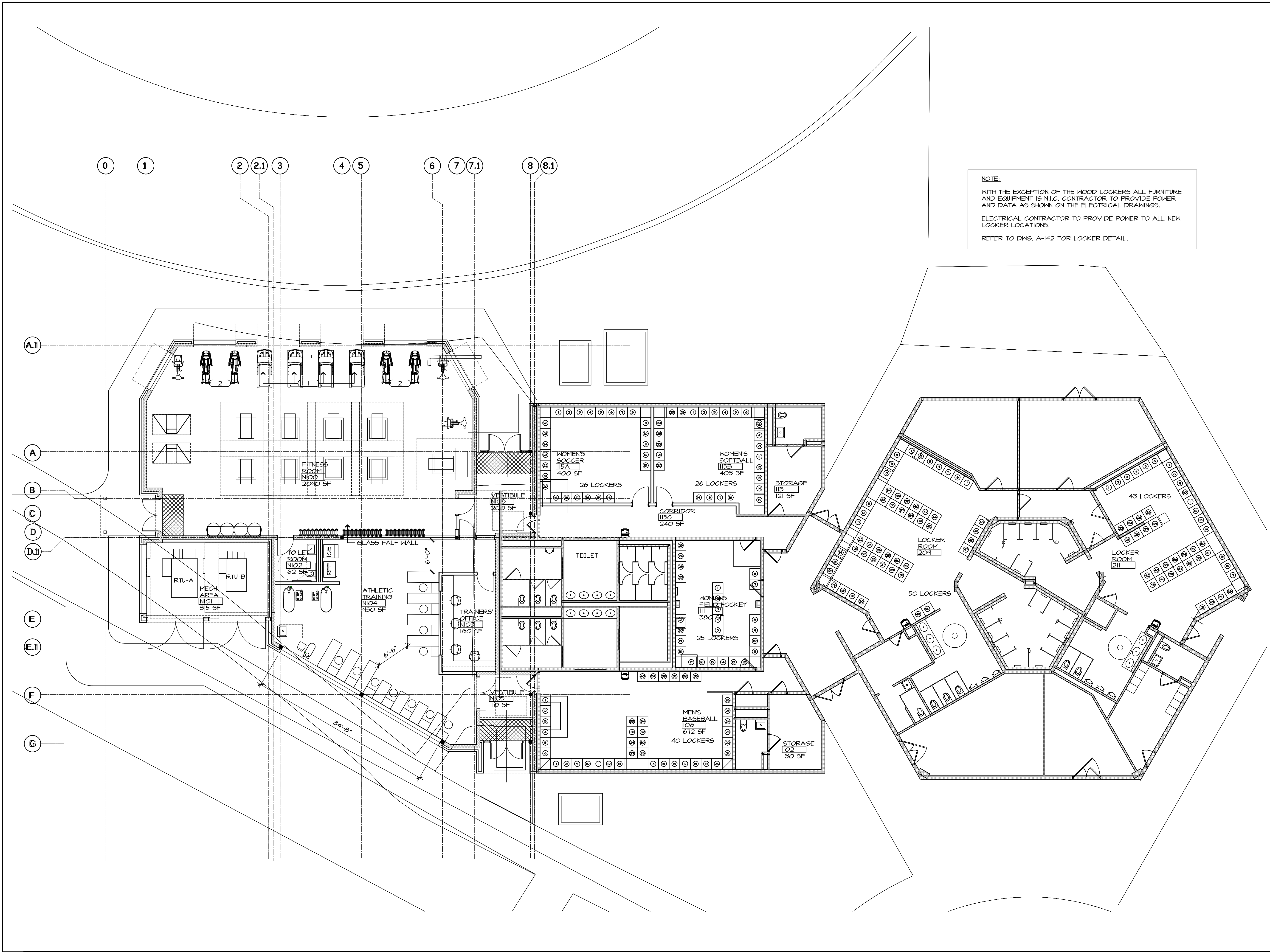
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FINISH SCHEDULE

A-132

SCALE: NTS

1



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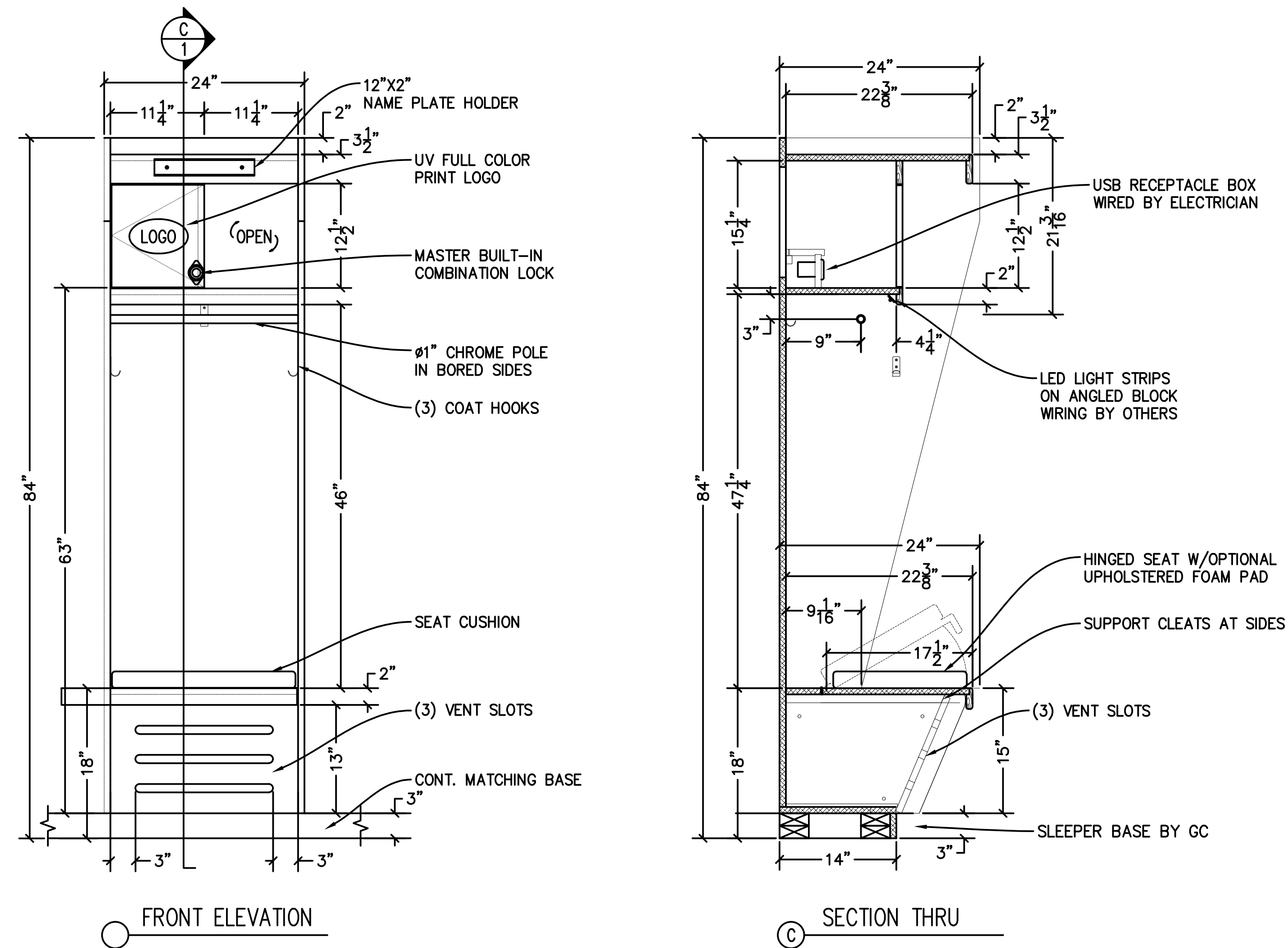
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FURNITURE / EQUIPMENT
PLAN

A-141



NOTE: CONTRACTOR TO PROVIDE ELECTRICAL POWER TO EACH NEW LOCKER LOCATION
PROVIDE (2) 110/(2) USB IN A SINGLE BOX TO EACH LOCKER.

CUSTOM WOOD LOCKER SPECIFICATION			
COMPONENT	THICKNESS	MATERIAL	REMARKS
SIDES	3/4"	RED OAK PLYWOOD	
BOTTOM	3/4"	RED OAK PLYWOOD	
DIVIDERS	3/4"	RED OAK PLYWOOD	
SEATS	3/4"	RED OAK PLYWOOD	
SHELF	3/4"	RED OAK PLYWOOD	
DOOR	3/4"	RED OAK PLYWOOD	
FRONT	3/4"	RED OAK PLYWOOD	VENTED
BACK	3/4"	RED OAK PLYWOOD	
TOP	3/4"	RED OAK PLYWOOD	
SEAT TRIM	3/4"	SOLID RED OAK LUMBER	
DOOR HINGES			EUROPEAN – NICKEL FINISH
DOOR LOCK			MASTER BUILT-IN COMBINATION
SEAT HINGE			BLACK PIANO
COAT HOOKS			SINGLE PRONG STAINLESS
SEAT CUSHION			COLOR TBD
HANGER POLE			Ø1", SIDES BORED
COAT HOOKS			SINGLE PRONG
LED LIGHT STRIPS			ON 45° CORNER BLOCK

FINISH: CLEAR TOPCOAT NO STAIN



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LOCKER DETAIL

A-142



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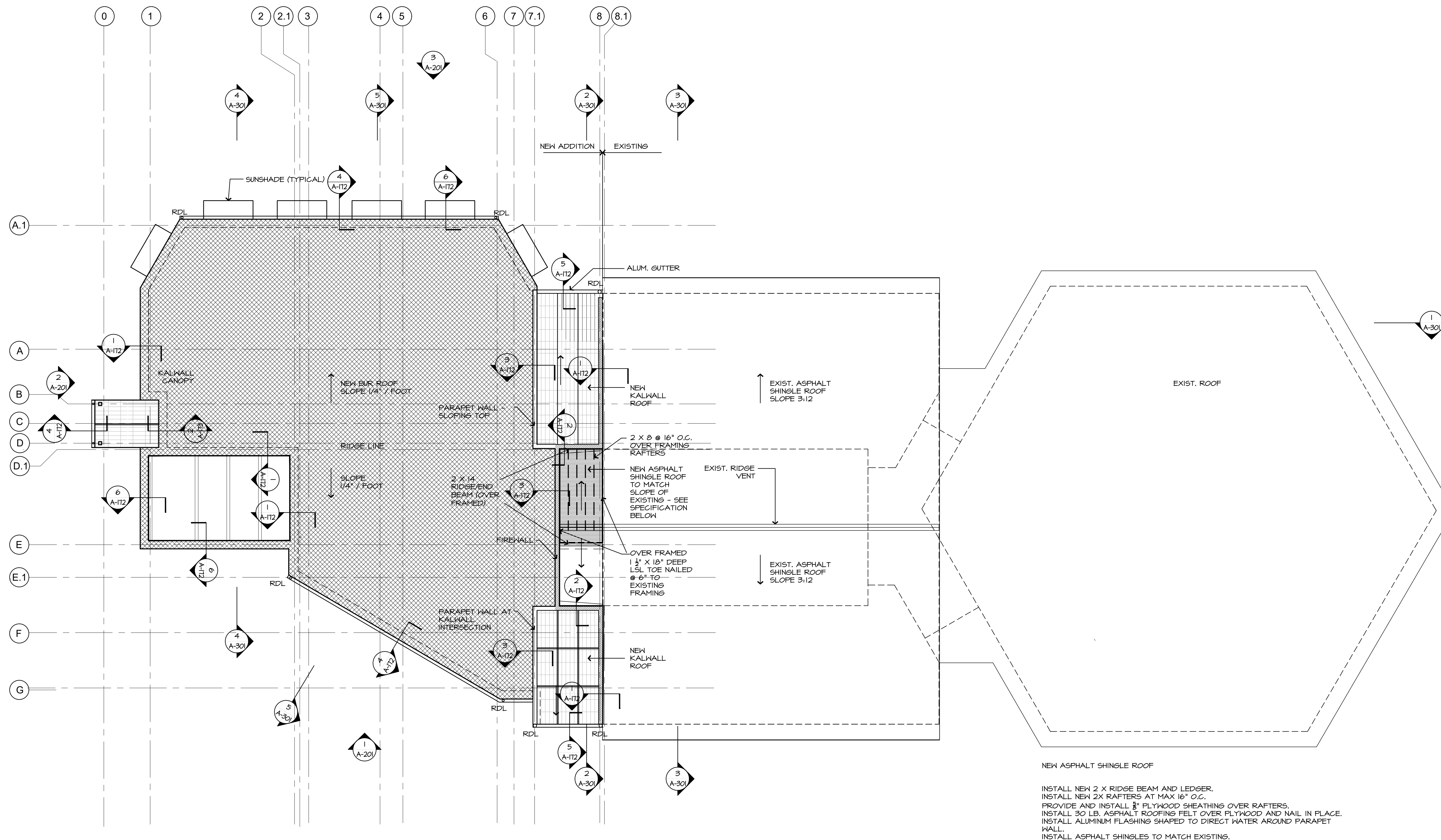
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LOCKER FACILITY

ROOF PLAN

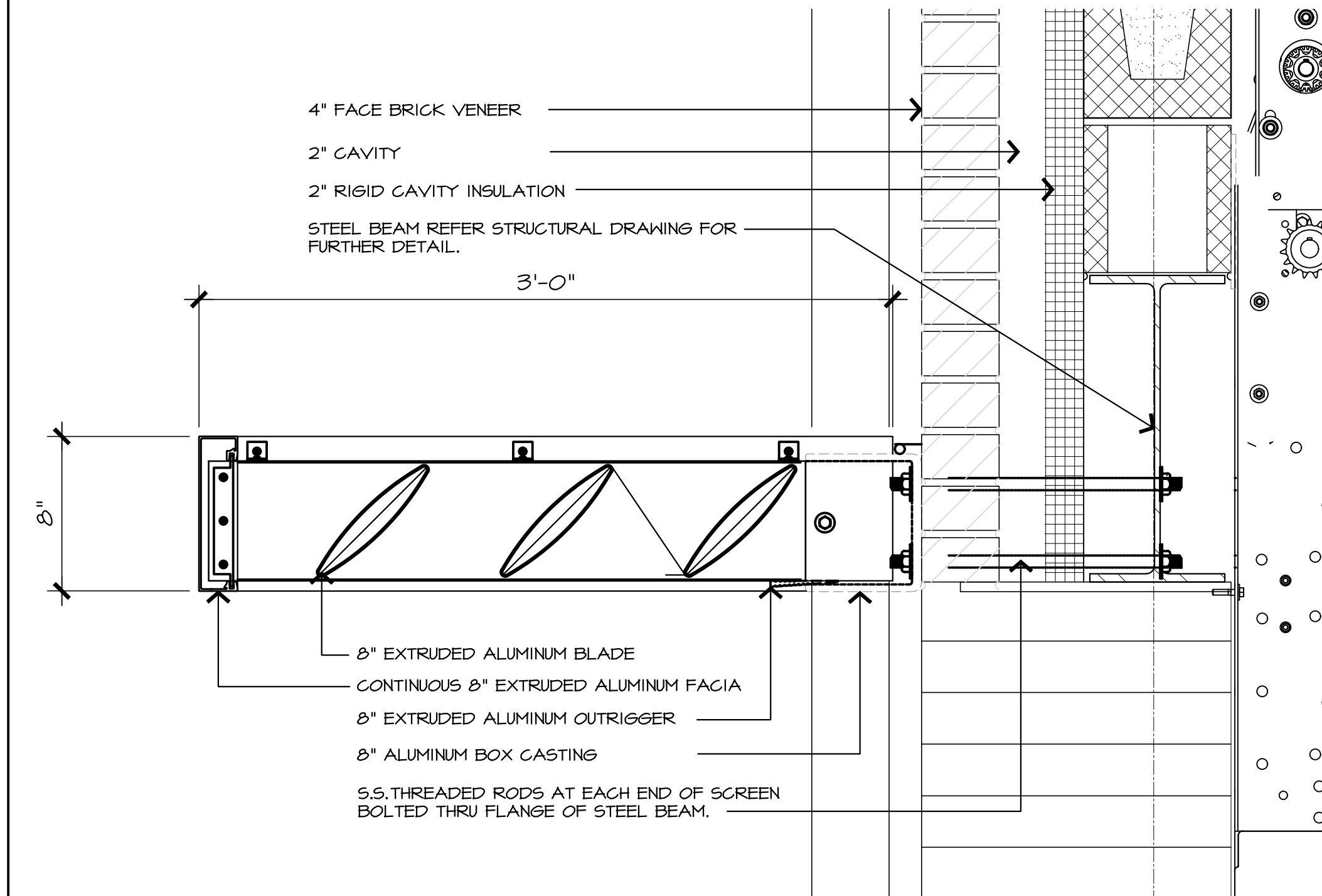
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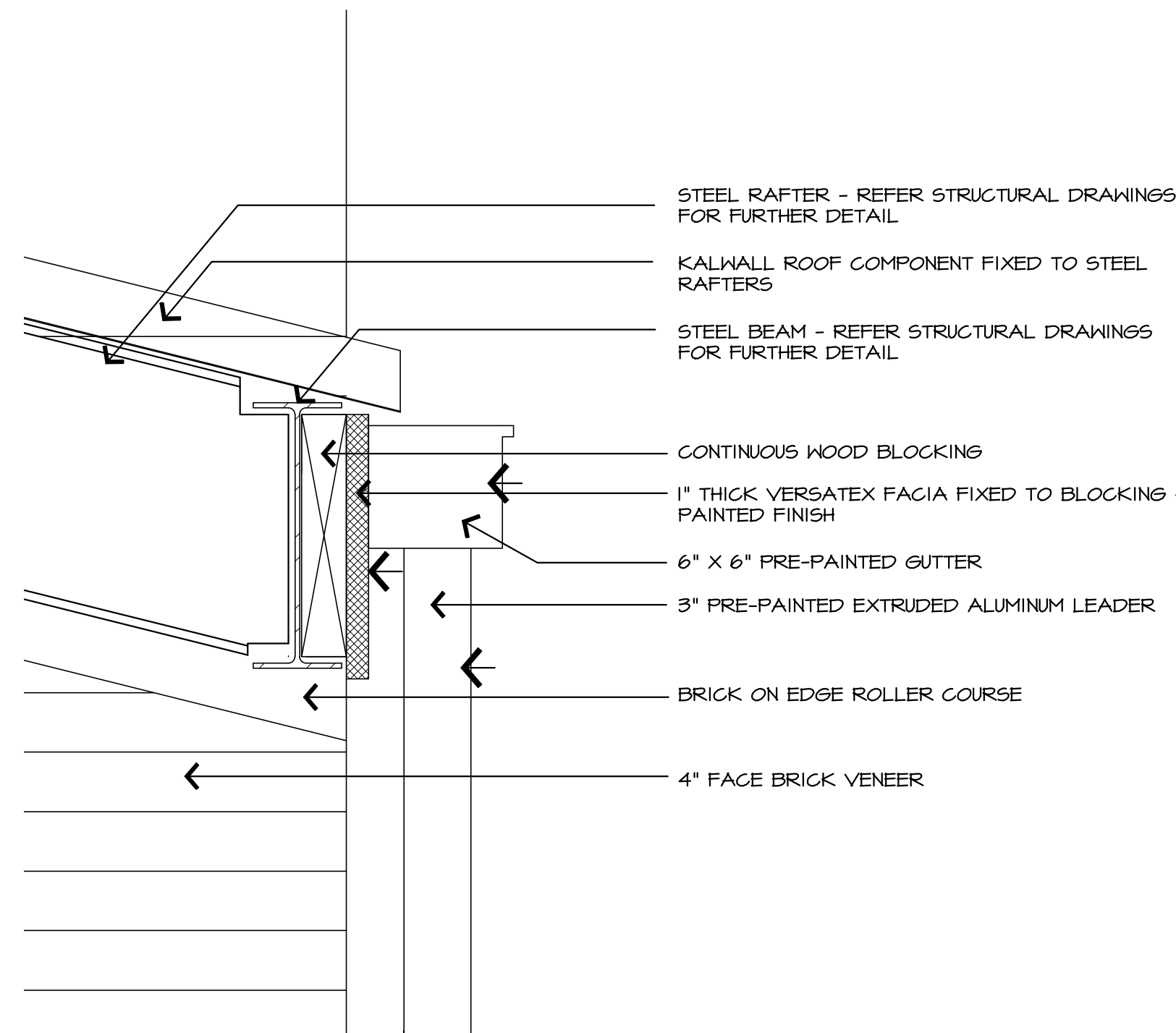
ROOF PLAN

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

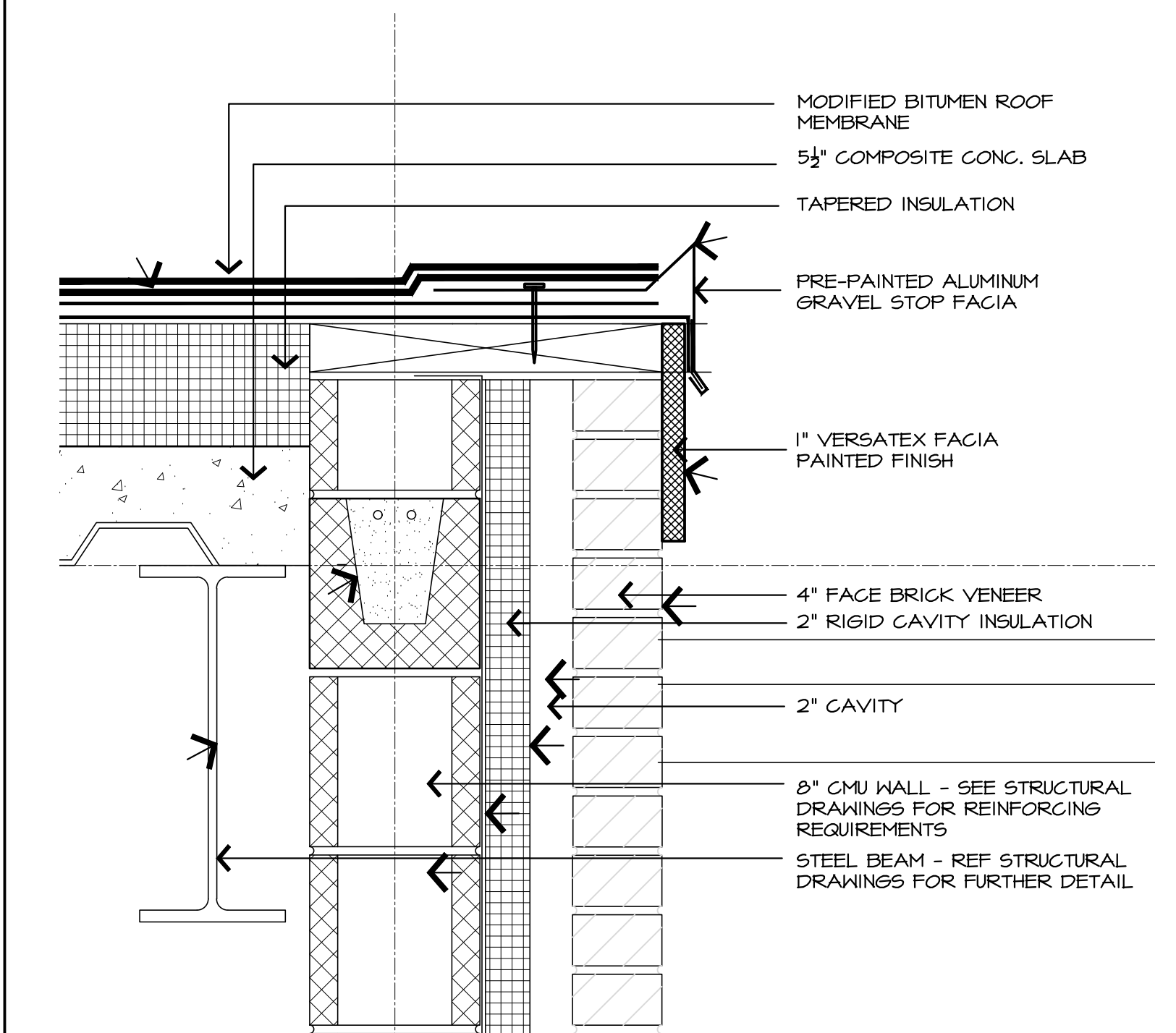
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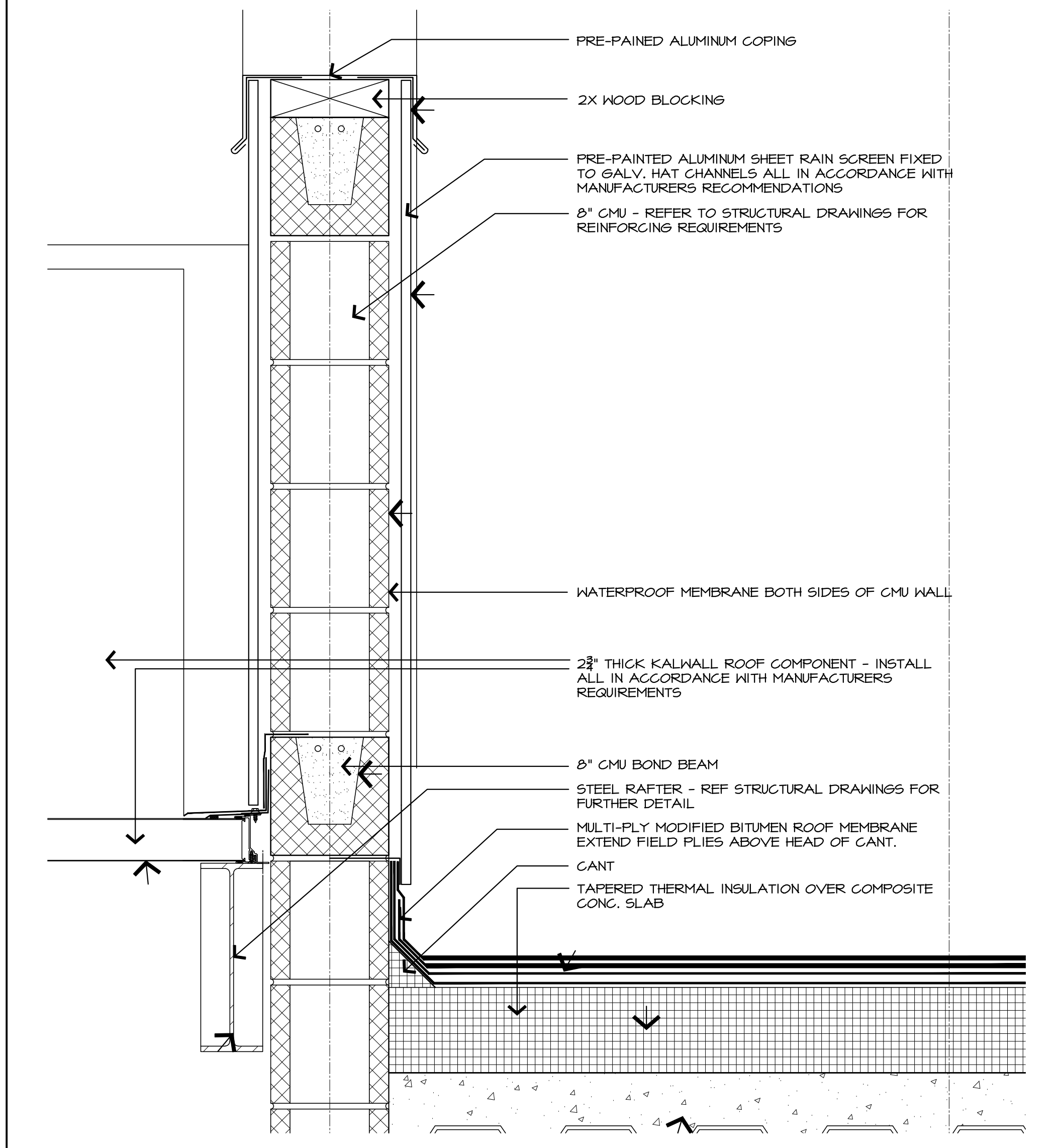
SUNSHADE DETAIL SCALE: 2" = 1'-0" 6



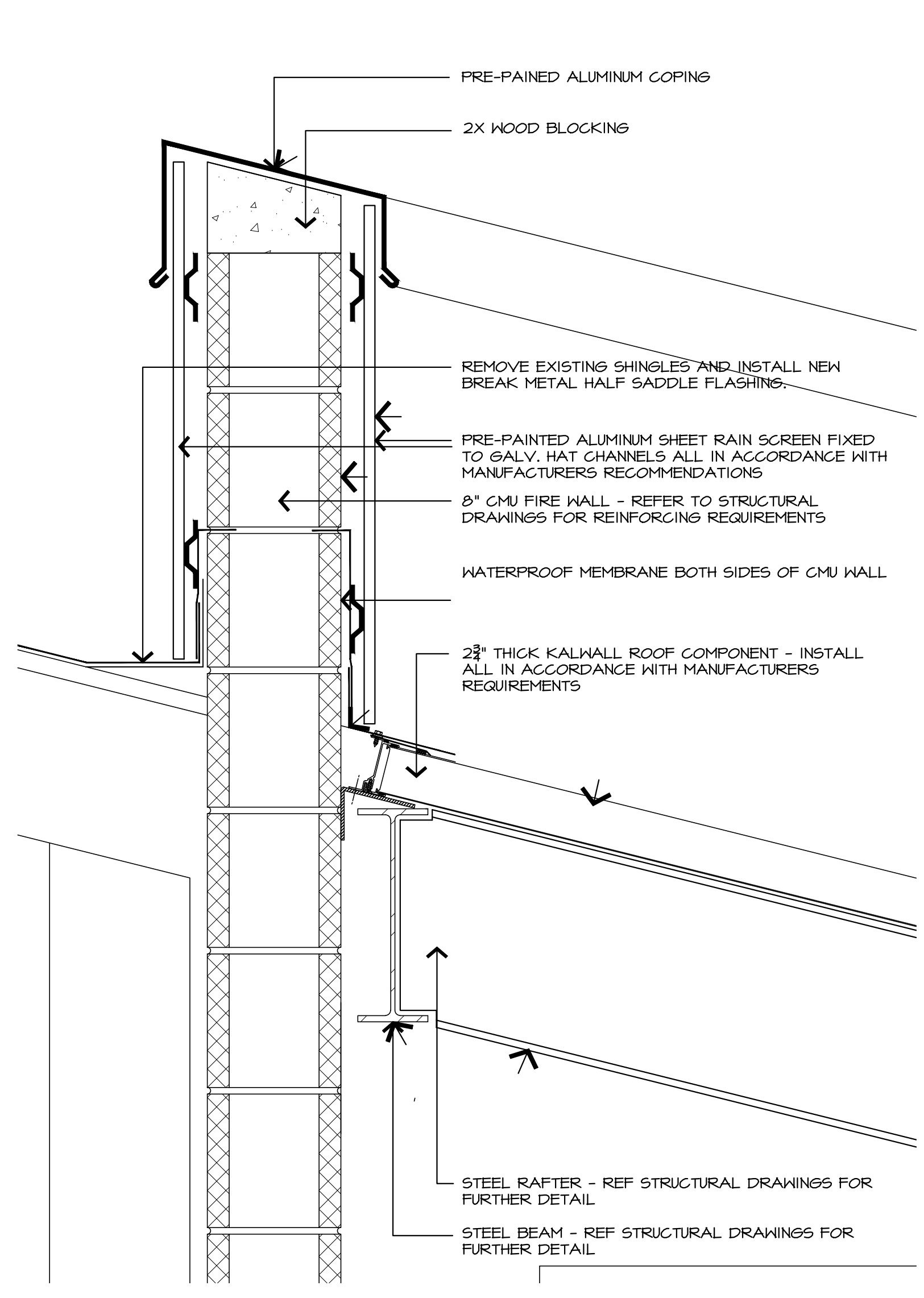
KALWALL ROOF DETAIL SCALE: 1 1/2" = 1'-0" 5



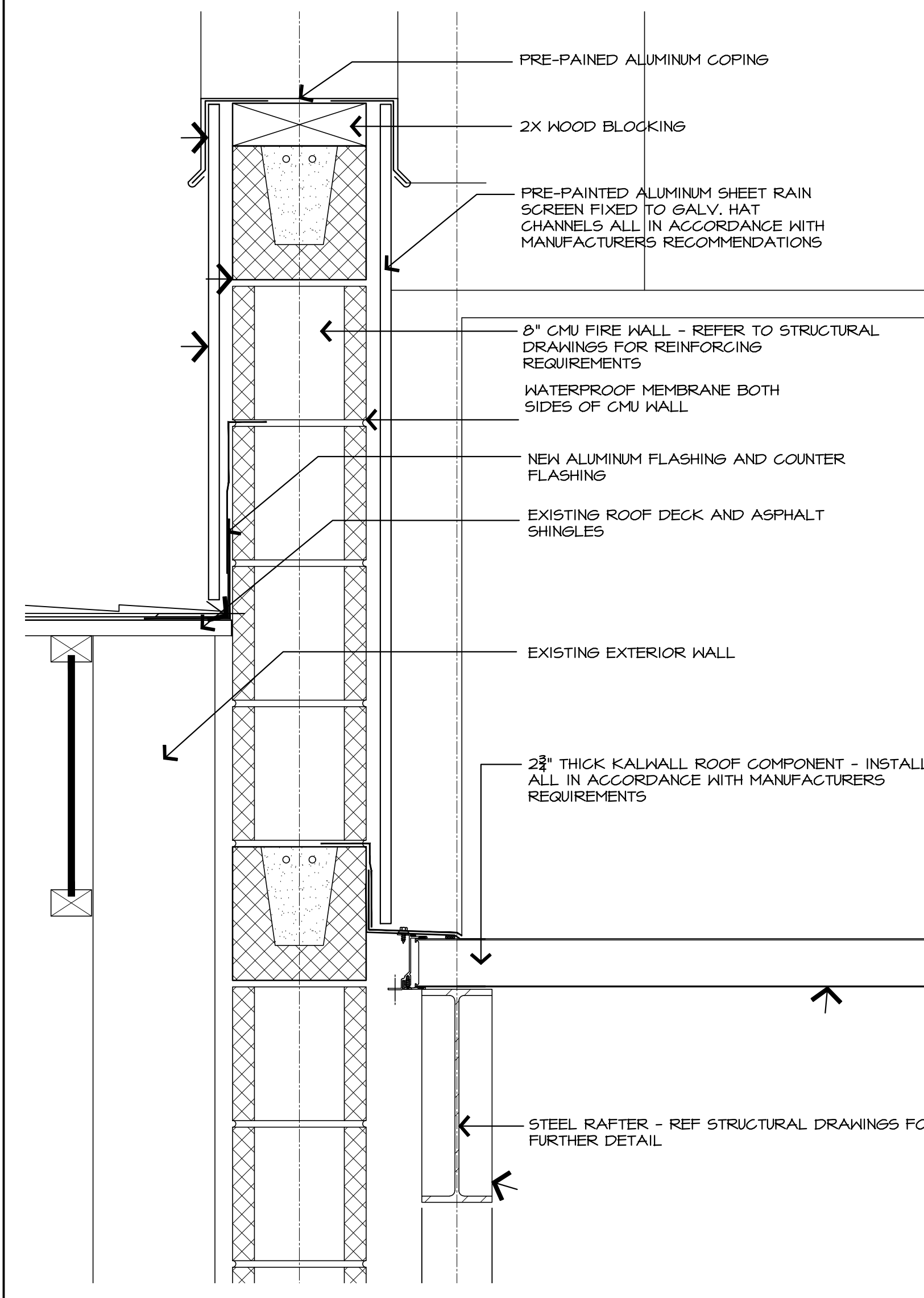
TYP. EDGE DETAIL SCALE: 1 1/2" = 1'-0" 4



VESTIBULE/ NEW ADDITION DETAIL SCALE: 1 1/2" = 1'-0" 3



FIREWALL ROOF DETAIL 2 SCALE: 1 1/2" = 1'-0" 2



FIREWALL ROOF DETAIL 1 SCALE: 1 1/2" = 1'-0" 1



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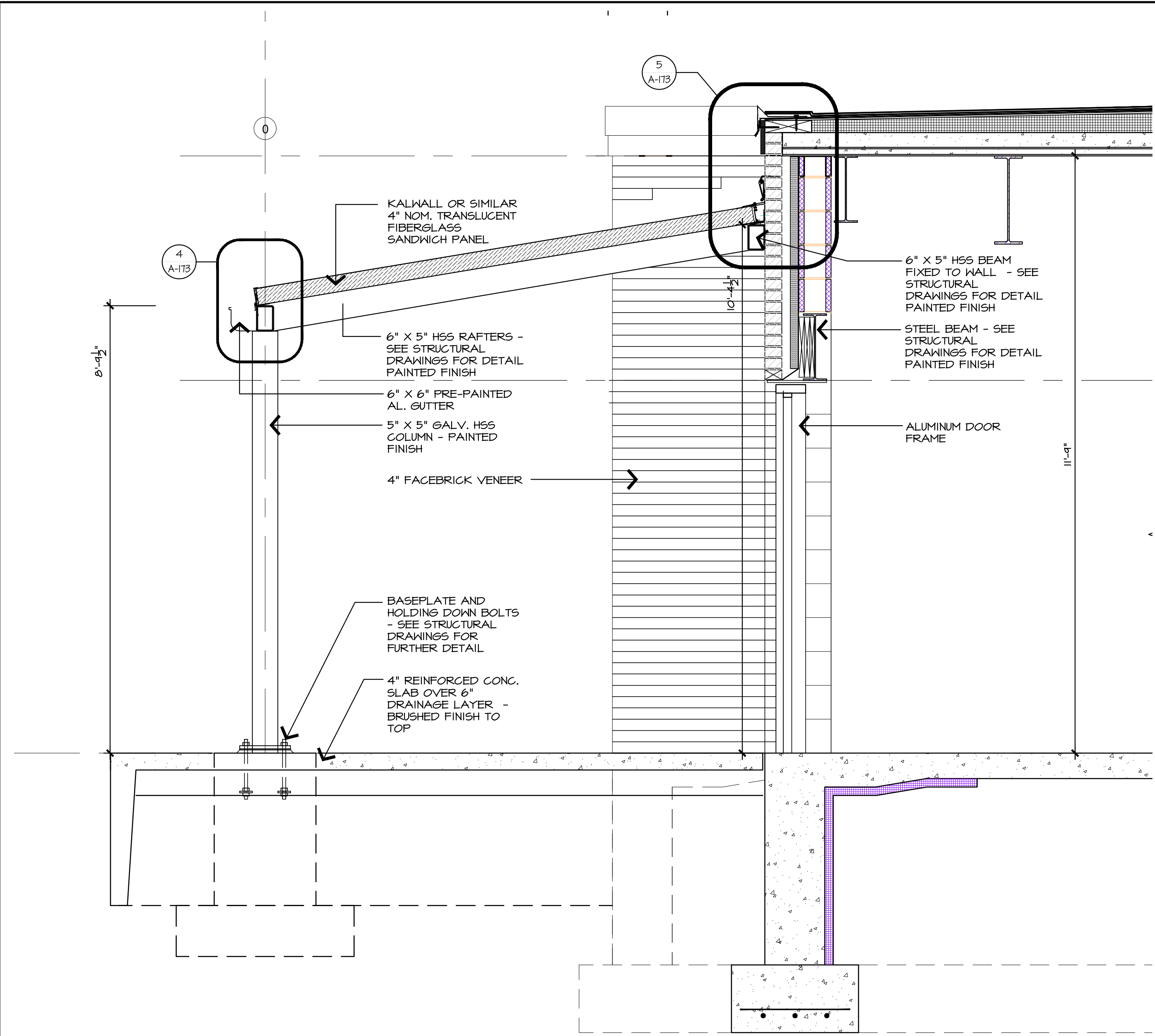
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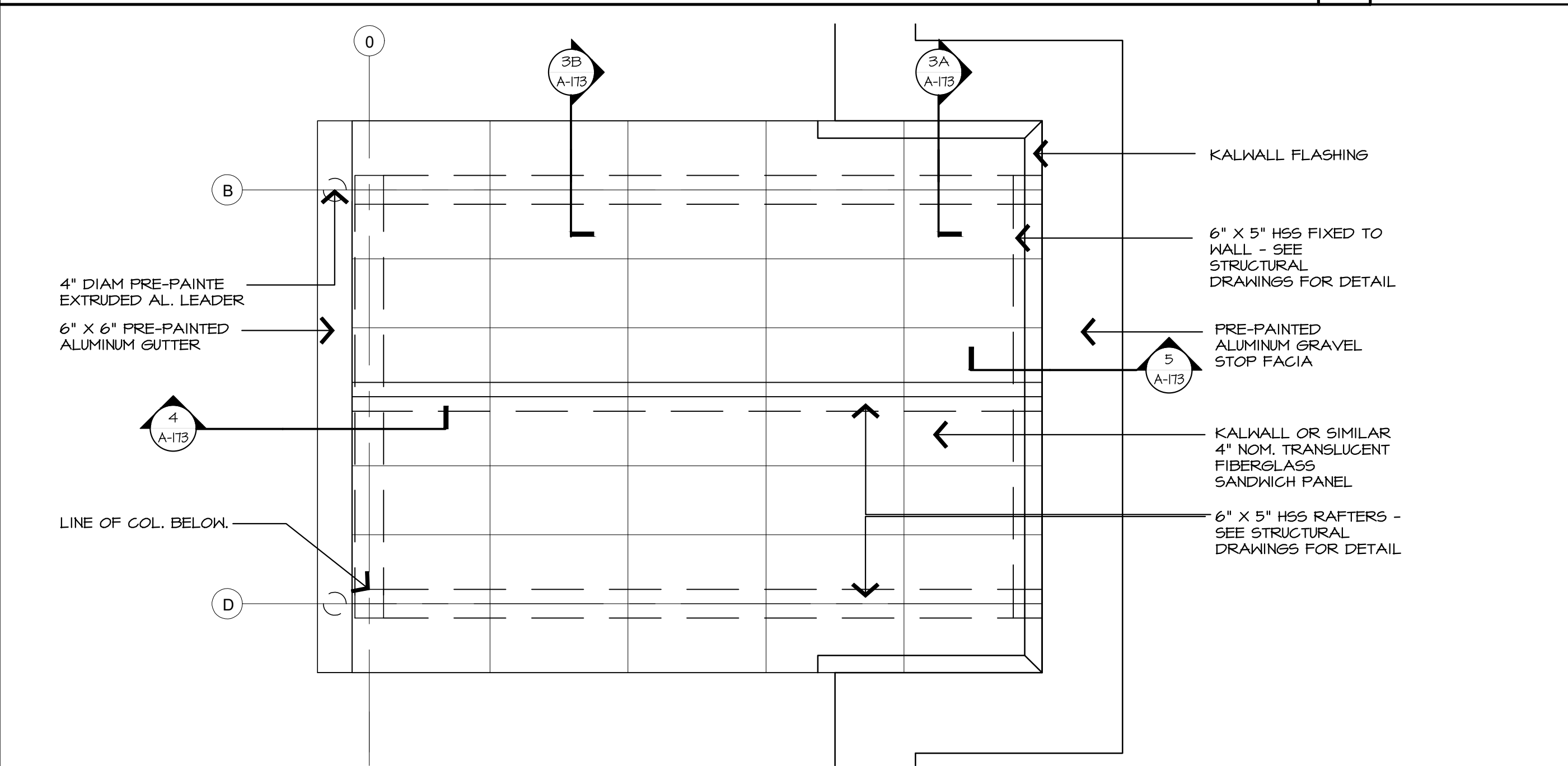
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ROOF DETAILS

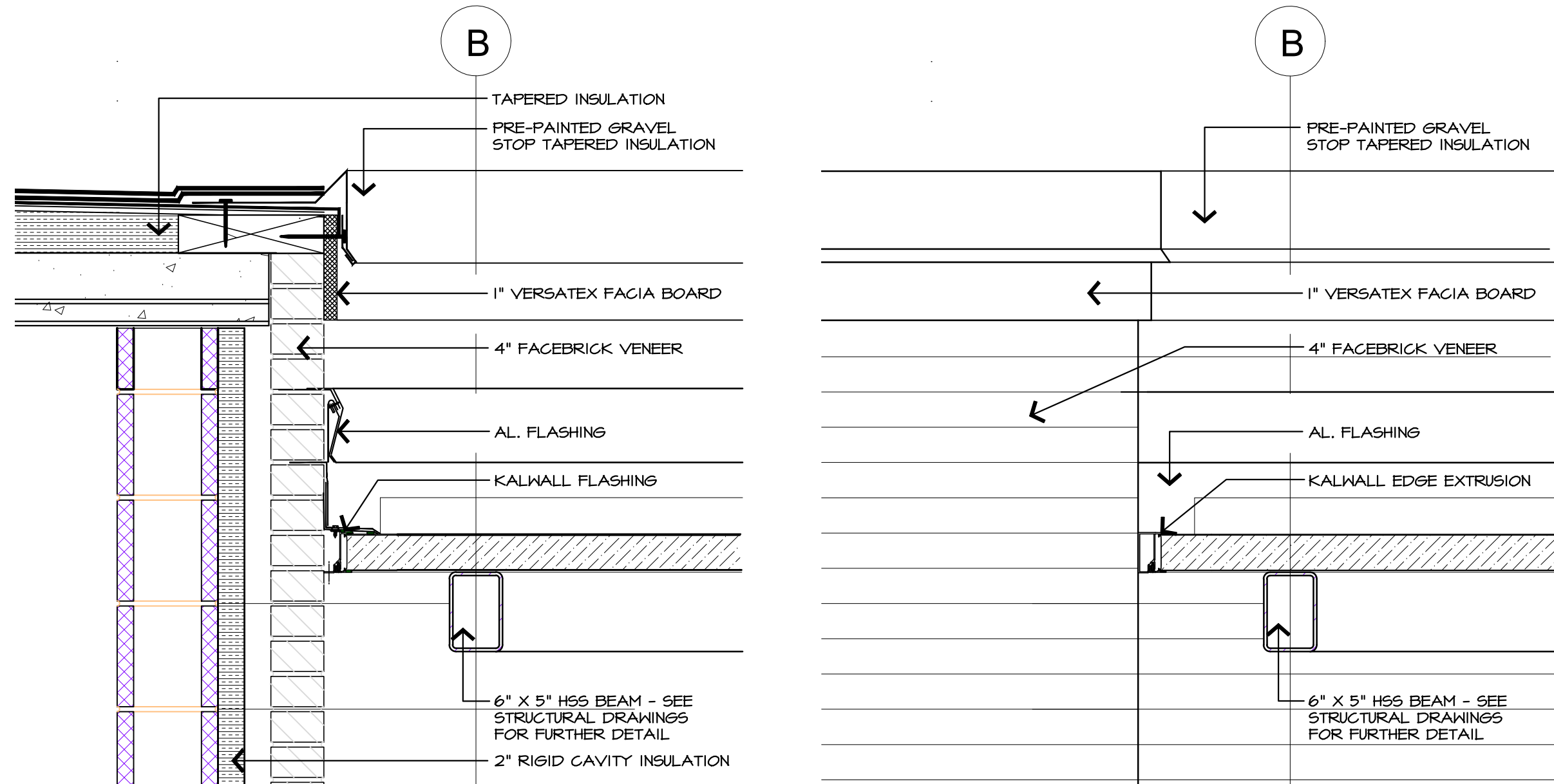
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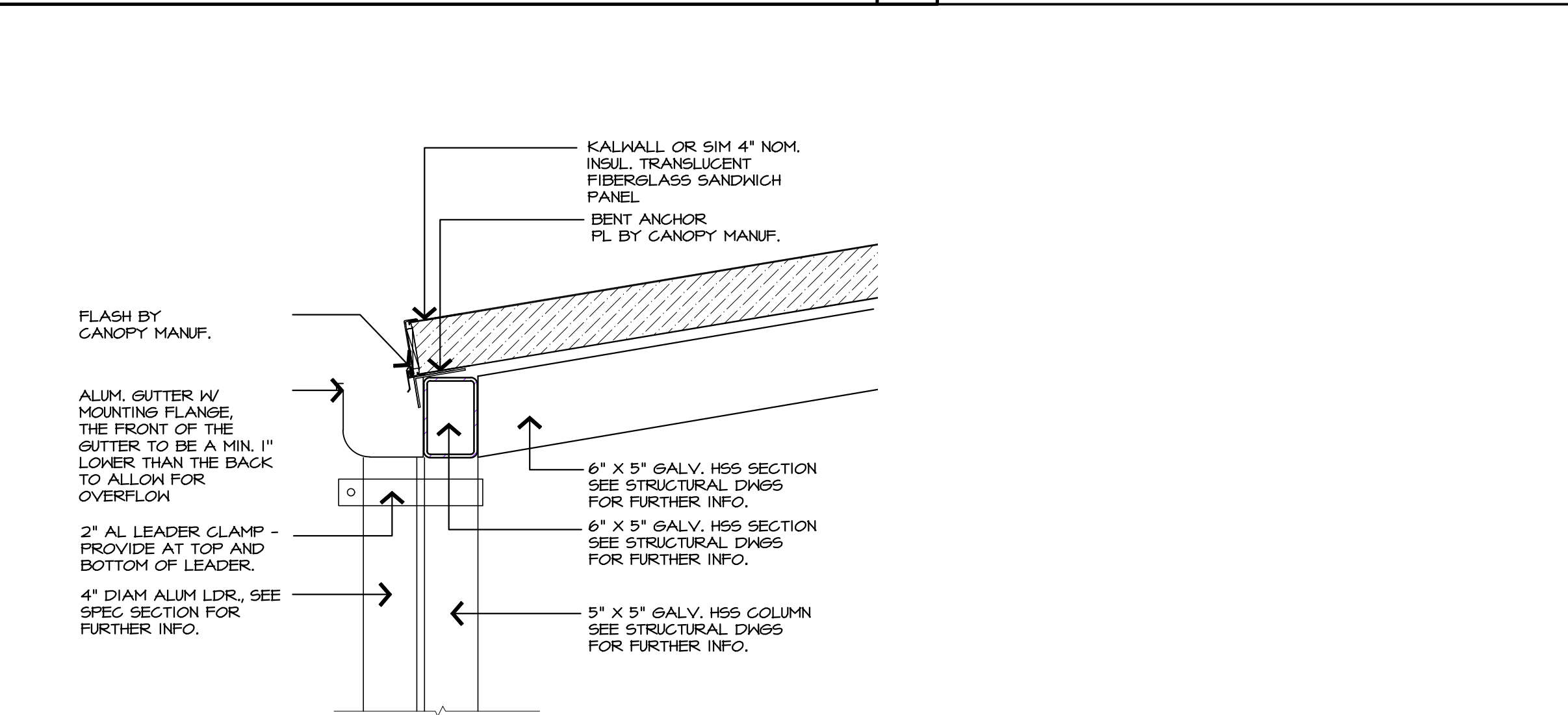
SECTION SCALE: 3/4" = 1'-0" 2



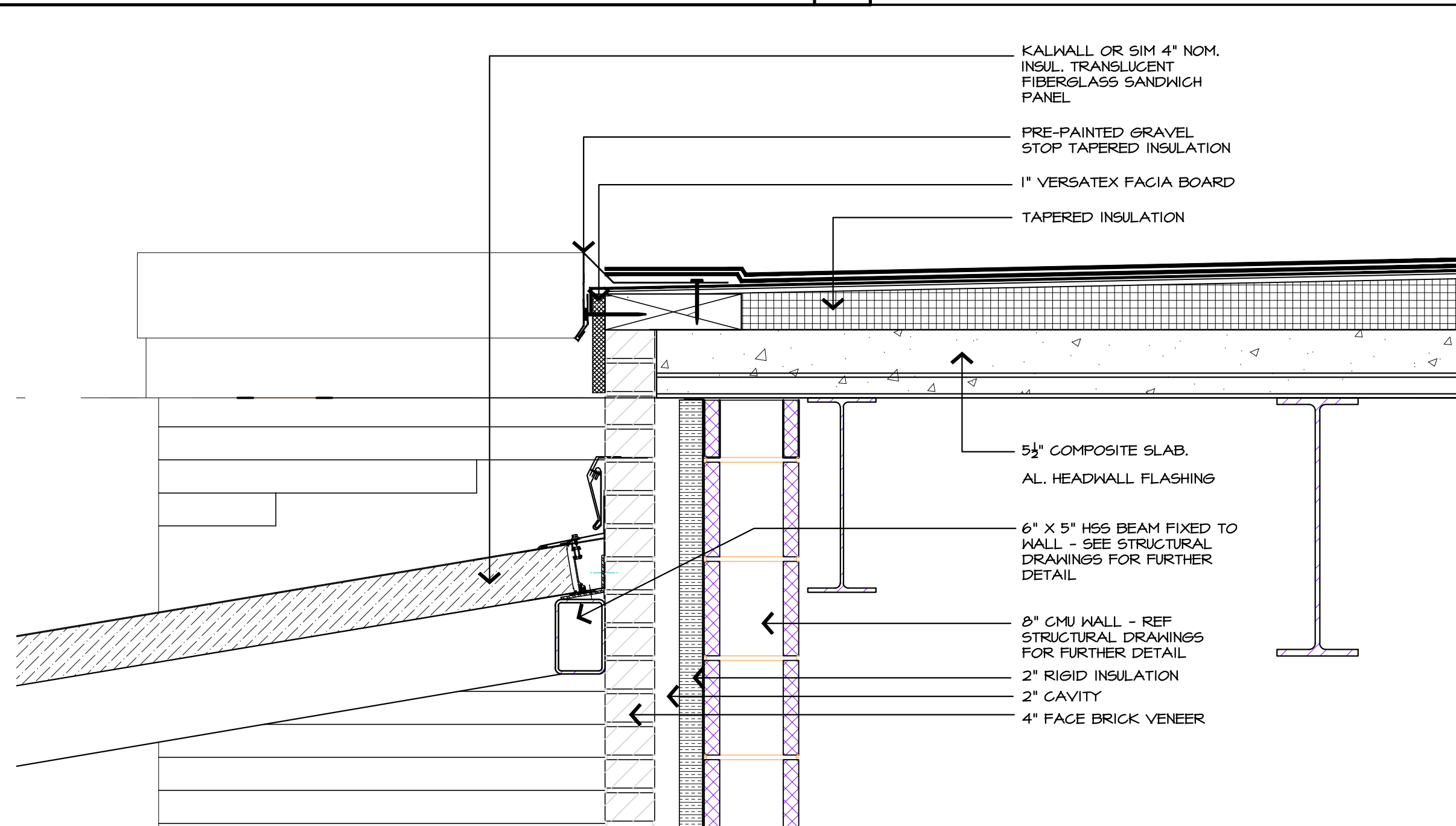
ROOF PLAN SCALE: 3/4" = 1'-0" 1



DETAIL - CANOPY EDGE SCALE: 1-1/2" = 1'-0" 3



DETAIL - CANOPY BOTTOM EDGE SCALE: 1-1/2" = 1'-0" 4



DETAIL - CANOPY HEADWALL SCALE: 1-1/2" = 1'-0" 5



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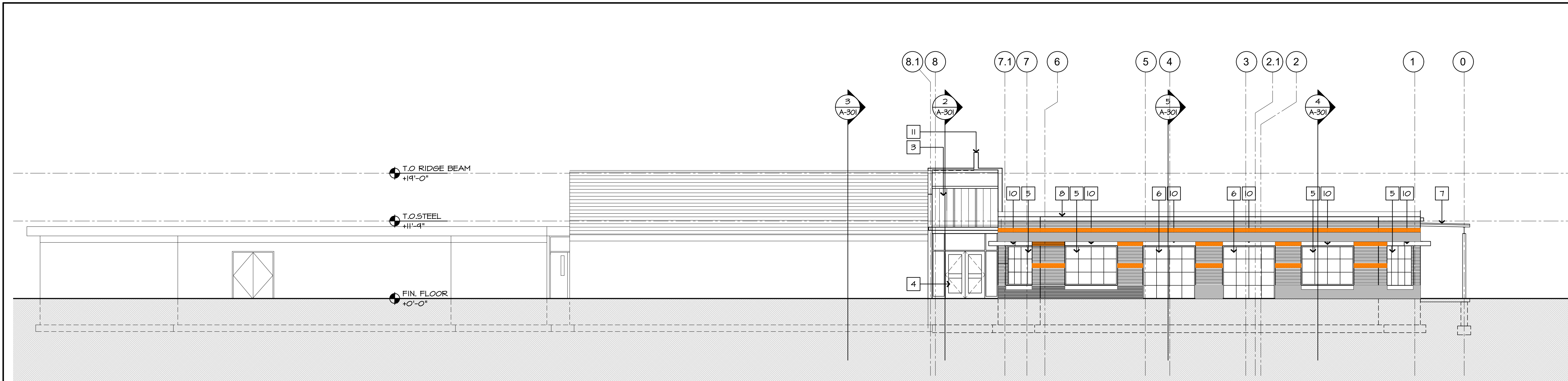
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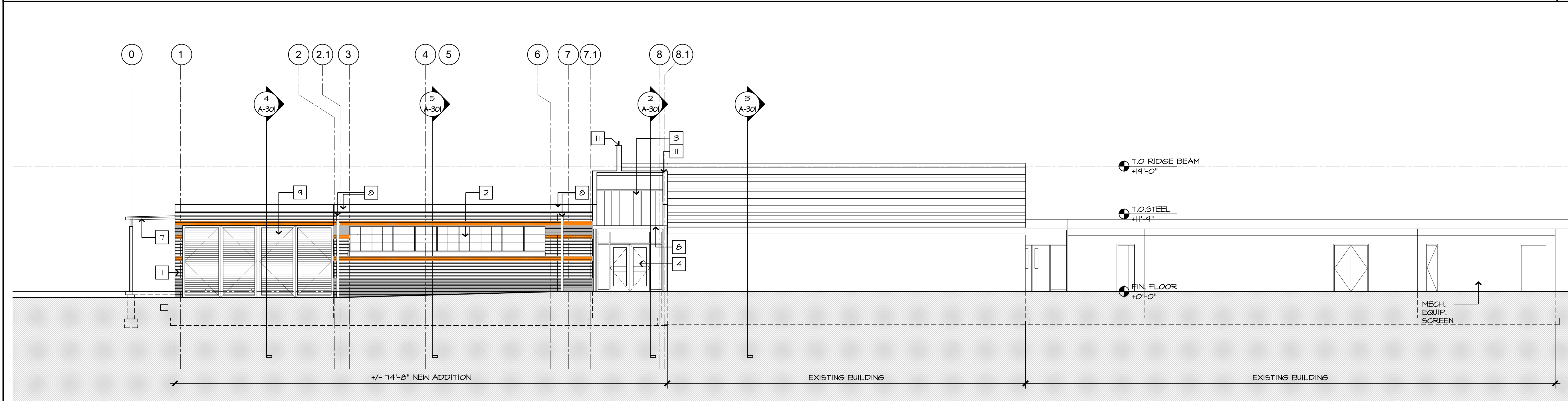
CANOPY DETAILS

A-173



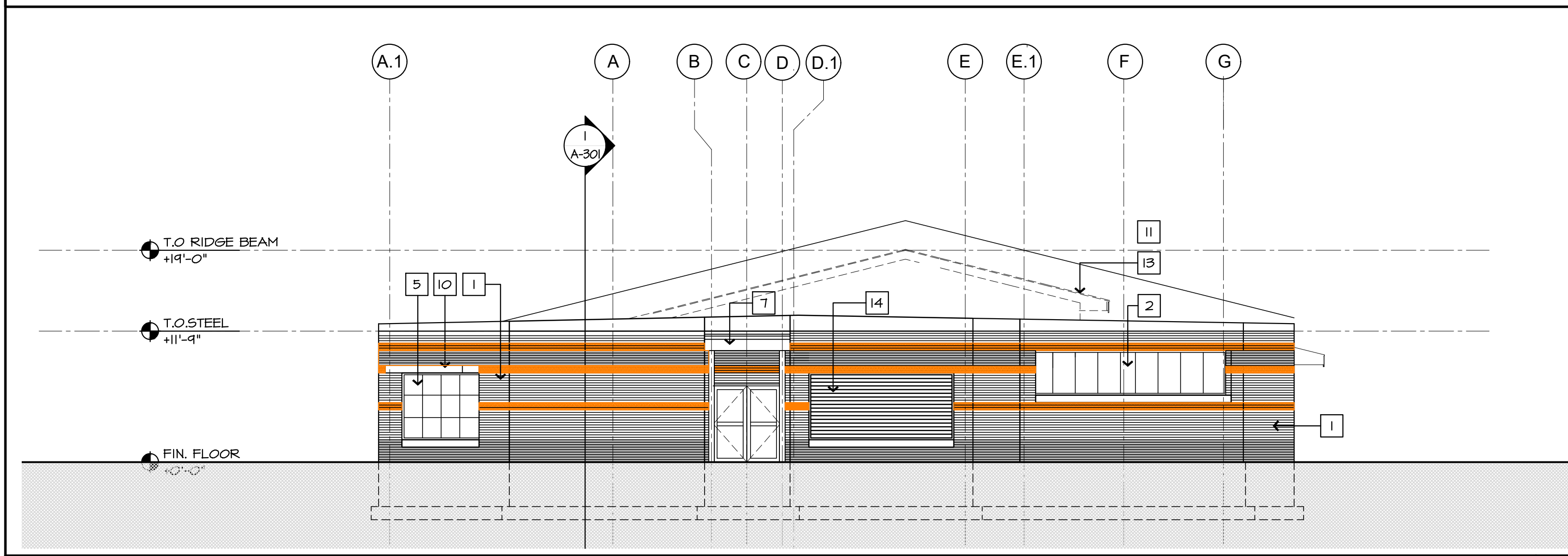
NORTH ELEVATION

SCALE: 1/8" = 1'-0" 3



SOUTH ELEVATION

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



WEST ELEVATION

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

- ELEVATION KEY NOTES
- 1 FACEBRICK VENEER, 2" CAVITY, 2" CAVITY INSULATION, 8" CMU.
 - 2 KALWALL INSULATED PANELS
 - 3 KALWALL ROOF ENCLOSURE.
 - 4 EXTERIOR DOOR AND GLASS SIDE-LITES. SEE DOOR SCHEDULE
 - 5 FIXED WINDOW UNIT. SEE WINDOW SCHEDULE
 - 6 GLASS + ALUM OVERHEAD DOOR. SEE DOOR SCHEDULE
 - 7 KALWALL CANOPY W/GUTTER
 - 8 ALUM. GUTTER AND LEADER
 - 9 ALUM. SCREEN AT MECHANICAL EQUIPMENT
 - 10 EXTERIOR SUNSHADE SYSTEM
 - 11 CMU FIREWALL CLAD IN METAL PANEL
 - 12 MULTI PLY ROOF SYSTEM
 - 13 LINE OF EXISTING BUILDING BEYOND
 - 14 ALUMINUM LOUVERS
- BLACK BRICK
ORANGE BRICK BAND
BRICK TO MATCH EXISTING ADJACENT BUILDING EXTERNAL WALLS

ELEVATION KEY NOTES

SCALE: 1/8" = 1'-0" 4



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BUILDING ELEVATIONS

A-201



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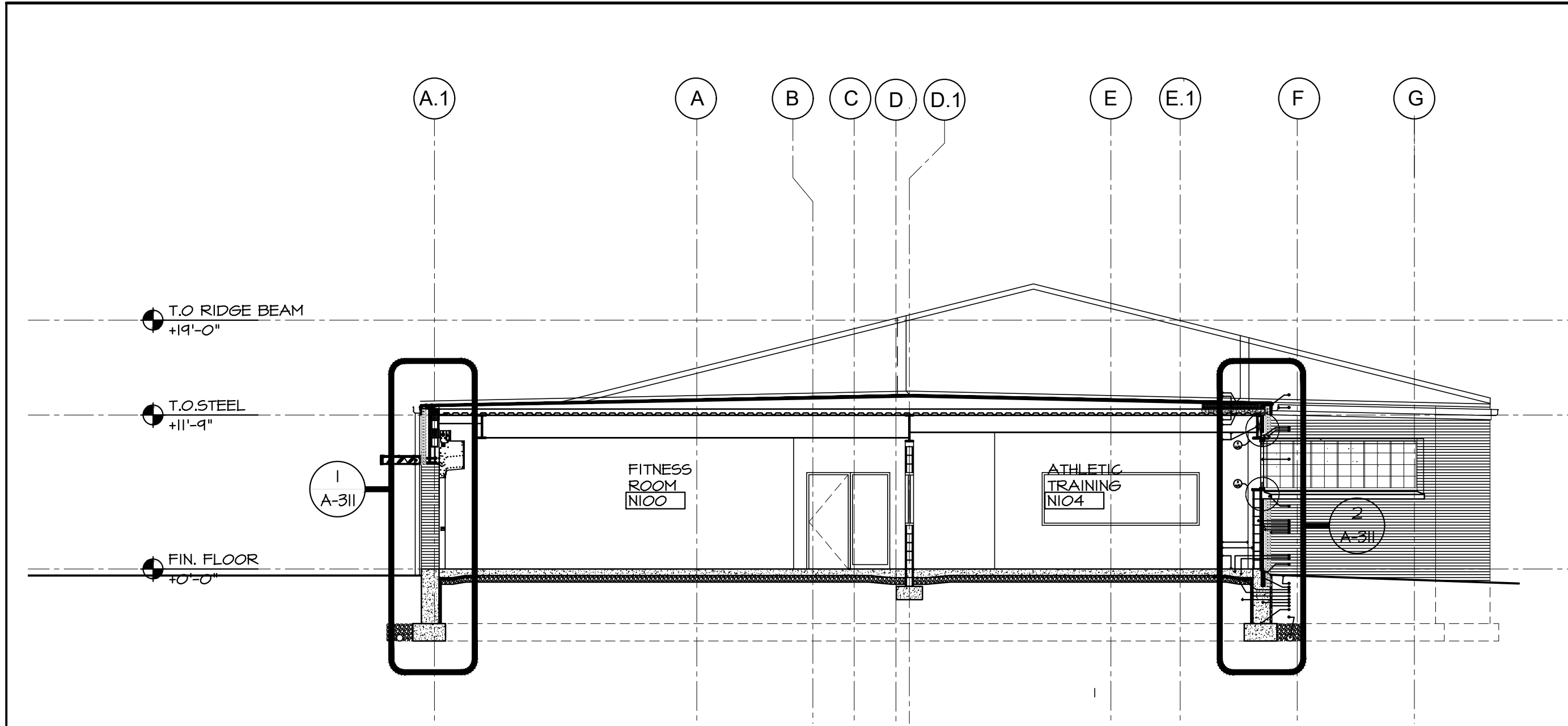
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BUILDING SECTIONS

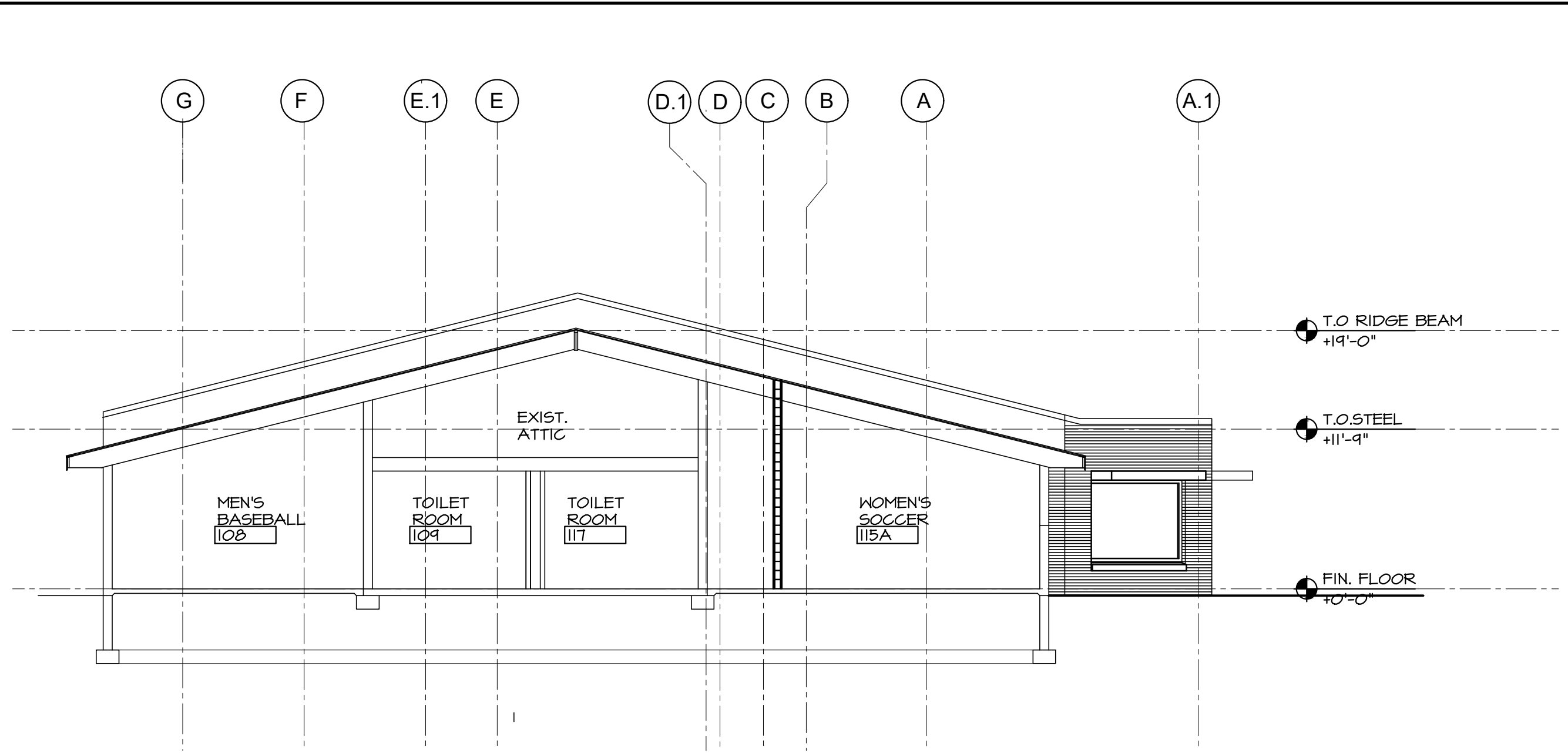
A-301



BUILDING SECTION E-E

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

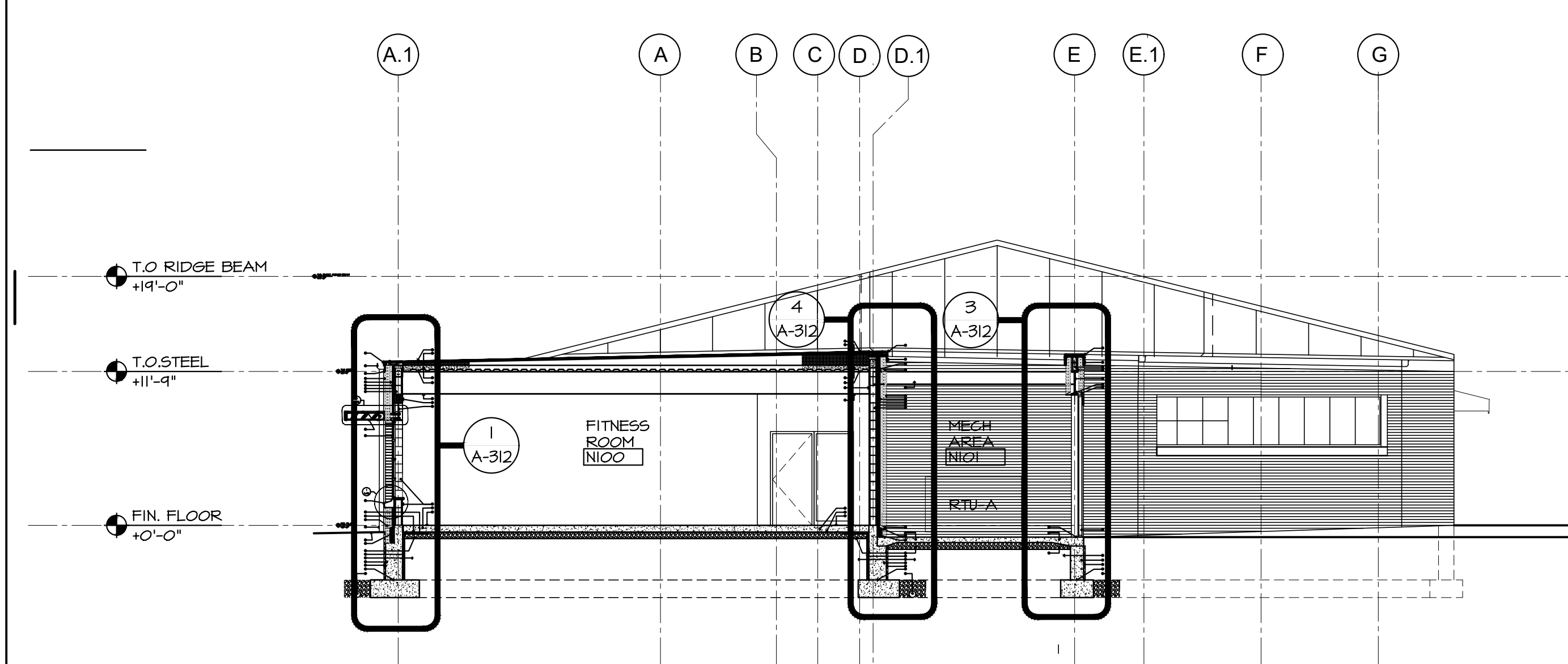
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BUILDING SECTION C-C

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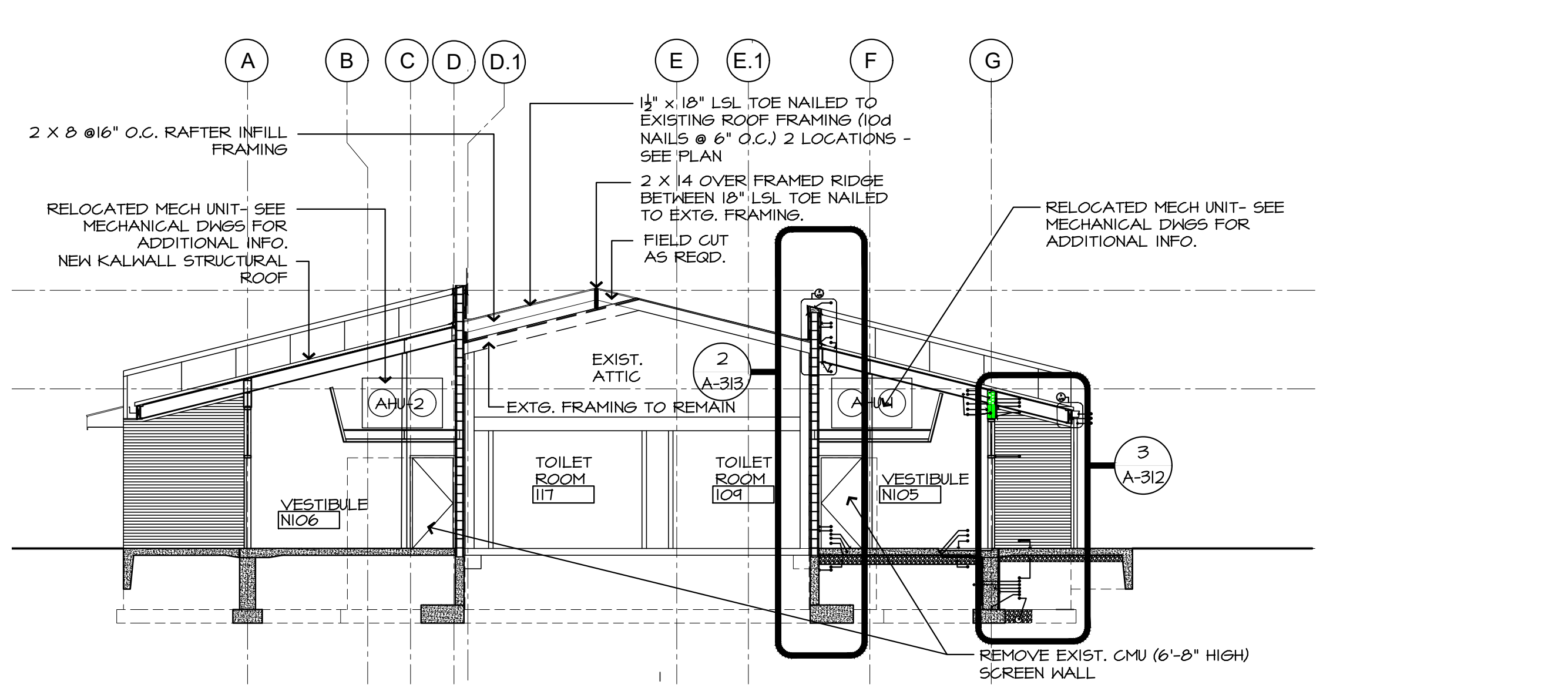
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BUILDING SECTION D-D

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

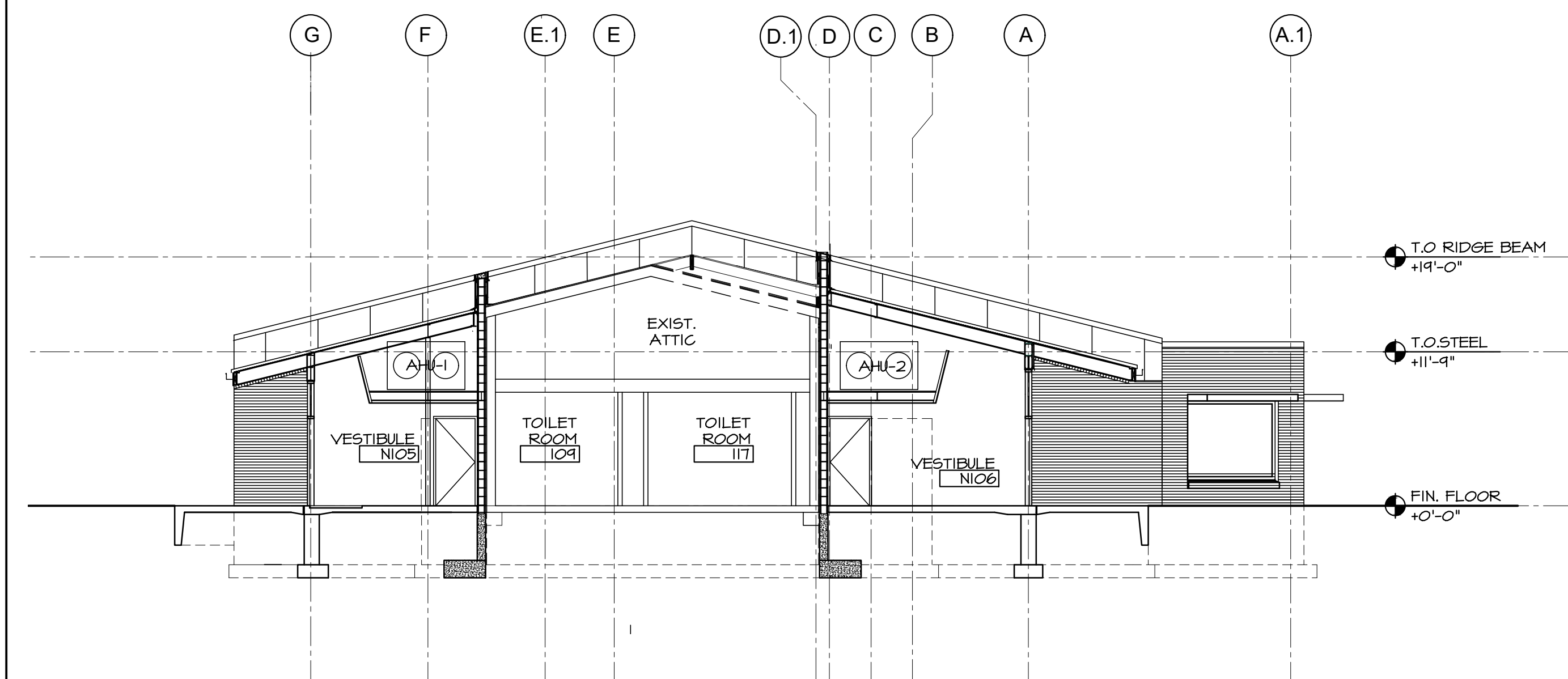
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BUILDING SECTION B-B

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

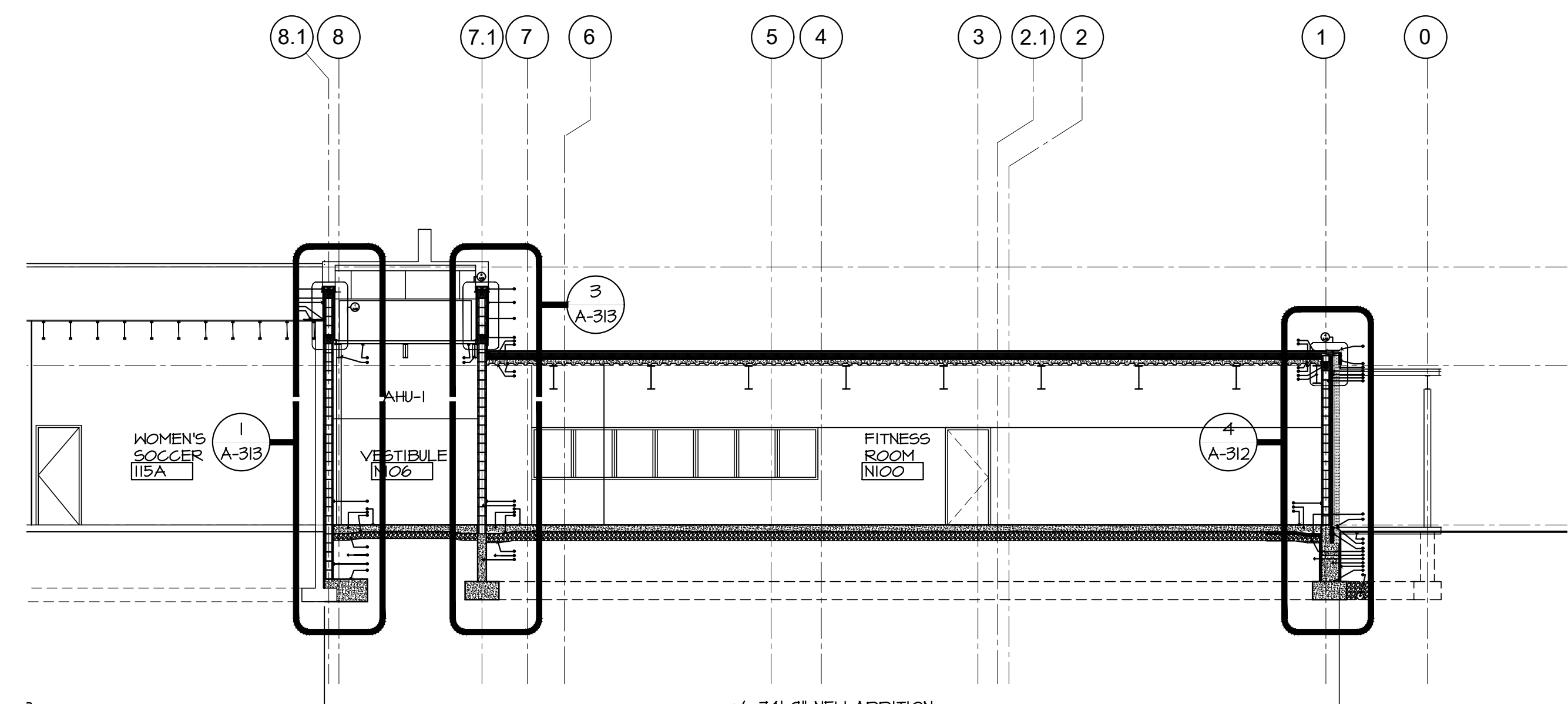
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BUILDING SECTION F-F

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

6



PART BUILDING SECTION A-A

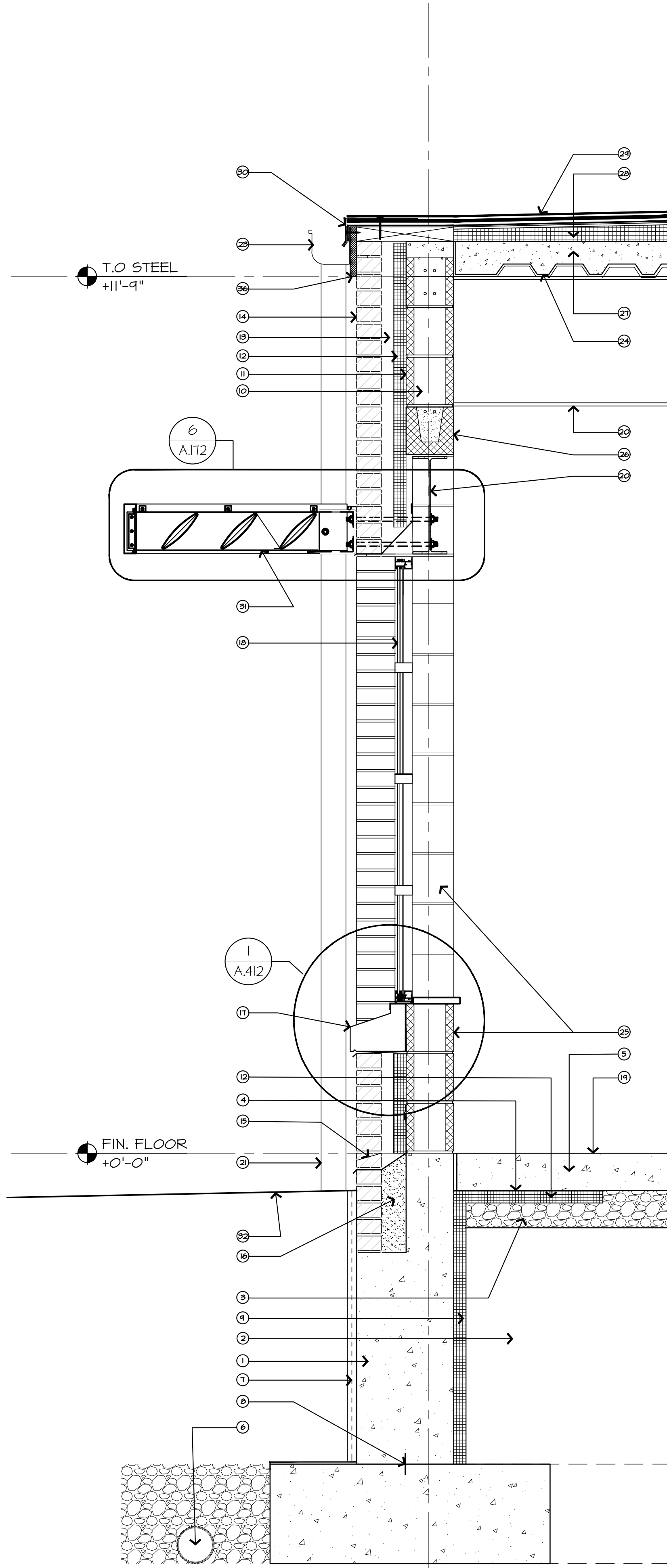
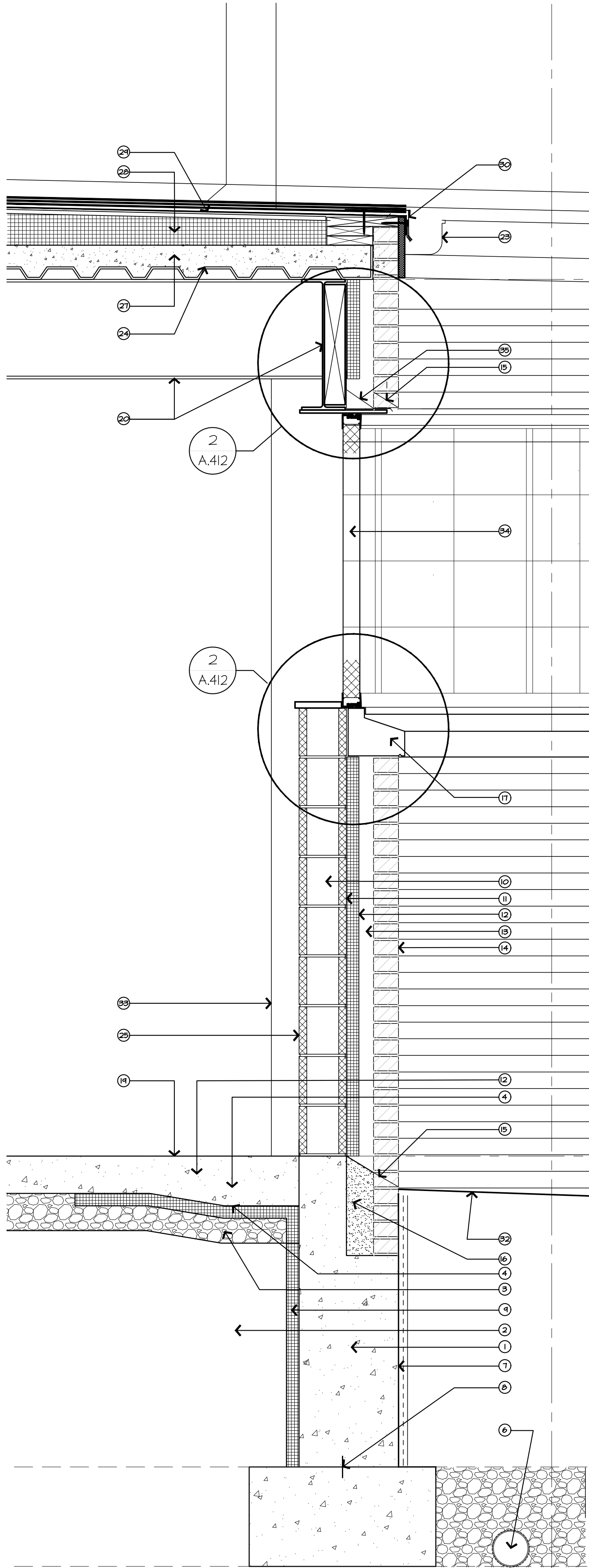
SCALE: 1/8" = 1' - 0"

1

NOTES.

READ WITH STRUCTURAL ENGINEERS DRAWINGS AND NOTES.

- 1 REINFORCED CONCRETE FOOTING AND FOUNDATION WALL - REF STRUCTURAL DRAWINGS FOR FURTHER DETAILS.
- 2 COMPACTED FILL - REF STRUCTURAL ENGINEERS DRAWINGS FOR COMPACTION REQUIREMENTS.
- 3 6" MIN CRUSHED STONE DRAINAGE FILL
- 4 10 MIL "STEGO WRAP" VAPOR BARRIER. TAPE ALL HORIZONTAL/VERTICAL SEAMS AND PENETRATIONS
- 5 REINFORCED CONCRETE SLAB ON GRADE - REF STRUCTURAL ENGINEERS DRAWINGS FOR FURTHER DETAIL.
- 6 6" DIAM. PVC PERFORATED DRAINAGE PIPE WRAPPED IN DRAINAGE FABRIC AND ENCASED IN STONE. CONNECT TO STORM WATER MANAGEMENT SYSTEM OR TO DAYLIGHT. SEE CIVIL DRAWINGS
- 7 DRAINAGE BOARD OVER SBS COLD APPLIED MODIFIED BITUMEN WATERPROOFING SYSTEM.
- 8 WATERSTOP
- 9 2" THICK RIGID FOAM INSULATION BOARD.
- 10 8" CMU. SEE STRUCTURAL DRAWINGS FOR REINFORCEMENT
- 11 WATER RESISTANT BARRIER
- 12 2" CONTINUOUS INSULATION
- 13 2" AIR SPACE
- 14 BRICK VENEER
- 15 H&B #343 LOUVERED WEEP HOLE @ 24" O.C.
- 16 GROUT SOLID 2 COURSES ABOVE GRADE
- 17 CAST STONE SILL. SEE DETAIL ON A.412
- 18 WINDOW / STOREFRONT ASSEMBLY
- 19 FINISH FLOORING
- 20 STEEL BEAM- SEE STRUCTURAL DRAWINGS
- 21 4" DIAM. PRE-FINISHED EXTRUDED ALUMINUM LEADER - CONNECT TO STORM WATER MANAGEMENT SYSTEM - SEE CIVIL DRAWINGS
- 22 WINDOW ASSEMBLY REFER TO SHEET A.411 FOR DETAILS.
- 23 6" X 6" PRE-FINISHED ALUMINUM GUTTER.
- 24 METAL DECKING
- 25 FINISH - PAINTED CMU
- 26 BOND BEAM / LINTEL - SEE STRUCTURAL DRAWINGS
- 27 CONCRETE DECKING
- 28 TAPERED POLY ISO INSULATION
- 29 BUILT UP ROOFING SYSTEM
- 30 PRE-FINISHED ALUMINUM SNAPLOCK GRAVEL-STOP/FASCIA
- 31 EXTERIOR SUNSHADE SYSTEM
- 32 APPROXIMATE GRADE
- 33 STEEL COLUMN - SEE STRUCTURAL DRAWINGS
- 34 KALWALL PANEL
- 35 THROUGH WALL FLASHING
- 36 3/4" X 8" VERSATEX PVC TRIM, PTD. COLOR TBD
- 37 PRE-FINISHED SNAPLOCK COPING
- 38 6" CMU GROUT SOLID
- 39 PRE-FINISHED ALUMINUM GATE BY ARROW # E&IS
- 40 S.S. GATE STOP
- 41 WALK-OFF-MAT IN SLAB DEPRESSION
- 42 6" ATAS OPALINE OFF VERTICAL PANEL, COLOR TBD
- 43 3/8" G&B, PTD. COLOR TBD
- 44 3/8" DENS GLASS GOLD
- 45 3/8" 22 GA HAT CHANNEL
- 46 22 GA STL STUD @ 16" O.C.
- 47 BATT INSULATION
- 48 PRE-FINISHED METAL PANEL
- 49 PATCH ASPHALT ROOF SHINGLES TO MATCH EXISTING
- 50 S.S. STEP FLASHING



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4	ISSUED FOR BID	05.19.23

JOB NO. 22.031

DRAWN BY: JLS CHECKED BY: KMS

DATE: 05.19.23

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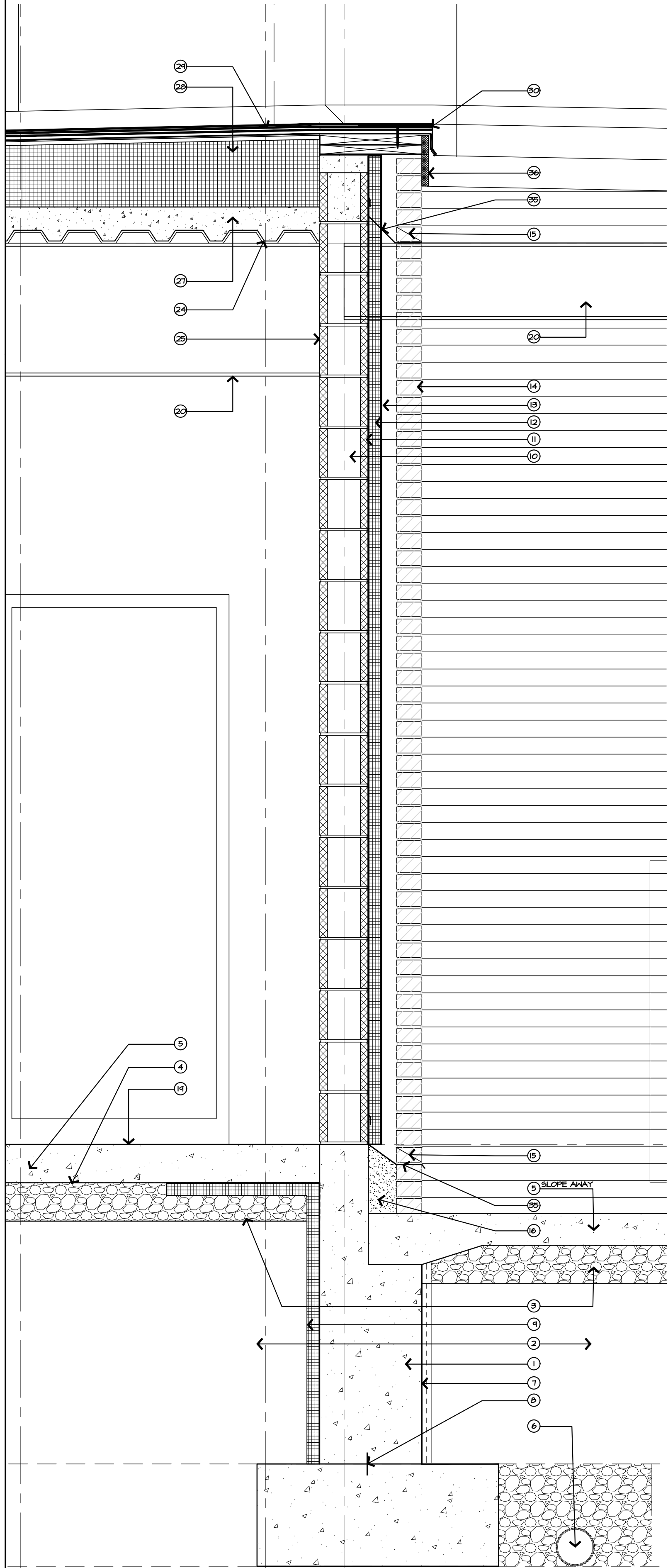
ADDITION AND RENOVATIONS TO:

**LOCKER
FACILITY**

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

WALL SECTIONS

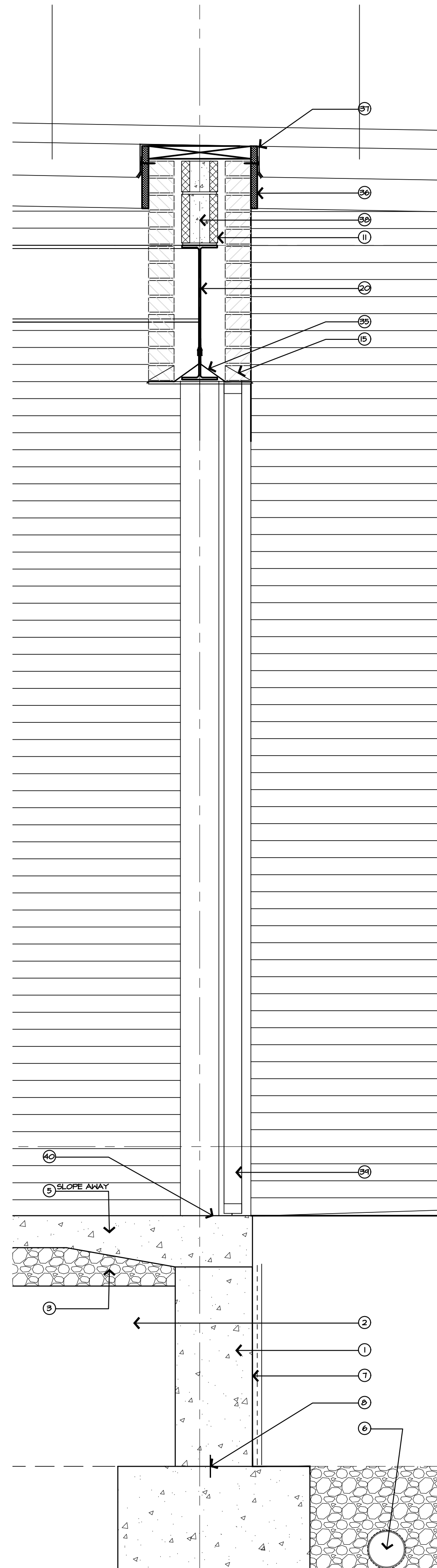
A-311



WALL SECTION 5

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

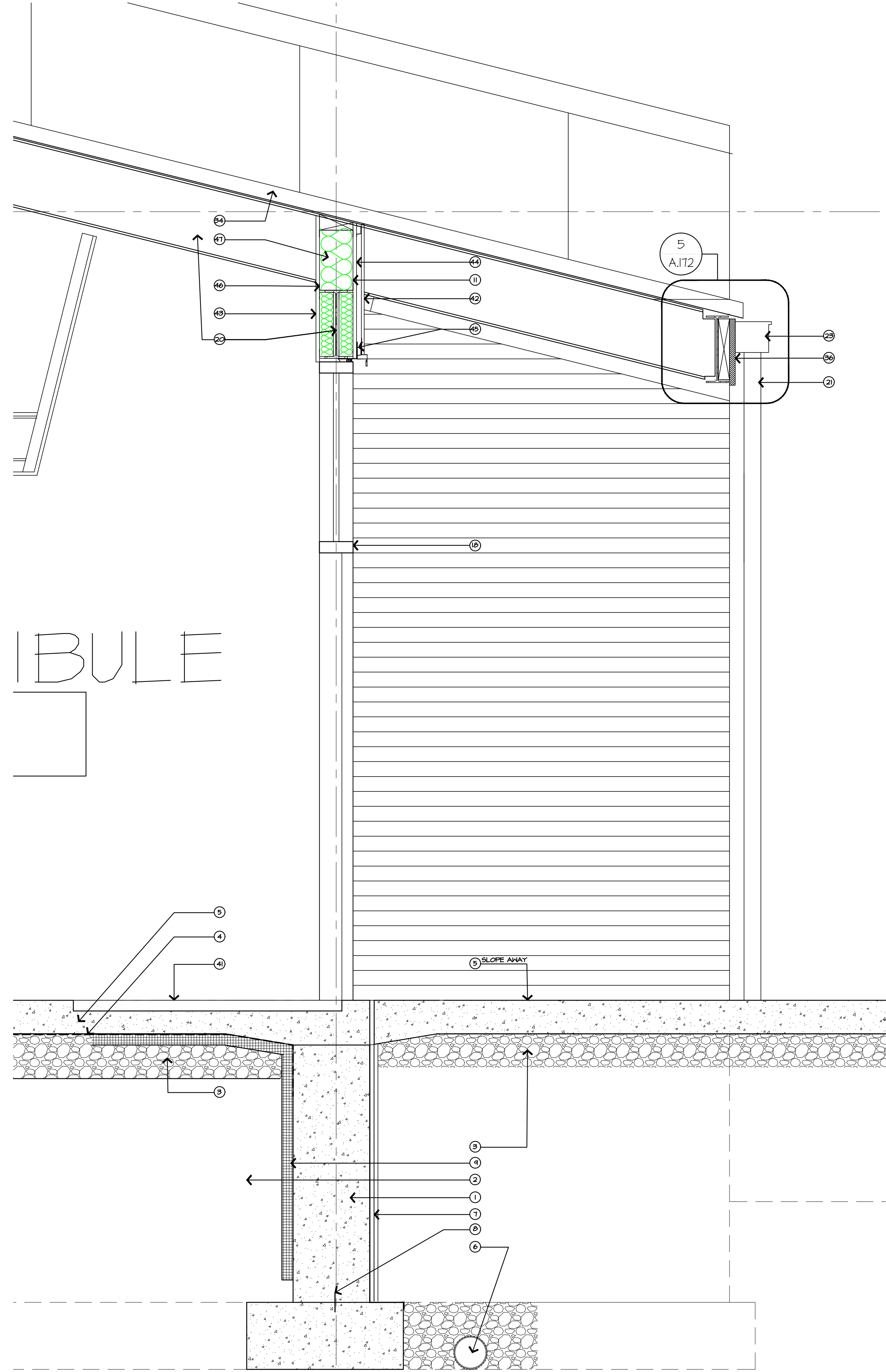
3



WALL SECTION 4

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

2



WALL SECTION 3

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

1



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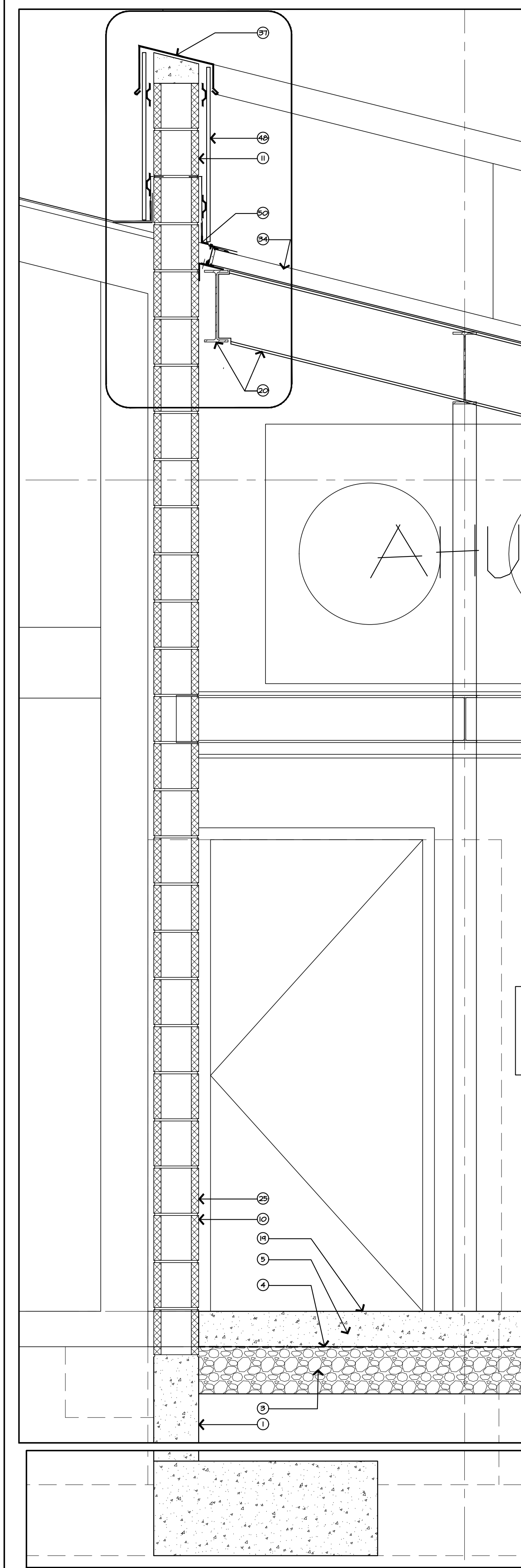
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WALL SECTIONS

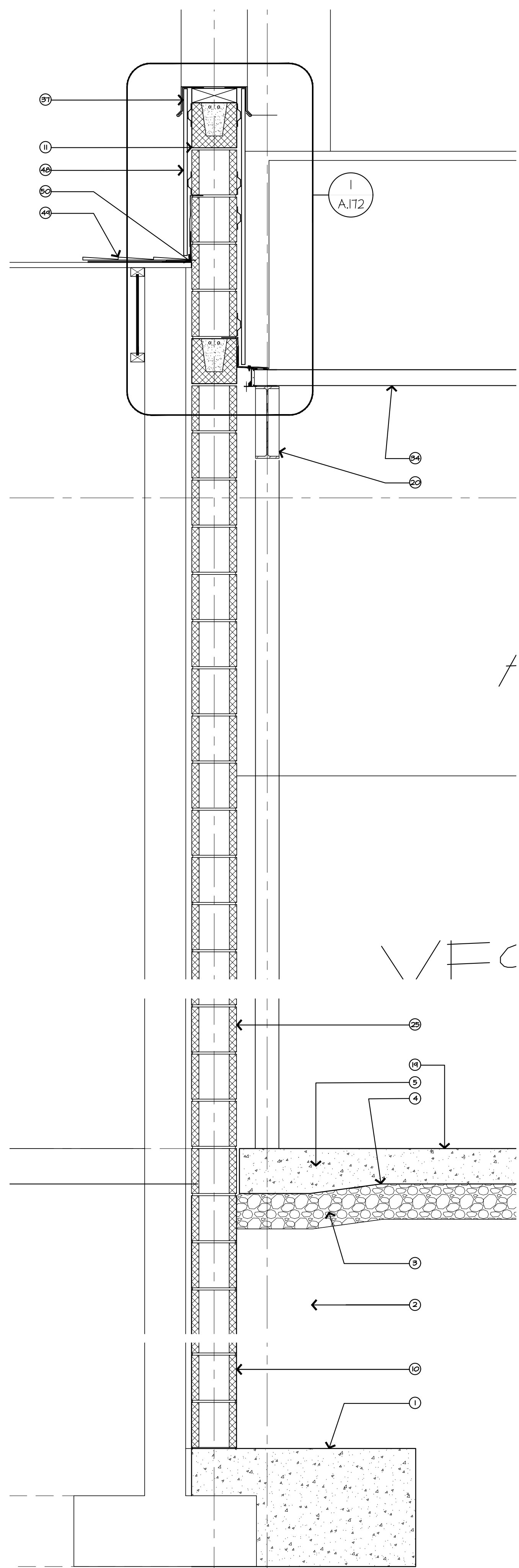
A-312



WALL SECTION 8

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

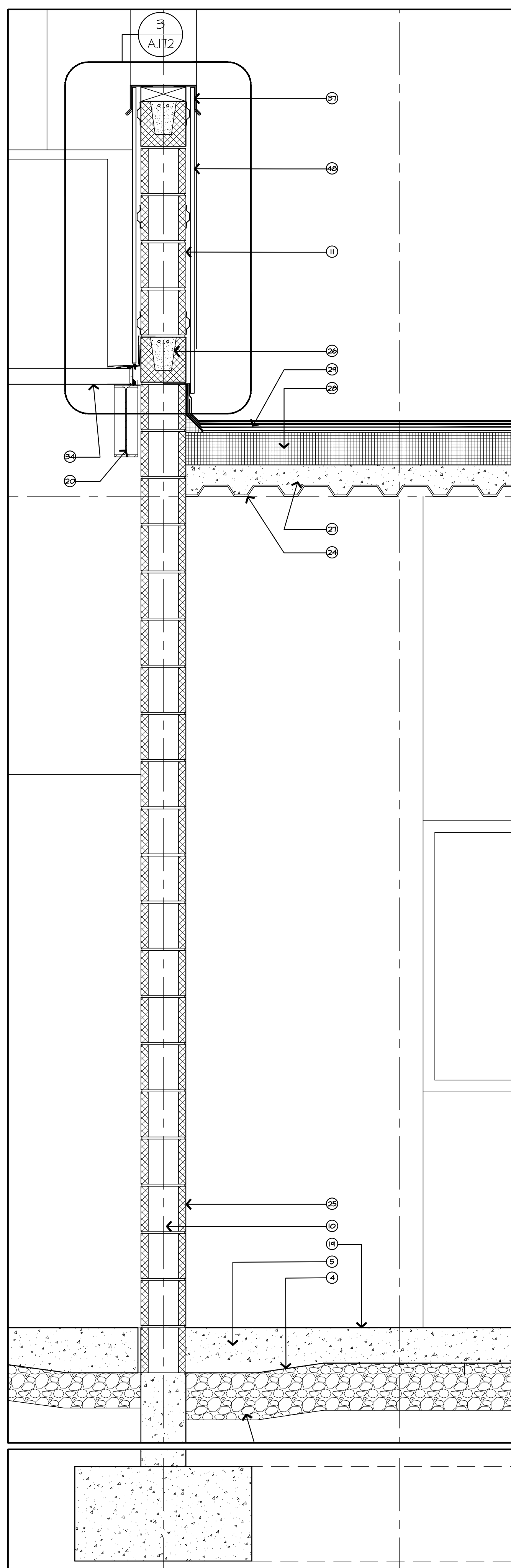
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WALL SECTION 7

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

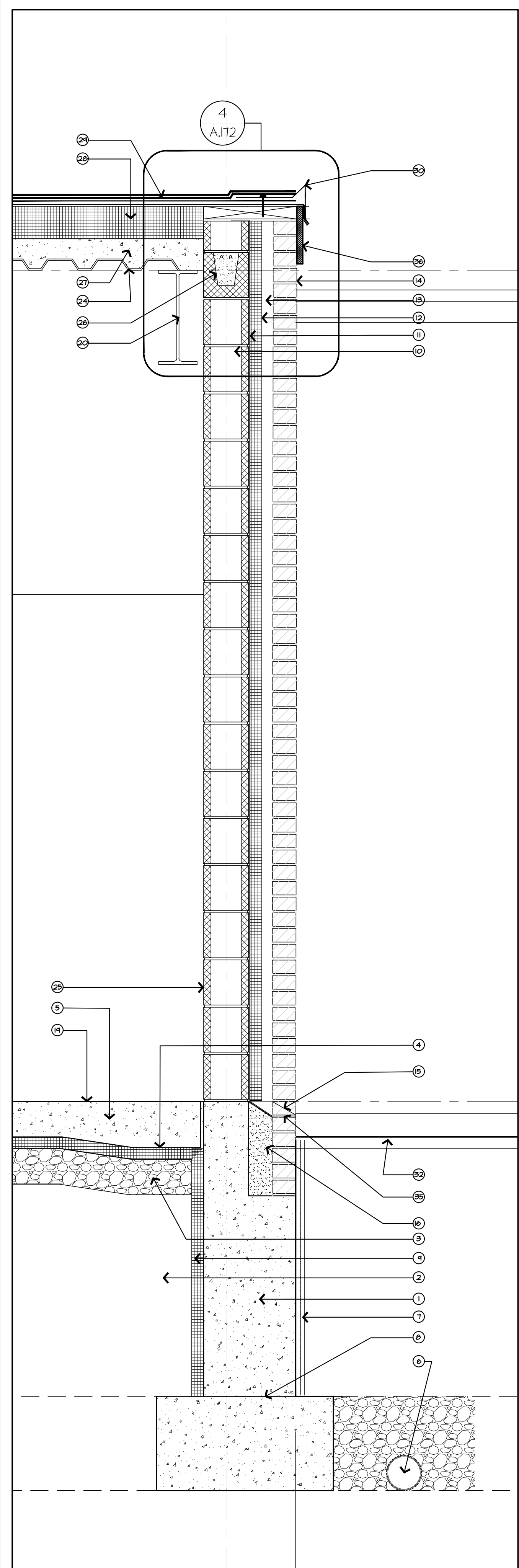
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WALL SECTION 7

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

1



TYPICAL SECTION THRU WALL

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

4



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WALL SECTIONS

A-313

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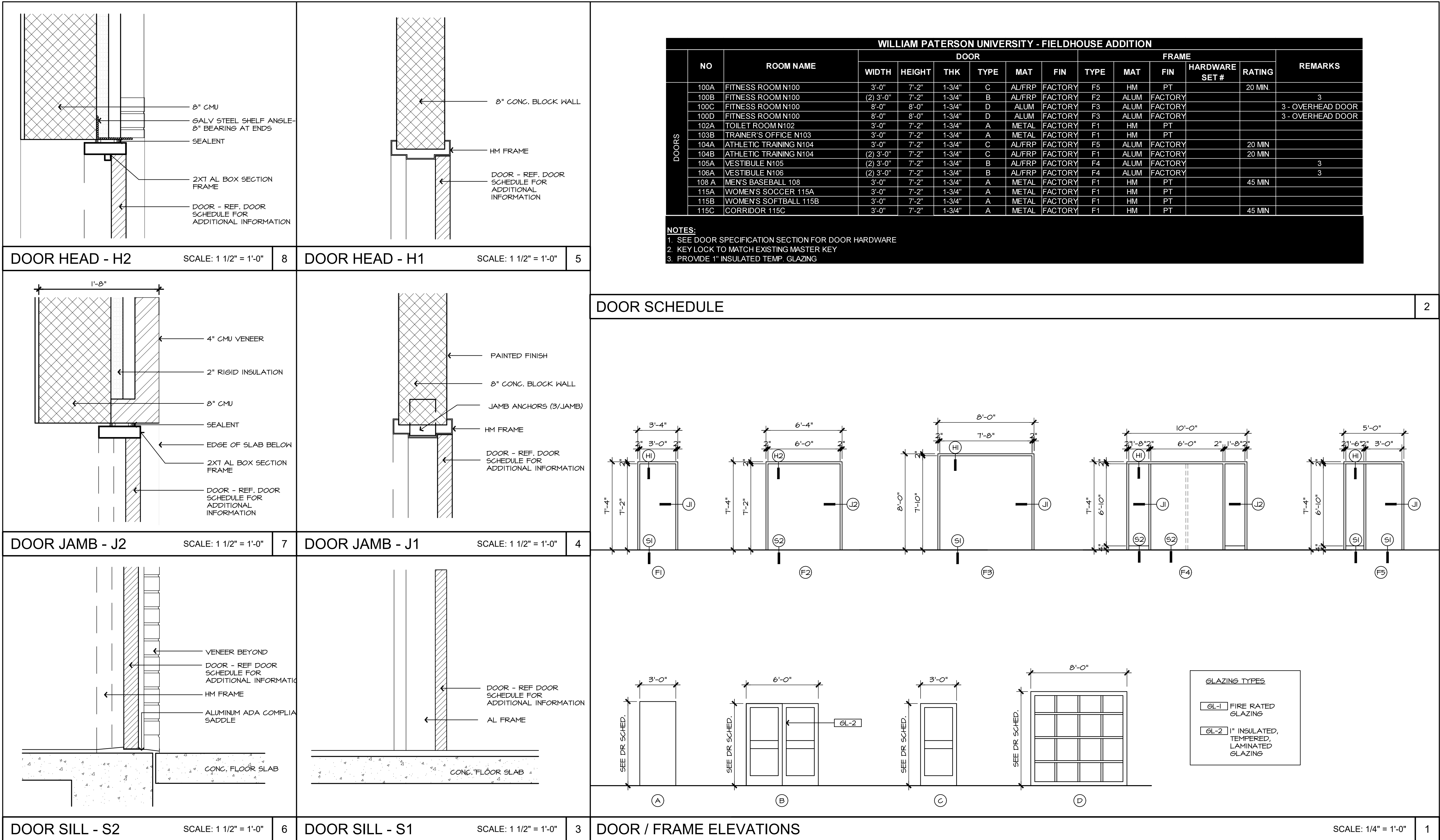
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DOOR SCHEDULE

A-401





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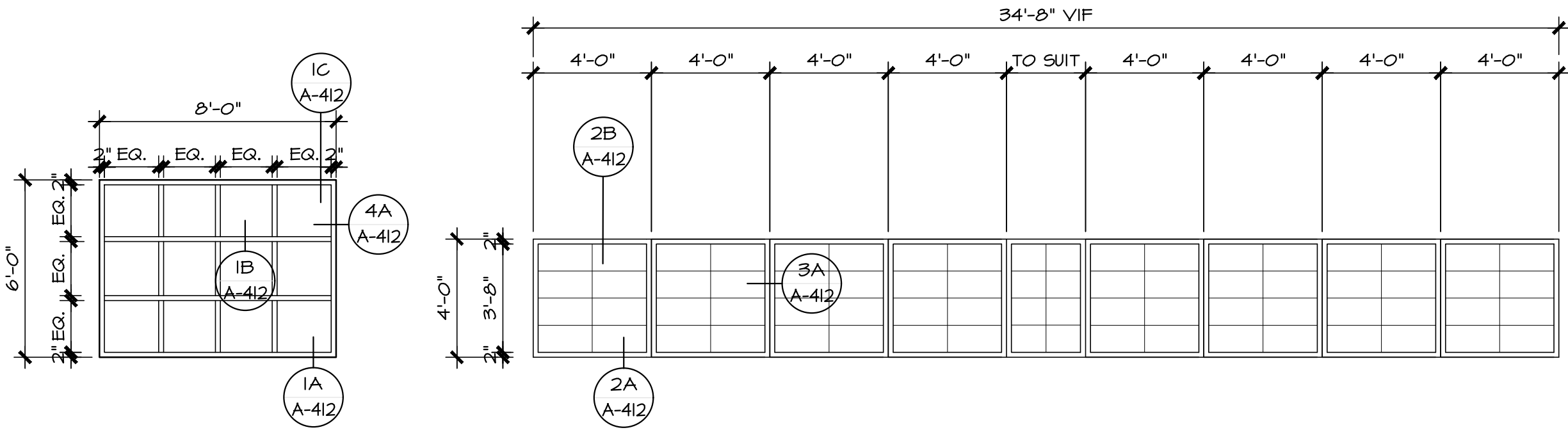
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WINDOW SCHEDULE

A-411

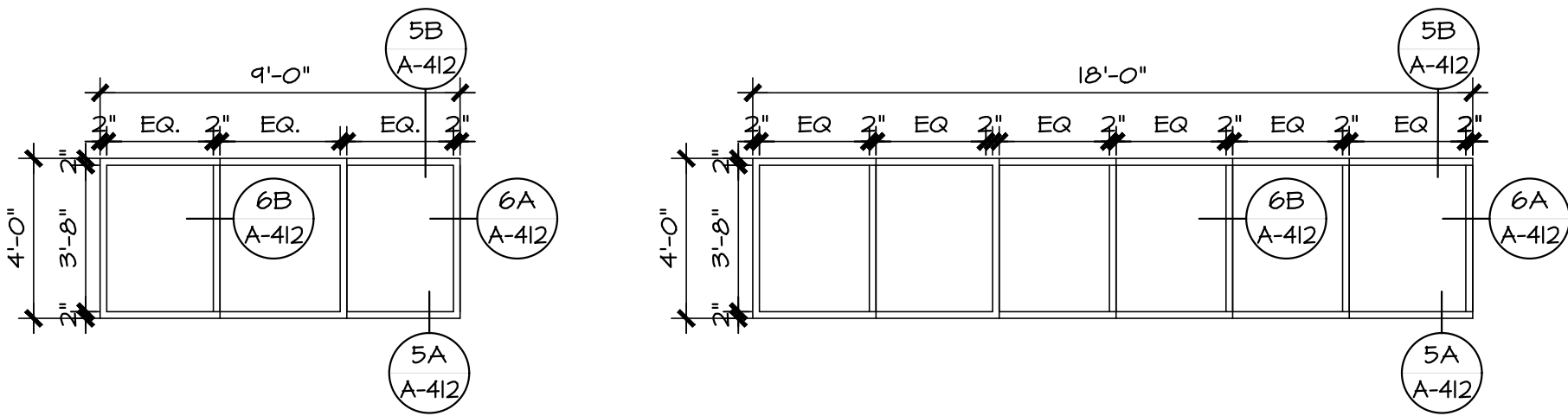


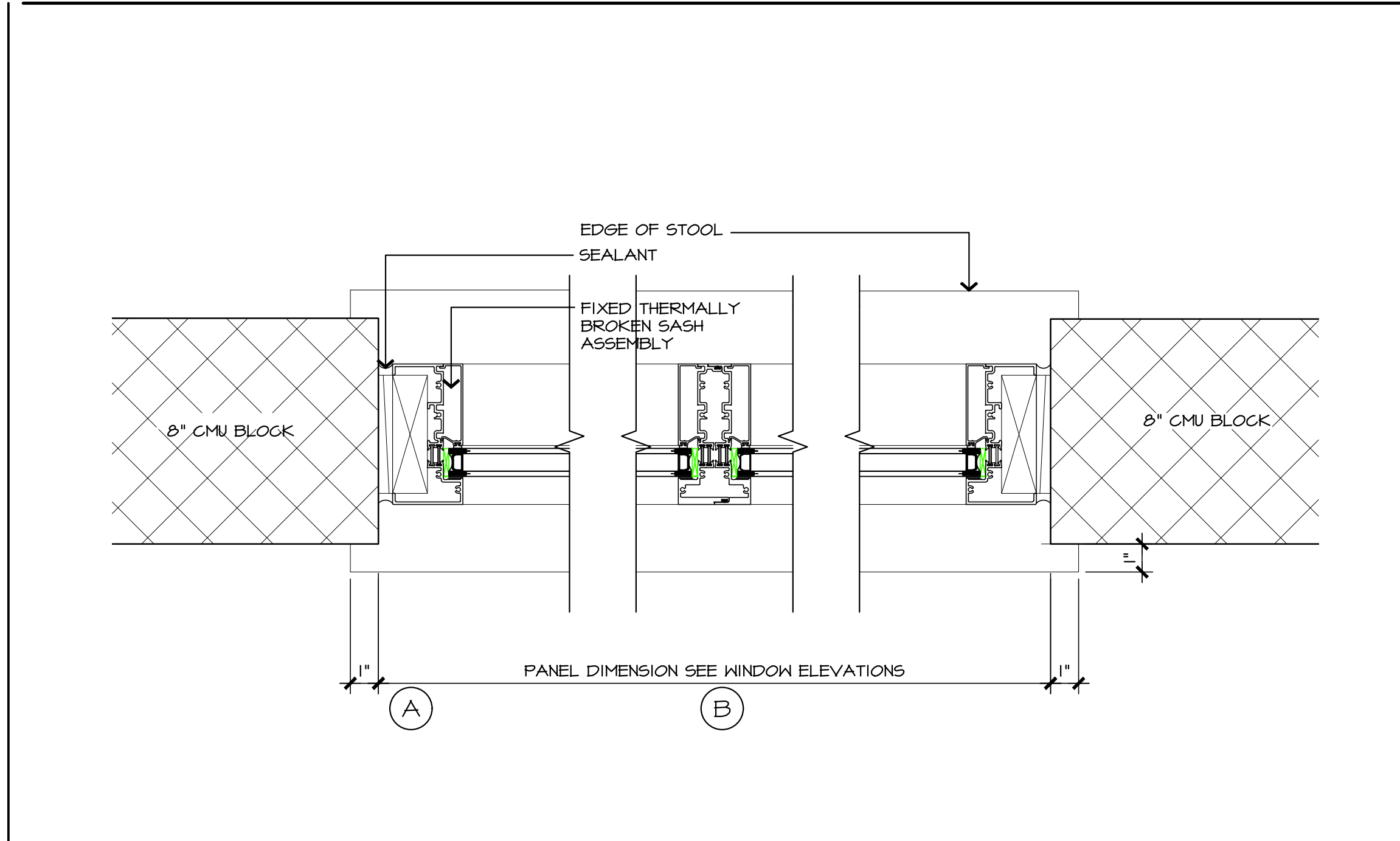
WINDOW NUMBER	(H1)	(H2)
WINDOW TYPE	FIXED WINDOW	KALHALL PANEL
GLAZING	CLEAR INSULATED LOW-E GLASS	TRANSLUCENT PANEL
FRAME	ALUMINUM FRAME	ALUMINUM FRAME
NOTES		

EXTERIOR WINDOW ELEVATIONS

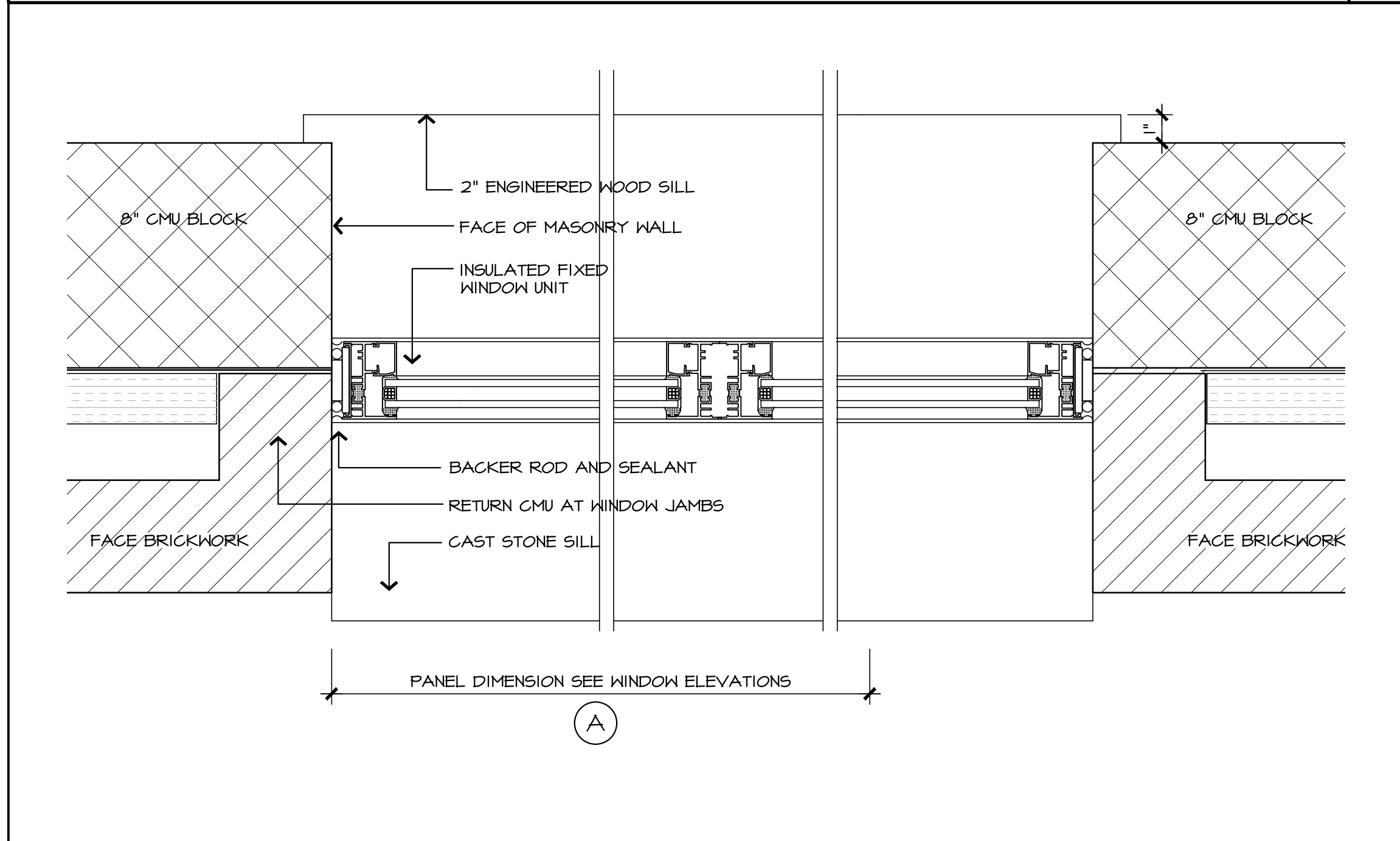
SCALE: 1/4" = 1'-0"

2

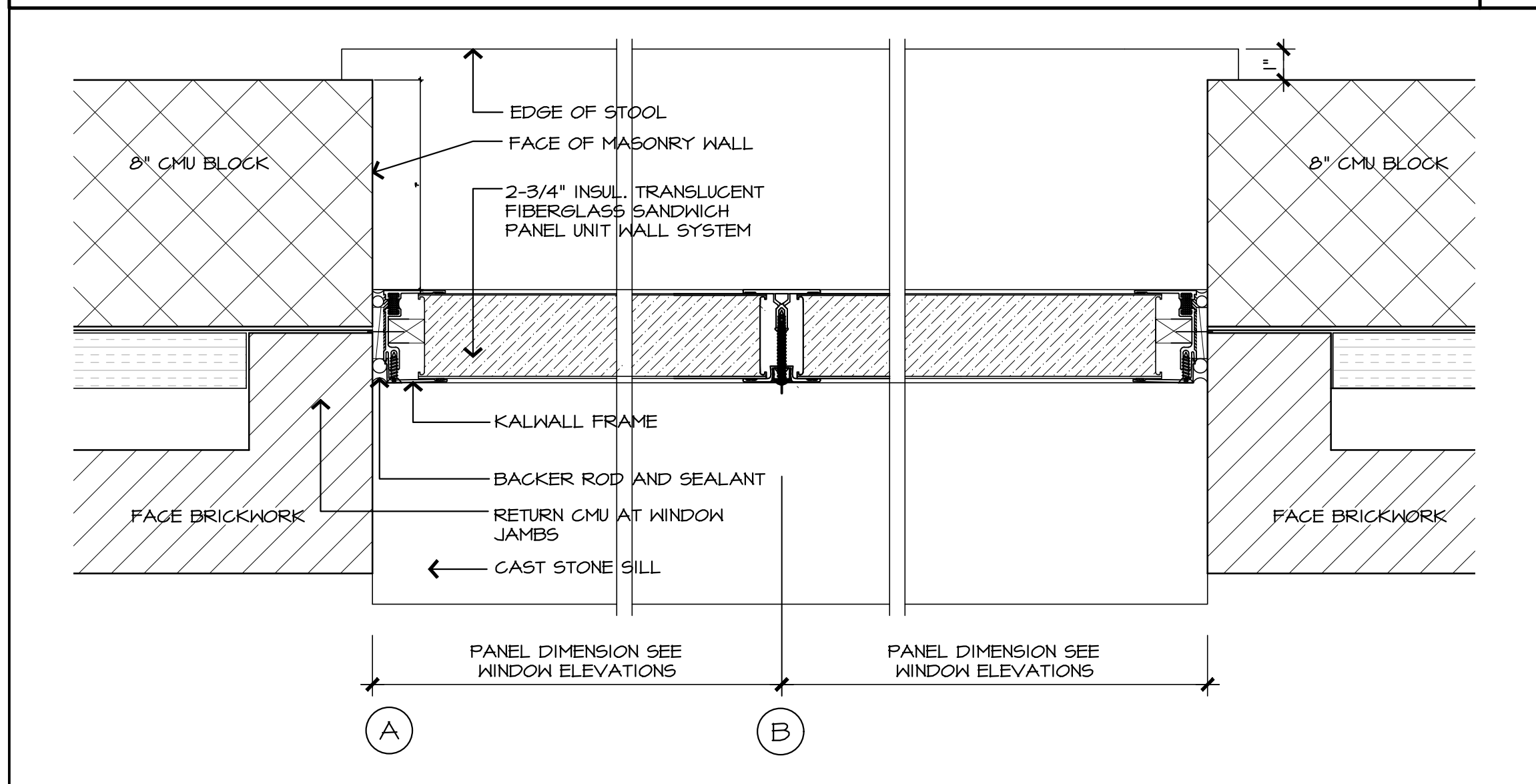




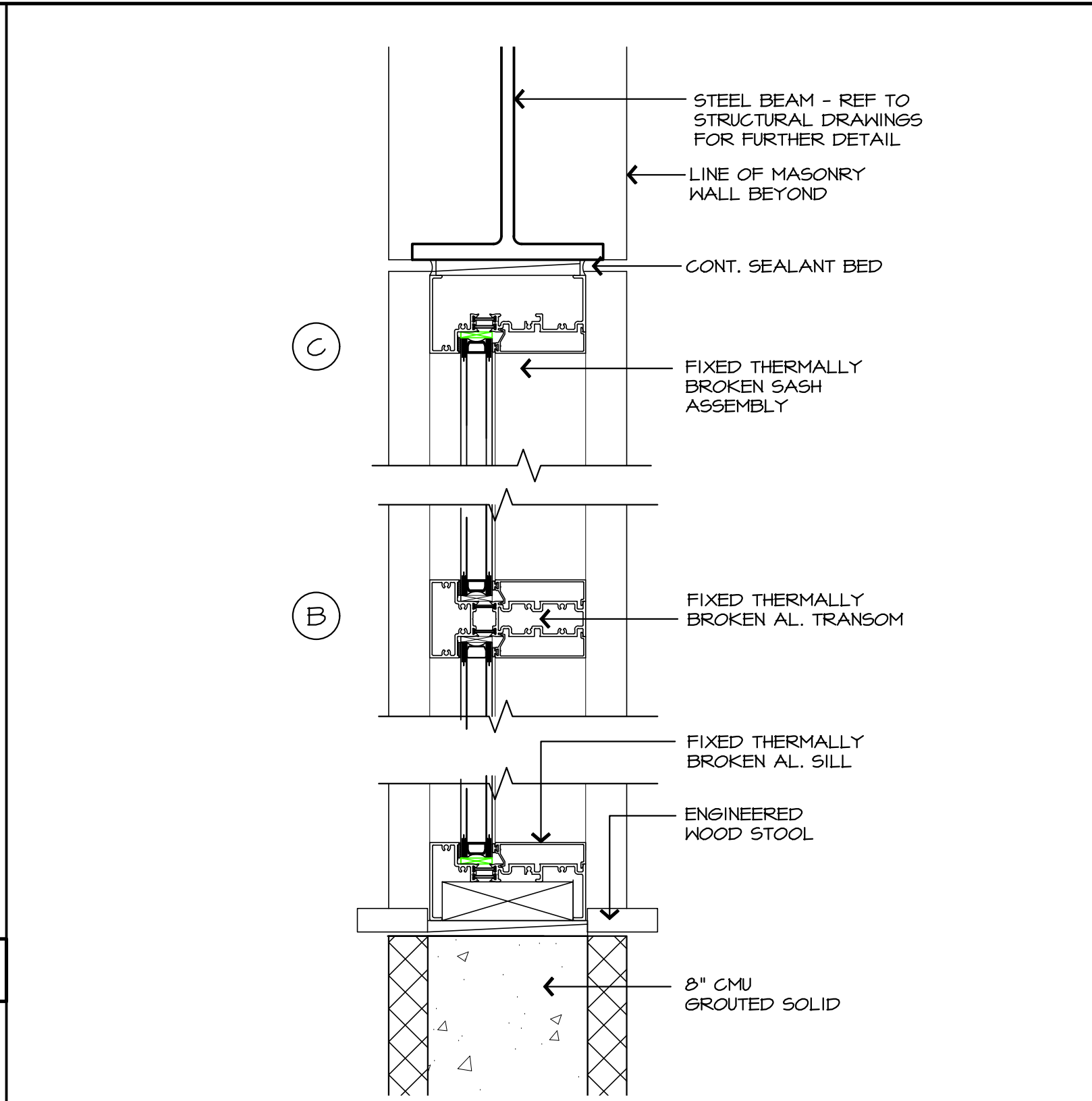
INTERIOR GLAZING JAMB SCALE: 3" = 1'-0" 6



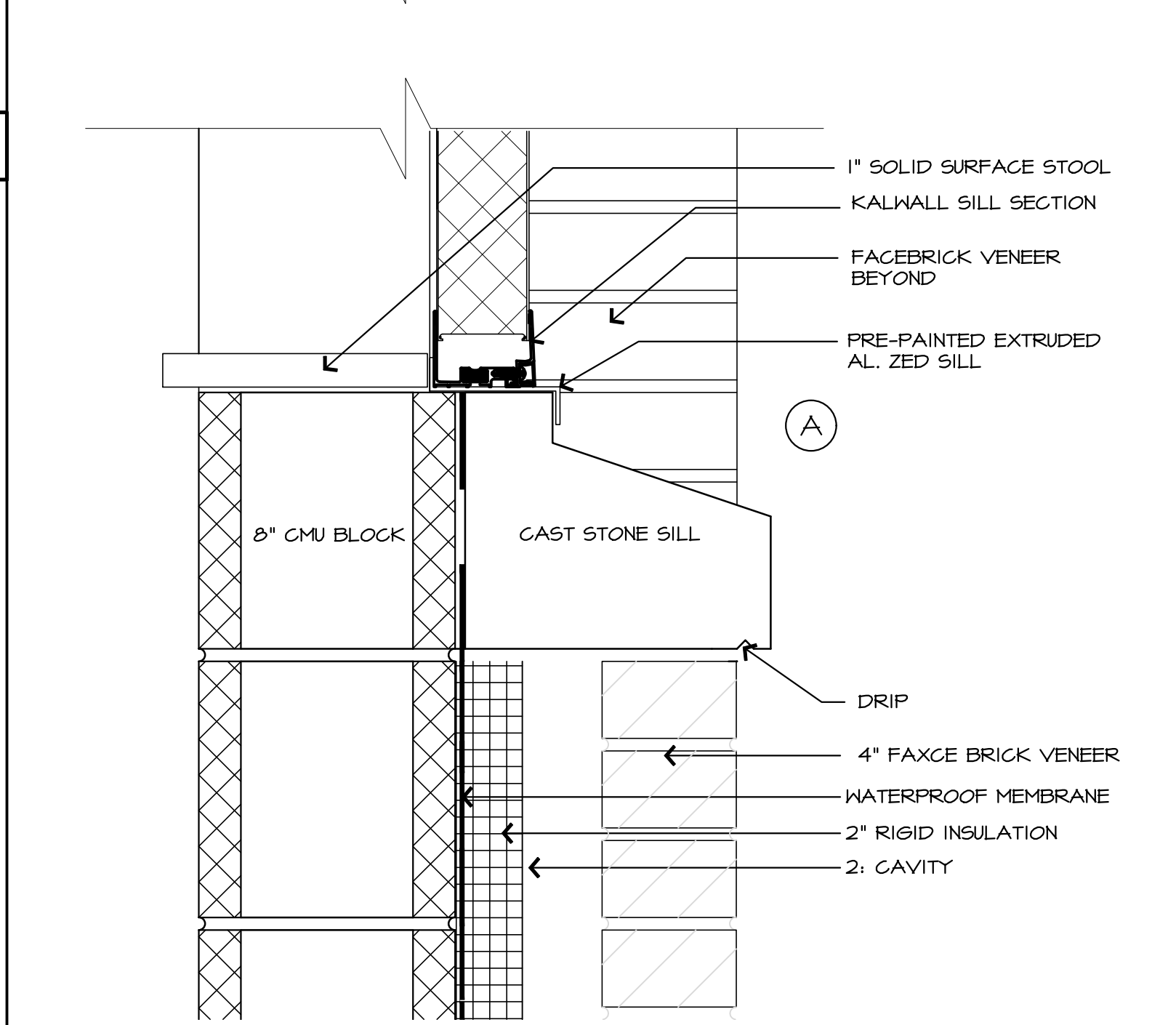
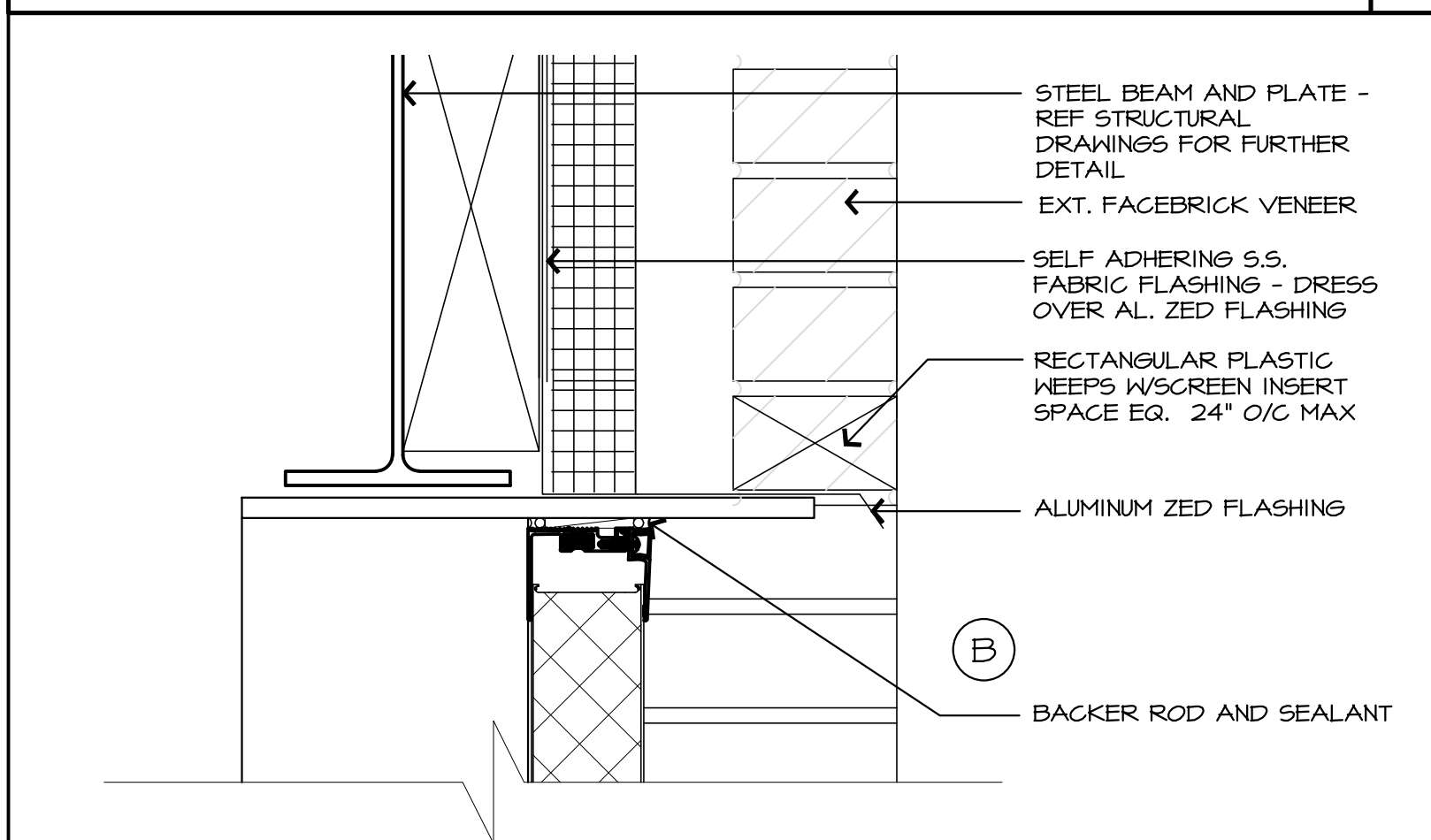
EXTERIOR GLAZING JAMB SCALE: 3" = 1'-0" 4



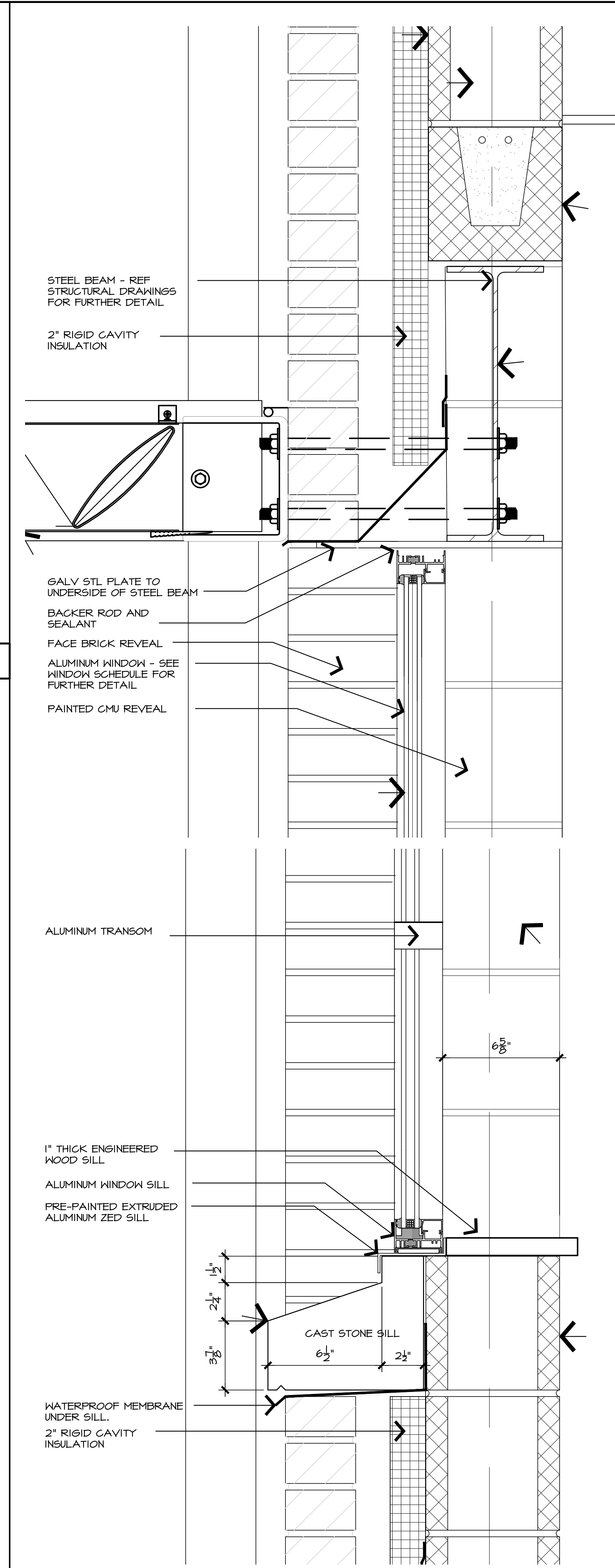
KALWALL JAMB SCALE: 3" = 1'-0" 3



EXTERIOR GLAZING HEAD & SILL SCALE: 3" = 1'-0" 5



KALWALL HEAD & SILL SCALE: 3" = 1'-0" 2



EXTERIOR GLAZING HEAD & SILL SCALE: 3" = 1'-0" 1



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FACILITY

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WINDOW DETAILS

A-412



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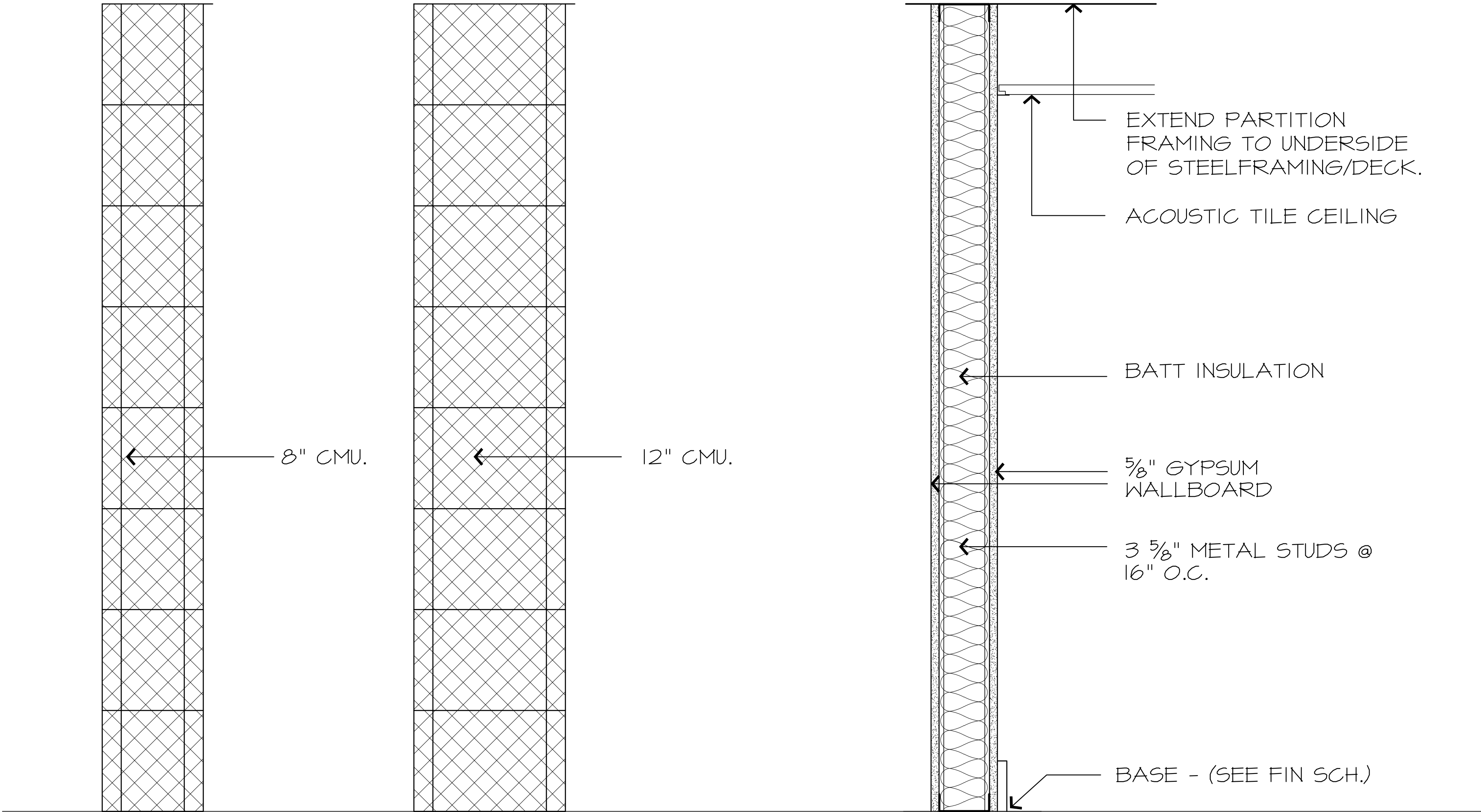
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WAYNE, NEW JERSEY 07470

PARTITION TYPES

A-421

- METAL STUD WALLS - ELECTRICAL AND SERVICE OUTLETS (AV JACKS ETC) FOR ADJACENT ROOMS ARE TO BE POSITIONED MINIMUM 24" APART AND IN SEPARATE STUD SPACES.
- PARTITIONS ARE TO BE BUILT FULL HEIGHT FROM BASE BUILDING FLOOR TO THE BASE BUILDING STRUCTURE ABOVE AND SEALED TO THE STRUCTURE.
- FLUTES IN CORRUGATED METAL DECK MUST BE FILLED AND SEALED WHERE TRAVERSING A WALL.
- NO DRY WALL LAYERS ARE TO BE CONTINUOUS BETWEEN TWO ADJACENT ROOMS. DRY WALL IS TO BE INTERRUPTED AT ALL PARTITION INTERSECTIONS AND IS TO CLOSE THROUGH PERIMETER FACIA TO THE BASE BUILDING CONSTRUCTION.
- PROVIDE CONTINUOUS ACOUSTICAL NON HARDENING CAULKING BEADS ON EACH SIDE OF THE BOTTOM STUD RUNNER AT HE THREE-WAY INTERSECTION BETWEEN THE RUNNER, FLOOR AND DRYWALL.
- MULTIPLE LAYERS OF DRYWALL ARE TO BE APPLIED WITH STAGGERED JOINTS.
- PENETRATIONS THAT INTERRUPT STUDS ARE TO BE COMPLETELY FRAMED AROUND WITH A NOMINAL 1 INCH GAP AROUND THE PENETRATING ELEMENT.
- PENETRATIONS ARE TO BE ACOUSTICALLY SEALED AS FOLLOWS:
 - GAP LESS THAN OR EQUAL TO $\frac{1}{4}$ INCH - ACOUSTICAL SEALANT OR SIMILAR
 - NON-HARDENING, EVER RESILIENT CAULKING COMPOUND.
 - GAP FROM $\frac{1}{4}$ INCH UP TO 1 INCH - COMPRESSED BACKER ROD WITH
 - ACOUSTICAL SEALANT OR SIMILAR
 - NON-HARDENING, EVER RESILIENT CAULKING COMPOUND.
 - GAPS OVER 1 INCH - FILLED TIGHTLY WITH
 - BATT INSULATION AND HEAVY DENSITY NELSON FSP PUTTY OR SIMILAR.
 - CABLE TRAYS TO BE PACKED TIGHTLY WITH INSULATION OR FIRE STOP PILLOWS ONCE CABLES HAVE BEEN PULLED.

9. THE ANNULAR SPACE FOR ALL RTU DUCT PENETRATIONS SHOULD BE PACKED WITH MINERAL WOOL INSULATION AND SEALED WITH DENSE FIRE PUTTY.

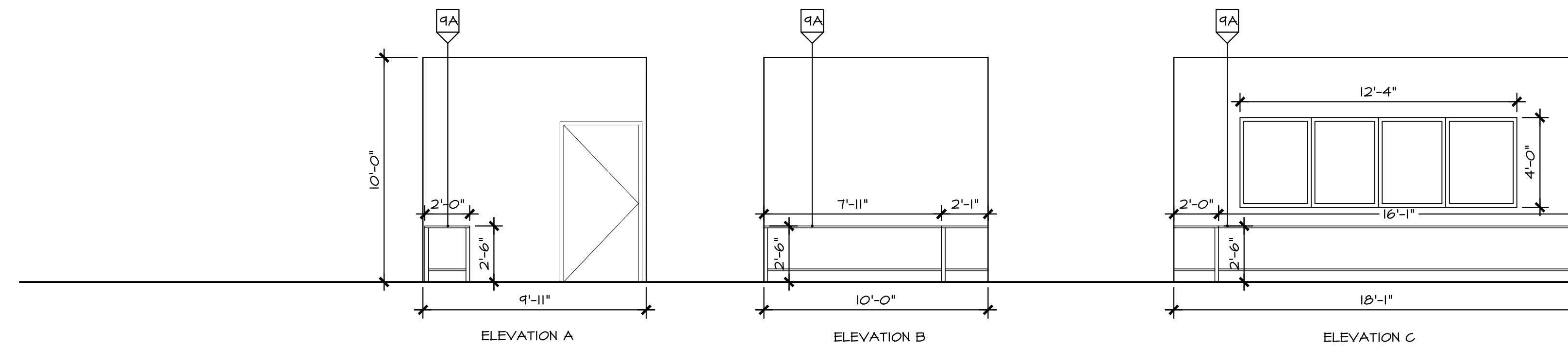


P1

P2

UL RATING - U906
2 HOUR RATED
FIRESTOP SYSTEM
NO. - C-AJ-7016

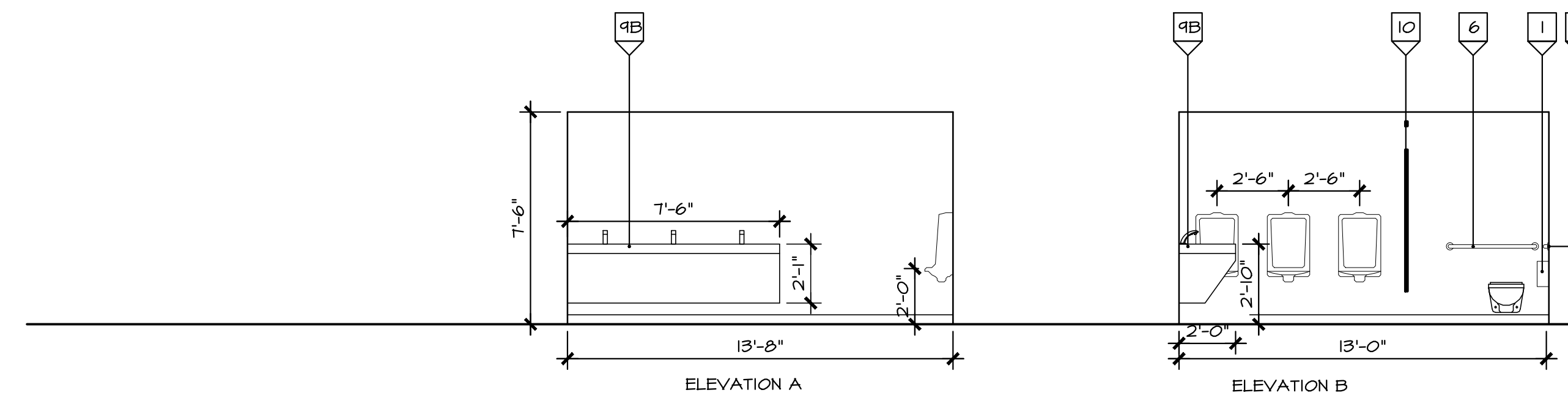
P3



INTERIOR ELEVATIONS -TRAINERS OFFICE N103

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

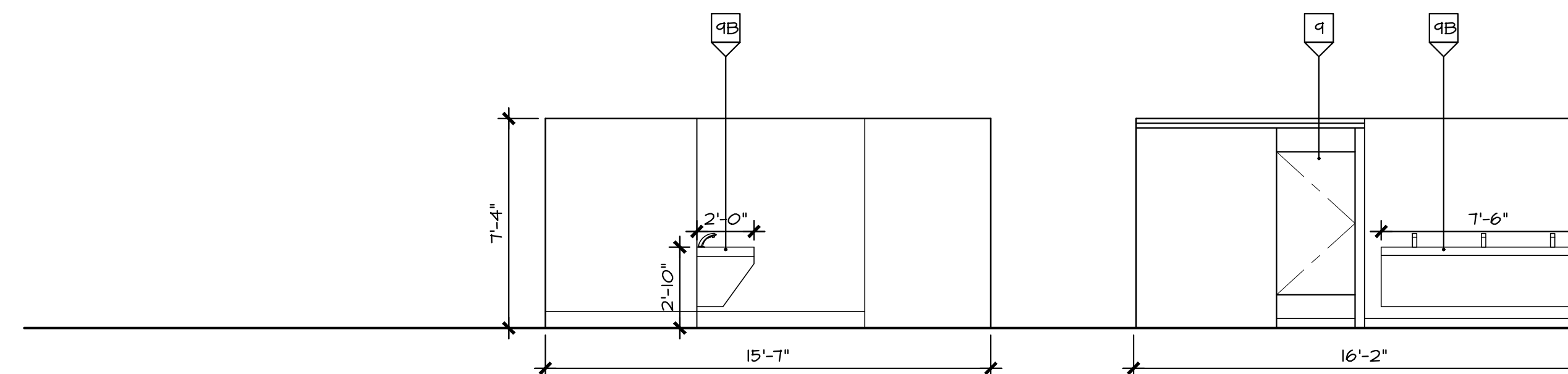
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INTERIOR ELEVATIONS - TOILET ROOM 212

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

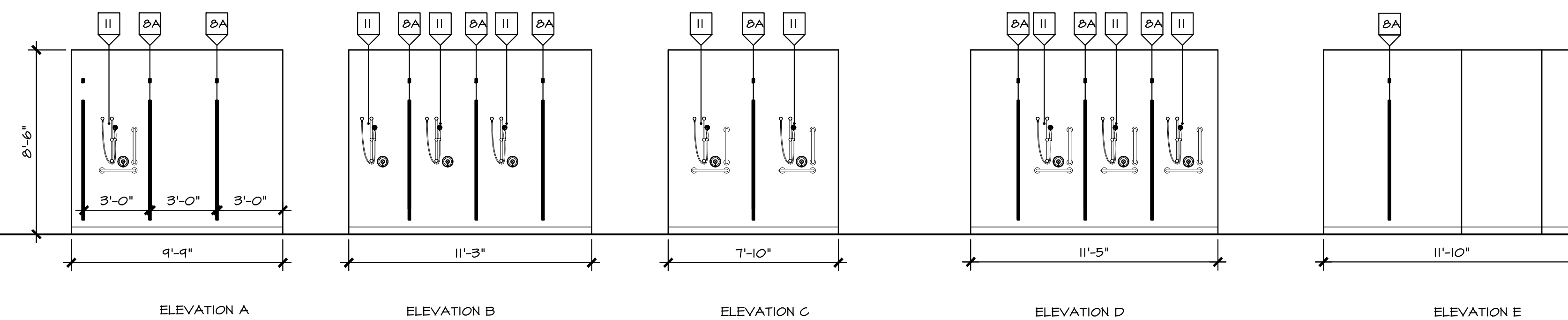
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INTERIOR ELEVATIONS - TOILET ROOM 208

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

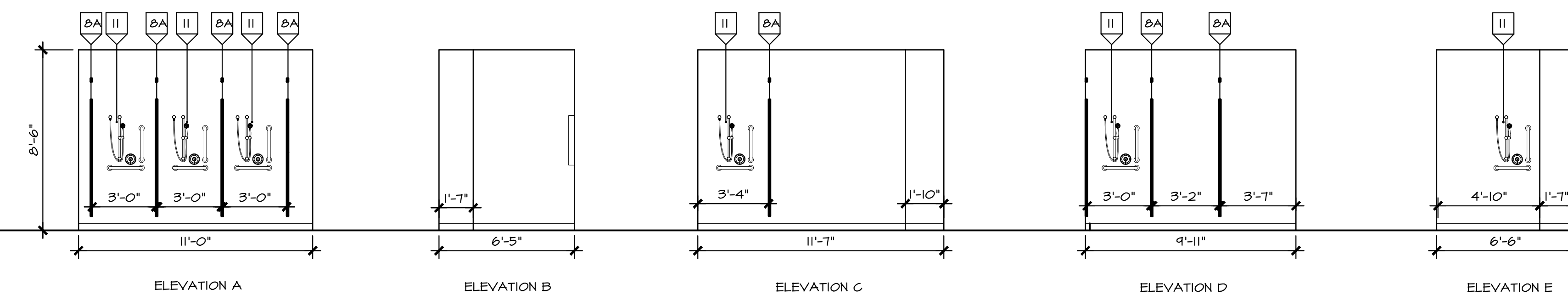
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INTERIOR ELEVATIONS - SHOWER 201

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

2



INTERIOR ELEVATIONS - SHOWER 203

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

1

ALL ACCESSORIES TO BE ADA COMPLIANT	
NO.	DESCRIPTION
1.	TOILET PAPER DISPENSERS - DUAL JUMBO ROLL DISPENSOR
2.	CHANNEL FRAME MIRROR 18" X 36"
3.	HAND DRYER - WALL MOUNTED
4.	SOAP DISPENSER - WALL MOUNTED
5.	42" LONG GRAB BAR - HEAVY DUTY S.S. GRAB BAR WITH CONCEALED MOUNTING.
6.	36" LONG GRAB BAR - HEAVY DUTY S.S. GRAB BAR WITH CONCEALED MOUNTING.
7.	18" LONG GRAB BAR - HEAVY DUTY S.S. GRAB BAR WITH CONCEALED MOUNTING.
8.	TOILET PARTITION - 1" THICK
8A	SHOWER PARTITION - 1" THICK
9.	AUTOMATIC ROOM FRESHENER
9A.	SOLID SURFACE (SS-2) COUNTERTOP
9B.	ADA COMPLIANT OVAL UNDERMOUNT SINK WITH SOLID SURFACE (SS-1) COUNTERTOP
10.	ROD AND CURTAIN AT ALL SHOWERS
10B.	TOUCHLESS PAPER TOWEL DISPENSER AND RECEPTAL
11.	SHOWER UNIT
	<ul style="list-style-type: none"> * ALL FIXTURES TO BE VANDAL RESISTANT * DOORS AT ADA SHOWER AND ADA TOILET TO BE MIN 32", MIN 12" PUSH, 18" PULL * TOILET PARTITIONS SHALL INCLUDE 14" GAP BETWEEN FLOOR AND BOTTOM OF PARTITION * ALL TOILET ROOM PARTITIONS TO COMPLY WITH IBC 803 FOR FIRE RATING COMPLIANCE



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INTERIOR ELEVATIONS

A-441



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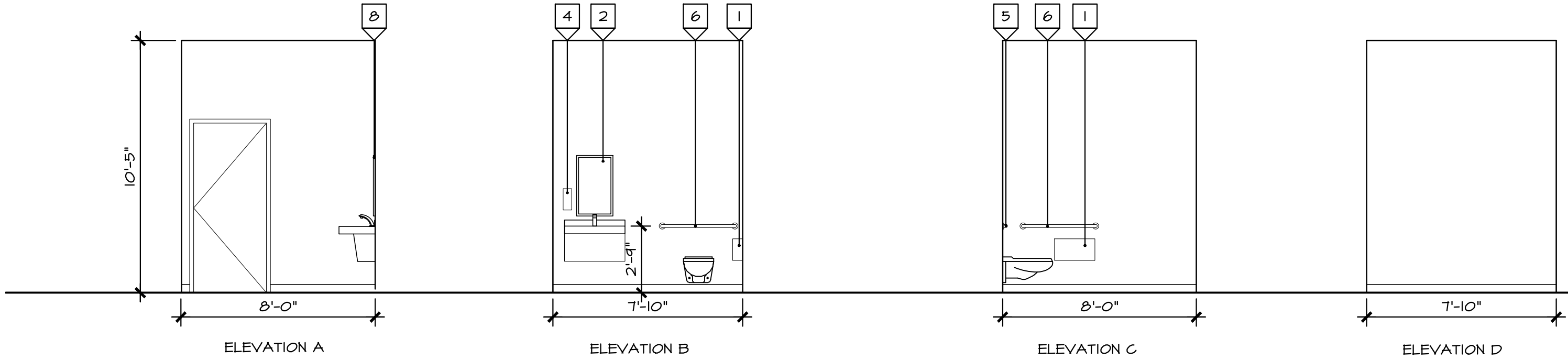
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INTERIOR ELEVATIONS

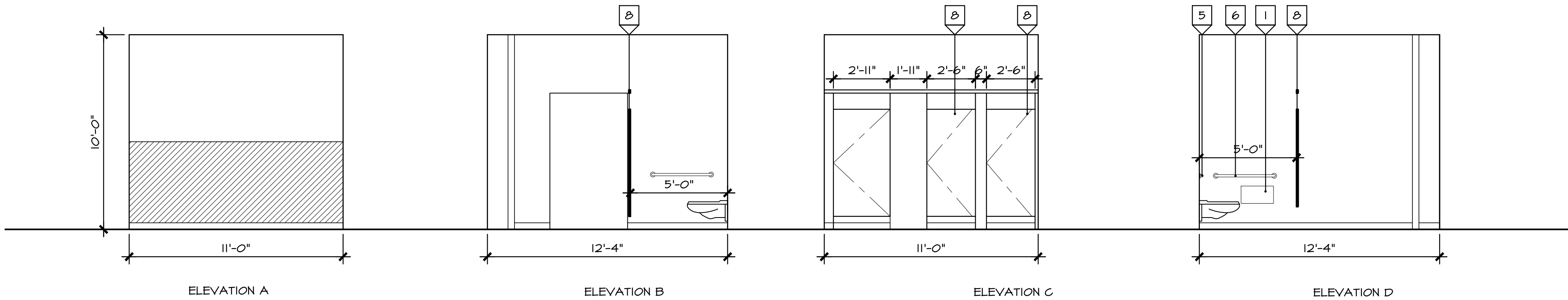
A-442



INTERIOR ELEVATIONS - TOILET ROOM N102

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

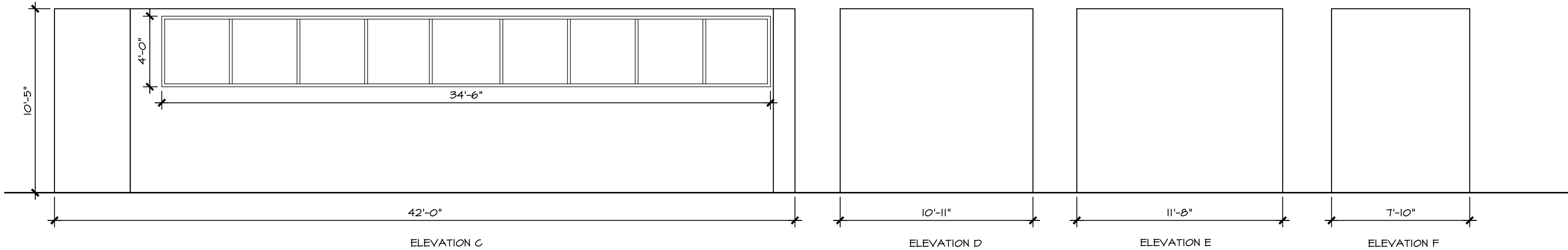
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INTERIOR ELEVATIONS - TOILET ROOM 117

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

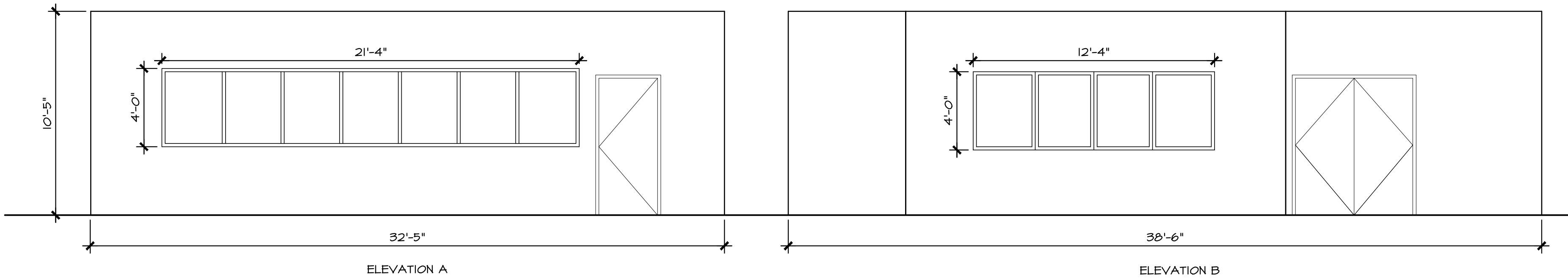
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INTERIOR ELEVATIONS -ATHELTIC TRAINING N104

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

2



INTERIOR ELEVATIONS - ATHELTIC TRAINING N104

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

1



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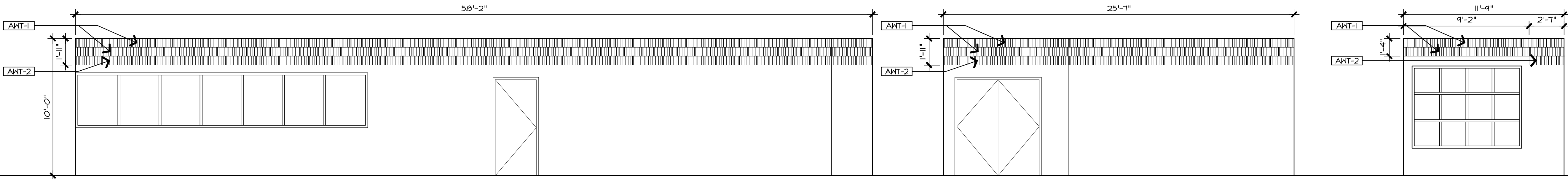
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INTERIOR ELEVATIONS

A-443



ELEVATION D

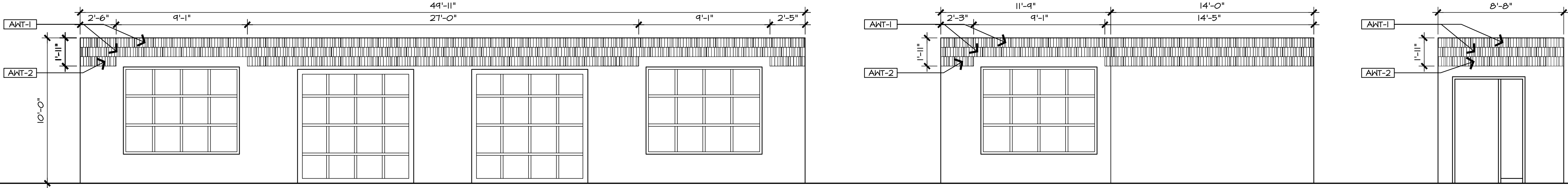
ELEVATION E

ELEVATION F

INTERIOR ELEVATIONS -FITNESS ROOM N100

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

2



ELEVATION A

ELEVATION B

ELEVATION C

INTERIOR ELEVATIONS - FITNESS ROOM N100

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

1

GENERAL STRUCTURAL AND CONSTRUCTION NOTES

1.0 GENERAL

- All work shall conform to the "2018 International Building Code, NJ Edition" and to all other applicable Federal, State, and Local regulations.
- In case of conflict between the General Notes, Specifications, and details, the most rigid requirements shall govern.
- Work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places shall be repeated.
- Job site safety and construction procedures are the sole responsibility of the Contractor.
- The Contractor shall provide for dewatering as required during excavation and construction.
- The Contractor shall coordinate openings, sleeves, concrete housekeeping pads, inserts, and depressions shown on the Architectural, Structural, Mechanical, Electrical, and Plumbing Drawings.
- See Architectural Drawings for locations of masonry and drywall non-load bearing partitions. Provide slip connections that allow vertical movement at the heads of all such partitions. Connections shall be designed to support the top of the walls laterally for the code-required lateral load.
- All costs of investigation and/or redesign due to Contractor improper installation of structural elements or other items not in conformance with the Contract Documents shall be at the Contractor's expense.
- The structural drawings shall be used in conjunction with the specifications, architectural and mechanical drawings. If there is a discrepancy between drawings, it is the Contractor's responsibility to notify the Architect prior to performing the work.
- The Contractor shall verify and/or establish all existing conditions and dimensions at the site. Failure to notify Architect/Engineer of unsatisfactory conditions constitutes acceptance of unsatisfactory conditions.
- If the existing field conditions do not permit the installation of the work in accordance with the details shown, the Contractor shall notify the Architect/Engineer immediately and provide a sketch of the condition with his proposed modification of the details given on the Contract Documents. Do not commence work until condition is resolved and modification is approved by the Architect.
- The Contractor shall be responsible to determine allowable construction loads and to provide design and construction of falsework, formwork, stagings, bracing, sheeting, and shoring, etc.
- Contractor to provide sheeting, bracing, and underpinning as necessary to prevent any lateral or vertical movements of existing buildings, streets, and any existing utility lines.
- Bracing, sheeting, shoring, etc., required to insure the structural integrity of the existing buildings or new construction, sidewalks, utilities, etc., shall be designed by a Professional Engineer engaged by the Contractor. Detailed signed and sealed shop drawings shall be prepared indicating all work to be performed. Submit the shop drawings in accordance with the Contract requirements.
- In no case shall heavy equipment be permitted closer than 8'-0" from any foundation wall. If it is necessary to operate such equipment closer than 8'-0" to the wall, the Contractor shall be the sole responsible party and, at his own expense, shall provide adequate supports or brace the wall to withstand the additional loads superimposed from such equipment.
- No blasting shall be permitted without written approval.
- The Contractor shall submit, for review, drawings and calculations for all performance assemblies identified in the General Notes and listed below: The design of these assemblies is the responsibility of the Contractor's Engineer registered in the Project's jurisdiction. All submittals shall bear this Engineer's seal and signature. Review shall be for general conformance with the project requirements as indicated on the Drawings and in the General Notes.
 - Non-load bearing stud wall and curtain wall systems and related connections: Designs shall consider all vertical and lateral loads required by applicable building codes. Back up system and curtain wall shall be designed for a maximum deflection of 1/600 of the span, or ¾", whichever is less, at the applicable design wind load without the code applied reduction factors.
 - Metal stairs and metal railings: Designs shall consider all vertical and lateral loads required by applicable building codes. Where headers or other types of structural members have been designated by the Structural Engineer of Record to support the stairs, the connections from the stairs shall be designed so that no eccentric or torsional forces are induced in these structural members. The Contractor shall be responsible for furnishing and installing hardware as required by the stair design.
- Shop drawings for all structural materials to be submitted to Architect for review prior to the start of fabrication or commencement of work. Review period shall be a minimum of two (2) weeks.
- Reproduction of any portion of the Structural Contract Drawings for resubmittal as shop drawings is prohibited. Shop drawings produced in such a manner will be rejected and returned.
- Shop drawings shall bear the Contractor's stamp of approval which shall constitute certification that the Contractor has verified all construction criteria, materials, and similar data and has checked each drawing for completeness, coordination, and compliance with the Contract Documents.
- The shop drawings shall include dimensioned floor and roof edges, openings and sleeves at all floors required for all trades.
- The drawings have been produced entirely on MPP Engineers Cadd System. Any other lettering, lines or symbols, other than professional stamps and signatures, have been made without the authorization of MPP Engineers are invalid.
- The structural drawings shall govern the work for all structural features, unless noted otherwise. The architectural drawings shall govern the work for all dimensions.
 - Certified by Institute of Certified Engineering Technicians, or other recognized comparable organization, and,
- For inspection, sampling, testing concrete and masonry: ACI Certified Concrete Field-Testing Technician, Grade I; and Construction Inspector, Level II.
- Structural Steel Inspection: AWS Certified Welding Inspector.
- Submit periodic reports within one business day after receipt by the Contractor to Architect/Engineer and the construction code official during construction. Submit final inspection report summary for each division of work, certified by a licensed professional Engineer, that inspections were performed and that work was performed in accordance with Contract Documents.
- All materials shall be stored to protect them from exposure to the elements.

2.0 EARTHWORK

- Engineered (controlled compacted) fill within the building area shall be constructed prior to footing excavation
- Excavation shall be performed so as not to disturb existing adjacent buildings, streets, and utility lines. Verify location of all utilities prior to commencement of work. Hand excavate around utilities as required.
- See the specifications and geotechnical report for excavation, backfill and preparation of the foundation and slab-on-grade subgrade, including compaction requirements.
- Satisfactory fill materials are those complying with ASTM D2487, groups GW, GP, GM, SM, SW, and SP. On site borrow material shall be tested to determine suitability for use as fill material.
- Compact soil to not less than the following percentages of maximum density of modified proctor (ASTM D1557):

Under building foundations	~ 98%
Under building slabs, steps, pavements	~ 95%
- Remove existing vegetation, topsoil, and unsatisfactory soil materials. Proof roll subgrade to obtain uniformly densified substrata prior to placing fill material evenly in 8" thick (maximum) layers and compacting to required density.
- The Contractor shall retain the services of a Professional Geotechnical Engineer, subject to the approval of the Architect, to perform soil testing and inspection. The engineer shall inspect the subgrade to verify bearing levels and ensure that the safe bearing capacity meets or exceeds the design value indicated below. Reports shall be submitted to the Architect outlining the work performed and test results.
- Backfill shall be brought up simultaneously on each side of walls and grade beams, with a grade difference not to exceed 2'-0" at any time.

3.0 FOUNDATIONS

- Foundations have been designed and footing elevations established on the basis of a Subsurface Investigation Report and recommendations prepared by GZA GeoEnvironmental Inc. Dated Oct. 3rd 2022. See the report for additional requirements. The requirements contained in the geotechnical report are part of the Construction Documents.
- Footings shall bear on undisturbed stratum or engineered fill with a minimum bearing capacity of 4000 psf.
- Prior to footing concrete placement, the footing subgrade shall be approved by the inspecting Geotechnical Engineer. If conditions prove to be unacceptable at elevations shown, footing bottoms shall be lowered to acceptable subgrade material. Fill over-excavation with lean concrete (2,500 psi).
- The bottom of exterior footings shall be a minimum of three (3) feet below finished grade, or as required by Local building codes.
- The bearing elevations of new footings adjacent to existing footings are to match the adjacent existing footing bearing elevations unless indicated otherwise on plans.
- Slabs on grade shall bear on mechanically compacted soil capable of supporting 150 psf. Drainage fill under slabs shall be compacted gravel or crushed stone.
- Concrete for foundations shall be poured on the same day the subgrade is approved by the Geotechnical Engineer.

- Utility lines shall not be placed through or below foundations without the Structural Engineer's approval.
- Provide a continuous waterstop at all horizontal and vertical construction joints in the elevator pit and all other pit walls.
- The Contractor shall observe water conditions at the site and take the necessary precautions to ensure that the foundation excavations remain dry during construction. Any sheeting or shoring required for dewatering shall be the responsibility of the Contractor.

4.0 CAST-IN-PLACE CONCRETE

- Concrete shall be designed and detailed in accordance with the Building Code Requirements for Structural Concrete (ACI-318-14), and constructed in accordance with the CRSI Manual of Standard Practice.
- Concrete for foundation and exterior concrete foundation wall shall have a minimum compressive 28-day strength of 4,500 psi, all other concrete shall be 4000 psi; Air Entrainment 4% to 6% in all exposed concrete work.
- Maximum water/cement ratios:

A. Foundations	0.44
B. Interior Slabs	0.47
C. Exterior Slabs	0.44
- All concrete shall be normal weight concrete (144 pcf +) with all cement conforming to ASTM C150, Type I. Maximum aggregate size shall be 1-1/2" for footings and ¾" for walls and slabs, conforming to ASTM C33.
- Reinforcing steel: ASTM A615 Grade 60.
- Welded Wire Reinforcement: (WWR) ASTM A-185.
- Leveling Grout shall be non-shrink, non-metallic type, factory pre-mixed grout in accordance with CE-CRD-C621 or ASTM C109, with a minimum compressive 28-day strength of 5,000 psi.
- Reinforcing steel clear cover shall be as follows unless noted otherwise:

A. Concrete cast against and permanently exposed to earth	3".
B. Concrete exposed to earth or weather	
#6 bars and larger	2".
#5 bars and smaller	1-1/2".
C. Concrete not exposed to weather or in contact with ground	
Slabs, walls, joists	
#11 bars and smaller	3/4".
Beams and columns	
Primary reinforcement, ties, stirrups, or spirals	1-1/2".
- Submit to Architect/Engineer reinforcing steel shop drawings for approval and mix designs for review prior to placing any concrete.
- All reinforcement shall be securely held in place while placing concrete. If required, additional bars, stirrups or chairs shall be provided by the Contractor to furnish support for all bars.
- Lap welded wire reinforcement two (2) full wire spaces at splices and wire together.
- Provide plastic tipped bolsters and chairs at all locations where the concrete surface in contact with the bolsters or chairs is exposed.
- Placing of concrete shall not start until the placement of reinforcing has been approved by the Inspection Agency.
- Bonding agent shall be used where new concrete is placed against existing concrete.
- Epoxy adhesive shall be used where dowels are to be installed into existing concrete. Submit manufacturer information for engineer review.
- No sleeve shall be placed through any concrete element unless shown on the approved shop drawings or specifically authorized in writing by the Structural Engineer. The Contractor shall verify dimensions and locations of all slots, pipe sleeves, etc. as required for mechanical trades before concrete is placed.
- Pipes or conduits placed in slabs shall not have an outside diameter larger than 1/3 the slab thickness and shall not be spaced closer than 3 diameters on center. Aluminum conduits shall not be placed in concrete. No conduits shall be placed in slabs within 12 inches of column face or face of bearing wall. No conduits may be placed in exterior slabs or slabs subjected to fluids.
- Prior to placing concrete, the Contractor shall submit for review by the structural engineer, a concrete pour schedule showing location of all proposed construction joints and waterstops.
- Prior to concrete placement, the Contractor shall submit to the structural engineer for review, concrete mix designs prepared in accordance with the specifications and requirements indicated in the general notes.
- Concrete shall not be pumped through aluminum pipes and shall not be placed in contact with aluminum forms, mixing drums, buggies, chutes, conveyors or other equipment made of aluminum.
- All inserts and sleeves shall be cast-in-place whenever feasible. Drilled or powder driven fasteners will be permitted when proven to the satisfaction of the Structural Engineer that the fasteners will not spoil the concrete and have the same capacity as cast-in-place inserts.
- When installing expansion bolts or adhesive anchors, the Contractor shall take measures to avoid drilling or cutting of any existing reinforcing and destruction of concrete. Holes shall be blown clean prior to placing bolts or adhesive anchors.
- Chamfer all exposed concrete corners unless noted otherwise on Architectural Drawings.
- The concrete slabs shall be finished flat and level within tolerance, to the elevation indicated on the drawings. The Contractor shall provide additional concrete required due to formwork, metal deck, and framing deflection to achieve this finished top of slab elevation. The Contractor shall provide for a minimum of ¾" average thickness for additional concrete during placement for all slabs supported and formed on steel deck over the entire floor area. The Contractor shall provide the means by which the maximum and minimum concrete slab thickness can be monitored and verified during and after the placing and finishing operations.
- Construction joints for slabs on metal deck shall be located midway between beams where the joint is parallel to the beam span. Joints shall be located within the middle third of span where the joint is perpendicular to the beam span. Any stop in concrete work must be made with vertical bulkheads, unless otherwise shown. All reinforcing is to be continuous through joints.
- Early drying out of concrete, especially during the first 24 hours, shall be carefully guarded against. All surfaces shall be moist cured or protected using a membrane curing agent applied as soon as forms are removed. If membrane curing agent is used, exercise care not to damage coating.
- Cold weather concreting shall be in accordance with ACI-306. Hot weather concreting shall be in accordance with ACI-305R.
- Throughout construction, the concrete work shall be adequately protected against damage due to excessive loading, construction equipment, materials or methods, ice, rain, snow, excessive heat, and freezing temperatures.
- Prepare concrete test cylinders from each day's pour. Cylinders shall be properly cured and stored. Sample fresh concrete in accordance with ASTM C172.
- Retain laboratory to provide testing service. Slump per ASTM C1431 air content per ASTM C231 or C173, cylinder tests per ASTM C31 and C39. One set of six (6) cylinders for each 50 cubic yards for each mix used. Reports of all tests to be submitted to the Architect.

5.0 CONCRETE ANCHORS

- All headed concrete anchors shall be manufactured from material which conforms to ASTM A108 for low carbon steel.
- All welds shall be made in accordance with the structural welding code, ANSI/AWS D1.4, latest edition and with the recommendations of the stud manufacturer.
- All adhesive anchors shall be anchored using the "HiTi HY200 Max" system by HiTi Fastening Systems, Inc. or an approved equal.
- The spacing, minimum embedment, and installation of the anchors shall be in accordance with the manufacturer's recommended procedures.
- Anchor rods used in adhesive anchorage systems shall conform to the manufacturer's recommended steel.
- Stud anchors shall conform to ASTM A108 and the nuts shall conform to ASTM A563.

6.0 MASONRY

- Masonry has been designed in accordance with the Building Code Requirements for Masonry Structures (TMS 402-2016) and shall be constructed in accordance with the Specifications for Masonry Structures (TMS 602-2016), except where otherwise modified by these General Notes and Specifications.
- Mortar shall conform to ASTM C270, Type M or S. All Portland cement shall conform to ASTM C150, Type I. Lime shall conform to ASTM C207 and masonry cement shall conform to ASTM C91.
- Grout shall conform to ASTM C476 and shall have a minimum 28 day compressive strength of 3000 psi. Slump of grout shall be 8 to 10 inches and the maximum aggregate size shall be ¾" (aggregate graded to produce fine grout in conformance with ASTM C476 and C404).
- Concrete Block Units:
 - Solid and hollow load bearing units per ASTM C90, Type N-1, as required to provide 28 day compressive strength, f'm as noted below.

- Minimum 28-day compressive strength of masonry, f'm shall be 2100 psi, unless noted otherwise.
- Full bed and head joints shall be provided.
- Full bed and head joints shall be provided.
- Horizontal Joint Reinforcing: ASTM A82; 9-gage ladder-type, galvanized.
- Deformed bar reinforcement shall conform to ASTM A615, Grade 60 and shall be full height of walls unless otherwise noted. Provide bar spacers and positioners as required to properly locate and stabilize reinforcing during grouting operations. Grout all reinforced cells solid with grout.
- Hollow concrete units below grade and slab on grade shall be normal weight and have all cells grouted solid.
- Provide and install temporary bracing required insuring stability of all walls during construction and until erection of attached structural framing is completed.
- Provide galvanized horizontal joint reinforcement in all walls and partitions at 16" o.c. unless otherwise shown or noted. Provide one (1) piece prefabricated units at 8" o.c. at all wall corners and intersections.
- Lap splices for deformed reinforcing bars used in masonry construction shall be 50 bar diameters.
- Submit grout mix design and masonry unit certifications to the Architect for review.
- Grout placement shall not start until the placement of reinforcing has been approved by the Inspection Agency.
- Fill all cells in top two courses below finished floor, CMU lintels, bond beams, and beam bearings and cells with reinforcement full height solid with grout.
- Allow grout in reinforced CMU walls to cure a minimum of 48 hours before imposing concentrated or other loads from above.
- Provide masonry anchors set on coursing and attached to all beams at 32" o.c. horizontal, columns at 24" o.c. vertical, partitions and walls at 16" o.c. at all beams, columns, partitions and walls abutting or embedded in masonry unless noted otherwise on Architectural and Structural drawings.
- Provide bond beams with two (2) #4 horizontal reinforcement continuous in all masonry walls at each framing level. Provide a minimum of two (2) #4 bars at the ends of all walls and on each side of each opening.
- All piers and partitions shall be bonded or anchored to adjacent masonry walls. Provide ties to adjacent floor and roof construction in accordance with details on drawings.
- The Contractor shall verify all openings below lintels indicated are adequate to accept doorframes, louvers, etc. as shown on the Architectural and Mechanical Drawings. Notify the Architect and Structural Engineer of any discrepancies prior to lintel installation.
- No openings shall be placed above any lintel within a height less than or equal to the width of the clear opening below the lintel, unless specifically shown or approved by the Structural Engineer.
- All masonry work to be executed in cold weather shall be in conformance with the recommendations for cold weather construction found in the Building Code Requirements for Masonry Structures (TMS 402-2016) and shall be constructed in accordance with the Specifications for Masonry Structures (TMS 602-2016) with the following additions: For all conditions when temperatures fall below 40 degrees F, the temperature of the newly laid masonry or newly grouted masonry shall be maintained above 32 degrees F for a minimum of 24 hours using the methods described in ACI 530.1.
- The Testing and Inspection Agency shall monitor the proportioning, mixing, and consistency of mortar and grout; the placement of mortar, grout, and masonry units; and the placement of reinforcing steel for compliance with the Contract Documents.
- All wall sections and piers less than two square feet in cross-sectional area shall be fully grouted.
- Provide vertical masonry control joints at maximum 25'-0" on center unless detailed on Architectural drawings, coordinate locations with Architect.

7.0 STRUCTURAL STEEL

- Fabrication and erection of structural steel shall conform to the "Steel Construction Manual", 15th Edition, American Institute of Steel Construction including Specifications for Structural Steel Buildings; Specification for Structural Joints Using ASTM A325 or A490 Bolts, and AISC Code of Standard Practice.
- All welding shall be performed by certified welders and shall conform to "Structural Welding Code ANSI/AWS D1.4-17", American Welding Society.
- Wide flange shapes: ASTM A992 or A572, Grade 50.
- Structural shapes & plates: ASTM A36, A572 or A992.
- Steel pipe: ASTM A53, GRADE B.
- Steel tubing (square, rect. or round): ASTM A500, Grade B.
- Galvanized structural steel:
 - Structural shapes and rods ASTM A123.
 - Bolts, fasteners and hardware ASTM A153.
- All bolted connections shall be with ASTM A325 high strength bolts ¾" minimum diameter, unless noted otherwise.
- All bolted connections on wind bracing members and columns shall be slip critical connections.
- Anchor rods shall conform to ASTM F1554, Grade 36, unless noted otherwise.
- Welding electrodes shall be E70XX for manual arc welding and F7X-EXXX for submerged arc welding. All welders shall be certified by the AWS. Minimum weld size shall be ⅝" unless noted otherwise.
- Welding of reinforcing bars to other bars or structural steel: E90-XX electrode.
- Cuts, holes, coping, etc. required for other trades or field conditions shall be shown on the shop drawings and made in the shop. Cutting or burning of main structural members in the field will not be permitted.
- Submit shop drawings for fabrication and erection of structural steel. Clearly indicate coordinated dimensions of mechanical unit and roof penetration sizes. Shop and Erection drawings must show all shop/floor and field welds. Initial shop drawing submittal shall include proposed connection details and job standards. Provide signed and sealed calculations for all non-standard connection details, braced bay connections and moment connections showing design capacities.
- Steel members shown on plan shall be equally spaced unless noted otherwise.
- Camber indicated on these drawings is the required camber after final erection and includes all mill tolerances.
- The General Contractor and Steel Erector shall notify the Structural Engineer of any fabrication or erection errors or deviations and receive written approval before any field corrections are made.
- Alternate connection details may be used if such details are submitted to the engineer for review and approval. However, the engineer shall be the sole judge of acceptance and the Contractor's bid shall anticipate the use of those details shown on the drawings. The Contractor is responsible for the design of such alternate details which he proposes.
- Main support members for the metal deck are shown. During preparation, submission, and review of shop drawings, any additional angles or miscellaneous attachment details required to support the metal deck at the required elevation shall be provided by the Structural Steel Contractor.
- All steel shall be painted with shop standard primer unless noted otherwise.
- Steel angles and plates along with bolts and washers, in direct contact with exterior finish masonry, and all exterior exposed structural steel, shall be hot-dipped galvanized.
- All exterior exposed structural steel shall be hot-dipped galvanized per ASTM A123.
- Spandrels and columns adjacent to masonry shall have adjustable masonry ties.



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M-Con

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No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

DRAWN BY: MPP CHECKED BY: SWM

DATE: 9/2/2022

CAD FILE:

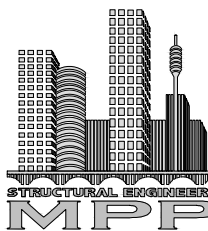
ADDITION AND RENOVATIONS TO:

LOCKER
FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

GENERAL NOTES

S0.1



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24. Existing framing requiring welding shall be thoroughly cleaned to ensure proper welding. Provide temporary shoring when welding to existing steel.
25. Field welded surfaces within four (4) inches of weld shall be cleaned and ground smooth. After welding coat the exposed area with appropriate primer/paints as specified.
26. Guys and other bracing required to provide lateral stability to steel frame shall be adequately sized and anchored. This bracing shall remain until permanent bracing elements and attached construction is installed.
27. The steel structure is a non-self-supporting steel frame and is dependent upon diaphragm action of the metal (roof/floor) deck and attachment to the masonry walls and braced bays for stability and for resistance to wind and seismic forces. Provide all temporary supports required for stability and for resistance to wind and seismic forces until these elements are complete and are capable of providing this support.
28. All connections shall be "Framed Beam Connections" designed in accordance with the AISC Manual and the ends reactions from the "Uniform Load Tables", but not less than 6 kips. Provide double angle connections or knife plates connections full depth of supporting beam, unless otherwise approved. Minimum two (2) bolts per connection. Unless otherwise noted, composite beams to be designed for 80% of the "total" uniform load capacity. Single angle or shear tab connections are not acceptable. All beam to column connections shall be designed for the minimum shear reaction indicated above in combination with a 10 kip axial force (acting in both tension and compression).
29. Visually inspect all fillet welds. 10% of all field fillet welds in primary connections and multi-pass welds shall be tested by the magnetic particle method, complying with E109, performed on the root pass and on the finished weld.
30. 100% of full penetration welds shall have ultrasonic inspection, complying with ASTM E164.
31. 100% of welds in beam and column moment connections shall have ultrasonic inspection, complying with ASTM E164.
32. Field test bolted connections and shear studs in accordance with AISC.
33. Delete paint on all steel to receive sprayed-on fireproofing or concrete encasement.
34. All steel shall be thoroughly cleaned by power tool cleaning prior to painting. All architecturally exposed structural steel shall be cleaned with commercial blast cleaning.
35. All dissimilar metals shall be treated or properly separated to prevent galvanic and/or corrosive effects.
36. All bolted brace or truss connections shall be slip critical connections with a maximum bolt diameter of one inch.
37. Gusset plate connections shall be sized for 100% of the axial forces indicated on the elevations. Design all gusset plates and connectors as required for compliance with AISC. Provide stiffener plates as required at the gusset plate connections.
38. The net area (refer to AISC section b2 and b3) at the connection of any bracing member shall not be less than 85 percent of the gross cross-sectional area of the member. Additional plates shall be added as necessary to maintain the minimum net cross-sectional area. Such plates shall extend a minimum distance equal to the depth of the member past the last row of bolts.
39. All connections shall be symmetrical about the axis of the member connected. Provide only one grade of bolt for each bolt diameter to be used in the connections. Do not mix grade of bolts.
40. The contractor shall prepare a written erection plan & calculations to be submitted to the engineer for review. This plan is to indicate, as a minimum, sequence of erection operations, calculations indicating erection stresses, field splice locations, field splice details, and location of temporary shoring, scaffolding, bracing, etc. The stresses caused during erection and handling shall not exceed allowable member stresses. The erection plan and calculations shall be prepared and stamped by a registered professional engineer in the project's jurisdiction.

8.0 METAL DECK

1. Metal deck shall be designed and detailed in accordance with "Design Manual for Floor Decks and Roof Decks– SDI–NC–2017 & SDI–R–2017", Steel Deck Institute. All composite steel floor deck shall be in conformance with the "Specifications for Composite Steel Floor Deck SDI–C–2017" of the Steel Deck Institute, latest edition.
2. Deck properties are based on products manufactured by United Steel Deck, Inc. (USD). Decks by other manufacturer's may be supplied provided load carrying capacity based on manufacturer's standard load tables, deflection characteristics, and UL fire ratings equal or exceed those of materials specified and if approved by the Architect and Structural Engineer.
3. Install in accordance with SDI suggested Specifications unless noted otherwise on the drawings. Individual deck sheets shall extend over at least three spans, with laps to be placed over supports.
4. Deck supplier shall provide all additional framing, closure angles and plates, pour stops, screed angles, and roof sump pans as required at the edges of all openings and at all slab depressions, or changes of deck direction, including those which have not been detailed.
5. Roof and non-composite decks shall be welded to steel supports, including the edge support parallel to the deck span with ¾" diameter (effective fusion diameter) plug welds at 12" on center interior and 6" on center at edge of deck sheet. Fasten side laps with #10 self-tapping screws at 36" o.c. maximum spacing.
6. Composite decks shall be welded to all supports including the edge support parallel to the deck span with ¾" diameter (effective fusion diameter) plug welds at 12 inches on center. Fasten side laps with #10 self-tapping screws at 30" o.c. Headed studs shall be field installed by welding through the metal deck.
7. All steel floor deck shall be welded to all supporting steel elements. Welding washers shall be used as required by the deck manufacturer.
8. Steel deck supplier shall submit shop drawings indicating the shear stud placement.
9. Prior to and during concrete placement, the floor deck shall be planked to prevent damage to the deck. Concentrated and impact loads shall be avoided.
10. Shear connectors shall be headed studs conforming to ASTM A108, Grades 1010, 1015, 1017, or 1020. Shear connectors shall be machine welded to steel.
11. The number of shear connectors required per beam is indicated on the drawings. Where no shear connectors are indicated for a beam which supports a concrete slab, provide shear connectors at 24 inches on center.
12. Shear connectors shall be equally spaced over the length of the beam unless noted otherwise. Where the number of steel deck corrugations available is less than the number of shear connectors required, use pairs of shear connectors starting from each end of the beam and continuing toward the center until it is possible to return to a single shear connector in each corrugation.
13. No mechanical or electrical piping, fixtures, units or systems may be hung directly from the roof deck.

9.0 DESIGN DATA

1. Governing Code: International Building Code 2018, NJ Edition
2. Floor Live Load:
- A. Uniform.....100 PSF
- B. Public Rooms and Corridors serving them.....100 PSF
- C. Live Load Reduction.....As Per Code
3. Roof Live Load
- A. Live Load.....20 PSF
- B. Snow Load:
- Pg (Ground Snow Load).....30 PSF
- Pf (Flat Snow Load).....23.1 PSF
- Cs (Snow Exposure Factor).....1.0
- I (Snow Load Importance Factor).....1.1
- Ct (Thermal Factor).....1.0
4. Wind Load:
- A. Ultimate Wind Speed (Risk Category III).....122 MPH
- B. Wind Exposure.....B
- C. Internal Pressure Coefficient.....+/- 0.18
- D. Components & Cladding Wind Pressure:.....As per the Code
5. Earthquake Design Data:
- A. Seismic Occupancy Category.....III
- B. Seismic Importance Factor, I.....1.25
- C. Ss (Mapped Spectral Response Acc. at Short Period).....0.289
- D. S1 (Mapped Spectral Response Acc. at 1 Second Period).....0.06
- E. Seismic Site Classification.....C
- F. Sds (Spectral Response Coefficient).....0.302
- G. Sd1 (Spectral Response Coefficient).....0.097
- H. Seismic Design Category.....B
- I. Analysis Procedure.....Equivalent Lateral Force Procedure
6. ALL FIRE RATED ASSEMBLIES TO BE CONSIDERED UNRESTRAINED.

SPECIAL INSPECTION DETAILS			
REQUIRED VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD
STEEL CONSTRUCTION			
. MATERIAL VERIFICATION OF HIGH–STRENGTH BOLTS, NUTS AND WASHERS	–	X	AISC 360, Section A3.3
. INSPECTION OF HIGH STRENGTH BOLTING	–	X	AISC 360–16, Section N5.6
. INSPECTION OF WELDING – VISUAL SINGLE PASS WELDS ¾"AND LESS	–	X	AWS D1.1 AISC 360–16 Section N5.4
. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	X	–	AISC 360–16 Section N5.4
. FLOOR AND ROOF DECK WELDS	–	X	AWS D1.3
. REINFORCING STEEL	X	–	AWS D1.4 ACI 318: CHAP 26
. PLACEMENT AND INSTALLATION OF HEADED ANCHORS	X	–	AISC 360–16 Section N5.4
. SHEAR REINFORCEMENT	X	–	AWS D1.4 ACI 318: CHAP 26
CONCRETE CONSTRUCTION			
. INSPECT REINFORCING STEEL, INCLUDING PLACEMENT	–	X	ACI 318: CHP.20, 25.2, 25.3, 26.6.1–26.6.3
REINFORCING BAR WELDING:			
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	–	X	AWS D1.4 ACI 318: 26.6.4
b. INSPECT SINGLE–PASS FILLET WELDS, MAXIMUM ¾"	–	X	AWS D1.4 ACI 318: 26.6.4
c. INSPECT ALL OTHER WELDS	X	–	AWS D1.4 ACI 318: 26.6.4
. INSPECT ANCHORS CAST IN CONCRETE	–	X	ACI 318: 17.8.2
. INSPECT ANCHORS POST–INSTALLED IN HARDENED CONCRETE MEMBERS			
a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	X	ACI 318:17.8.2.4 ACI 318: 17.8.2
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a	X	X	ACI 318:17.8.2.4 ACI 318: 17.8.2
. VERIFYING USE OF REQUIRED DESIGN MIX	–	X	ACI 318: Ch.19, 26.4.3, 26.4.4
. CONCRETE SAMPLING FOR STRENGTH, SLUMP, TEMPERATURE AND AIR CONTENT	X	–	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12
. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	–	X	ACI 318:26.9
. INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF MEMBERS BEING FORMED	–	X	ACI 318: 26.11.2(b)
. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	–	X	ACI 318:26.5.3–26.5.5/IBC 1908.9
MASONRY CONSTRUCTION			
1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED FOR COMPLIANCE:			
. PROPORTIONS OF SITE–PREPARED MORTAR	–	X	TMS 402–16 TMS 602–16
. CONSTRUCTION OF MORTAR JOINTS.	–	X	TMS 402–16 TMS 602–16
. LOCATION OF REINFORCEMENT, CONNECTORS, ANCHORAGES	–	X	TMS 402–16 TMS 602–16
2. THE INSPECTION PROGRAM SHALL VERIFY:			
. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	–	X	TMS 402–16 TMS 602–16
. TYPE, SIZE, AND LOCATION OF ANCHORS	–	X	TMS 402–16 TMS 602–16
. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT	–	X	TMS 402–16 TMS 602–16
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED FOR COMPLIANCE:			
. GROUT SPACE IS CLEAN	–	X	TMS 402–16 TMS 602–16
. PLACEMENT OF REINFORCEMENT AND CONNECTORS	–	X	TMS 402–16 TMS 602–16
4. PREPARATION OF GROUT AND MORTAR SPECIMENS	X	–	TMS 402–16 TMS 602–16
SOIL			
. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY	–	X	
. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	–	X	
. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL	–	X	
. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	X	–	
. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVED SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	–	X	
EPOXY ANCHORS	–	X	



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GENERAL NOTES AND
SPECIAL INSPECTION



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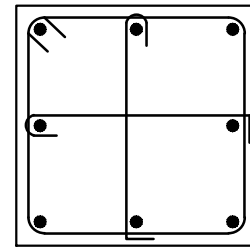
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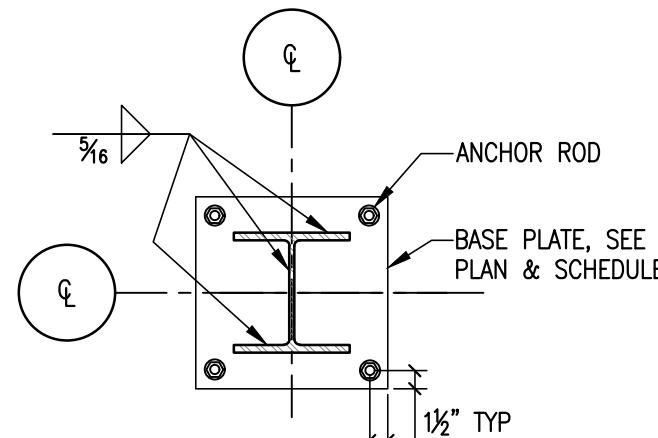
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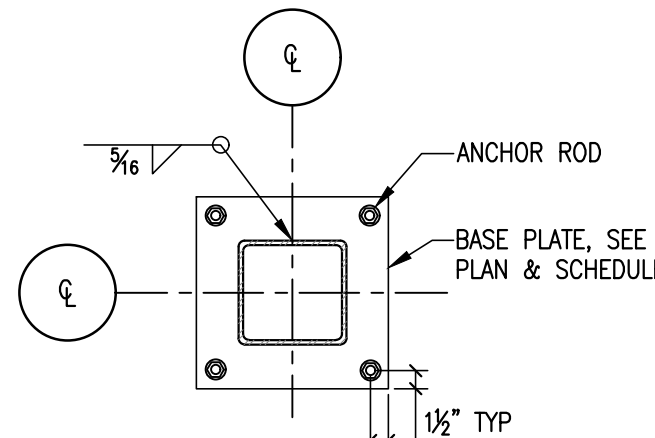


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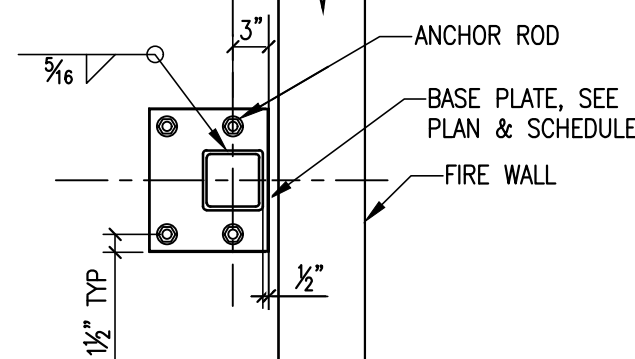
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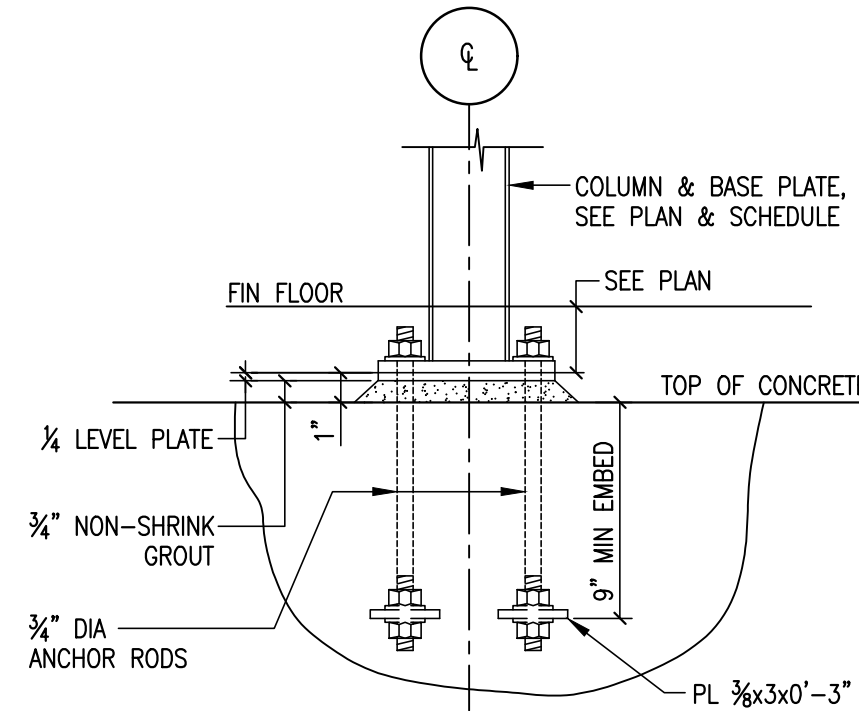
BP1



BP2



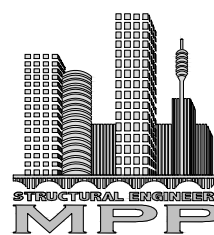
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ANCHOR ROD DETAIL

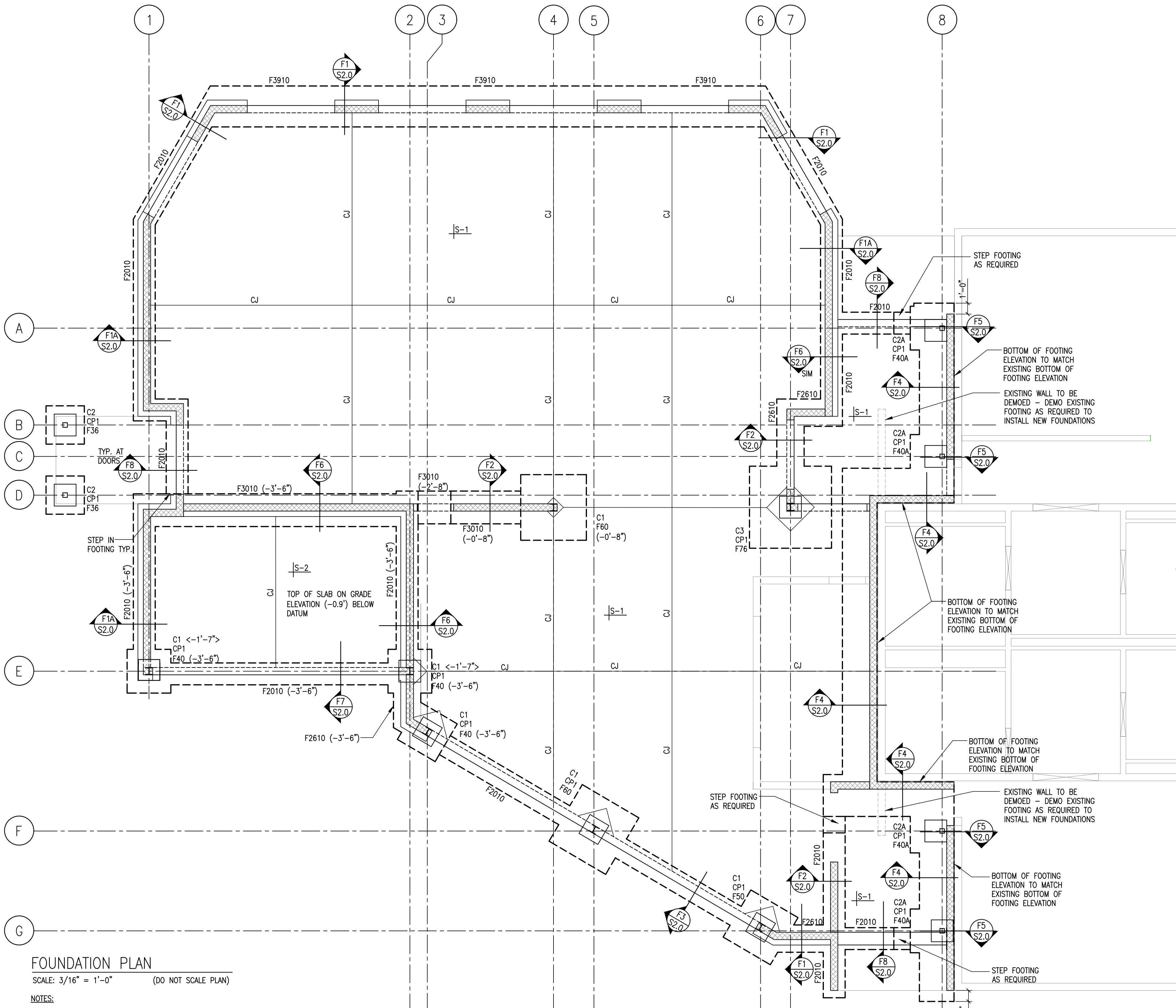
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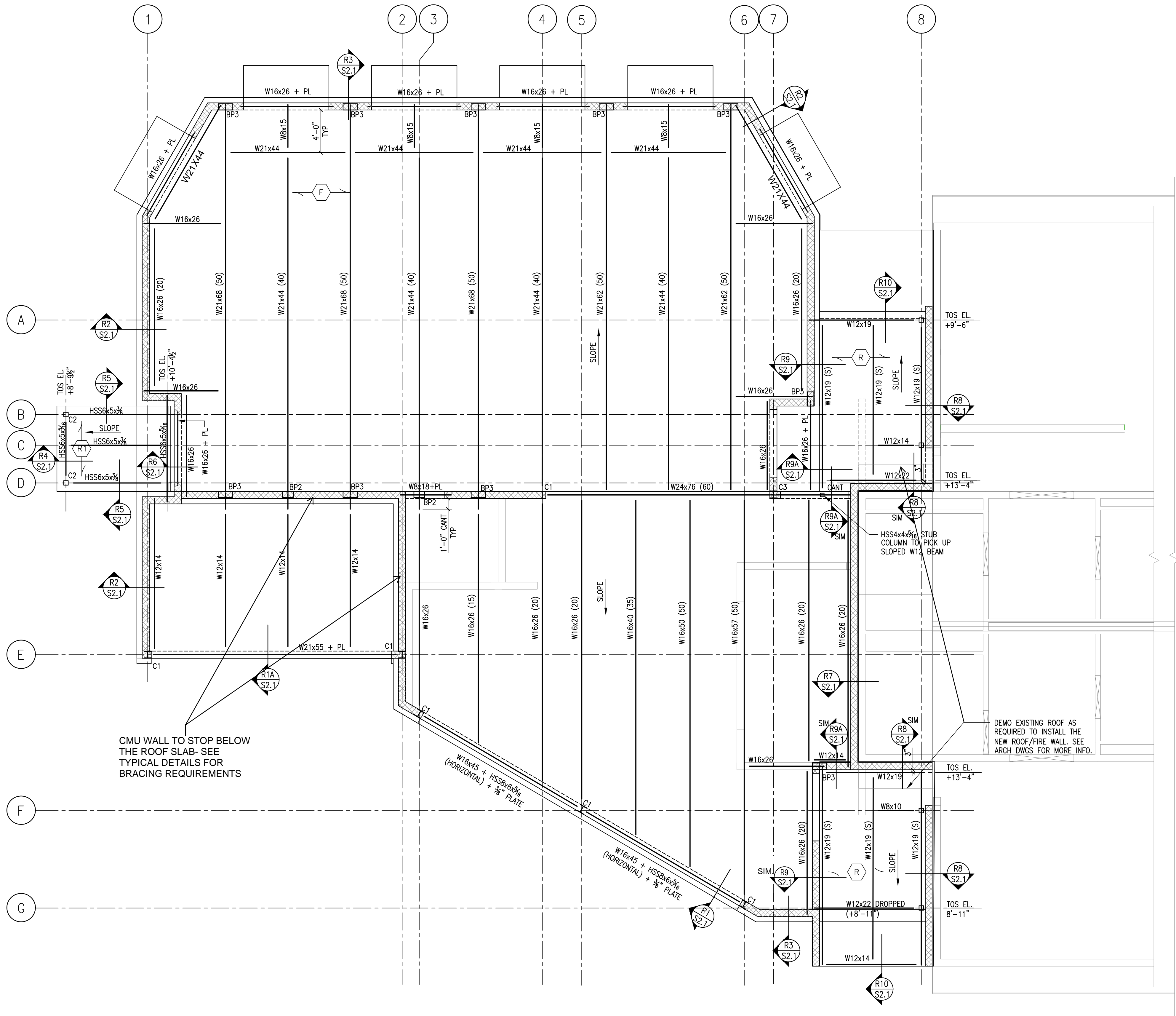
- ALL HSS COLUMNS FY=46 KSI.
- ALL COLUMNS TO HAVE (4) $\frac{3}{4}$ " DIA ANCHOR BOLTS UNLESS OTHERWISE NOTED.
- ALL HSS COLUMNS TO HAVE CAP PLATES:
 $\frac{3}{4}$ " THICK @ BEAM BEARING
 $\frac{1}{2}$ " THICK @ JOIST BEARING
ALL OTHERS $\frac{1}{2}$ " THICK UNLESS OTHERWISE NOTED.
- WHERE ANY FACE OF COLUMN ABUTS MASONRY WALLS, PROVIDE ADJUSTABLE MASONRY ANCHORS @ 24" OC VERTICALLY.
- SEE TYPICAL DETAIL SHEET FOR CONNECTIONS TO HSS COLUMNS.
- ALL CONCRETE PIERS & COLUMNS TO HAVE (2) #3 TIES @ 3" TABS, BALANCE @ 12" UNLESS OTHERWISE NOTED.
- ALL COLUMNS SUPPORTING CANTILEVER STEEL MEMBERS TO HAVE $\frac{3}{4}$ " TOP PLATES W/ (4) $\frac{3}{4}$ " DIA A325 BOLTS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS SHOWN IN COLUMN SCHEDULE ARE TO BOTTOM OF BASE PLATE UNLESS OTHERWISE NOTED.
- IF PIER IS REQUIRED AND NONE IS INDICATED PROVIDE 24"x24" CONCRETE PIER W/ (8) #6 VERT. BARS.
- SEE ROOF FRAMING PLAN FOR ADDITIONAL POSTS UP.



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ROOF FRAMING PLAN

SCALE: 3/16" = 1'-0" (DO NOT SCALE PLAN)

NOTES:

1. TOP OF FINISHED FLOOR SLAB ELEVATION +12'-2 1/2" REFERENCED AS DATUM EL. 0'-0"
2. TOP OF SLAB ELEVATION IS ABOVE DATUM UNLESS NOTED THUS [E] ON PLAN FROM DATUM.
3. ELEVATION TOP OF STEEL BEAMS 5/8" BELOW TOP OF SLAB UNLESS OTHERWISE NOTED THUS () ON PLAN FROM DATUM.
4. W12x19 [6] DENOTES W12x19 STEEL BEAM WITH (6) 3/4" DIAMETER x 4 1/2" LONG COMPOSITE SHEAR STUDS.
5. [F] DENOTES SPAN OF 3/4" NORMAL WEIGHT CONCRETE REINFORCED WITH 6x6 - W2.0 x W2.0 WWR OVER 2", 20GA COMPOSITE GALVANIZED METAL FLOOR DECK. TOTAL SLAB DEPTH = 9 1/2"
6. [R] - DENOTES SPAN OF KALWALL ROOF
[R1] - DENOTES FIBER GLASS PANEL ROOF - SEE ARCH DWGS FOR MORE INFO
7. (S) - DENOTES SLOPE STEEL BEAM FRAME FLUSH TOP.
8. [SLOPE] - DENOTES SLOPE TO LOW POINT.
9. ALL WIDE FLANGE SHAPES SHALL BE ASTM-A572 OR ASTM A992 GRADE 50 (50 KSI YIELD).
10. COORDINATE FLOOR OPENINGS WITH ARCHITECTURAL AND MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.
11. THE GC/CM SHALL COORDINATE ALL OPENINGS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND TYPICAL DETAILS.
12. SEE TYPICAL DETAIL DRAWING(S) FOR TYPICAL DETAILS NOT REFERENCED IN PLAN.
13. FOR ADDITIONAL INFORMATION, SEE GENERAL NOTES.
14. ALL STEEL COLUMNS (C1 AND C3) SHOWN SHOULD BE EXTENDED TO ROOF FOR FUTURE ADDITION.
15. PROVIDE BP1 BEARING PLATE TYPICALLY AT ALL BEAM BEARING UNO PLAN.
16. BP1 DENOTES 7"x8"x3/4" BEARING PLATE WITH (2) 3/4"x6" LONG HEADED ANCHORS.
BP2 DENOTES 7"x12"x3/4" BEARING PLATE WITH (3) 3/4"x6" LONG HEADED ANCHORS.
BP3 DENOTES 7"x16"x1" BEARING PLATE WITH (4) 3/4"x6" LONG HEADED ANCHORS.



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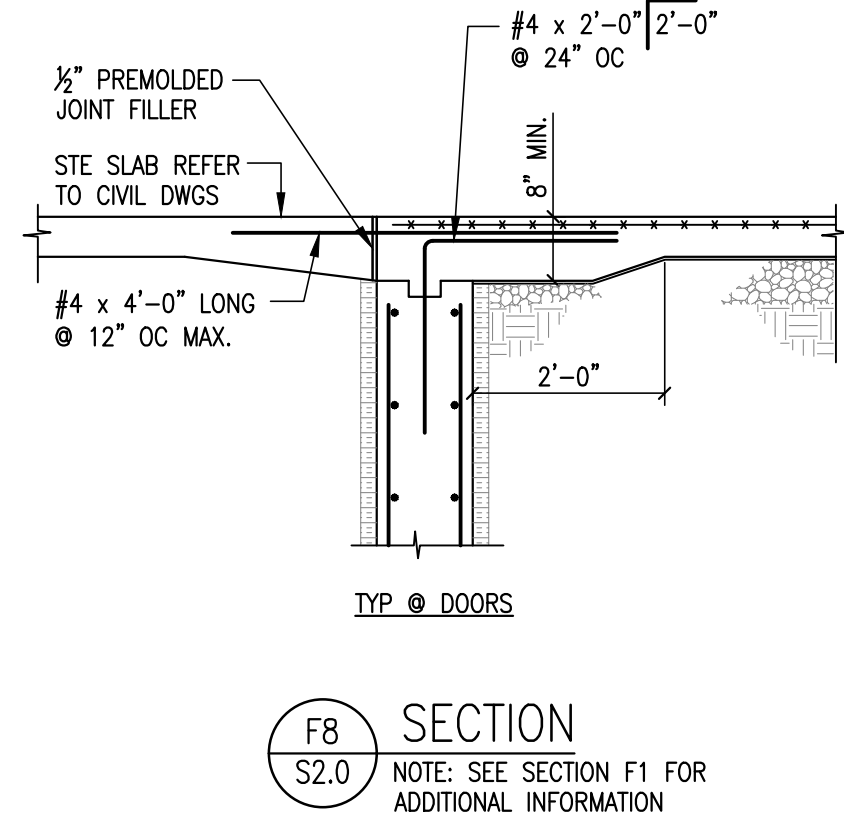
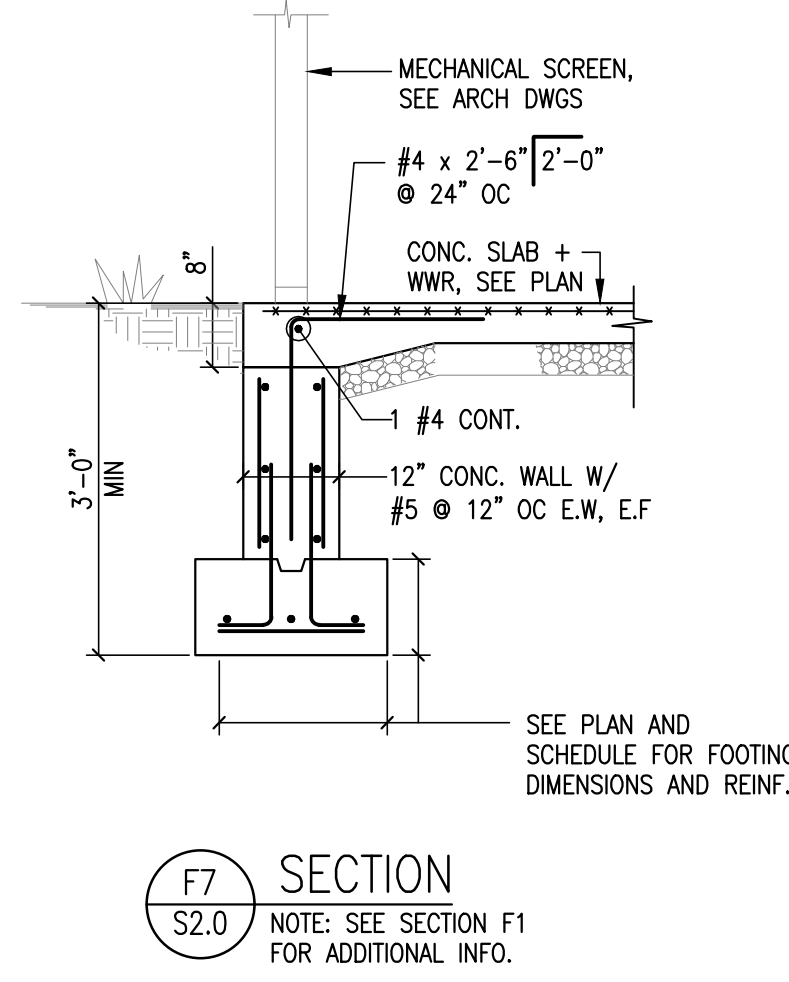
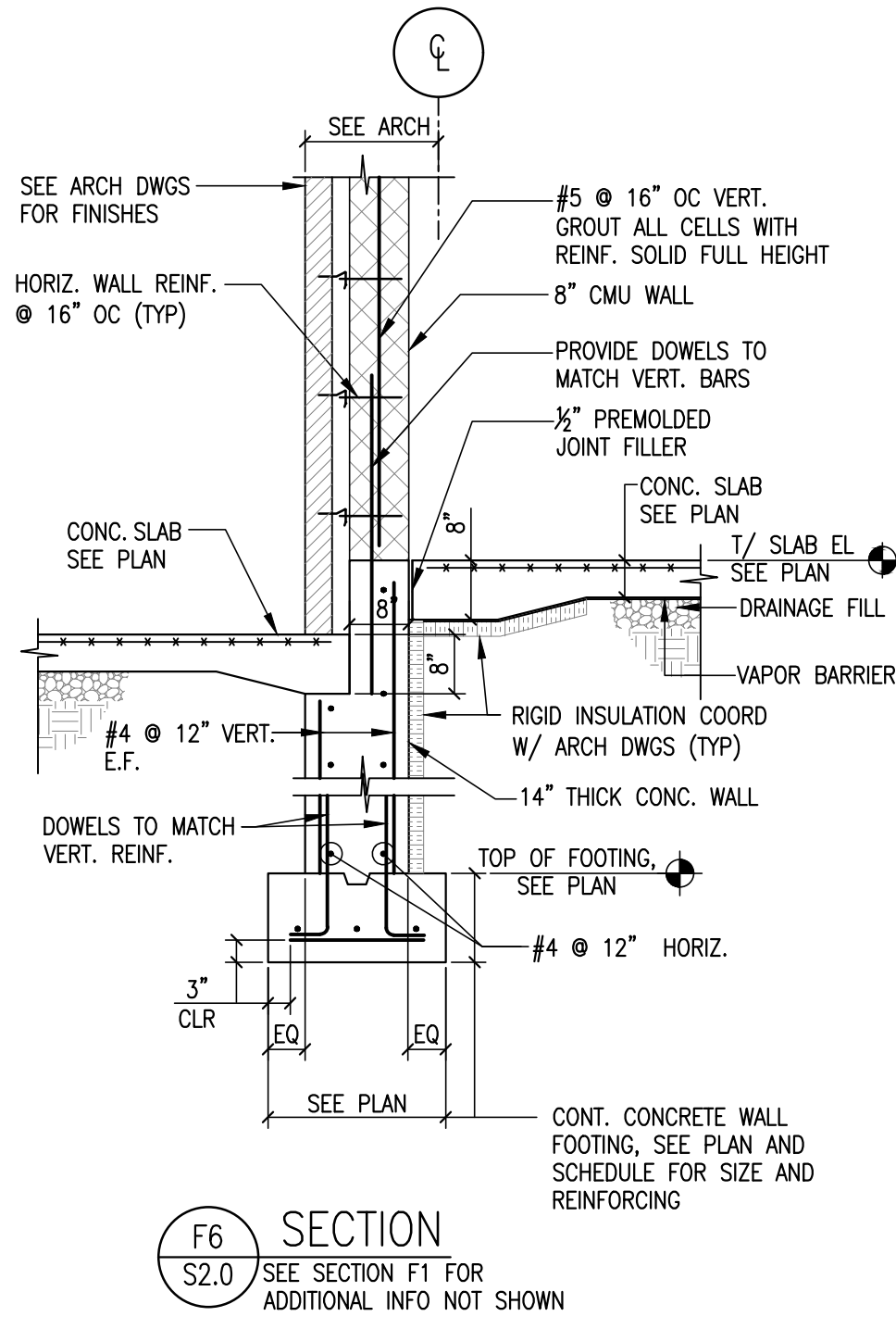
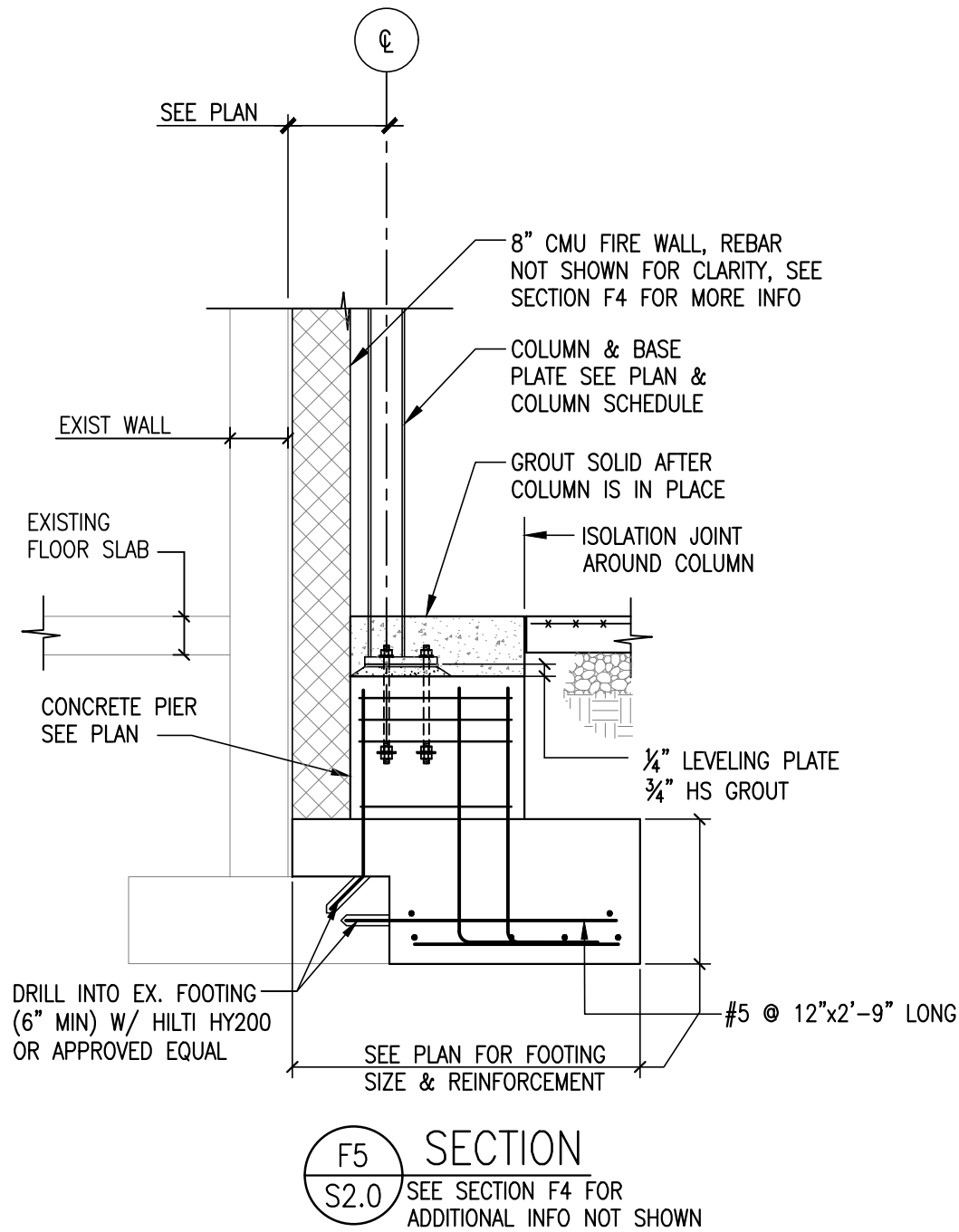
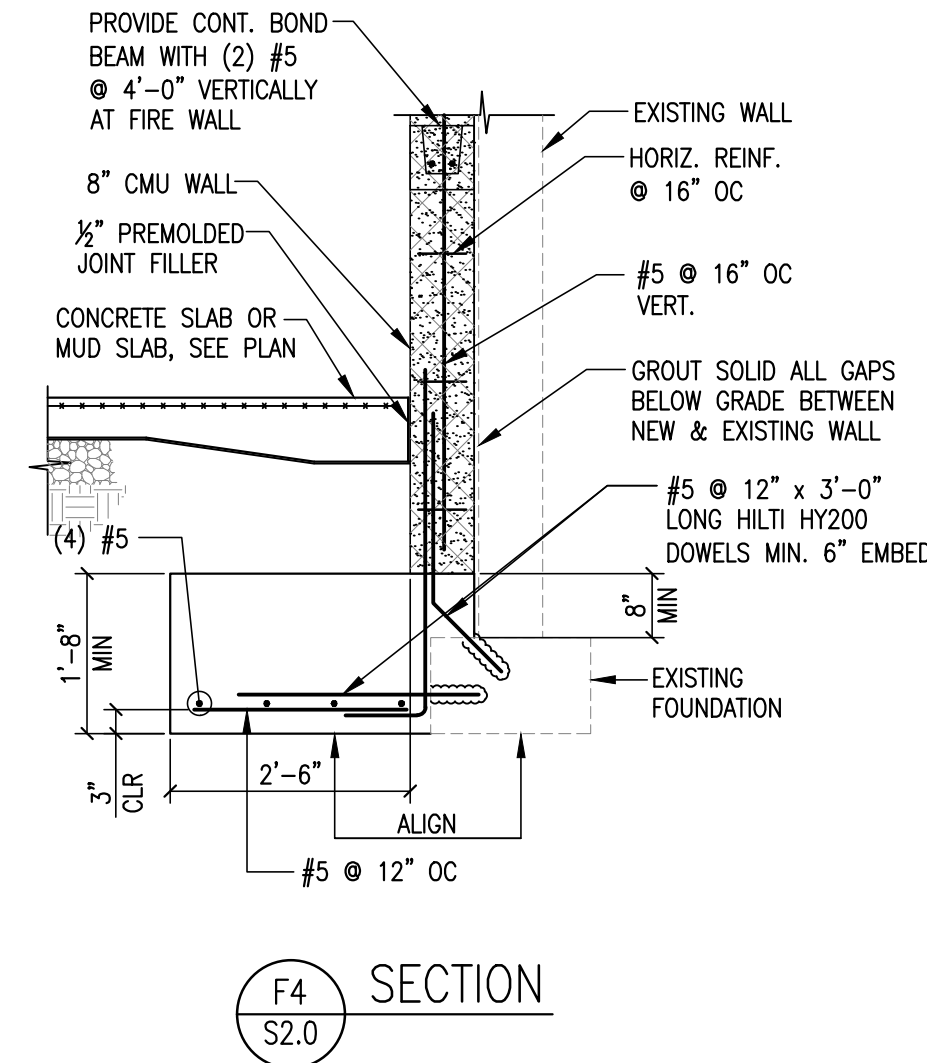
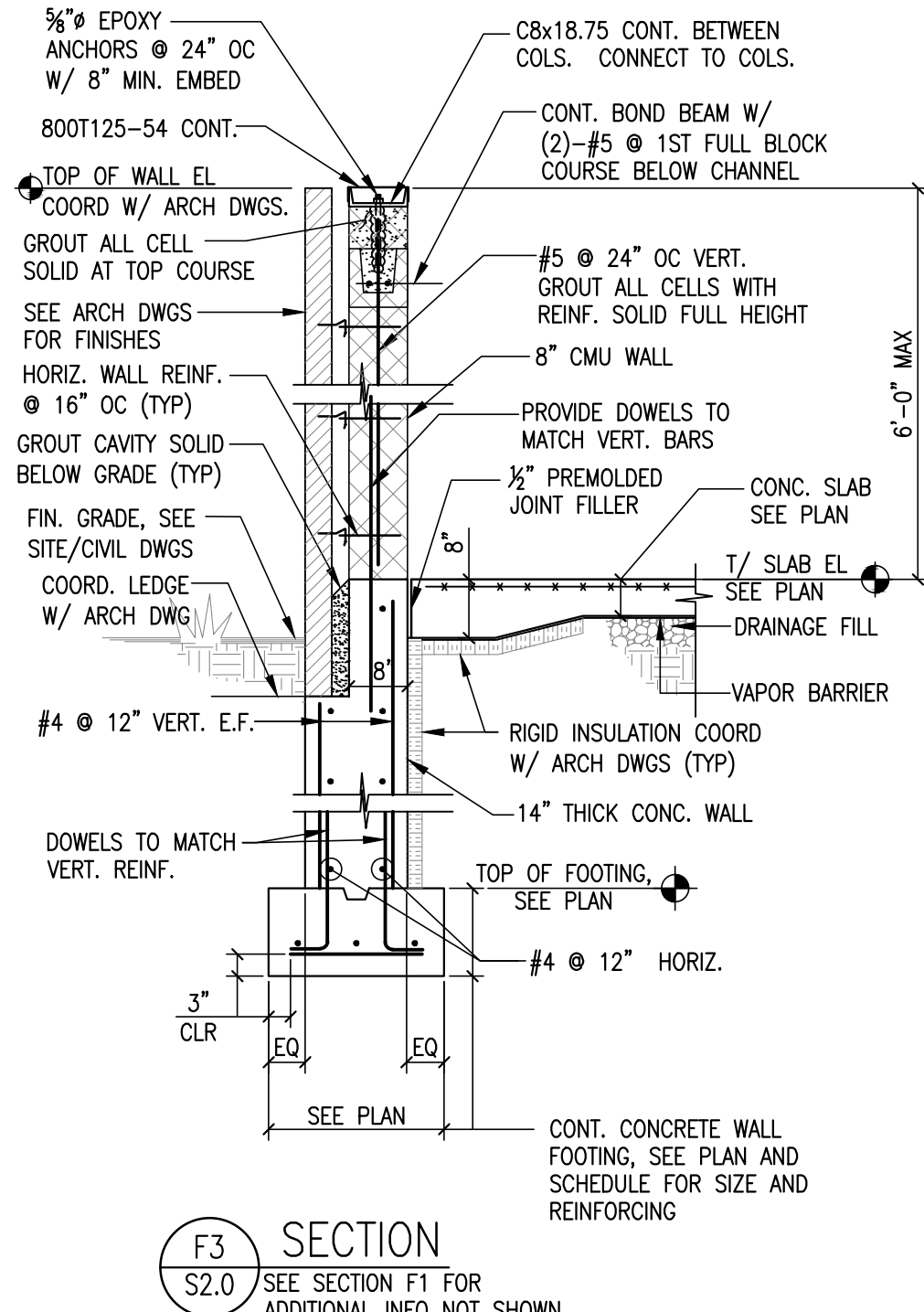
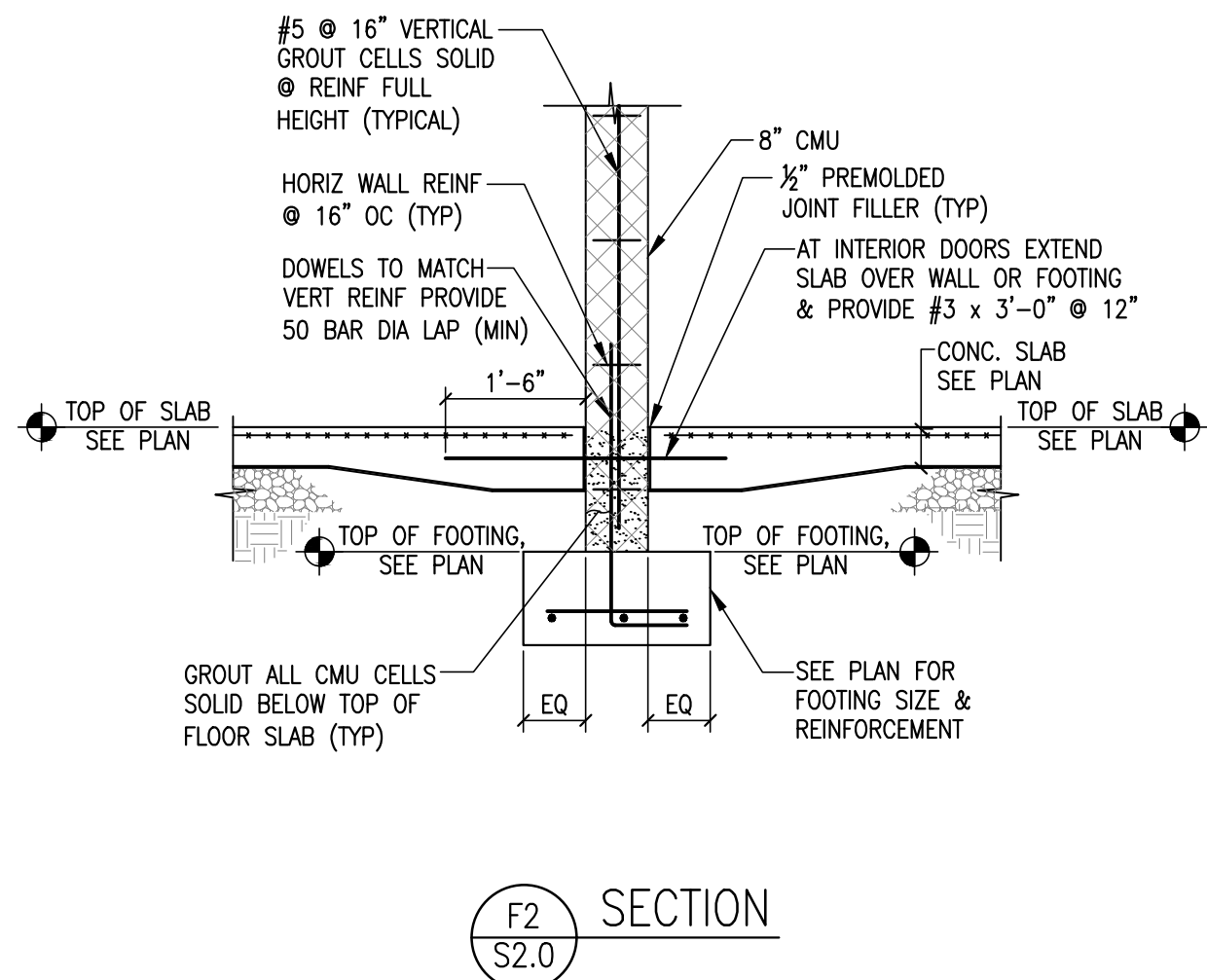
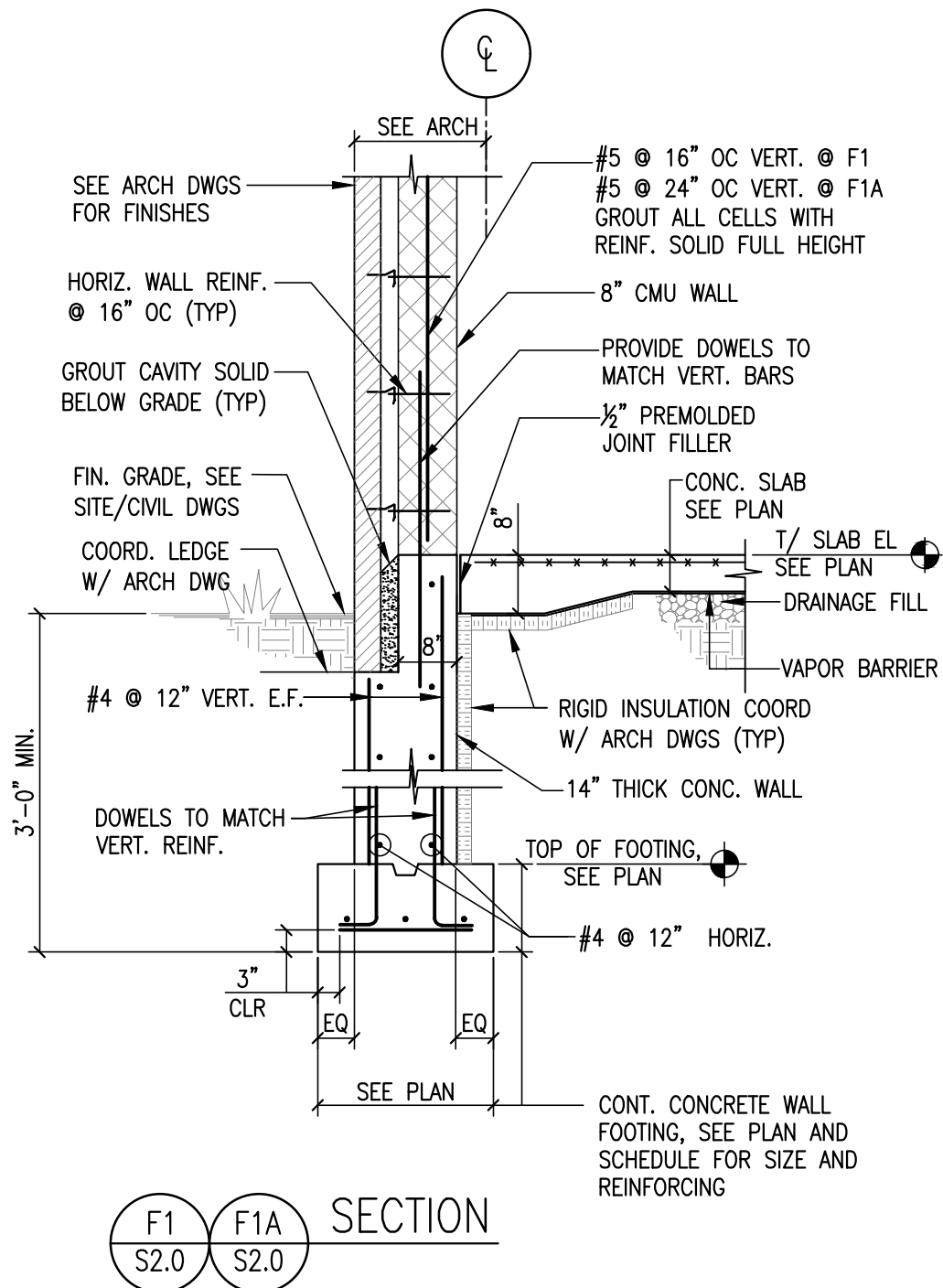
ROOF FRAMING PLAN



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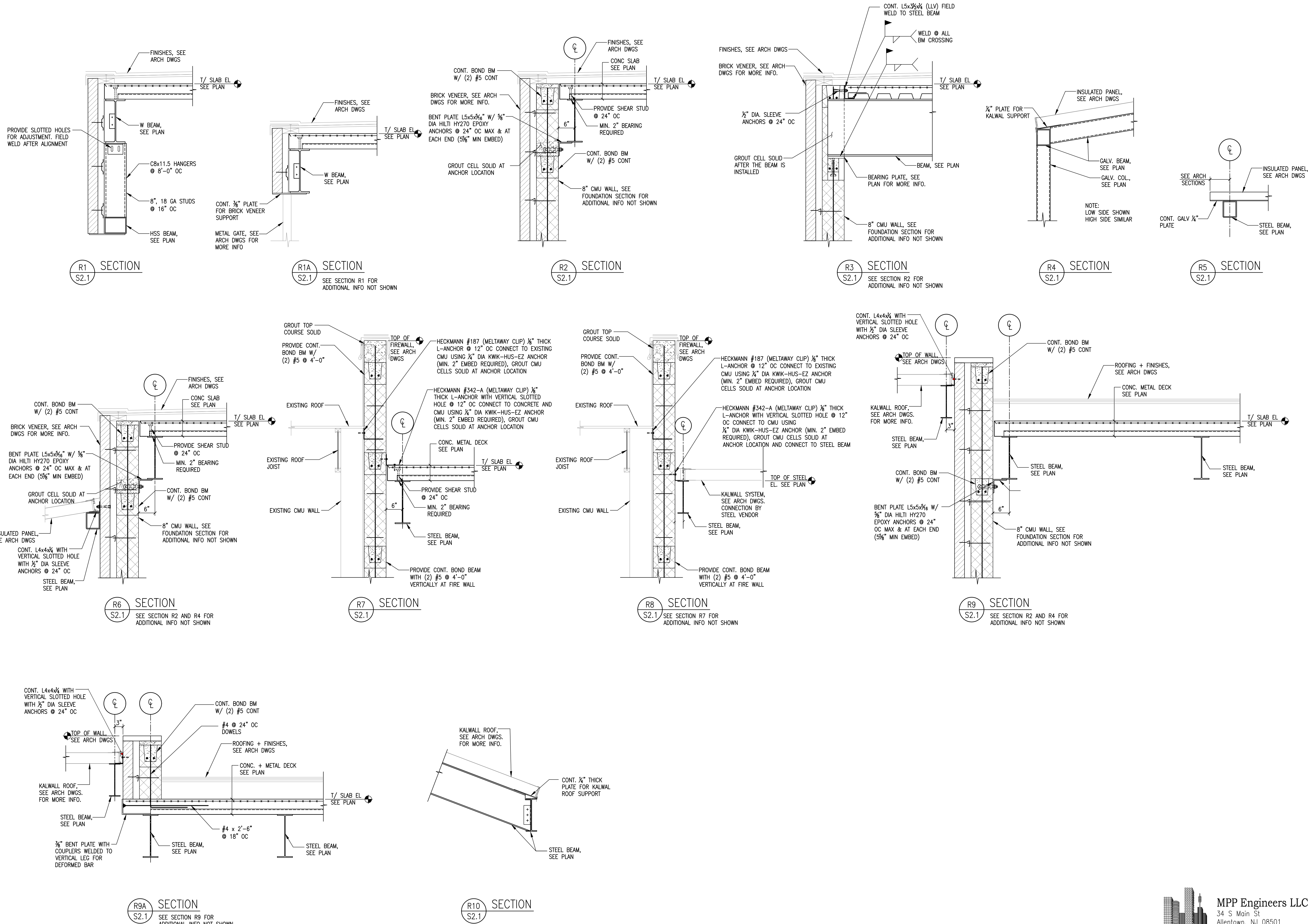
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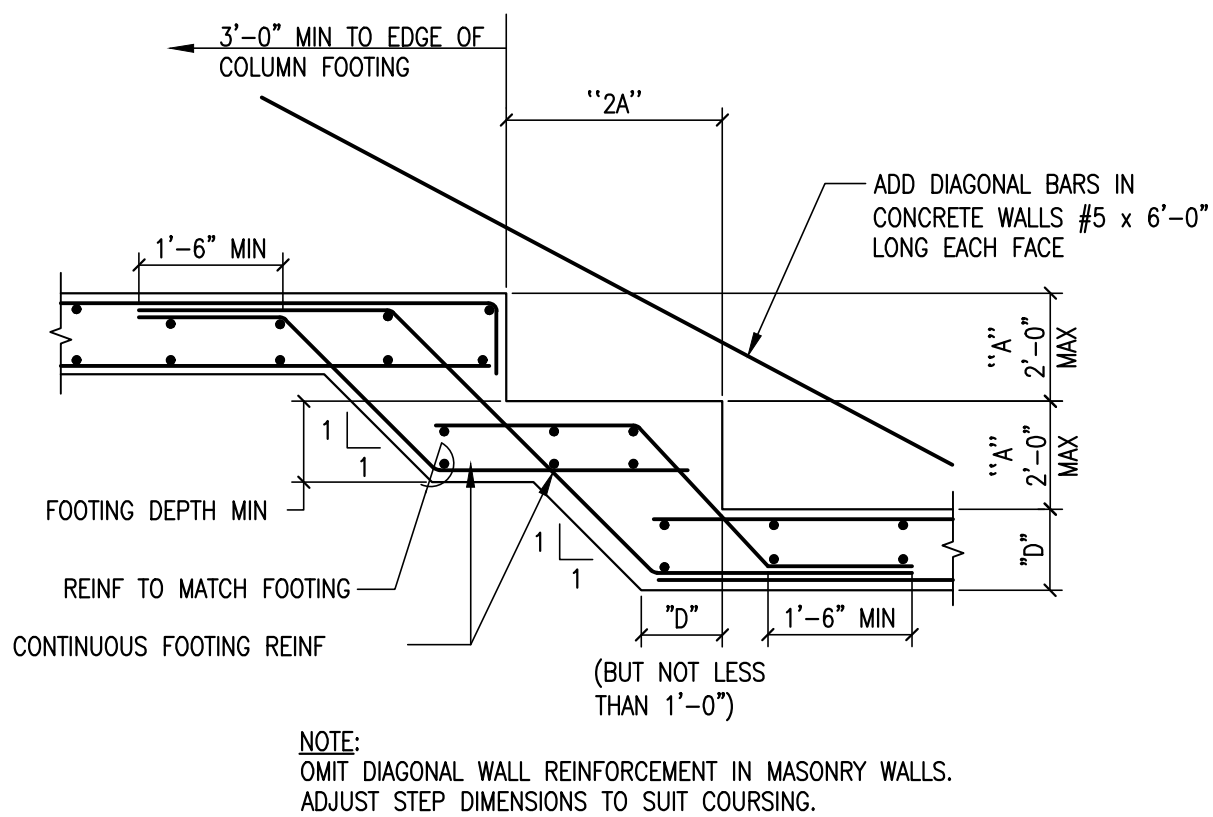
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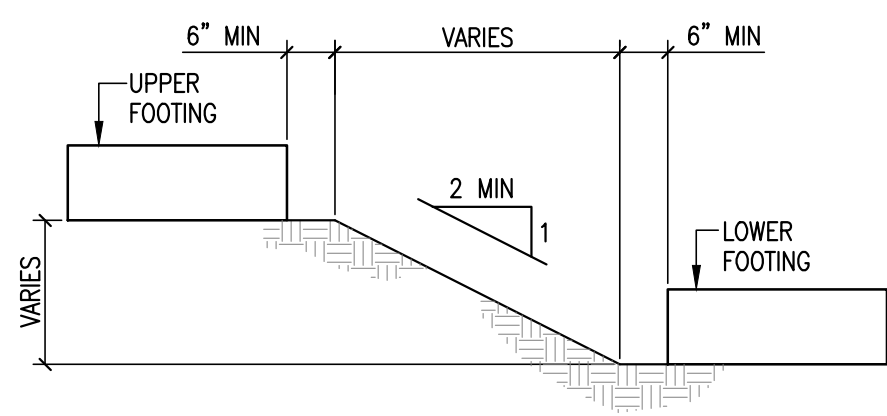
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TYPICAL DETAILS

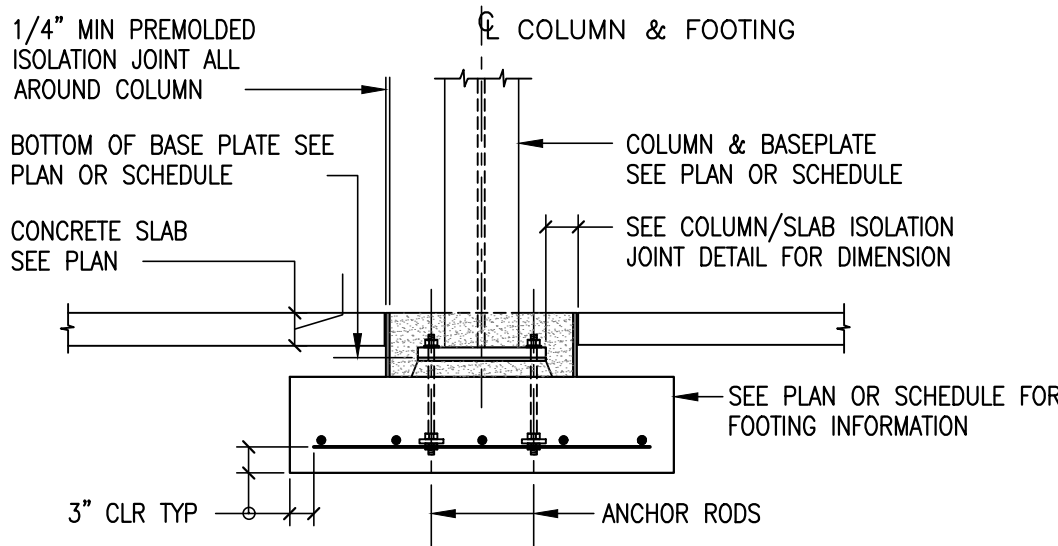
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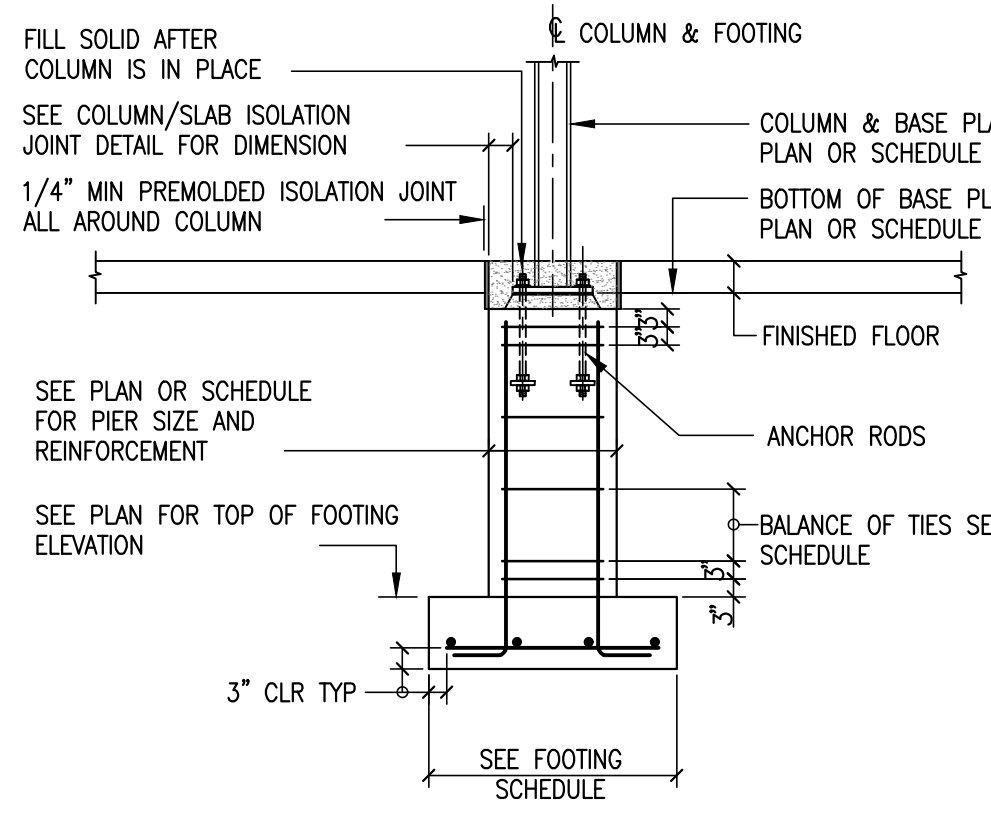
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S3.0 TYPICAL DETAIL
STEPPED WALL FOOTING



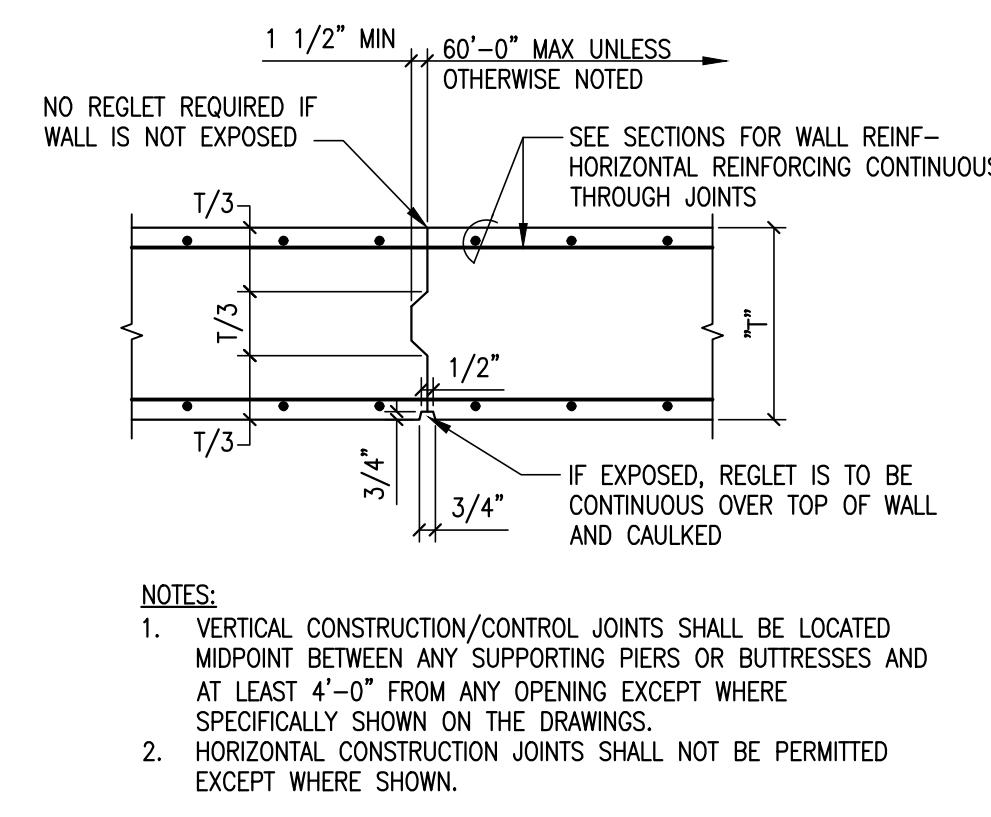
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S3.0 TYPICAL DETAIL
SLOPE BETWEEN FOOTINGS



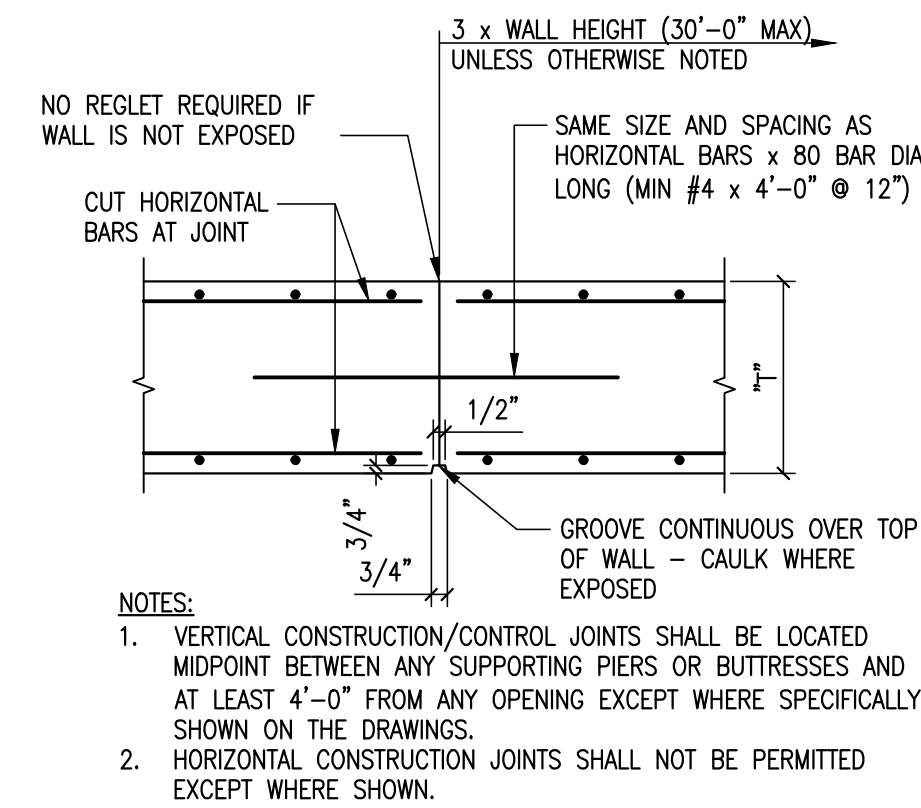
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S3.0 TYPICAL DETAIL
INTERIOR FOOTING



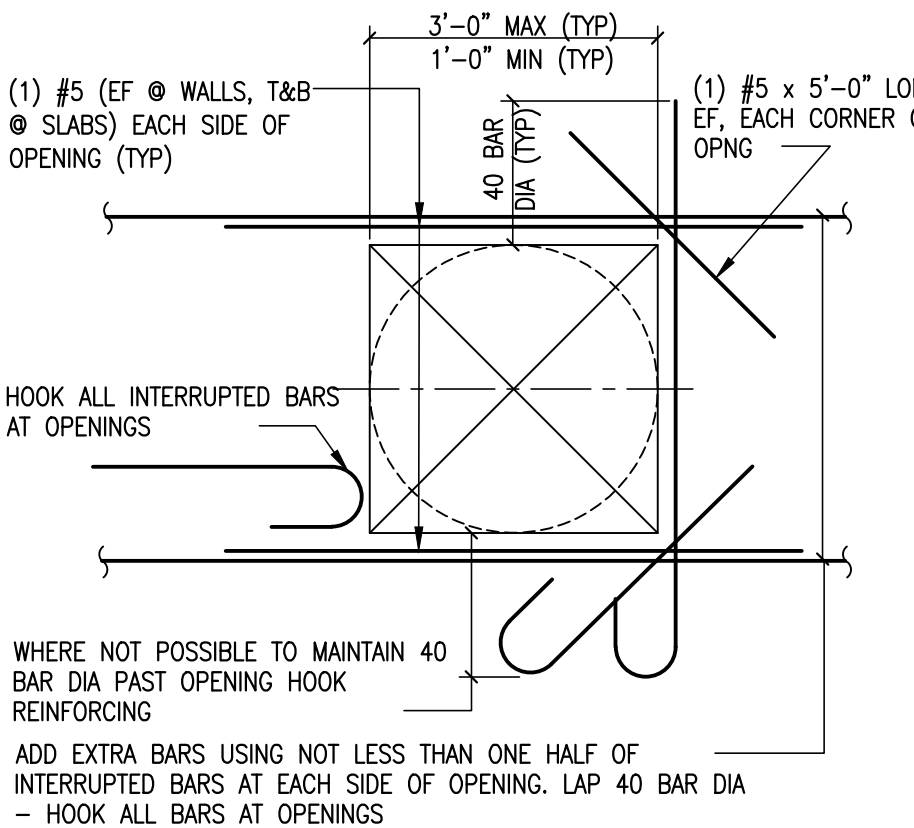
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S3.0 TYPICAL DETAIL
ISOLATED PIER AND FOOTING



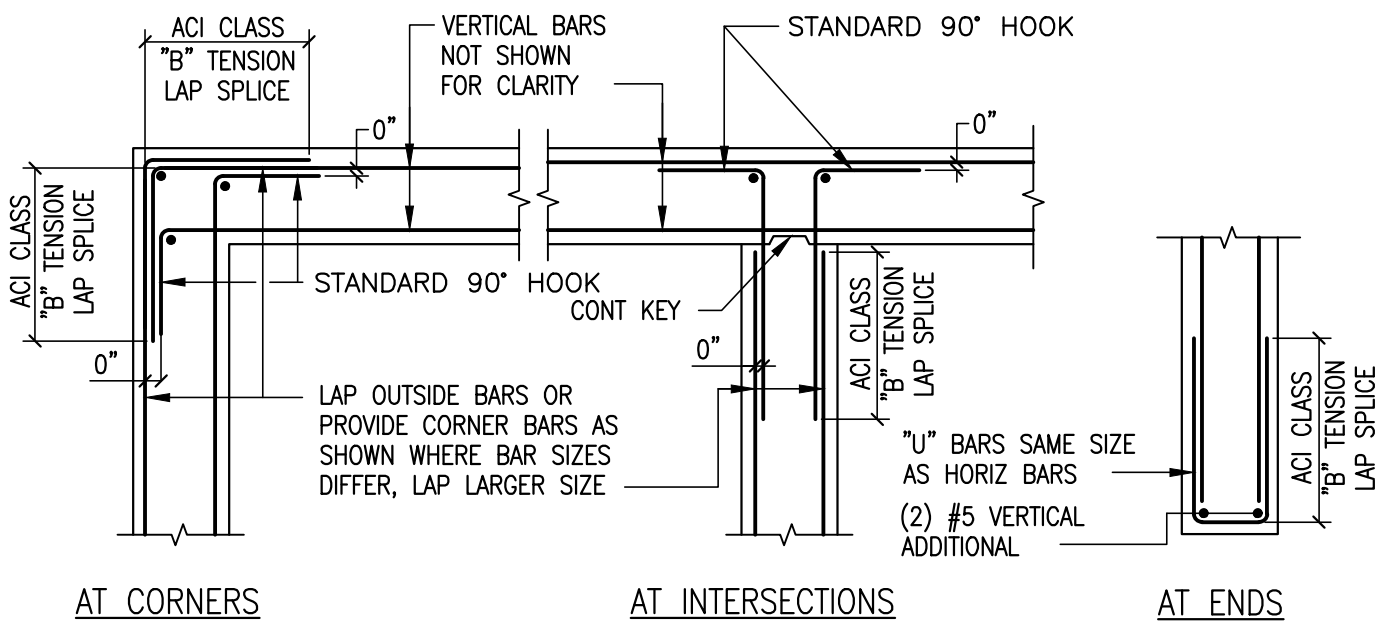
TD5
S3.0 TYPICAL DETAIL
CONCRETE WALL CONSTRUCTION JOINT
(TWO LAYERS OF REINFORCEMENT)



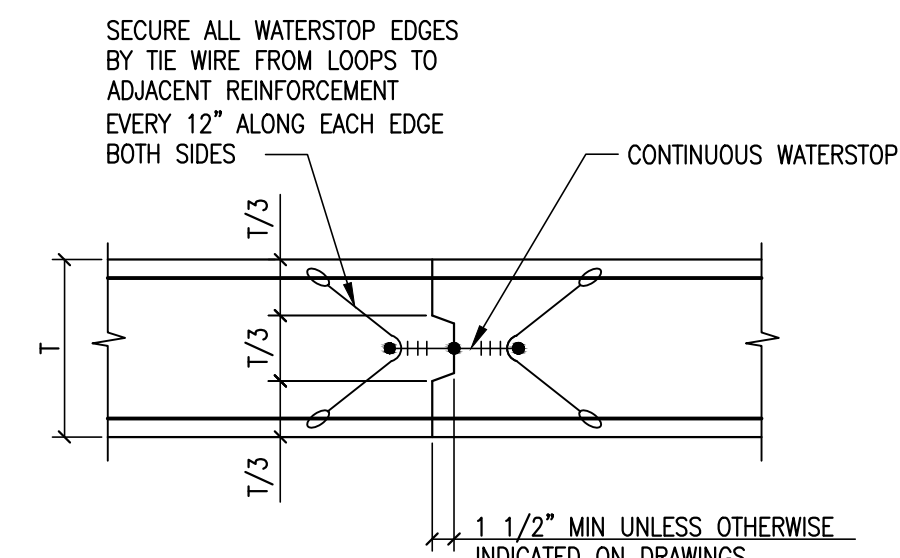
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S3.0 TYPICAL DETAIL
CONCRETE WALL CONTROL JOINT
(TWO LAYERS OF REINFORCEMENT)



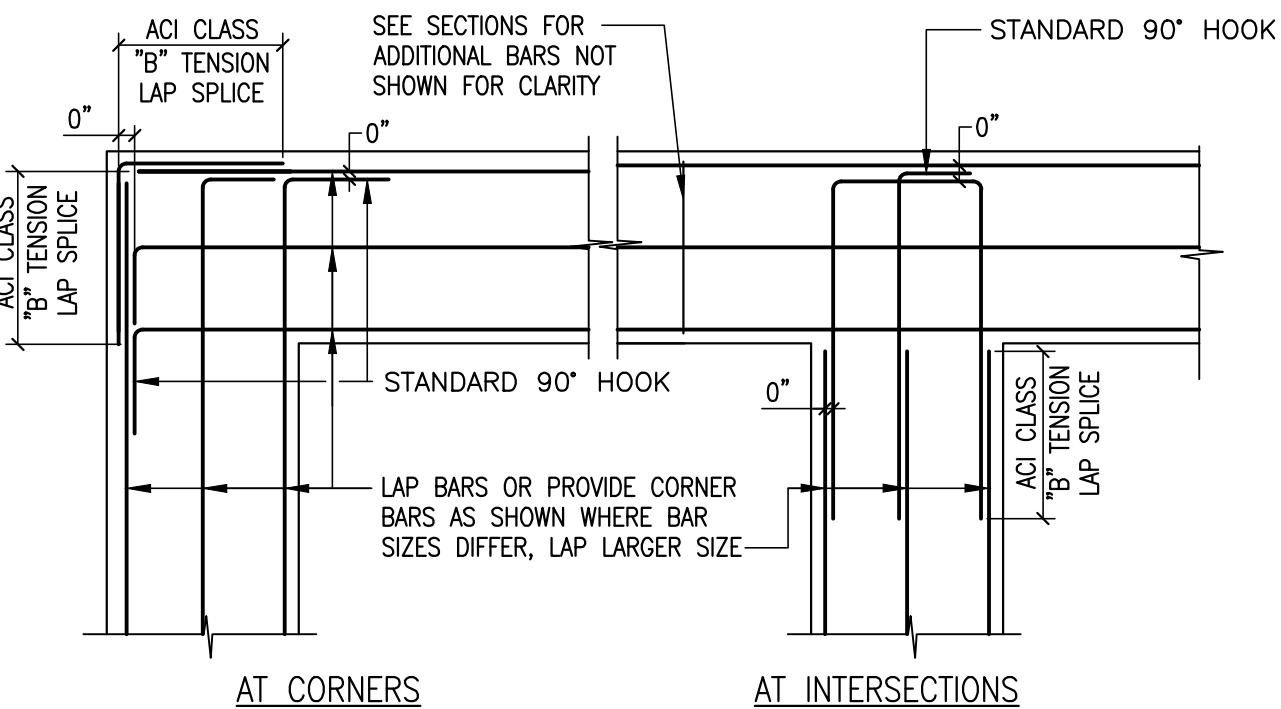
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S3.0 TYPICAL DETAIL
REINFORCING AT OPENINGS



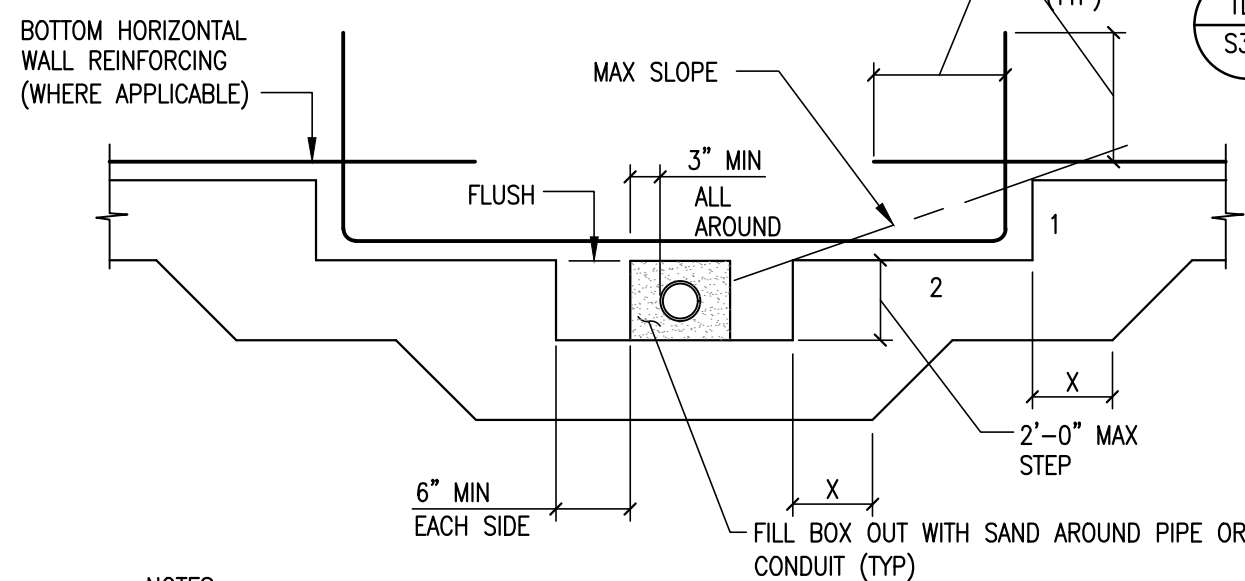
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S3.0 TYPICAL DETAIL
HORIZONTAL REINFORCEMENT IN CONCRETE WALLS



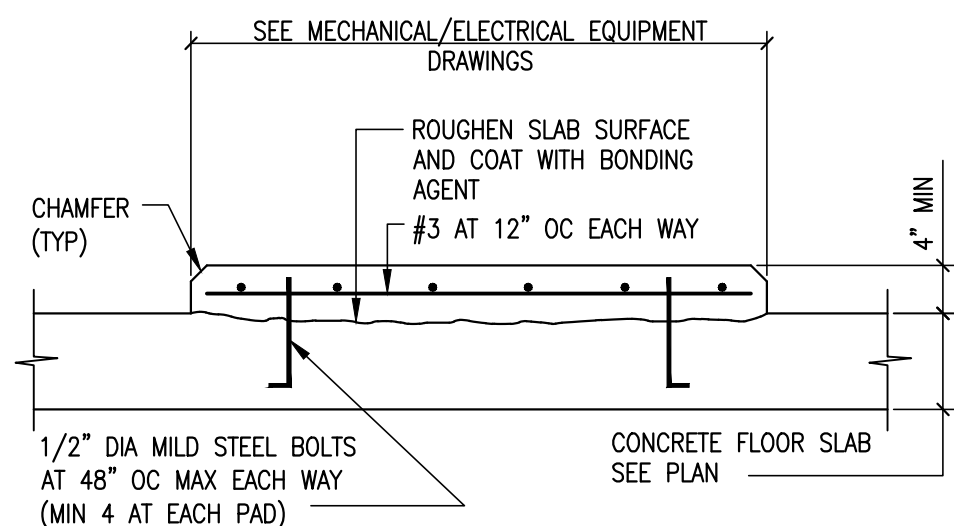
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S3.0 TYPICAL DETAIL
CONSTRUCTION JOINT WITH
WATERSTOP



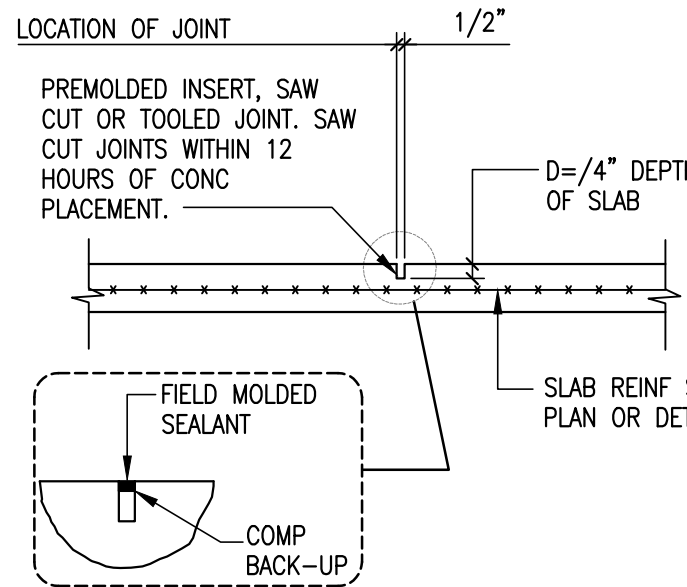
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S3.0 TYPICAL DETAIL
REINFORCEMENT IN CONCRETE FOOTINGS



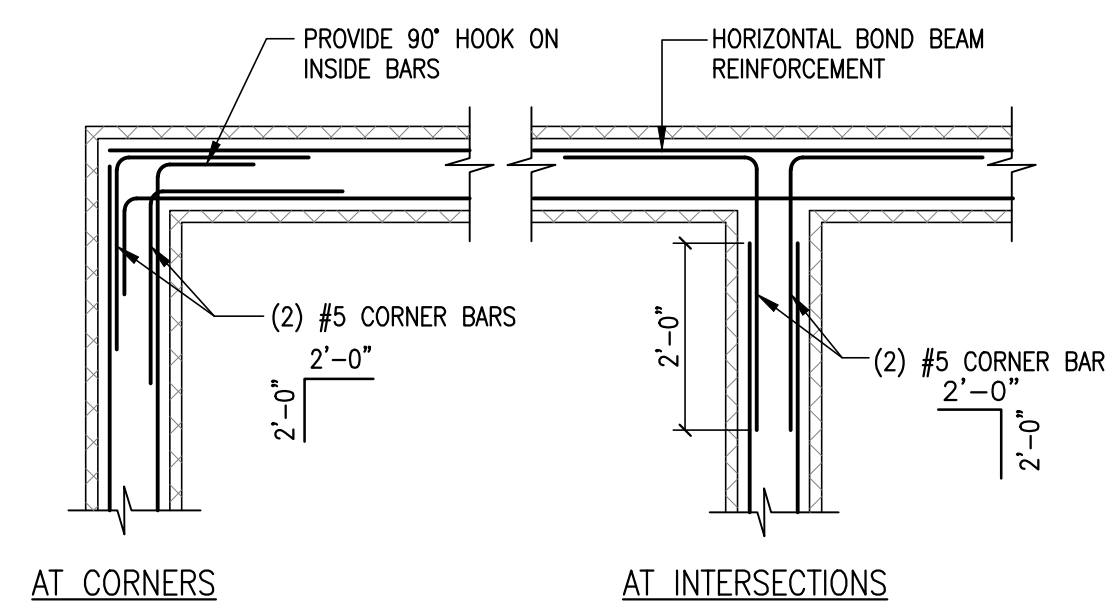
TD11
S3.0 TYPICAL DETAIL
FOUNDATION WALL PIPE AND CONDUIT PENETRATION



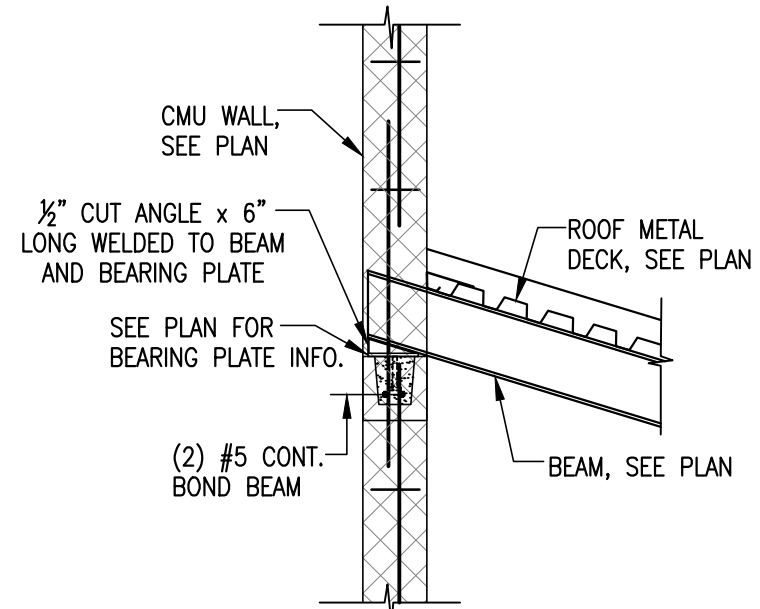
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S3.0 TYPICAL DETAIL
MECHANICAL EQUIPMENT PAD



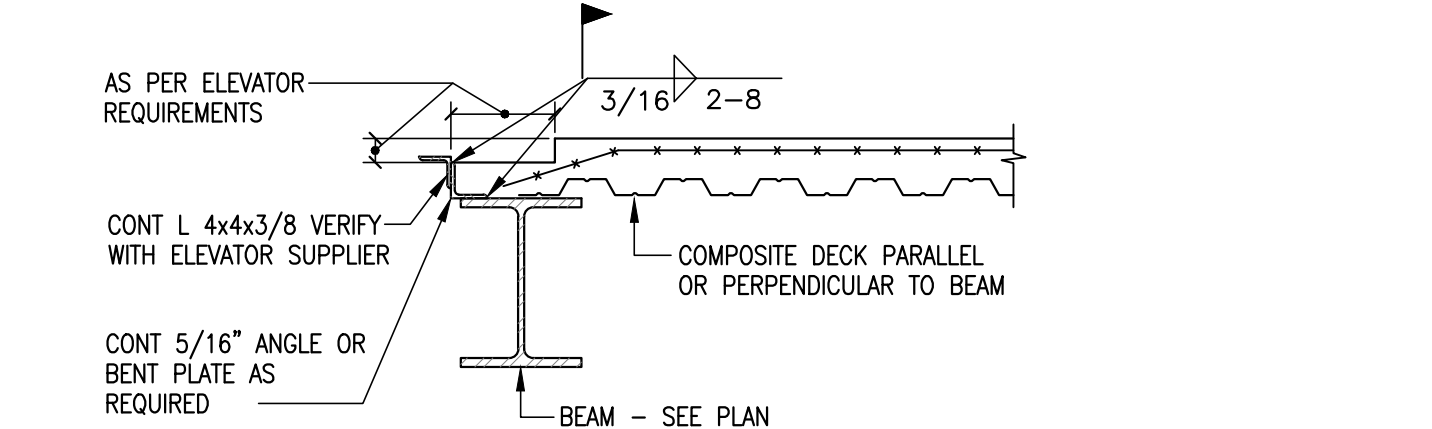
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S3.0 TYPICAL CONTRACTION JOINT IN
SLAB ON GRADE DETAIL



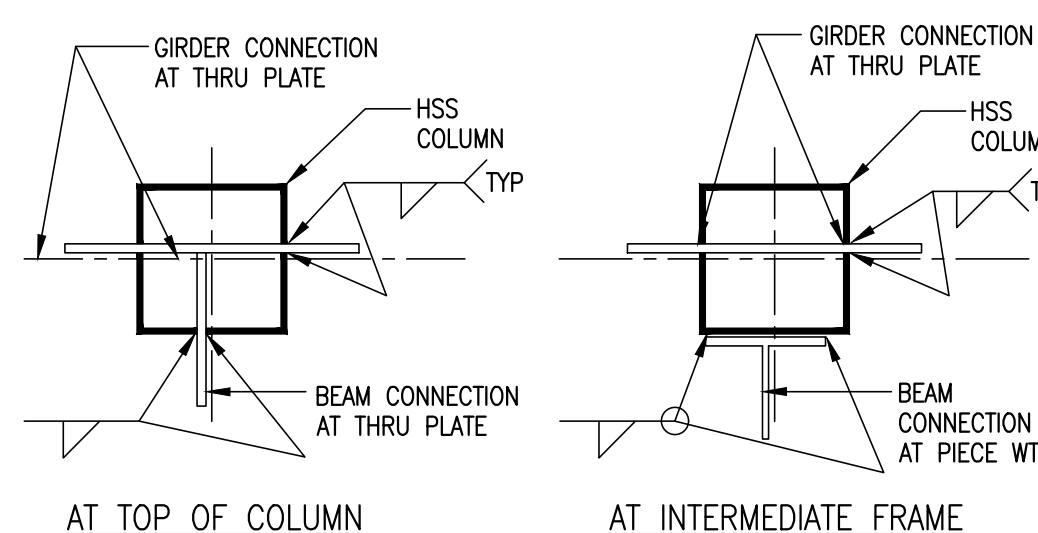
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S3.0 TYPICAL DETAIL
HORIZONTAL REINFORCEMENT
IN BOND BEAMS



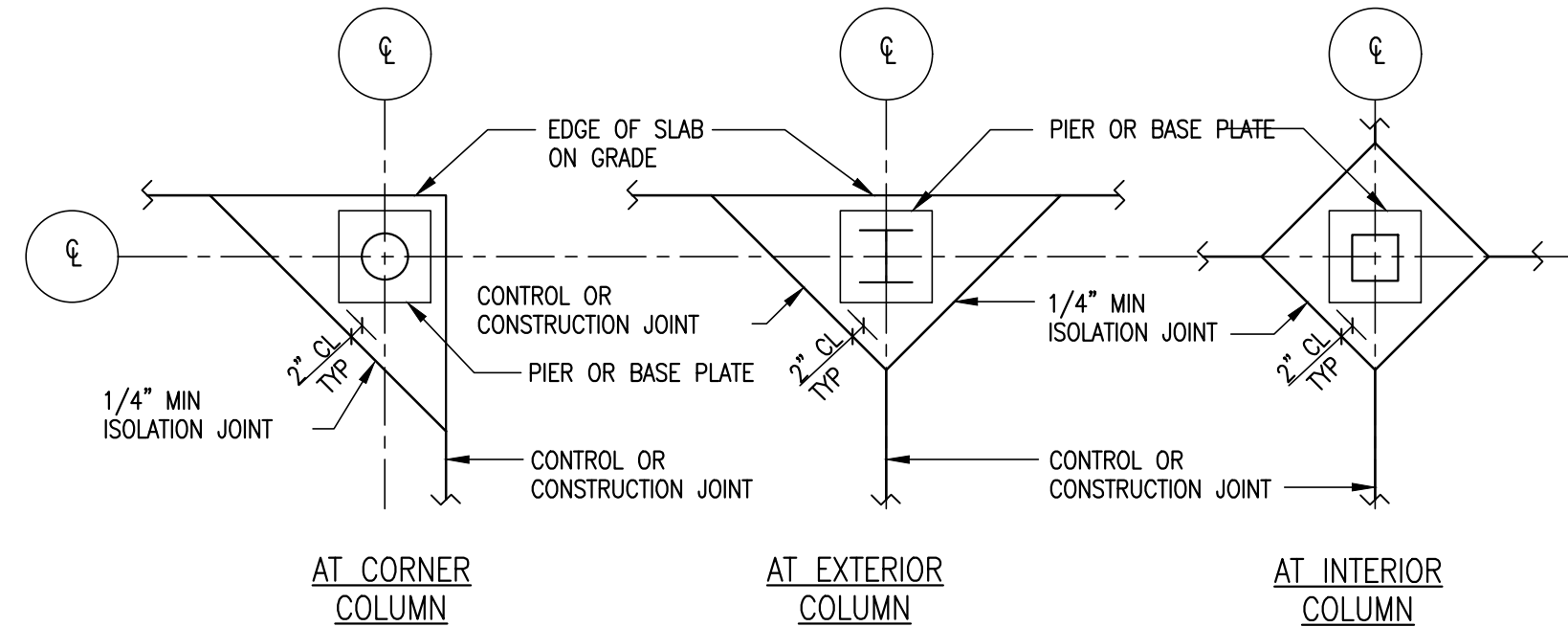
TD15
S3.0 TYPICAL DETAIL
BENT BEAM BEARING AT CMU WALL



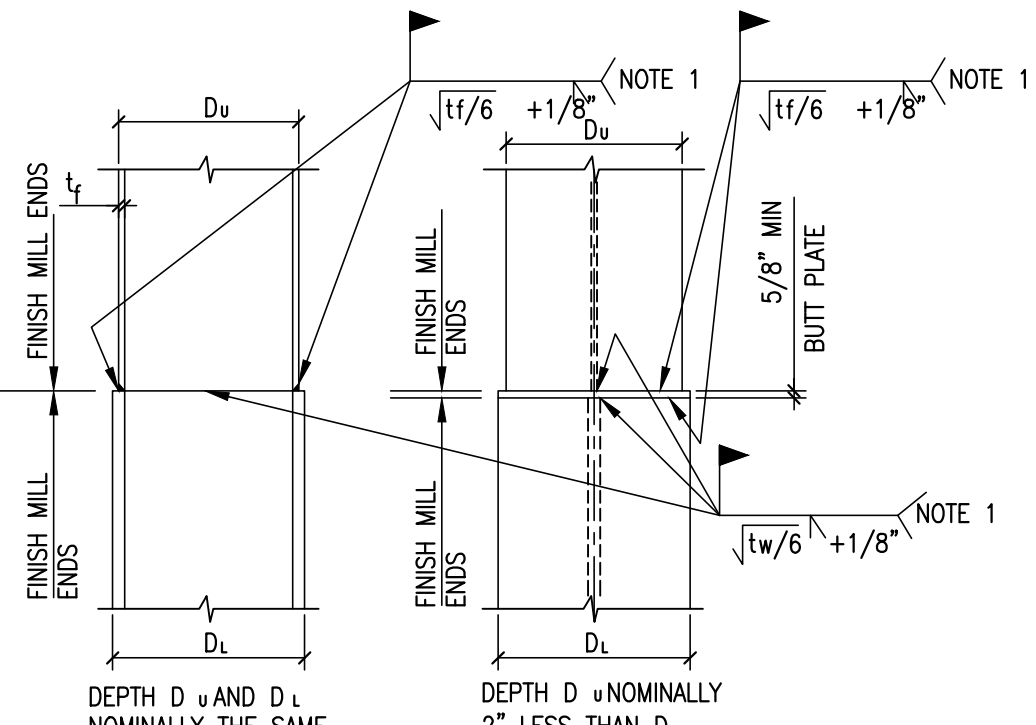
TD16
S3.0 TYPICAL DETAIL
SILL AT ELEVATOR DOOR STEEL FRAMED DOOR



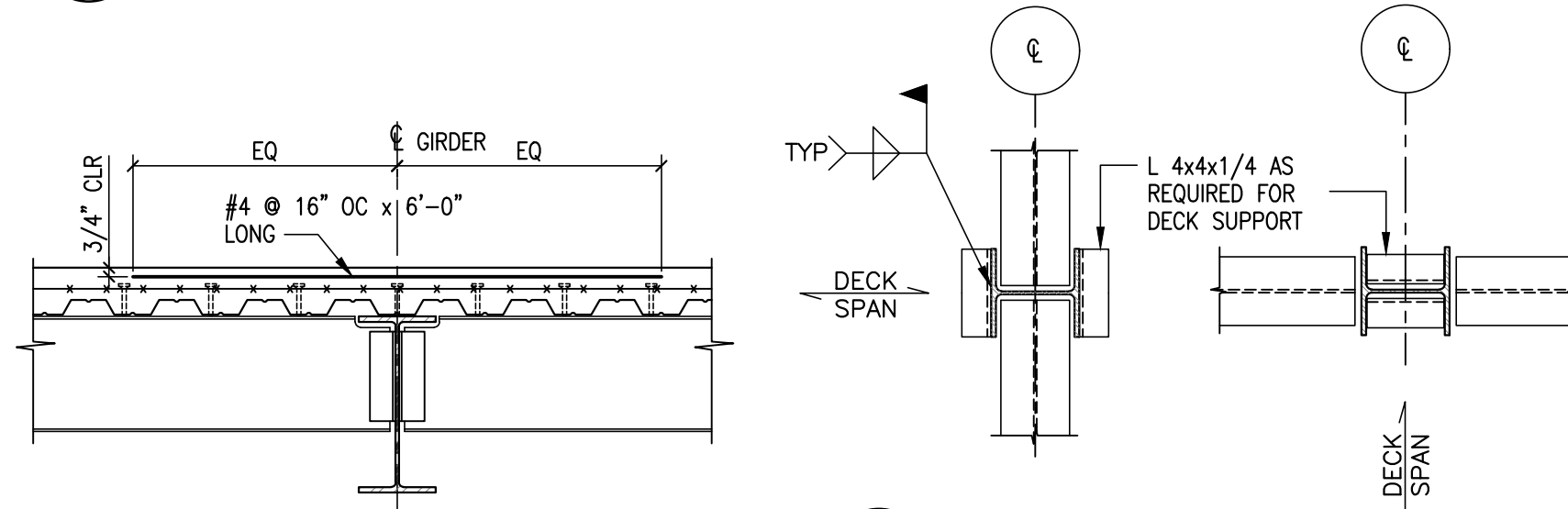
TD17
S3.0 TYPICAL DETAIL
THRU PLATE AT HSS COLUMN



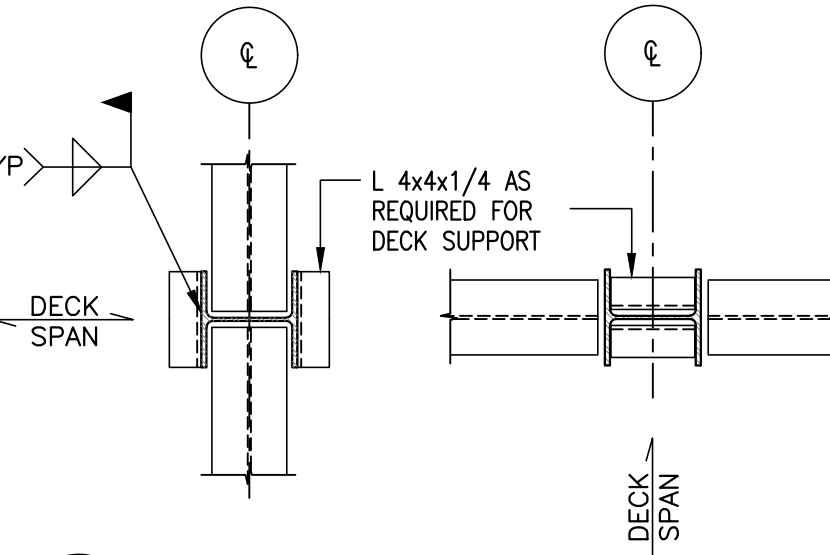
TD18
S3.0 TYPICAL DETAIL
COLUMN/SLAB ISOLATION JOINT



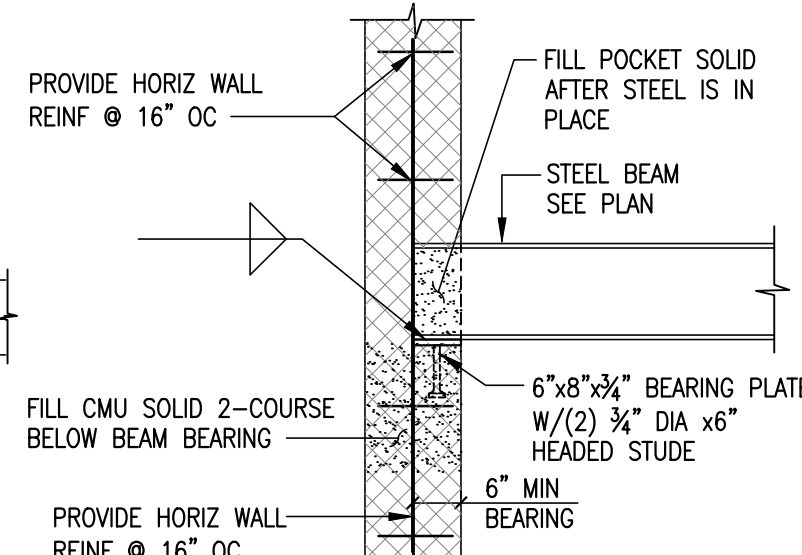
TD19
S3.0 TYPICAL DETAIL
COLUMN SPLICE
- WELDED



TD20
S3.0 TYPICAL DETAIL
ADDITIONAL REINFORCING
OVER GIRDERS



TD21
S3.0 TYPICAL DETAIL
DECK SUPPORT AT COLUMNS



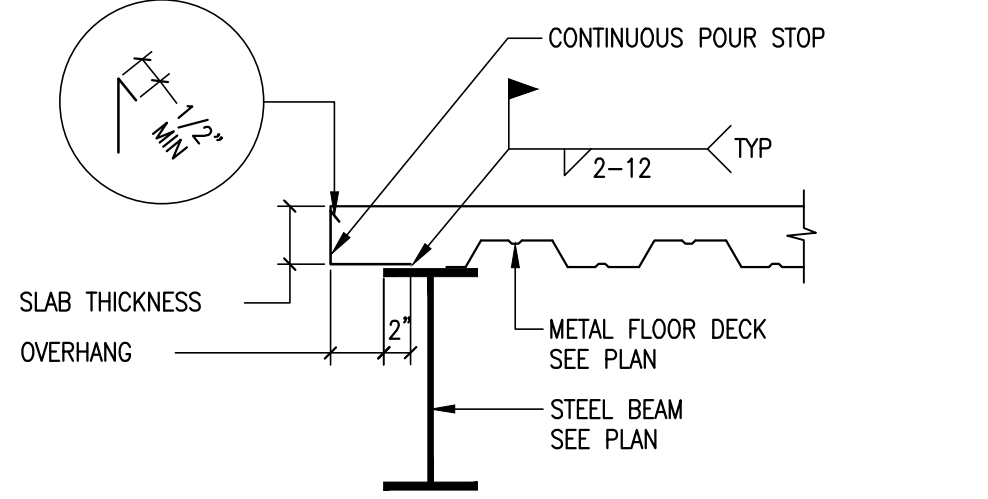
TD22
S3.0 TYPICAL DETAIL
BEAM POCKET IN CMU WALL



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Phone: (609) 489-5511

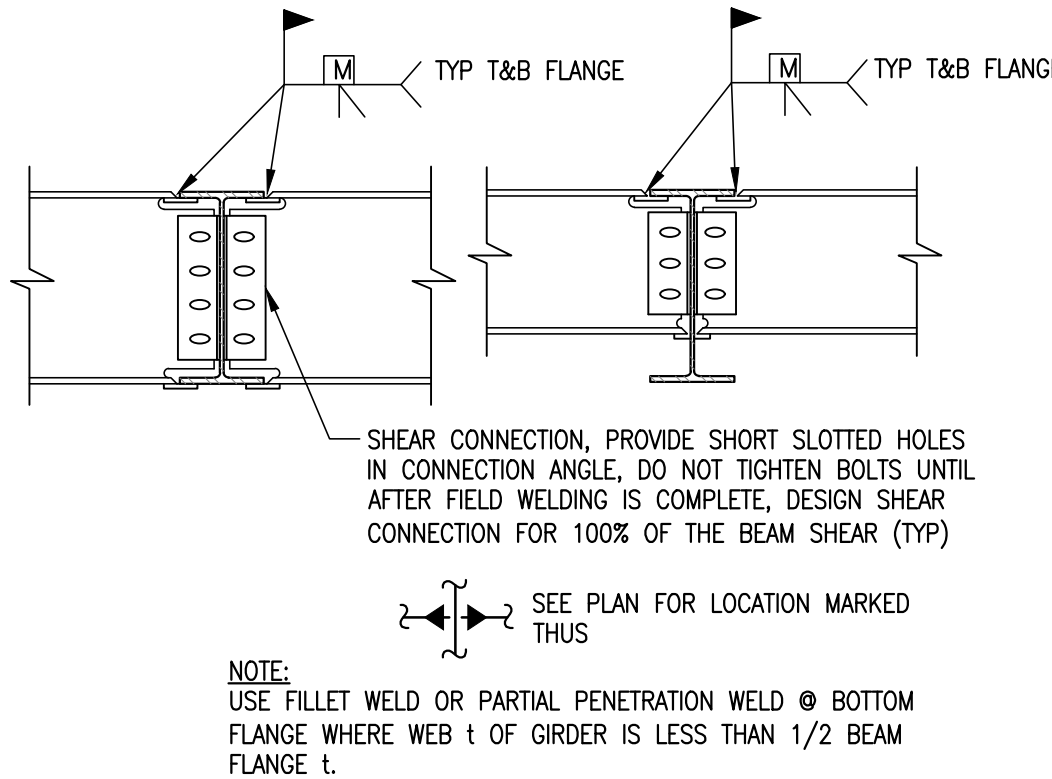
SCOTT W. McCONNELL
PROFESSIONAL ENGINEER, N.J. LIC. No. 40281

POUR STOP SELECTION CHART												
SLAB DEPTH (INCHES)	OVERHANG (INCHES)											
	0	1	2	3	4	5	6	7	8	9	10	12
POUR STOP GAGE												
4.00	20	20	20	20	18	18	16	14	12	12	10	10
4.25	20	20	20	18	18	16	16	14	12	12	10	10
4.50	20	20	20	18	18	16	16	14	12	12	10	10
4.75	20	20	18	18	16	16	14	14	12	12	10	10
5.00	20	20	18	18	16	16	14	14	12	12	10	10
5.25	20	18	18	16	16	14	14	12	12	12	10	10
5.50	20	18	18	16	16	14	14	12	12	12	10	10

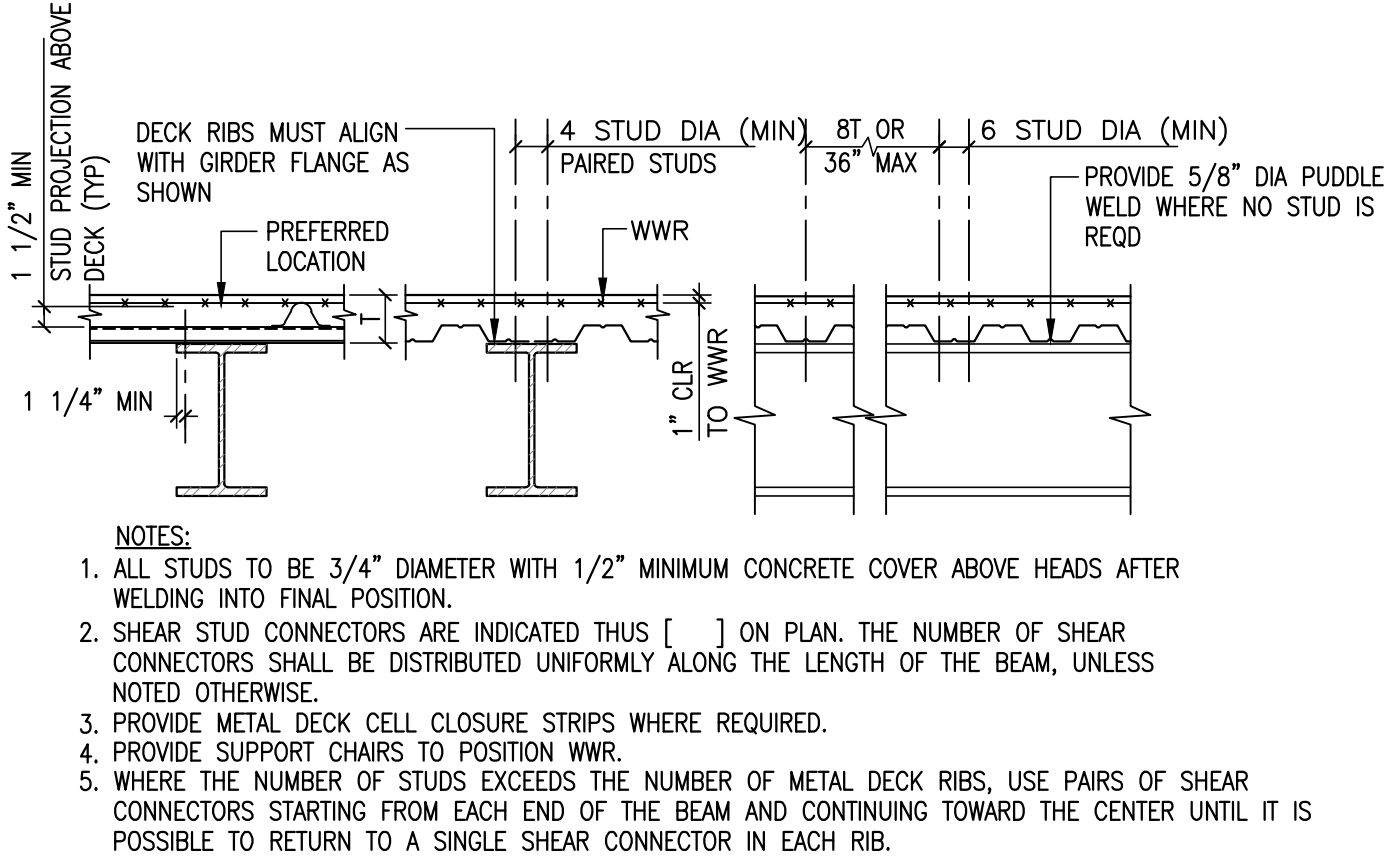


- NOTES:
- WHERE METAL STUD ATTACHMENT IS REQUIRED PROVIDE A WELDABLE POUR STOP.
 - PROVIDE AT ALL EDGES OF SLABS UNLESS OTHERWISE NOTED.
 - WHERE OVERHANG EXCEEDS 6", PROVIDE ADDITIONAL SLAB REINF AS PER TYPICAL DETAILS OR SECTIONS.

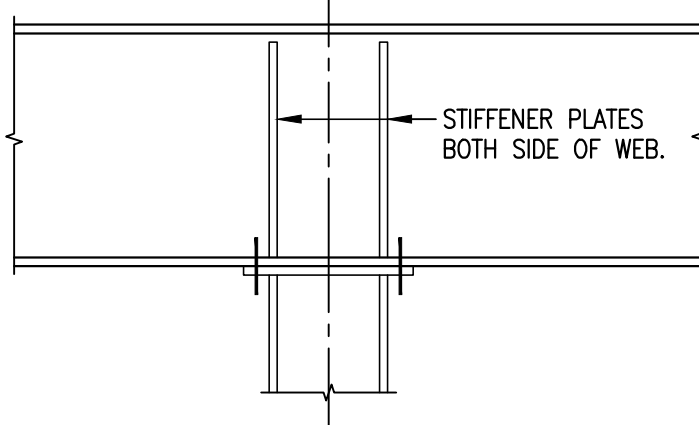
TD23
S3.1 TYPICAL DETAIL
POUR STOP



TD28
S3.1 TYPICAL DETAIL
FIELD WELDED BEAM TO BEAM
MOMENT CONNECTION



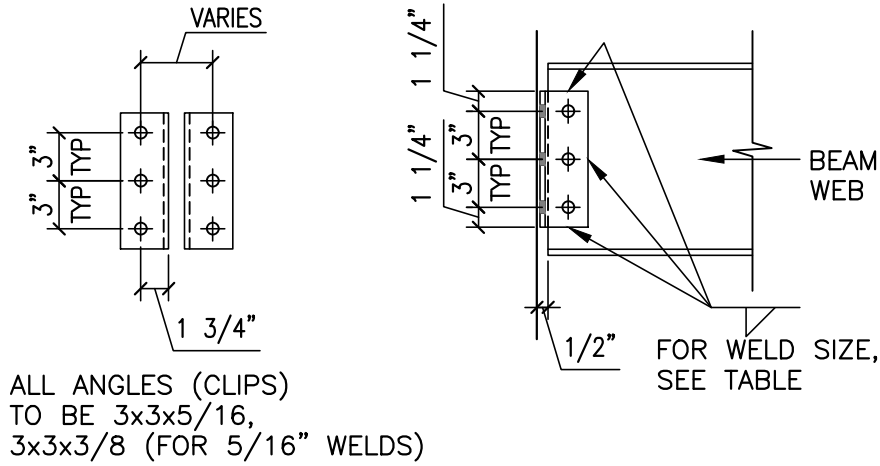
TD33
S3.1 TYPICAL DETAIL
COMPOSITE SLABS SHEAR
STUD CONNECTORS



BEAM CONTINUOUS OVER COLUMN

NOTE:
ALL DETAILS OF STIFFENER PLATES ARE SAME AS FOR COLUMN PICK UP, BUT INVERTED

TD34
S3.1 TYPICAL DETAIL
SLAB ON GRADE

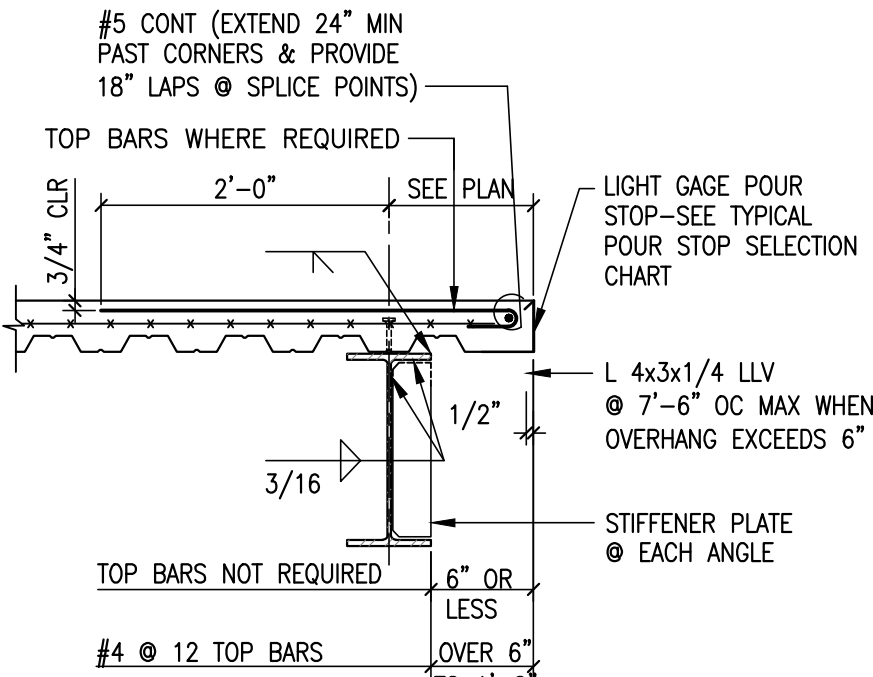


TOTAL NUMBER OF BOLTS IN CLIPS	MINIMUM CONNECTION ON BEAM	MAXIMUM CONNECTION ON BEAM	3/4" DIA BOLT CAPACITY (KIPS)		E70xx WELD CAPACITY (KIPS) (SEE NOTE 1)				
			A325-N	A325-X (NOTE 2)	3/16 MIN WEB	1/4 MIN WEB	5/16 MIN WEB	5/8 MIN WEB	3/4 MIN WEB
2	W5,W6	W5,W6	18.6	22.7	18.9	.17	27.8	.26	34.8
4	W8,W10,W12	W8,W10	37.2	45.4	25.4	.26	34.0	.35	42.5
6	W14,W16,W18	W12,W14	55.8	68	40.7	.28	53.5	.37	66.2
8	W21,W24	W16	74.4	91	55.5	.29	74.2	.39	90.8
10	W27,W30	W18	93.0	113	70.0	.30	94.9	.41	116
12	W33,W36	W21	112	136	84.8	.31	114	.42	141

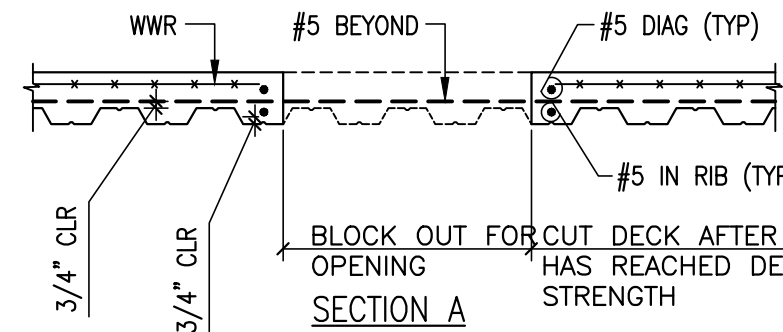
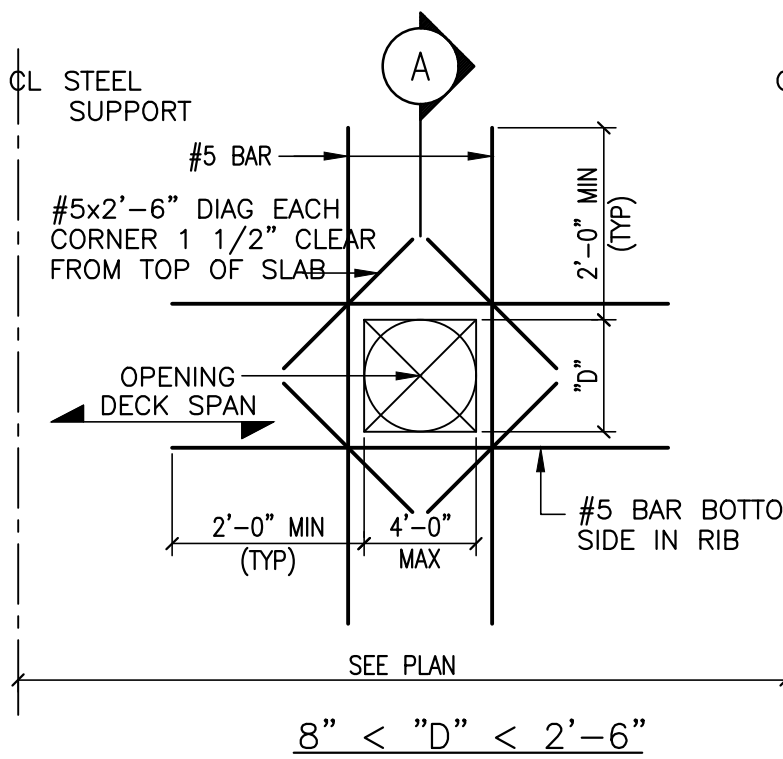
- NOTES:
- WHEN BEAM WEB THICKNESS IS LESS THAN MINIMUM REQUIRED, MULTIPLY LISTED CAPACITY BY RATIO OF ACTUAL THICKNESS TO LISTED MINIMUM THICKNESS.
 - MINIMUM WEB THICKNESS (A36) TO DEVELOP BEARING = .204".

NOTE:
DO NOT USE THIS DETAIL FOR COLUMNS LESS THAN 8"x8".

TD24
S3.1 TYPICAL DETAIL
FRAMED BEAM CONNECTIONS



TD29
S3.1 TYPICAL DETAIL COMPOSITE
FLOOR DECK
(PARALLEL EDGE CONDITION)



- NOTES:
- FOR SIZE AND LOCATION OF OPENINGS SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
 - STEEL CONTRACTOR SHALL VERIFY ALL OPENINGS AND EXACT LOCATIONS WITH THE TRADE CONTRACTOR REQUIRING SAID OPENINGS PRIOR TO FABRICATION AND ERECTION OF STEEL FRAMES.

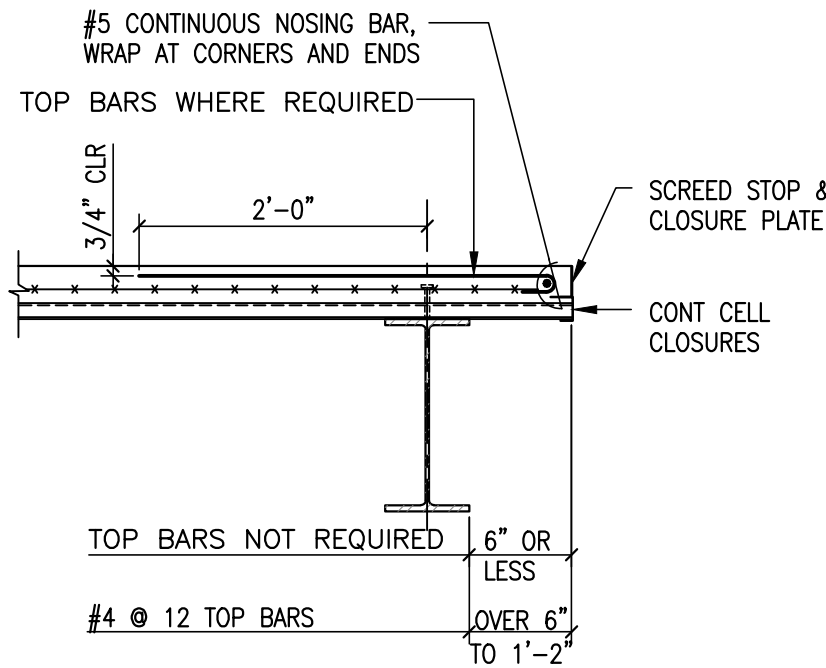
TD35
S3.1 TYPICAL DETAIL
SLAB REINFORCING AT FLOOR OPENING
(IN COMPOSITE METAL DECK FLOOR SLAB)

- NOTES:
- CATEGORIES 1 THROUGH 6, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS ARE DEFINED AS:

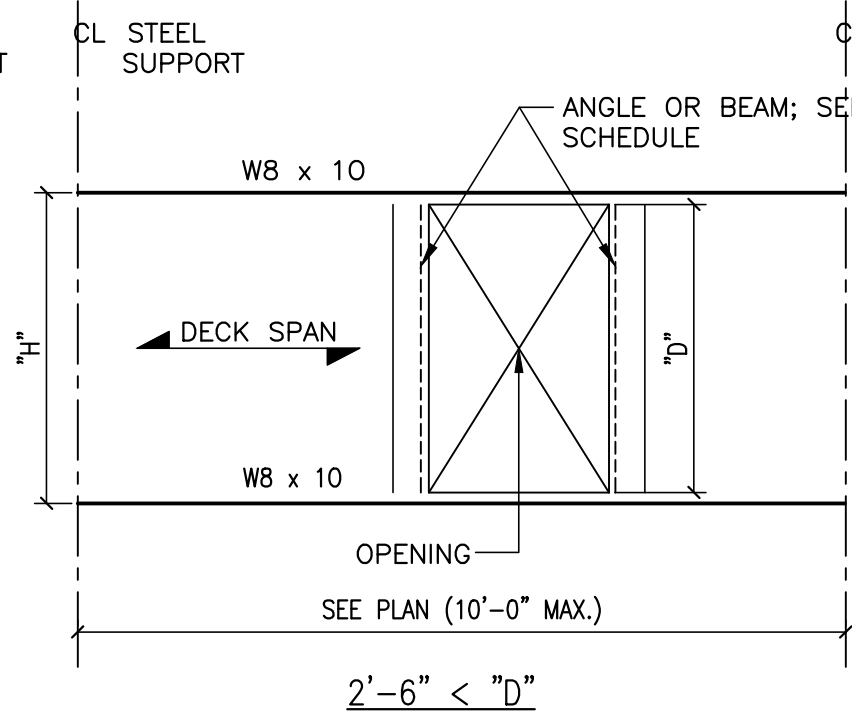
STRUCTURAL ELEMENT	CONCRETE COVER	CATEGORY, ACCORDING TO CENTER-TO-CENTER SPACING OF THE BAR SPACING			
		≤ 3 db	> 3 db < 4 db	≥ 4 db < 6 db	≥ 6 db
BEAMS, COLUMNS, AND INNER LAYER OF WALLS OR SLABS	≤ db > db	1 1	1 3	1 5	2 6
ALL OTHERS	≤ db > db ≥ 2 db	1 1 1	1 3 3	1 3 5	2 4 6

- LAP SPlice LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS: CLASS A - 1.0 ld AND CLASS B - 1.3 ld (ACI 12.15.1) VALUES OF ld FOR BARS IN BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT MEETING MINIMUM REQUIREMENTS FOR STIRRUPS IN ACI 11.5.4 AND 11.5.5.3; OR MEETING THE REQUIREMENTS IN ACI 7.10.5; AND ARE BASED ON MINIMUM COVER SPECIFIED IN ACI 7.7.1.

TD25
S3.1 TYPICAL DETAIL
REINFORCING DEVELOPMENT LENGTH AND TENSION LAP SPLICE SCHEDULE

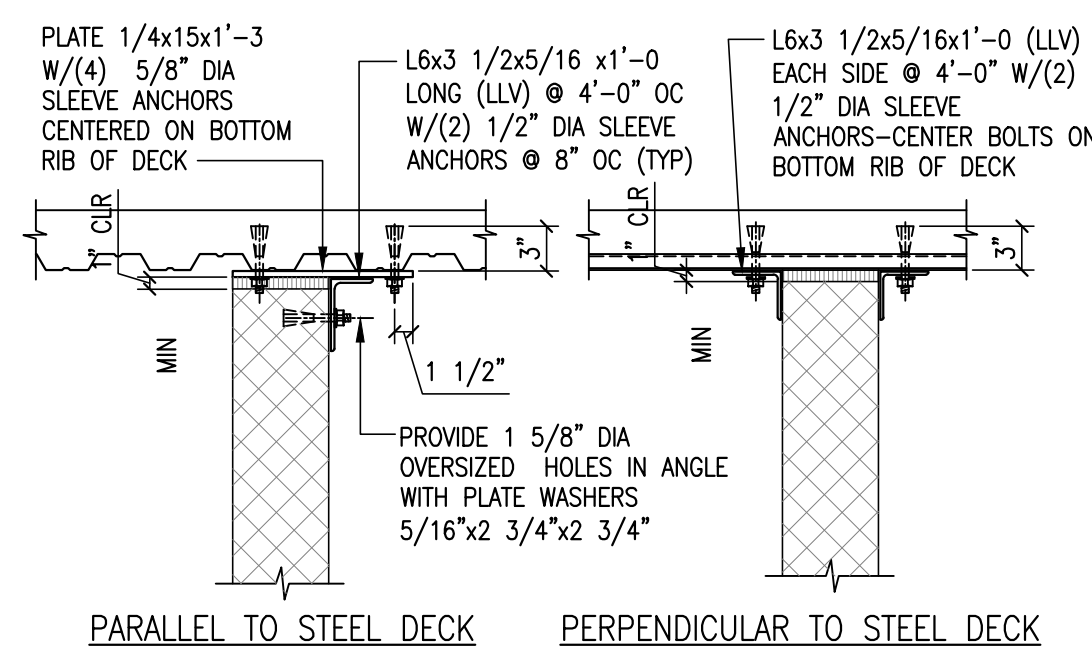
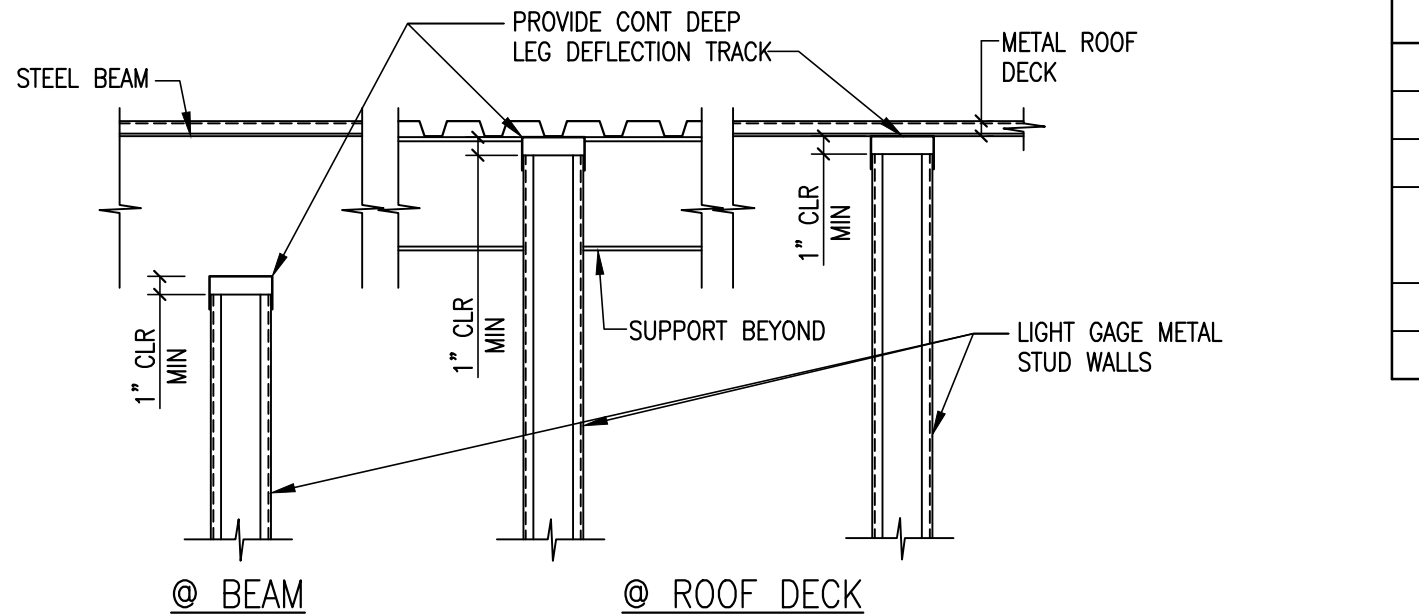


TD30
S3.1 TYPICAL DETAIL COMPOSITE
FLOOR DECK
(PERPENDICULAR EDGE CONDITION)

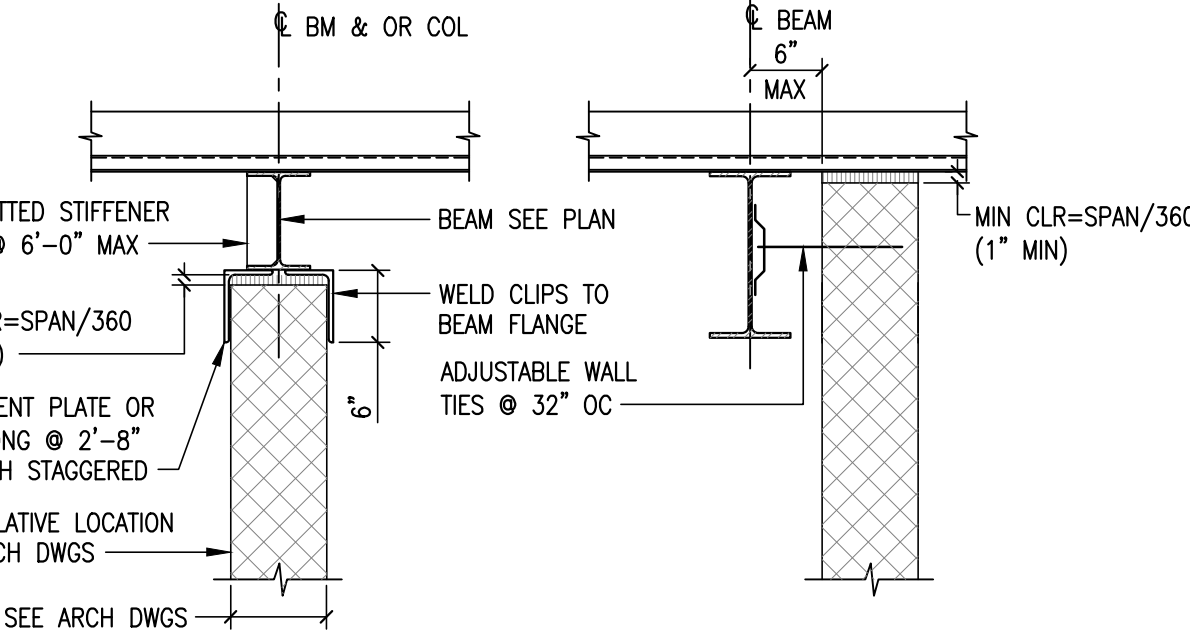


"h"	ANGLE
< 2'-0"	L 3x3x1/4
2'-0" ≤ "h" ≤ 4'-0"	L 4x4x5/16
4'-0" < "h" < 6'-0"	L 6x6x3/8
6'-0" < "h" < 10'-0"	W8 x 10

TD31
S3.1 TYPICAL DETAIL
METAL STUD BRACING AT BEAM/DECK



PARALLEL TO STEEL DECK PERPENDICULAR TO STEEL DECK



UNDER STEEL BEAM

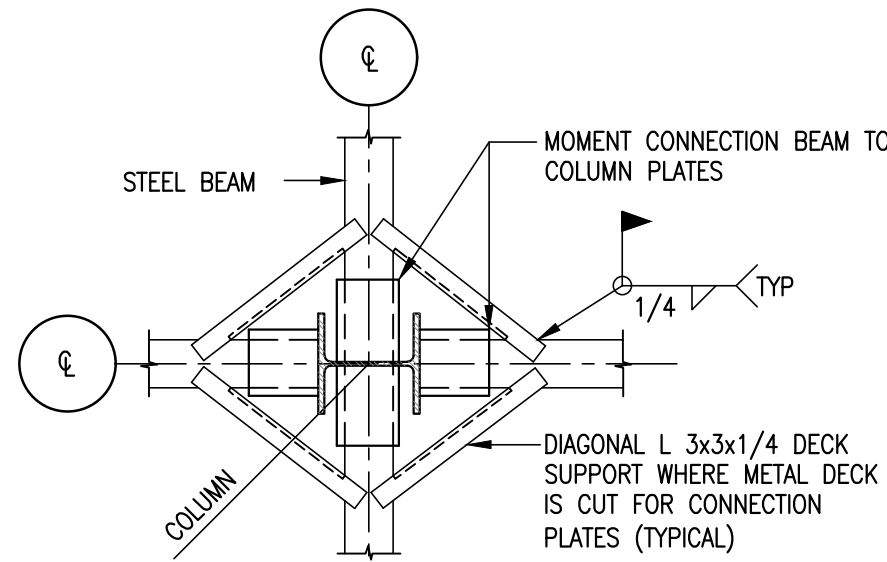
- NOTE:
- PROVIDE LATERAL BRACING FOR ALL INTERIOR WALLS WHERE LENGTH BETWEEN BONDED CROSS OR INTERSECTING WALLS IS MORE THAN 10'-0" FOR 4" WALLS, 12'-0" FOR 6" WALLS AND 14'-0" FOR 8" WALLS OR THICKER.
 - ALL BRACING ANGLES TO BE SUPPLIED AND INSTALLED BY MISCELLANEOUS STEEL SUB-CONTRACTOR.

TD36
S3.1 TYPICAL DETAIL
MASONRY WALL BRACING
AT UNDERSIDE OF COMPOSITE SLAB

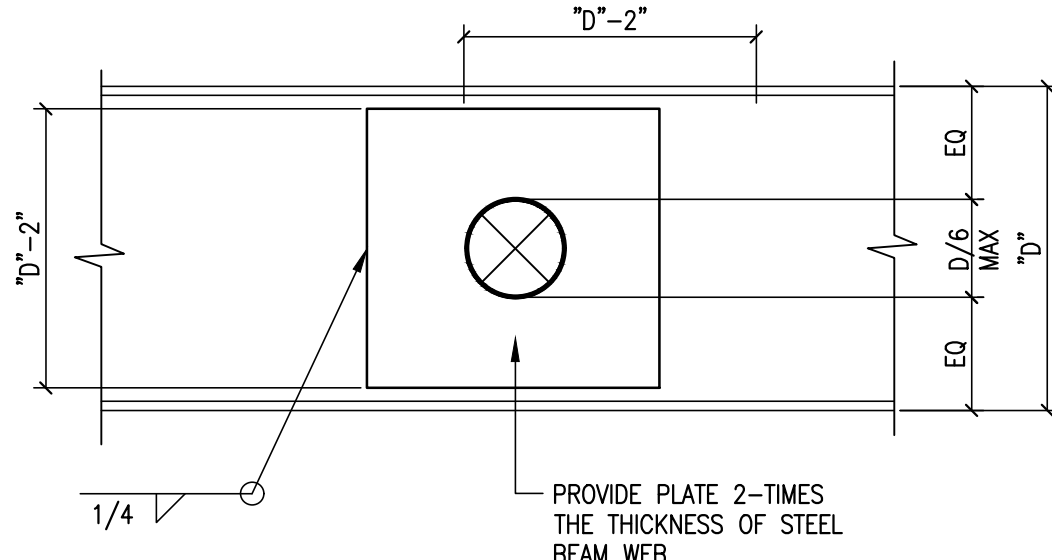
BAR SIZE	LAP CLASS	fc = 4,000 PSI, NORMAL WEIGHT											
		TOP BARS CATEGORY						OTHER BARS CATEGORY					
		1	2	3	4	5	6	1	2	3	4	5	6
#3	A	14	14	14	14	14	14	12	12	12	12	12	12
	B	18	18	18	18	18	18	16	16	16	16	16	16
#4	A	20	19	19	19	19	19	15	15	15	15	15	15
	B	26	24	24	24	24	24	20	19	19	19	19	19
#5	A	31	25	23	23	23	23	24	19	18	18	18	18
	B	40	32	30	30	30	30	31	25	23	23	23	23
#6	A	44	35	31	28	28	28	34	27	24	22	22	22
	B	57	45	40	36	36	36	44	35	31	28	28	28
#7	A	59	48	42	33	33	33	46	37	32	26	25	25
	B	77	62	54	43	42	42	59	48	42	33	33	33
#8	A	78	63	55	44	39	37	50	48	42	26	30	29
	B	102	81	71	57	51	48	78	63	55	44	39	37
#9	A	99	79	69	56	50	42	76	61	53	43	38	32
	B	129	103	90	72	84	55	99	79	69	56	50	42
#10	A	126	101	88	70	63	50	97	77	68	54	48	39
	B	163	131	114	92	82	65	126	101	88	70	63	50
#11	A	154	123	108	86	77	62	119	95	83	67	59	48
	B	200	160	140	112	100	80	159	123	108	86	77	62

COMPRESSION SPLICES & ANCHORAGE (GRADE 60)

DOWELS - ALL BARS: 22db ≥ 8"
LAP SPLICES - #3 THRU #11: 30db ≥12"
db = NOMINAL BAR DIAMETER



TD26
S3.1 TYPICAL DETAIL
DECK SUPPORT AT COLUMNS WITH
TOP PLATE MOMENT CONNECTIONS



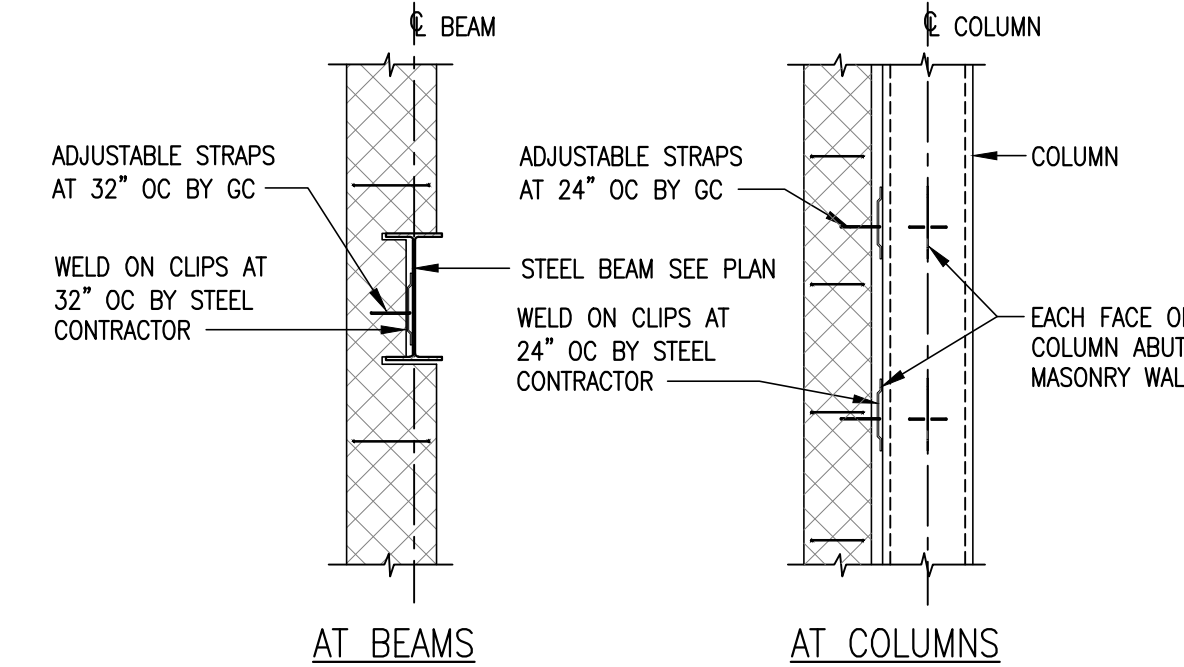
NOTE:
LOCATE OPENINGS IN MIDDLE THIRD OF BEAM SPAN

TD27
S3.1 TYPICAL DETAIL
REINFORCING FOR CIRCULAR
OPENINGS IN STEEL BEAMS

MISCELLANEOUS STEEL ANGLE MASONRY WALL LINTEL SCHEDULE			
WALL THICKNESS	MASONRY OPENING UP TO 4'-0"	MASONRY OPENING 4'-1" TO 6'-0"	MASONRY OPENING 6'-1" TO 8'-0"
4" WALL	L 3 1/2x3 1/2x5/16	L 4x3 1/2x5/16	L 6x3 1/2x5/16
6" WALL	JL 3 1/2x2 1/2x5/16	JL 3 1/2x2 1/2x5/16	JL 3 1/2x2 1/2x3/8
8" WALL	JL 3 1/2x3 1/2x5/16	JL 4x3 1/2x5/16	JL 6x3 1/2x5/16
10" WALL	L 5x3 1/2x1/4(*) + L 4x3 1/2x1/4(*)	L 5x3 1/2x1/4(*) + L 4x3 1/2x1/4(*)	L 5x5x5/16(*) + L 4x4x5/16(*)
12" WALL	JL L 3 1/2x3 1/2x5/16	JL L 4x3 1/2x5/16	JL L 6x3 1/2x5/16
16" WALL	JL JL 3 1/2x3 1/2x5/16	JL JL 4x3 1/2x5/16	JL JL 6x3 1/2x5/16

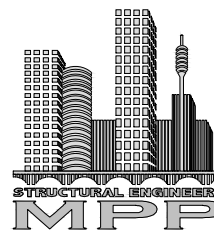
- NOTES:
- THIS SCHEDULE IS FOR THOSE OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCH AND MECH DRAWINGS FOR LOCATION AND SIZE OF OPENINGS FOR NON-BEARING MASONRY WALLS.
 - PROVIDE MINIMUM 6" BEARING ON BRICK, SOLID OR GROUTED SOLID CONCRETE BLOCK, BUT NOT LESS THAN 1" OF BEARING PER FOOT OF SPAN.
 - WHERE OPENINGS ARE LOCATED NEXT TO COLUMNS OR BEAMS, ATTACH TO STRUCTURAL STEEL, CONNECTION NOT TO PROTRUDE INTO OPENING.
 - ALL EXTERIOR LINTELS SHALL BE HOT DIPPED GALVANIZED PER ASTM 123.
 - ALL ANGLES LONG LEG VERTICAL UNLESS NOTED BY (*) WHEN NOTED BY (*) USE LONG LEG HORIZONTAL.
 - AT CAVITY WALLS, INCREASE THE HORIZONTAL LEG OF EXTERIOR ANGLE BY WIDTH OF CAVITY.

TD32
S3.1 TYPICAL DETAIL
MISCELLANEOUS STEEL ANGLE MASONRY
WALL LINTEL SCHEDULE



- NOTES:
- PROVIDE WELD ON ADJUSTABLE MASONRY ANCHORS ON ALL BEAMS AND COLUMNS ABUTTING MASONRY WALLS.
 - USE HECKMAN (OR APPROVED EQUAL) #316 ADJUSTABLE STRAPS BY G.C. & #315 WELD ON CLIPS BY STEEL CONTRACTOR.
 - ANCHORS TO BE KEPT IN BLOCK COURSING.
 - STEEL CONTRACTOR SHALL COORDINATE ANCHOR LOCATION WITH ARCHL. DRAWINGS PRIOR TO FABRICATION.

TD37
S3.1 TYPICAL DETAIL
MASONRY ANCHORS



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Kevin M Settembrino, AIA, LEED AP
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OWNER
William Paterson
University
300 Pompton Road
Wayne, NJ 07470

CIVIL ENGINEER
East Point
Engineering, LLC
11 South Main Street
Marlboro, NJ 07746
732 557 0180

STRUCTURAL ENGINEER
MPP Engineers
34 S Main Street
Allentown, N.J. 08501
609 489 5511
F. 609 489 5916

MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS

M-Con
Engineering
39 Tuscany Drive
Jackson, NJ 08527
O. 732 277 8033

No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

DRAWN BY: MPP CHECKED BY: SWM

DATE: 9/2/2022

CAD FILE:

ADDITION AND RENOVATIONS TO:

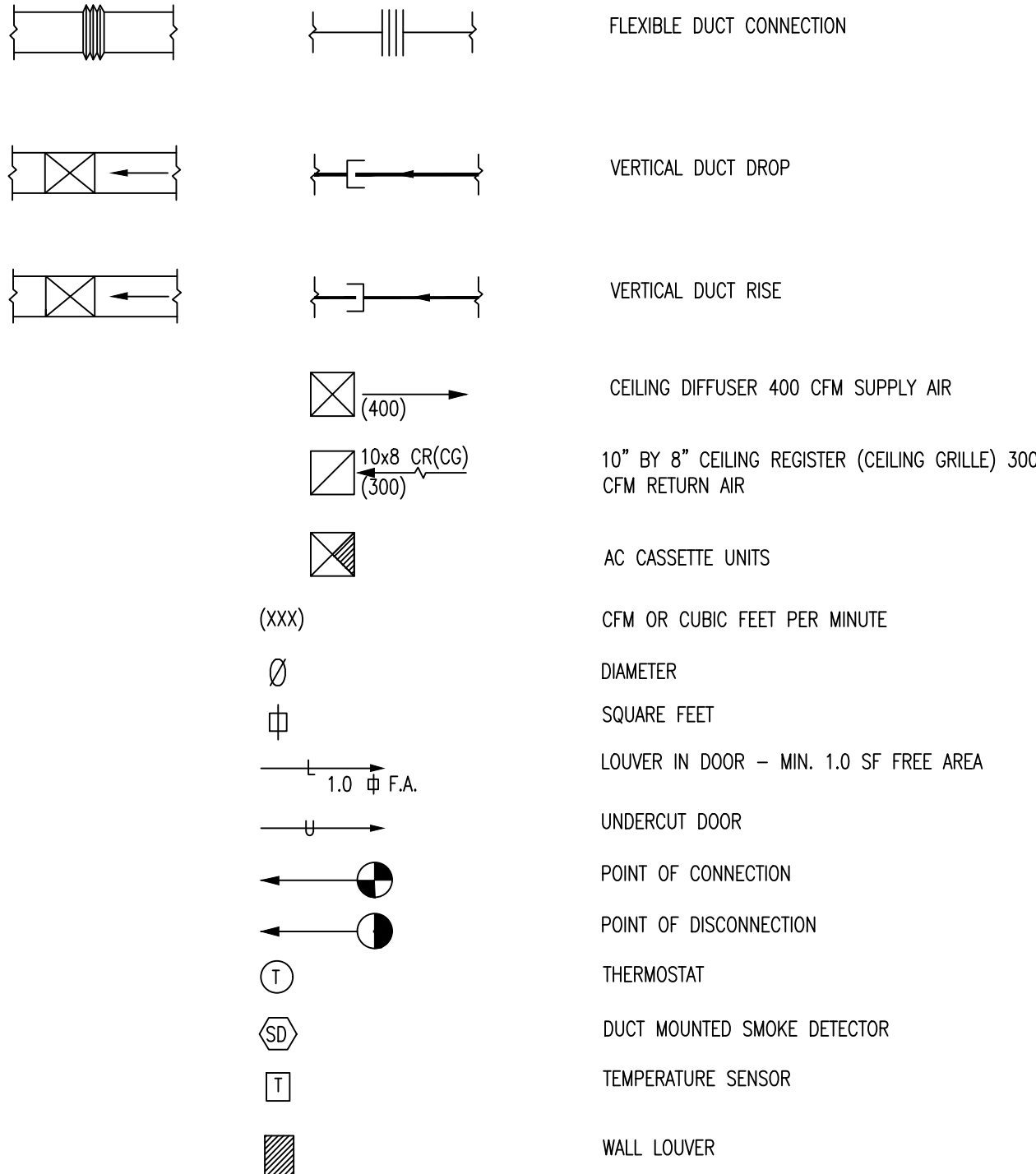
LOCKER
FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

TYPICAL DETAILS

S3.1

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)



APPLICABLE CODES AND REFERENCES

- A. MERV 8 IN ALL UNITS

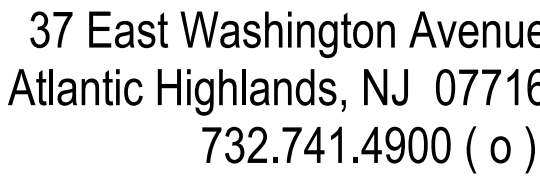
(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)



(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)

1. PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SERVICES NECESSARY TO FURNISH AND SAFELY INSTALL THE COMPLETE AND PROPERLY OPERATING MECHANICAL SYSTEMS AS SPECIFIED IN THE CONTRACT DOCUMENTS OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL, WHETHER INDICATED ON THE CONTRACT DOCUMENTS OR NOT.
2. COORDINATE THE INSTALLATION OF THE DUCTWORK, PIPING, TERMINAL EQUIPMENT, AIR DISTRIBUTION EQUIPMENT, ETC. WITH THE LIGHTING FIXTURES, SPRINKLER SYSTEM, SPECIAL CEILING CONSTRUCTION, CEILING HEIGHTS, CONDUITS, BUS DUCTS AND STRUCTURE. PROVIDE ADDITIONAL RISERS, DROPS, OFFSETS, AS REQUIRED.
3. ALL DUCTWORK INDICATED ON THE DRAWINGS IS SHOWN DIAGRAMMATICALLY. THEREFORE, CHANGES IN DUCT SIZES AND/OR LOCATIONS SHOULD BE MADE WHERE NECESSARY TO CONFORM TO SPACE CONDITIONS.
4. ALL DUCTWORK TO BE KEPT AS HIGH AS POSSIBLE SO AS TO MAINTAIN CEILING HEIGHTS SHOWN ON ARCHITECTURAL DRAWINGS.
5. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE SIZE AND LOCATION OF PIPING. PIPING SHALL BE SET UP, SET DOWN OR OFFSET TO MEET SPECIFIED HEADROOM OR FIELD CONDITIONS.
6. WHERE PIPING, LIGHTS AND DUCTWORK CONFLICT, DUCTWORK AND/OR PIPING SHALL BE SET UP AND DOWN.
7. FOR EXACT LOCATION OF DIFFUSERS, REGISTERS AND GRILLES, REFER TO ARCHITECT'S DRAWINGS.
8. THE AIR OUTLET MANUFACTURER SHALL REVIEW ARCHITECTURAL PLANS AND SHALL BE RESPONSIBLE FOR FURNISHING ALL AIR OUTLETS WITH FRAMES AND MARGINS COMPATIBLE WITH CEILING, WALL OR FLOOR CONSTRUCTION.
9. FOR EXACT LOCATIONS OF THERMOSTATS AND SWITCHES, REFER TO ARCHITECTURAL DRAWINGS.
10. PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO TRANSFER LOADS OF EQUIPMENT, PIPING AND CONDUITS TO BUILDING STRUCTURE.
11. NO DUCTWORK DIMENSION SHALL BE SMALLER THAN 6 UNLESS SPECIFICALLY NOTED OTHERWISE.
12. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DUCT DIMENSIONS.
13. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, PRIOR TO BID.
14. VERIFY ALL CONDITIONS, ELEVATIONS AND MEASUREMENTS SHOWN ON CONTRACT DRAWINGS.
15. PROVIDE COMBINATION FIRE/SMOKE DAMPERS (WITH ACCESS DOORS) AT THE FOLLOWING POINTS:
 - A. POINT OF PASSING THROUGH SHAFT WALLS TO CONNECT TO VERTICAL RISERS.
 - B. WHERE PASSING THROUGH FLOOR CONSTRUCTION (NOT IN AIR SHAFTS)
 - C. WHERE PASSING THROUGH FIRE RATED PARTITIONS (REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED PARTITION).
 - D. WHERE INDICATED OR REQUIRED BY CODE.
 - E. OUTSIDE AIR INTAKES LESS THAN 30' ABOVE GRADE AND 20' FROM OTHER BUILDINGS
16. ALL MEANS OF EGRESS MUST BE KEPT FREE AND CLEAR OF ALL MATERIAL.
17. PROVIDE VOLUME DAMPERS IN LOW PRESSURE DUCTWORK FOR ALL SUPPLY, RETURN, AND EXHAUST OUTLETS (EXCEPT FUME HOODS), PROVIDE VOLUME DAMPERS (VD) AT EVERY DUCTWORK BRANCH, TAP AND SPLIT. DO NOT INSTALL VOLUME DAMPERS ON MEDIUM PRESSURE DUCTWORK.
18. ACCESS IS REQUIRED BELOW ALL DAMPERS, AIR TERMINAL BOXES, ACCESS DOORS IN DUCTWORK AND OTHER MECHANICAL EQUIPMENT.
19. PROVIDE ACCESS DOORS IN DUCTWORK OR PLENUMS WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - A. COMBINATION FIRE SMOKE DAMPERS.
20. FOR AREAS WITH INACCESSIBLE CEILINGS, VOLUME DAMPERS SHALL BE PROVIDED WITH METAL FLEXIBLE CABLE OPERATORS FOR REMOTE OPERATION OF DAMPERS.
21. DRAINAGE/CONDENSATE PIPING PITCH NOT LESS THAN 1/8 PER FOOT.
22. FOR PIPE CONNECTIONS DETAILS TO EQUIPMENT, SEE DETAIL SHEET DRAWINGS AND SPECIFICATIONS.
23. FOR PIPE SIZES NOT INDICATED ON PLANS, SEE EQUIPMENT CONNECTION DETAILS.
24. PROVIDE FITTINGS FOR CHANGE IN PIPE SIZES FOR FINAL CONNECTIONS AS REQUIRED.
25. PROVIDE UNION OR FLANGED CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON BOTH SIDES OF CONTROL VALVES.
26. GROOVED PIPING IS NOT PERMITTED.
27. THE MINIMUM EXTERNAL STATIC PRESSURE NOTED ON THE AHU AND AC UNIT SCHEDULES IS EXCLUSIVE OF ALL COMPONENTS FURNISHED BY THE UNIT MANUFACTURER AS PART OF THE UNIT INCLUDING, BUT NOT LIMITED TO, ALL COLLS, ALL FILTERS, UNIT CASING, DISCHARGE PLENUM, DIFFUSION SECTION, DAMPERS (INLET AND DISCHARGE), INTAKE LOUVERS (WHERE APPLICABLE), ETC.
28. ALL DUCT ELBOWS SHALL BE LONG-RADIUS ROUND ELBOWS EXCEPT WHERE THERE IS A SPACE CONDITION.
29. PROVIDE DRIP PAN AND LEAK DETECTOR UNDER PIPING SERVING IDT, SECURITY, AUDIO VISUAL, ROOMS & EMR.
30. THE OWNER SHALL BE RESPONSIBLE TO ENGAGE A LICENSED PROFESSIONAL TO PERFORM ALL REQUIRED SPECIAL INSPECTIONS FOR THIS PROJECT. THE OWNER SHALL PROVIDE THE NAME OF A LICENSED PROFESSIONAL ENGINEER TO ARCHITECT/ENGINEER WHEN THE CONTRACT IS AWARDED.
31. MECHANICAL CONTRACTOR SHALL COMPLY WITH ALL NOTES AS DELINEATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
32. LOCATE EQUIPMENT TO PROVIDE EQUIPMENT ACCESS AND CLEARANCE REQUIRED FOR OPERATION AND MAINTENANCE AS RECOMMENDED BY THE MANUFACTURER AND AS REQUIRED BY CODE.
33. REMOVED EQUIPMENT AND DEVICES SHALL BE TURNED OVER TO THE OWNER OR DISPOSED OF AS DIRECTED.
34. EXPOSED DUCTWORK SHALL BE PRIMED FOR FIELD PAINTING, COORDINATE COLORS WITH ARCHITECT.
35. PERFORM ALL NECESSARY CUITING, REPAIRS, PAINTING, PATCHING AND REPLACING OF EXISTING BUILDING WHERE AFFECTED BY THE WORK.
36. ALL INSTRUMENTS SHALL BE LOCATED TO PROVIDE EASY ACCESS AND INSTALLED ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
37. PROVIDE RETURN AIR OPENINGS FOR ALL FULL HEIGHT PARTITIONS WITH CEILING PLENUMS.
38. PROVIDE TRANSFER DUCTS WITH ACOUSTICAL LINING AND TWO-90 DEGREE ELBOWS FOR ALL ACOUSTICALLY SENSITIVE ROOMS INCLUDING BUT NOT LIMITED TO, CONFERENCE ROOMS AND PRIVATE OFFICES.
39. THIS CONTRACTOR, IN COOPERATION WITH OTHER TRADES, SHALL PREPARE A COMPLETE SET OF COORDINATION DRAWINGS. THIS CONTRACTOR SHALL NOT INSTALL ANY WORK PRIOR TO "SIGN OFF" OF FINAL COORDINATION DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL DETAILS.

1. ALL CONTRACTORS SHALL SURVEY EXISTING CONDITIONS BEFORE SUBMITTAL OF BID TO ASCERTAIN EXTENT OF DEMOLITION.
2. NEITHER ACCURACY NOR COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON THE DRAWINGS IS GUARANTEED. DETERMINE THE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER SHOWN ON THE CONTRACT DOCUMENTS OR NOT. NOTES AND GRAPHIC REPRESENTATION SHALL NOT LIMIT THE EXTENT OF DEMOLITION WHICH SHALL BE CARRIED OUT TO THE EXTENT REQUIRED BY THE PROJECT.
3. ALL OPENINGS RESULTING FROM REMOVAL OF EXISTING DUCTWORK, DIFFUSERS OR REGISTERS SHALL BE BLANKED-OFF AND MADE AIR TIGHT IN ACCORDANCE WITH SMACNA. REPAIR DAMAGED INSULATION ON EXISTING DUCTWORK TO REMAIN.
4. CARE MUST BE TAKEN WHEN REMOVING EQUIPMENT SO THAT EQUIPMENT TO REMAIN IS NOT DAMAGED. ANY DAMAGED TO EXISTING EQUIPMENT TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. EQUIPMENT REMOVED SHALL NOT BE REUSED UNLESS OTHERWISE NOTED. CONTRACTOR SHALL TURN-OVER REMOVED EQUIPMENT TO BUILDING MANAGEMENT.
6. ALL DEMOLITION MEANS AND METHODS SHALL BE SUBMITTED BY THE DEMOLITION CONTRACTOR(S) TO THE CM AND/OR OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL BEFORE COMMENCEMENT OF THE DEMOLITION WORK.
7. DEMOLITION OF EQUIPMENT, PIPING, DUCTWORK SHALL INCLUDE THE REMOVAL OF ALL ASSOCIATED HANGERS, SUPPORTS, BASE'S ETC.
8. AFTER THE REMOVAL OF HVAC SERVICES, RATED FLOORS, WALLS AND PARTITIONS SHALL BE FILLED WITH AN APPROVED FIRE STOPPING MATERIAL.



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FIRE PROTECTION ENGINEERS

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JOB NO. 22.031

DRAWN BY: _____ CHECKED BY: _____

DATE: _____

CAD FILE: _____

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

MECHANICAL COVER SHEET

M0.0

1.

NOTICE TO BIDDERS
- A.

THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE THIS CONTRACTOR JOINTLY AS A BASIS UPON WHICH THE CONTRACTOR SHALL SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR PROVISION.
- B.

WHEN CONFLICTS OCCUR IN THE SPECIFICATIONS OR ON THE DRAWINGS OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED.
- C.

THE CONTRACTOR SHALL PROVIDE ALL ITEMS OF LABOR OR MATERIALS NOT SPECIFICALLY INDICATED, BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.
- D.

THE WORK UNDER THIS CONTRACT SHALL BE PERFORMED AND COORDINATED SIMULTANEOUSLY WITH WORK OF OTHER TRADES SO AS NOT TO DELAY THE OVERALL PROGRESS OF WORK.
- E.

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF SAME WHICH MAY BE DAMAGED, LOST OR STOLEN, WITHOUT ADDITIONAL COSTS TO THE OWNER.
2.

GENERAL CONDITIONS
- A.

THE APPLICATION PROVISIONS OF THE GENERAL CONSTRUCTION SPECIFICATIONS SHALL APPLY TO THE SPECIFICATION ARTICLES.
- B.

PERFORM ALL WORK IN ACCORDANCE WITH ASHRAE, SMACNA, O.S.H.A. PERTINENT NFPA CODES AND THE RULES AND REGULATIONS OF ALL CITY, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION. PROVIDE OWNER WITH CERTIFICATES OF INSPECTION.
- C.

DO ALL NECESSARY CUTTING AND ROUGH PATCHING. THE FOLLOWING WILL BE DONE BY OTHERS: FINISH PAINTING, POWER WIRING, AND FINAL PATCHING.
- D.

THESE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS. FOR EXACT LOCATIONS, CEILING HEIGHT, DOOR SWINGS, MOUNTING HEIGHT, REFLECTED CEILING PLAN, ETC., REFER TO ARCHITECTURAL DRAWINGS AND DETAILS.
- E.

PRIOR TO STARTING ANY WORK, PURCHASING OF EQUIPMENT, ETC. COORDINATE THE WORK WITH OTHER TRADES. CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION AND ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT OF OTHERS WITH THE BUILDING CONSTRUCTION AND WITH ARCHITECTURAL FINISHES SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. IN THE EVENT THERE IS A CONFLICT IN COORDINATION BETWEEN TRADES, THE OWNER WILL RESOLVE IT.
- F.

ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR, UNLESS OTHERWISE SPECIFIED, FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION. ANY PORTIONS OF THE WORK WHICH DEVELOP DEFECTS DURING THAT TIME SHALL BE REPLACED OR REPAIRED IN MANNER SATISFACTORY TO THE ARCHITECT, AT NO ADDITIONAL COST TO THE OWNER.
- G.

FURNISH LIABILITY INSURANCE AND BONDING AS REQUIRED BY THE OWNER, ARCHITECT, OR BUILDING MANAGEMENT.
- H.

SUBMIT TO THE OWNER "AS-BUILT" PLANS AND SHOP DRAWINGS FOR ALL WORK INSTALLED.
- I.

ALL PARTS OF THE WORK AND ASSOCIATED EQUIPMENT SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION.
- J.

PRIOR TO SUBMITTING A BID FOR THE WORK AS SHOWN AND SPECIFIED, THE CONTRACTOR IS ADVISED TO VISIT THE PROJECT SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. NO ALLOWANCE WILL BE AUTHORIZED FOR SITE CONDITIONS THAT COULD HAVE BEEN NOTED PRIOR TO BID SUBMISSION.
3.

DEMOLITION AND REMOVAL NOTES
- A.

BEFORE STARTING WORK MAKE A THOROUGH EXAMINATION OF THOSE PORTIONS OF THE STRUCTURE IN WHICH THE WORK IS TO BE PERFORMED. CHECK ALL THE WORK ADJOINING OR AT UNDERLYING LOCATIONS. REPORT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK. DO NOT START THE WORK UNTIL SUCH CONDITIONS HAVE BEEN EXAMINED AND A COURSE OF ACTION DETERMINED.
- B.

BEFORE STARTING DEMOLITION OPERATIONS, PROVIDE THE NECESSARY PROTECTIVE DEVICES, WHERE REQUIRED, AND IN STRICT ACCORDANCE WITH OSHA RULES AND REGULATIONS.
- C.

EXECUTE THE DEMOLITION IN CAREFUL AND ORDERLY MANNER WITH THE LEAST POSSIBLE DISTURBANCE TO THE PUBLIC, EGRESS OR THE FUNCTIONING OF THE EXISTING BUILDING.
- D.

TAKE NECESSARY PRECAUTIONS TO PREVENT DUST AND DIRT FROM RISING BY WETTING DEMOLISHED DEBRIS. EXCESSIVE USE OF WATER WILL NOT BE PERMITTED.
- E.

DEMOLISHED MATERIALS, UNLESS OTHERWISE NOTED OR REQUESTED BY THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR. DISPOSAL OF ALL MATERIAL SHALL BE IN ACCORDANCE WITH GOVERNING CODES BY THE CONTRACTOR.
- F.

ERECT, MAINTAIN AND WHEN NO LONGER NECESSARY, REMOVE PROTECTIVE BARRIERS, LIGHTING AND/OR SIGNAGE TO PROTECT THE PUBLIC AND WORKMEN.

- G.

REPAIR AND/OR REPLACE EXISTING ITEMS NOT SCHEDULED OR NOTED TO BE DEMOLISHED, AND NOT SPECIFIED TO BE REMOVED, BUT WHICH BECOME DAMAGED DURING THE PROGRESS OF THE WORK. MAKE ANY AND ALL SUCH REPAIRS, REPLACEMENTS AND MODIFICATIONS TO RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION AT THE TIME OF DAMAGE, TO THE SATISFACTION OF AND, AT NO ADDITIONAL COST TO, THE OWNER.
- H.

PATCH, FILL AND REPAIR ALL SURFACES DISTURBED, CUT, DAMAGED, IN NEED OF ALTERATIONS OR REMOVAL AND AS REQUIRED FOR NEW MATERIALS AND ARRANGEMENTS.
- I.

PRIOR TO THE DEMOLITION OF THOSE ITEMS WHICH HAVE UTILITY CONNECTIONS (I.E., WATER, GAS, ELECTRICITY, STEAM, ETC.) THE CONTRACTOR SHALL ARRANGE WITH THE OWNER TO LOCATE SHUT-OFF VALVES, PANEL BOXES AND OTHER CONTROL ELEMENTS, SO THAT WATER DAMAGE AND OTHER POTENTIALLY INCONVENIENT OR DANGEROUS SITUATIONS ARE AVOIDED.
- J.

IF CONTINUITY OF EXISTING WIRING TO EXISTING ELECTRICAL ITEMS IS INTERRUPTED BY THE REMOVAL, THE CONTRACTOR SHALL ADVISE THE OWNER TO ENSURE THE CONTINUITY OF CIRCUITING TO OTHER AREAS.
- K.

ALL PIPING AND DUCT MAINS THAT SERVE OTHER UNAFFECTED AREAS SHALL REMAIN, OR WHERE REQUIRED, TEMPORARY DUCT OR PIPE SHALL BE INSTALLED TO PERMIT THESE AREA TO FUNCTION AS THEY DID PRIOR TO THE START OF THE WORK.
4.

OPERATING AND MAINTENANCE INSTRUCTIONS
- A.

AFTER FINAL TEST AND ADJUSTMENTS FULLY INSTRUCT OWNER'S OPERATING PERSONNEL IN ALL DETAILS OF OPERATION FOR EQUIPMENT INSTALLED. A SIGNED RECEIPT OBTAINED FROM THE OPERATOR SHALL BE CONSTRUED AS EVIDENCE THAT INSTRUCTIONS WERE SATISFACTORY.
- B.

FURNISH THREE (3) COPIES OF WRITTEN DESCRIPTIONS OF ALL SYSTEMS COVERING ALL OPERATING PROCEDURES, AUTOMATIC CONTROL DESCRIPTIONS AND AUTOMATIC CONTROL, TEMPERATURE AND PRESSURE SETTINGS. WRITTEN DESCRIPTIONS SHALL INCLUDE LUBRICATION SCHEDULES, PARTS LISTS, PERFORMANCE SERVICES FOR EQUIPMENT, FILTER SIZE/QUANTITY INSTRUCTIONS WHICH ARE UTILIZED SHALL BE CLEARLY MARKED TO INDICATE APPLICABILITY.
5.

SHOP DRAWINGS
- A.

SHOP DRAWINGS SHALL BE REVIEWED AND SUBMITTED BY THE GENERAL CONTRACTOR. SHEET METAL AND PIPING DRAWINGS SHALL BE MINIMUM 3/8 INCH (OR LARGER) SCALE SHOWING ELEVATIONS, CLEARANCES, AND EQUIPMENT. NO MATERIAL SHALL BE FABRICATED AND/OR INSTALLED UNTIL SHOP DRAWINGS AND SHOP DETAILS HAVE BEEN REVIEWED AND ACCEPTED BY THE ENGINEER.
- B.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR, BUT NOT LIMITED TO:
- 1)

AIR DIFFUSERS, COMPLETE WITH SOUND RATINGS, CFM'S PERFORMANCE DATA AND CONSTRUCTION FEATURES.
- 2)

SHOP STANDARD DETAILS OF DUCTWORK FABRICATION, INCLUDING DAMPERS, ACCESS DOORS, ETC.
- 3)

FLEXIBLE CONNECTORS.
- 4)

AIR FILTERS.
- 5)

PIPE HANGERS, SUPPORTS, LAYOUT, ANCHORS AND WELDER CERTIFICATION WHEN REQUIRED.
- 6)

EQUIPMENT SUCH AS: A/C UNITS, VAV BOXES, FANS, VALVES, ETC.
- 7)

TEMPERATURE CONTROL SYSTEM, INCLUDING DEVICES, SET-POINTS, CONTROL WIRING SCHEMATICS, PANEL LOCATIONS, POWER REQUIREMENTS, AND SEQUENCE OF OPERATION.
- 8)

BALANCING REPORTS FOR AIR AND WATER SYSTEMS.
- 9)

INSULATION FOR PIPING, AND DUCTWORK, AND EQUIPMENT.
6.

TESTING AND BALANCING
- A.

THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A TESTING AND BALANCING SUB-CONTRACTOR WITH AT LEAST 5 YEARS OF EXPERIENCE IN AIR AND WATER BALANCING. (AABC OR NEBB CERTIFIED)
- B.

THE BALANCER SHALL SUBMIT ALL BALANCING REPORTS DIRECTLY TO THE ENGINEER AS A SHOP DRAWING SUBMITTAL.
- C.

IF THE BALANCING SUB-CONTRACTOR FINDS THAT HE CANNOT BALANCE ANY SYSTEM OR PORTION THEREOF, HE SHALL IMMEDIATELY ADVISE THE ENGINEER IN WRITING AND SHALL STATE THE REASONS WHY BALANCING CANNOT BE ACHIEVED.
- E.

THE BALANCING SUB-CONTRACTOR SHALL MAKE ALL REQUIRED SYSTEM ADJUSTMENTS, AND SHALL ALSO FURNISH ALL LABOR, INSTRUMENTS, TEMPORARY CONNECTIONS AND ALL NECESSARY ACCESSORIES REQUIRED FOR PERFORMING SPECIFIED ADJUSTMENTS.
- F.

AIR FLOW RATES SHALL BE BALANCED WITHIN A TOLERANCE OF PLUS OR MINUS 10 PERCENT AT THE TERMINAL DEVICES AND PLUS OR MINUS 5 PERCENT AT THE FANS. WATER FLOW RATES ARE TO BE BALANCED TO A TOLERANCE OF PLUS 10% OR MINUS 5%.
7.

RECORD DRAWINGS
- A.

FIVE SETS OF REPRODUCIBLE RECORD DRAWINGS SHALL BE DELIVERED TO THE OWNER AND CMX UPON WHICH CORRECTIONS SHALL BE MADE TO PROVIDE AN ACCURATE AND COMPLETE RECORD OF THE WORK AS INSTALLED.
- B.

SUBMIT AS-BUILT DRAWINGS ON CAD IN THE AUTOCAD 2008 FORMAT UPON COMPLETION OF THE PROJECT. SCANNED DRAWINGS ARE PROHIBITED.

8.

APPROVALS AND SUBSTITUTIONS
- A.

IT IS THE INTENT OF THESE SPECIFICATIONS THAT WHENEVER A MANUFACTURER IS SPECIFIED AND SUBSTITUTIONS ARE REQUESTED, THEY SHALL CONFORM IN ALL ASPECTS TO THE SPECIFIED ITEM. CRITERIA AS DELINEATED FOR EQUIPMENT SHALL BE INTERPRETED AS MINIMUM PERFORMANCE REQUIREMENTS.
- B.

IT SHALL BE MANDATORY FOR THIS CONTRACTOR TO SUBMIT HIS PROPOSAL PRICE BASED ON SPECIFIED MANUFACTURER OR SUPPLIER OF MATERIALS OR SERVICES. IF THE CONTRACTOR DESIRES TO SUBSTITUTE OTHER THAN SPECIFIED, HE SHALL SUBMIT SEPARATE PRICES FOR EACH OF THESE ITEMS FOR ADDITIONS OR DEDUCTION TO CONTRACT PROPOSAL PRICE FOR ACCEPTANCE OR REJECTIONS AT THE TIME WHEN BIDS ARE DUE. SHOULD THESE SUBSTITUTIONS BE REJECTED, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE SPECIFIED MATERIALS AND SERVICES. SUBSTITUTED EQUIPMENT THAT CANNOT MEET SPACE REQUIREMENTS, WHETHER APPROVED OR NOT, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY MODIFICATION OF RELATED SYSTEMS OR ADDITIONAL COSTS THAT RESULT FROM SUBSTITUTED EQUIPMENT SHALL BE BORNE BY THIS CONTRACTOR.
9.

CONNECTIONS TO EXISTING SERVICES
- A.

ALL CONNECTIONS (WATER, AIR, STEAM, DRAIN, SHEET METAL, SUPPORT HANGERS, SUPPORTING STEEL), BRAZING, SWEAT FITTINGS, WELDING, ETC. TO EXISTING BUILDING SERVICES OR STRUCTURE SHALL BE PERFORMED AFTER NORMAL BUILDING OPERATING HOURS TO AVOID INTERRUPTION TO OTHER TENANTS OR CRITICAL BUILDING SYSTEMS. ALL COSTS FOR AFTER HOUR WORK SHALL BE INCLUDED IN THE BASE BID.
10.

CODES, PERMITS AND INSPECTIONS
- A.

ALL WORK SHALL MEET OR EXCEED LATEST REQUIREMENTS OF NATIONAL, STATE COUNTY, MUNICIPAL AND OTHER AUTHORITIES EXERCISING JURISDICTION OVER THE WORK OF THIS PROJECT.
- B.

SECURE AND PAY FOR ALL PERMITS AND INSPECTION CERTIFICATES AND TRANSMIT SAME TO THE OWNER AT THE COMPLETION OF THE WORK.
- C.

THIS CONTRACTOR SHALL PERFORM ALL INSPECTIONS IN ACCORDANCE WITH THE LOCAL AUTHORITIES HAVING JURISDICTION.
11.

WORK INCLUDED UNDER OTHER SECTIONS
- A.

ITEMS OF WORK INCLUDED UNDER OTHER SECTIONS OF THIS PROJECT ARE AS FOLLOWS:
- 1)

GENERAL CONSTRUCTION
- 2)

ELECTRICAL POWER WIRING
- 3)

FIRE PROTECTION SYSTEMS
12.

SHEET METAL DUCTWORK
- A.

ALL DUCTWORK AIR CHAMBERS, CASINGS, ENCLOSURES, DAMPERS AND ALL AUXILIARY DEVICES AND WORK NECESSARY TO MAKE THE VARIOUS AIR CONDITIONING AND VENTILATING SYSTEMS COMPLETE AND READY FOR SATISFACTORY OPERATION, SHALL BE FURNISHED AND INSTALLED.
- B.

STEEL DUCTS: ASTM A525 GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY. HAVING ZINC COATING OF 1.25 OZ. PER SQ. FT. FOR EACH SIDE IN CONFORMANCE WITH ASTM A90.
- C.

FABRICATE AND SUPPORT ALL DUCTWORK IN ACCORDANCE WITH SMACNA APPLICABLE PRESSURE DUCT CONSTRUCTION STANDARD AND ASHRAE HANDBOOKS, EXCEPT AS MODIFIED HEREIN. PROVIDE DUCT MATERIAL GAUGES, REINFORCING AND SEALING (CLASS C) FOR 2" PRESSURE CLASSIFICATION POSITIVE OR NEGATIVE, EXCEPT W.G. AS MODIFIED HEREIN.
- D.

PROVIDE ACCESS DOORS TO ALL CONCEALED CONTROLS, FUSIBLE LINKS, DAMPERS, ETC.
- E.

PROVIDE MANUAL DAMPERS IN EACH SPLIT OR TAP CONNECTION TO TRUNK DUCTS FOR BALANCING PROPOSES, EACH PROVIDED WITH OPERATOR AND LOCKING DEVICE.
- F.

ANGLES AND OTHER STRUCTURAL SHAPES USED IN CONNECTION WITH BOTH STEEL AND ALUMINUM SHEETS SHALL BE DIAMETER ZINC-COATED STEEL. HANGER SHALL BE 3/8" MINIMUM HOT ROLLED MILL STEEL.
- G.

PROVIDE FIRE DAMPERS AND/OR FIRE-SMOKE DAMPERS WITH ACCESS DOORS WHERE SHOWN ON DRAWINGS. FIRE DAMPERS SHALL BE "RUSKIN" OR AS APPROVED. DAMPERS SHALL MEET THE REQUIREMENTS OF NFPA BULLETIN NO. 90A, AND LOCAL BUILDING CODE.
- H.

INSULATED FLEXIBLE DUCTWORK WITH VAPOR BARRIER MAY BE USED TO CONNECT LOW PRESSURE DUCTWORK TO CEILING DIFFUSERS. FLEXIBLE DUCT SHALL NOT EXCEED 3 FEET IN LENGTH, WITH CONSTRUCTION CONFORMING TO NFPA 90A AND UL181.
- I.

INSULATED FLEXIBLE DUCTS, VINYL IMPREGNATED FIBERGLASS FABRIC SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE OR FLAT STEEL BANDS RATED TO 3 INCHES WG POSITIVE AND 15 INCHES WG NEGATIVE, WRAPPED WITH FLEXIBLE GLASS FIBER INSULATION, ENCLOSED BY SEAMLESS ALUMINUM PIGMENTED PLASTIC VAPOR BARRIER JACKET MAXIMUM 0.23K VALUE AT 75 DEGREES F.
- J.

DUCTWORK LAYOUTS AND ROUTES AS SHOWN ON THE DRAWINGS ARE SCHEMATIC. THEREFORE, CHANGES IN DUCT SIZES AND/OR LOCATIONS SHALL BE MADE WHERE NECESSARY TO CONFORM TO SPACE CONDITIONS OR TO OBTAIN MAXIMUM HEADROOM. CONDITIONS WITHOUT ADDITIONAL COSTS TO THE OWNER.
- K.

MINIMUM DUCT GAUGE SHALL BE "MINIMUM" AND "NOT LESS THAN" 24. DRIVE SLIPS AND CADDY CLIPS ARE PROHIBITED.
- L.

COORDINATE WITH ALL AFFECTED TRADES TO ENSURE THAT NO CEILINGS, EQUIPMENT OR OTHER MATERIALS OTHER THAN AS SPECIFICALLY PROVIDED HEREIN ARE SUPPORTED FROM DUCTWORK OR THE DUCTWORK HANGER SYSTEM.

- M.

MAKE JOINTS AND SEAMS SMOOTH ON THE INSIDE AND A NEAT FINISH ON THE OUTSIDE. DUCT JOINTS SHALL BE AIRTIGHT WITH LAPS MADE IN THE DIRECTION OF AIR FLOW AND NO FLANGES PROJECTING INTO THE AIR STREAM. DUCTS SHALL BE ADEQUATELY BRACED TO PREVENT VIBRATION. PROVIDE ADDITIONAL BRACING WHERE NECESSARY.
- N.

ALL JOINTS SHALL BE SEALED USING DUCT SEALER SIMILAR TO FOSTER 32 – 50.
- O.

PROVIDE AN AIRTIGHT FABRIC NECK AT THE INLET AND OUTLET CONNECTIONS OF AIR HANDLING SYSTEMS. NECKS SHALL BE NOT LESS THAN 3" NOR MORE THAN 10" IN WIDTH AND BOTH SIDES SHALL BE SECURED WITH CRIMPED LOCK SEAMS THE ENTIRE PERIMETER WITH GALVANIZED STEEL SHEET BANDS 3" WIDE. NECK FABRIC SHALL BE CLOSE WOVEN GLASS CLOTH, DOUBLE NEOPRENE COATED, 28-OUNCES PER SQUARE YARD MINIMUM WEIGHT.
13.

GRILLES, REGISTERS AND DIFFUSERS
- A.

FURNISH AND INSTALL ALL METAL DIFFUSERS, GRILLES AND REGISTERS AS SPECIFIED.
- B.

A SCHEDULE OF DIFFUSERS, GRILLES AND REGISTERS WITH MANUFACTURERS MODELS, SIZES ACCESSORIES, FINISHES ETC., SHALL BE SUBMITTED FOR REVIEW PRIOR TO RELEASE FOR FABRICATION AND DELIVERY. REFER TO SCHEDULE OR NOTES ON DRAWINGS FOR TYPE, UNLESS BUILDING STANDARD AIR DEVICES ARE SPECIFIED.
- C.

AIR DIFFUSERS AND GRILLES SHALL BE LOCATED IN CONFORMANCE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- D.

FRAMING FOR ALL AIR DISTRIBUTION DEVICES SHALL CONFORM TO AND ACCOMMODATE THE CEILING CONSTRUCTION.
- E.

EXISTING DIFFUSERS SHOWN TO BE RELOCATED SHALL BE CLEANED AND TESTED FOR ACCESSORIES OPERATION.
- F.

PROVIDE REMOTE CORD OPERATED DAMPERS FOR LINEAR DIFFUSER BRANCH DUCTWORK BALANCING.
15.

INSULATION REQUIREMENTS
- A.

GENERAL – FURNISH AND INSTALL THERMAL INSULATION AS SPECIFIED IN THIS SECTION. INSULATION SHALL BE MANUFACTURED BY OWENS CORNING, MANSVILLE, CERTAINTED, OR APPROVED EQUAL.
- B.

PROVIDE INSULATION (INCLUDING INSULATION JACKET OR FACING AND ADHESIVES USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) WITH NONCOMBUSTIBLE MATERIAL MEETING ALL CODE REQUIREMENTS AND FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E-84, NATIONAL FIRE PROTECTION ASSOCIATION 225, AND UL 723, NOT EXCEEDING FLAME SPREAD 25 AND SMOKE DEVELOPED 50.
- C.

INSULATION SCHEDULE:
- DUCTWORK:
- CONCEALED 1" THICK 3/4# DENSITY ALUM. VAPOR JACKET EXPOSED 1" THICK 6# DENSITY ALUM. VAPOR JACKET CONDENSER IN 1" THICK 6# DENSITY ALUM. VAPOR JACKET CONDENSER OUT 1" THICK 6# DENSITY ALUM. VAPOR JACKET
- NOTE: ALL SUPPLY DUCTWORK, NEW AND EXISTING WITHIN CONTRACT LIMITS SHALL BE INSULATED UNLESS OTHERWISE NOTED. RETURN DUCTWORK SHALL BE INSULATED WHEN SO SPECIFIED.
- PIPING
- SIZE
- THICKNESS
- JACKET
- MAKE-UP-WATER
- ALL
- 1"
- ASJ
- REFRIGERANT PIPE
- UP TO 4"
- 3/4"
- ARMAFLEX

17.

AIR DISTRIBUTION SYSTEM INSTALLATION
- A.

ADHERE TO DRAWINGS AS CLOSELY AS POSSIBLE. VARY THE RUNS AND SIZES OF DUCTWORK WHERE NECESSARY TO ACCOMMODATE CONDITIONS ARISING DUE TO FIELD CONDITIONS.
- B.

SHAPE ALL CHANGES IN DIRECTION, BOTH HORIZONTAL AND VERTICAL, TO PERMIT THE EASIEST POSSIBLE AIR FLOW OR USE SQUARE DOUBLE VANED ELBOWS.
- C.

EXACT DIMENSIONS OF OPENINGS MUST AWAIT REVIEW OF REGISTERS AND DIFFUSERS. EXACT LOCATIONS SHALL BE SUBMITTED FOR REVIEW. REGISTER BOXES AND OTHER OPENINGS OF THE DUCTWORK MUST BE TIGHTLY CLOSED DURING CONSTRUCTION TO KEEP DIRT, DUST AND OTHER FORMS OF RUBBISH OUT OF THE DUCTWORK.
- D.

PROVIDE GALVANIZED ANGLE IRON AND BANDS REQUIRED FOR DUCTWORK BRACING AND SUPPORT. PROVIDE HANGER INSERTS SUITABLE FOR THE STRUCTURE FROM WHICH THE DUCTS WILL BE HUNG. INSERTS SHALL NOT BE PERMITTED IN "CINDER CONCRETE" SLABS.
- E.

PROVIDE DOUBLE THICK TURNING VANES IN ALL CASES WHERE 90° DEGREE SQUARE ELBOWS ARE USED.
18.

AUTOMATIC TEMPERATURE CONTROLS
- A.

FURNISH AND INSTALL A COMPLETE SYSTEM OF AUTOMATIC TEMPERATURE CONTROLS IN ACCORDANCE WITH THESE SPECIFICATIONS AND BUILDING STANDARDS.
- B.

CONTROL SYSTEM TO INCLUDE ALL REQUIRED DEVICES SUCH AS: THERMOSTATS, SENSORS, TRANSMITTERS, RELAYS, CONTACTS, AVERAGING CONTROLLERS, HIGH/LOW LIMIT CONTROLS, WATER DETECTORS, ETC., TO PROVIDE A COMPLETE WORKING SYSTEM AS DESCRIBED UNDER "SEQUENCE OF OPERATION."
- C.

ALL CONTROL WIRING SHALL BE INCLUDED UNDER THIS SECTION AND INSTALLED IN BE ACCORDANCE WITH ALL LOCAL REGULATIONS.
- D.

PROJECTS IN BUILDINGS WITH CENTRAL BUILDING MANAGEMENT SYSTEMS SHALL BE COORDINATED WITH THE SYSTEM MANUFACTURER TO ASSURE TOTAL COMPATIBILITY OF ALL DEVICES TO BE FURNISHED BY THE MECHANICAL CONTRACTOR, OR SPECIFIED EQUIPMENT MANUFACTURER.
- E.

A COMPLETE SUBMITTAL INDICATING ALL POINT-TO-POINT WIRING SCHEMATICS, DEVICES TO BE FURNISHED, SET-POINTS, PHYSICAL LAYOUT, LOCATION AND SIZE OR ALL EQUIPMENT SUCH AS THERMOSTATS, CONTROL PANELS, STARTERS, ETC., OF DEVICES SHALL BE SUBMITTED PRIOR TO INSTALLATION FOR REVIEW BY THE OWNER, ENGINEER, AND ARCHITECT AS REQUIRED. INSTALLATION OF DEVICES SHALL NOT PROCEED UNTIL REVIEWED.
- F.

SEQUENCE OF OPERATION:
- TBD
19.

VIBRATION ISOLATION
- A.

FURNISH VIBRATION ISOLATION DEVICES FOR ALL EQUIPMENT WITH ROTATING MOTORS AND FANS.
- B.

DEVICES SHALL BE SUITABLE FOR NOT LESS THEN 95 % EFFICIENCY ISOLATION.
- C.

DEVICES INSTALLED SUBJECT TO OUTDOOR WEATHER CONDITIONS SHALL BE SUITABLY PROTECTED TO PREVENT CORROSION
- D.

ISOLATION SHALL BE PROVIDED FOR ALL PIPING AND PUMPS WITHIN MECHANICAL EQUIPMENT ROOMS, AND/OR NOT LESS THAN 50' FROM PUMPS AND FANS, AND/OR BETWEEN ALL MECHANICAL EQUIPMENT AND BUILDING STRUCTURE UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS.



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No.	Description	Date
	COST ESTIMATE COMMENTS	10.25.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

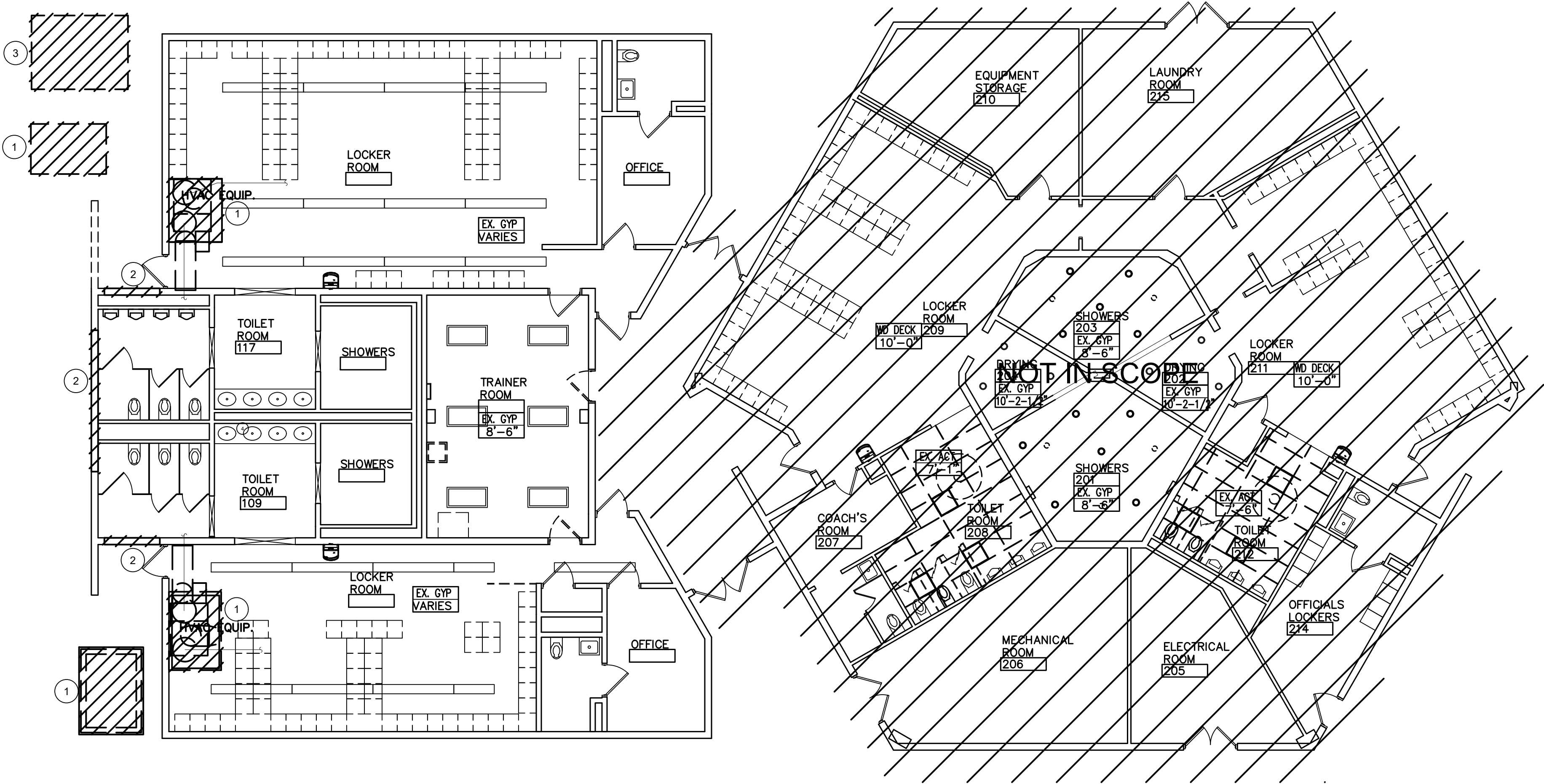
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DRAWN BY: CHECKED BY:
DATE:

CAD FILE:
ADDITION AND RENOVATIONS TO:

LOCKER FACILITY
WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

MECHANICAL SPECIFICATIONS

MO.1



GENERAL NOTES:

1. ALL CONTRACTORS SHALL SURVEY EXISTING CONDITIONS BEFORE SUBMITTAL OF BID TO ASCERTAIN EXTENT OF DEMOLITION.
2. COORDINATE ALL DEMOLITION WITH THE WORK OF OTHER TRADES AS CONSTRUCTION PROGRESSES.

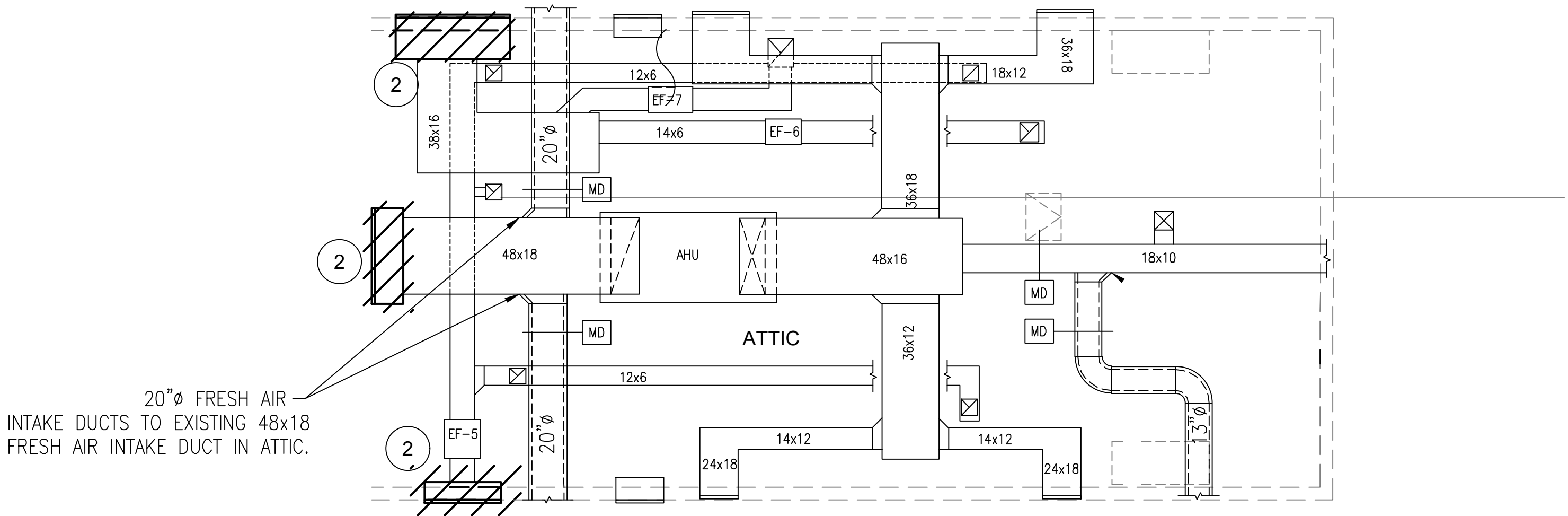
SHEET NOTES:

1. REMOVE 2 AHU'S AND CONDENSING UNITS TO BE RELOCATED. SEE NEW WORK PLAN. INCLUDING BUT NOT LIMITED TO ALL ASSOCIATED CONDENSING UNIT, CONDENSATE PIPING, REFRIGERANT PIPING, CONTROL WIRING, SUPPORTS AND ELECTRICAL.
2. LOUVER TO BE REMOVED IN ITS ENTIRETY. CUT ASSOCIATED DUCTWORK BACK FOR FUTURE RE-CONNECTION.
3. REMOVE AND RELOCATE EXISTING CONDENSING UNIT SERVING AHU TO REMAIN AS IS. REFRIGERANT PIPING SHALL BE CUT AND CAPPED FOR RECONNECTION IN NEW WORK PHASE.

1ST FLOOR DEMOLITION PLAN

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

1



ATTIC DEMOLITION PLAN

SCALE: NTS

2



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	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

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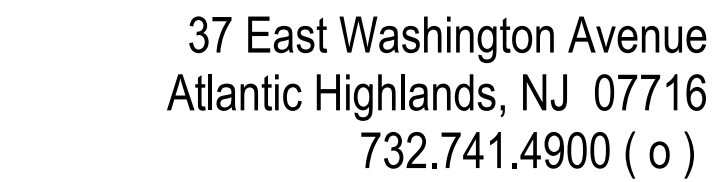
ADDITION AND RENOVATIONS TO:

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MECHANICAL PLANS
DEMOLITION

MD1.0



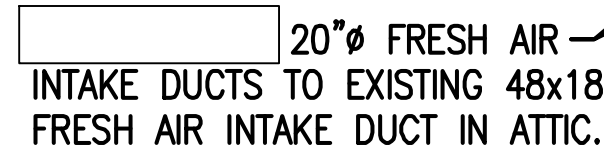
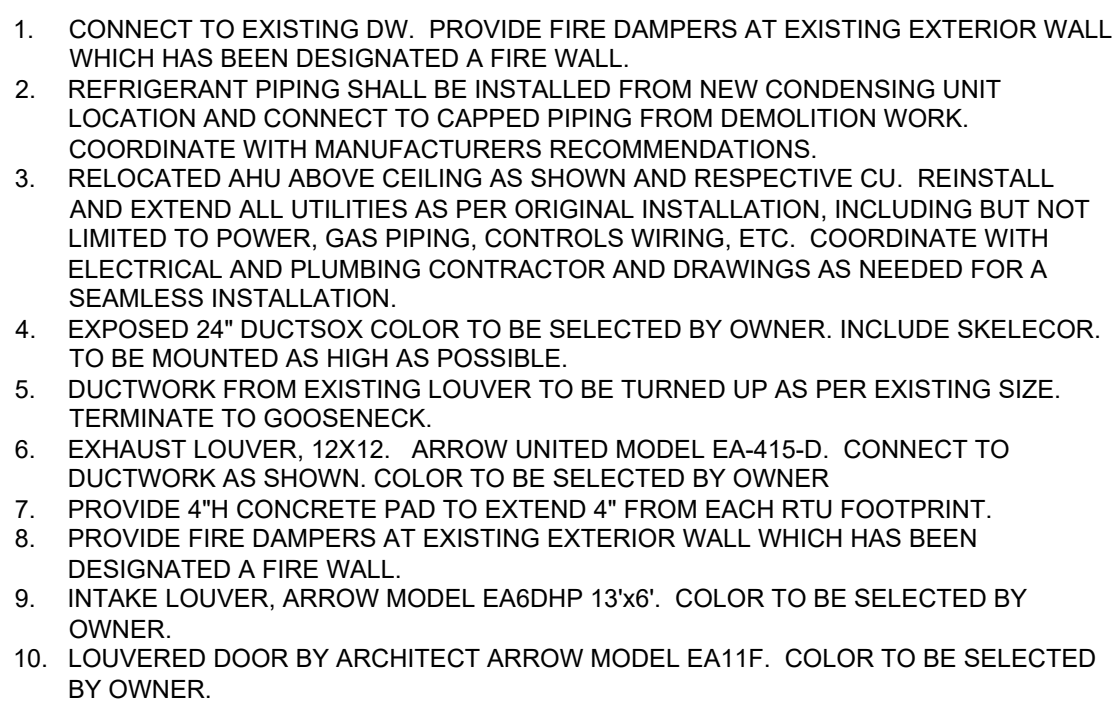
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	COST ESTIMATE COMMENTS	10.25.22
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LOCKER FACILITY

M1.0

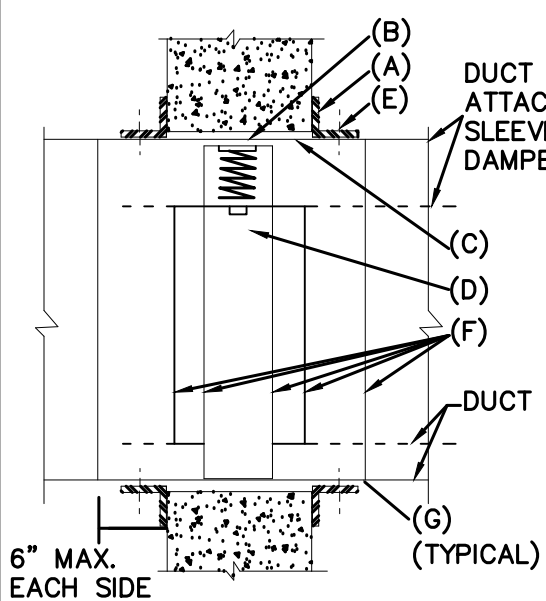


NOTES:					
1. From 2015 International Mechanical Code & Ashrae 62.1-2013, Section 403.					
2. No Ventilation Requirements, Only Exhaust. Air Is Provided For Exhaust Air Make-up Only.					
3. Ventilation Provided Via Continuous Exhaust And Direct Outdoor Air Louver For Exhaust Make-up Air					

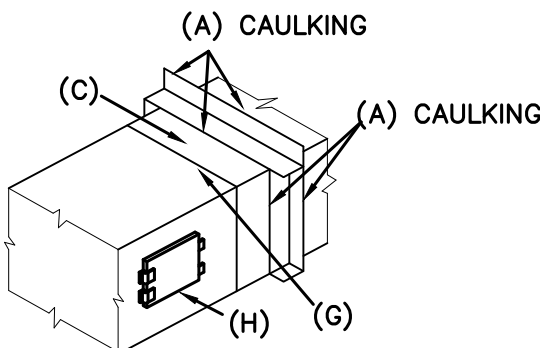
ROOFTOP UNIT SCHEDULE															
UNIT ID	MODEL	AREA SERVED	AIR CFM	SUPPLY CFM	ESP IN. W.G.	MOTOR bhp/hp	INPUT/ OUTPUT MBH	EAT/ LAT	EFF %	TOTAL MBH	SENSIBLE MBH	EAT DB/WB	LAT DB/WB	CBF	EER
RTU-A	48FCTN14/M5M5-3ABT0	FITNESS ROOM	1200	3750	1	3.04/5	250 / 205	46 / 96.8	81	134.8	95.4	79.4 / 65.5	55 / 53	0.1	10.2
RTU-B	48FCRM07/M5M5-3ABT0	TRAINING ROOM	500	1745	1	1.42/ 3	110 / 88	45 / 90	81	70.3	44	79 / 68	55.7 / 55.2	0.65	11
NOTES			ACCESSORIES												
1. MCA INCLUDES SUPPLY FAN			8. RA and SA Smoke Detectors and CO2 Sensor												
2. SELECTION BASED ON CARRIER.			9. Ecoat Al/Cu - Al/Cu - Louvered Hall Guards												
3. POWER EXHAUST INCLUDED			10. ComfortLink (Standard with EnergyX)												
			11. EnergyX + Econo + Frost Protection Only												
			12. Humidi-MZer™ Adaptive Dehumidification System												
			13. VAV-RTU Open Ultra Low Leak Enty Econo2 with baro relief												
			7. 2-Speed indoor fan motor controlled by VFD												

DIFFUSER SCHEDULE				
UNIT ID	MODEL	SIZE	DESCRIPTION	NOTES
A1	TMSA	24x24	Steel Adjustable High Performance 3-cone Diffuser	1 THRU 8
B2	350 RL	SEE DWGS	Steel, 3/4" Spacing Full Louvered Face, 35 Degree Fixed Deflection Blades, And Front Blades Parallel To The Long Dimension.	1,2,3,4,5
NOTES:			TABLE 1. ROUND NECK SIZE SCHEDULE	
1. SELECTIONS BASED ON TITUS			UP TO 150 CFM - 8" DIAMETER	
2. PROVIDE VOLUME CONTROL DAMPER			151 TO 275 CFM - 8" DIAMETER	
3. PROVIDE OPPOSED BLADE DAMPER			276 TO 380 CFM - 10" DIAMETER	
4. Maximum Noise Criterion Rating < 30 NC.			381 TO 500 CFM - 12" DIAMETER	
5. Baked Enamel Finish, Color To Be Selected By Architect			501 TO 700 CFM - 14" DIAMETER	
6. Diffusers Shall Be 4-Way Blow Unless Otherwise Indicated On Plans			701 TO 900 CFM - 16" DIAMETER	
7. Mounting Frame Type Shall Be Coordinated With Ceiling Construction Type.				
8. Neck Diameter Shall Be As Scheduled In Table 1.				

NOTE: NO CAULKING IS REQUIRED ON FIRE DAMPERS OR FIRE DAMPER RETAINING ANGLES



VERTICAL POSITION IS SHOWN. HORIZONTAL INSTALLATION IS SIMILAR. FOLLOW INSTALLATION INSTRUCTION FOR FUSIBLE LINKS.

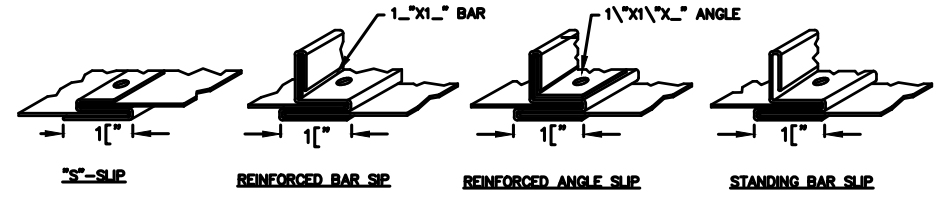


FIRE/SMOKE DAMPER TYPICAL DETAIL
NOT TO SCALE

- (A) RETAINING ANGLES: MINIMUM 1-1/2" X 1-1/2" X 0.054 (16 GA.) RETAINING ANGLES MUST LAP STRUCTURAL OPENING 1" MINIMUM AND COVER CORNERS OF OPENINGS.
- (B) CLEARANCE: 1/8" PER LINEAR FOOT BOTH DIMENSIONS (SEE NOTE 1 BELOW)
- (C) STEEL SLEEVE: GAGE AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.
- (D) APPROVED FIRE DAMPER (CURTAIN OR BLADE TYPE)
- (E) SECURE RETAINING ANGLES TO SLEEVE ONLY ON 8" CENTERS WITH:
- 1/2" LONG WELDS OR
 - 1/4" BOLTS AND NUTS, OR
 - NO. 10 STEEL SCREWS, OR
 - MINIMUM 3/16" STEEL RIVETS
- (F) SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH:
- 1/2" LONG WELDS, OR
 - 1/4" BOLTS AND NUTS IN HOLES
 - NO. 10 STEEL SCREWS, OR
 - MINIMUM 3/16" STEEL RIVETS PROVIDED, OR

- (G) CONNECT DUCT TO SLEEVE AS REQUIRED BY THE MANUFACTURER.
- (H) INSTALL ACCESS DOOR OR PANEL FOR SERVICE AND INSPECTION. DOOR MUST BE LARGE ENOUGH TO CHANGE LINK.

- NOTES:
- FIRE DAMPER SLEEVE CLEARANCE WITHIN WALL OPENING. CLEARANCE REQUIREMENTS FOR DAMPER SLEEVES WITHIN A WALL OPENING IS BASED ON 1/8 INCH PER FOOT OR WIDTH (OR HEIGHT) UNLESS OTHERWISE STATED IN THE LISTING OF THE ASSEMBLY. THE SLEEVE MAY REST ON THE BOTTOM OF THE OPENING, AND NEED NOT BE CENTERED. (FRACTIONAL DIMENSIONS SHALL BE TAKEN AS THE NEXT LARGEST WHOLE FOOT) EXAMPLE: A 30 INCH X 24 INCH FIRE DAMPER SLEEVE IS INSTALLED IN A WALL OPENING. THE OPENING SHALL BE 30-3/8 INCHES WIDE (1/8 INCH X 3 FEET) BY 24-1/2 INCHES HIGH (1/8 INCH X 2 FEET.)
 - THE SLEEVE IS RETAINED IN THE WALL OPENING BY THE USE OF STEEL RETAINING ANGLES (A). THESE MUST OVER-LAP THE EDGE OF THE FRAMING BY A MINIMUM OF ONE (1) INCH OVER AND BEYOND ALL MATERIAL IN THE OPENING. THIS MEANS THAT THE MINIMUM WIDTH OF THE RETAINING ANGLE WOULD BE 1-5/8 INCHES (GOOD PRACTICE CALLS FOR AN ADDITIONAL SAFETY FACTOR BY MAKING THE ANGLE IN THIS CASE 1-1/2 INCHES WIDE.) THE DIMENSIONS REQUIRED FOR THE OPENING SHALL BE THOSE REMAINING AFTER THE OPENING HAS BEEN FRAMED AND FIRE RESISTIVE MATERIALS PROVIDED WHERE REQUIRED. THE FIRE RESISTIVE MATERIALS SHALL BE EQUAL TO THE REQUIREMENTS FOR FIRE RESISTIVE MATERIALS USED IN THE CONSTRUCTED WALL SO THAT A CONTINUOUS RATING EXISTS AT THE WALL PENETRATION.
 - MANUFACTURERS' INSTALLATION DETAILS: THE FIRE DAMPER MANUFACTURERS' INSTALLATION DETAILS AND INSTRUCTIONS AS TESTED AND APPROVED BY UL MUST BE USED IN LIEU OF THE ABOVE DETAILS WHERE APPLICABLE. PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT THE HRS INSPECTION.



DUCT DIMENSION	GAUZE		JOINT TYPE	REINFORCING
	GALV.	ALUM.		
0-12"	24	22	1" SLP	NONE REQUIRED
12-18"	24	22	1" SLP	NONE REQUIRED
18-24"	24	22	1" SLP	1" X 1" X - @ 5"OC
24-30"	24	22	2" BAR SLP	1" X 1" X - @ 5"OC
30-36"	24	22	2" BAR SLP	1" X 1" X - @ 5"OC
36-42"	22	20	2" REINFORCED BAR SLP	1" X 1" X - @ 5"OC
42-48"	22	20	2" REINFORCED BAR SLP	1" X 1" X - @ 5"OC
48-54"	22	18	2" REINFORCED BAR SLP	1" X 1" X - @ 5"OC
54-60"	22	18	2" REINFORCED BAR SLP	1" X 1" X - @ 5"OC
60-66"	20	18	ANGLE SLP	1" X 1" X - @ 5"OC

ELECTRICAL SPECIFICATIONS

1. GENERAL.
- A. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE NEC, NFPA, IBC, UCC AND LOCAL CODES.

B. OBTAIN ALL PERMITS AND APPROVAL FROM AUTHORITIES HAVING JURISDICTION AND PAYING ALL FEES REQUIRED.

C. SUBMIT SIX(6) SETS OF SHOP DRAWINGS FOR APPROVAL OF THE FOLLOWING:

1. WIRE

4. CONDUIT

2. DEVICES

5. LIGHT FIXTURES

3. PANELS

6. COORDINATED, DIMENSIONED, MEP FLOOR PLANS.

D. PROVIDE TEMPORARY POWER AS REQUIRED FOR THE PROJECT.

E. ALL WORK SHALL BE DONE UNDER NORMAL WORKING HOURS, UNLESS OTHERWISE NOTED.

F. TELEPHONE/DATA WIRING TO BE FURNISHED AND INSTALLED BY OTHERS.

G. PROVIDE ANY/ALL PROPERLY SIZED THERMAL ELEMENTS IN STARTERS AS REQUIRED.
2. GROUNDING.
- A. GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM GROUNDING NEUTRAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMPS SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE CONDUIT OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZED IN ACCORDANCE WITH "NEC" TABLE 250-122.

B. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL FEEDERS AND BRANCH CIRCUITS. USE GREEN GROUND.
3. IDENTIFICATION.
- A. MODIFY DIRECTORIES OF EXISTING PANELS WHERE CHANGES AND/OR ADDITIONS HAVE BEEN MADE.

B. WIRE AND CABLE COLOR CODING.

1. POWER WIRING: CONSISTENT PHASE IDENTIFICATION OF ALL WIRES SHALL BE MAINTAINED AS FOLLOWS:

208/120 VOLT, 3ø 60 HZ	277/480V 3ø	
PHASE A	BLACK	BROWN
PHASE B	RED	ORANGE
PHASE C	BLUE	YELLOW
NEUTRAL WIRE	WHITE	WHITE WITH GRAY STRIPE
GROUND WIRE	GREEN	GREEN
ISOLATED GROUND WIRE	GREEN WITH YELLOW STRIPE	

(THIS CHART SHALL BE POSTED ON PANELBOARDS AND SIMILAR DISTRIBUTION EQUIPMENT)

C. PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUIT WIRES IN PULL BOXES AND AT TERMINATIONS WITH PANEL AND CIRCUIT NUMBER.

D. PROVIDE PLASTIC ENGRAVED LABELS ON PANELS, DISCONNECT SWITCHES AND TRANSFORMERS TO INDICATE POWER SOURCE AND VOLTAGE.

4. WIRING METHODS.

A. BRANCH CIRCUIT AND FEEDER WIRING RUN WITHIN THE BUILDING SHALL BE INSTALLED IN ELECTRO-METALLIC TUBING WITH COMPRESSION FITTINGS AND RUN CONCEALED WHERE POSSIBLE, BUT EXPOSED ON EXISTING SURFACES WHERE CONDUITS CANNOT BE CONCEALED. ARMORED CABLE(TYPE MC OR MC-90) SHALL BE PERMITTED IN CONCEALED AREAS ONLY AND TO THE EXTENT PERMITTED BY CODE.

B. WIRING FOR CONTROLS, COMMUNICATIONS AND OTHER SYSTEMS SHALL BE IN RACEWAY SPECIFIED FOR BRANCH CIRCUITS UNLESS SPECIFICALLY NOTED OTHERWISE.

C. PROVIDE SEALS FOR RACEWAYS PASSING THROUGH FLOORS, ROOFS AND WALLS.

D. CONDUCTORS SHALL BE 600 VOLT INSULATION, COPPER, TYPE THHN OR THWN.

E. FURNISH AND INSTALL ALL POWER WIRING AS REQUIRED FOR EQUIPMENT FURNISHED UNDER H.V.A.C., PLUMBING AND GENERAL TRADE SECTIONS. UNLESS OTHERWISE NOTED.

F. LIQUID TIGHT FLEXIBLE METAL CONDUIT IN LENGTHS OF 3' OR LESS WITH APPROVED TYPE FITTINGS SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT, MOTORS, AND OTHER OUTLETS WHERE WIRING WILL BE EXPOSED TO WEATHER, MOISTURE OR VIBRATIONS.

G. INSTALL RACEWAYS FROM BOX TO BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO EFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED WITH A MAXIMUM OF THREE SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OF AMPACITY AS REQUIRED BY NATIONAL ELECTRIC CODE.

H. FLEXIBLE METAL CONDUIT WITH APPROVED TYPE FITTING MAY BE USED IN LIMITED LENGTHS FOR CONNECTIONS TO RECESSED FIXTURES WHERE IT IS NECESSARY TO PROVIDE FLEXIBLE CONNECTIONS. IT MAY ALSO BE USED WHERE STRUCTURAL MEMBERS PRECLUDE THE USE OF ELECTRICAL METALLIC TUBING OR CONDUITS.

I. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR(4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS BEFORE INSTALLATION AND THOROUGHLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND RECEPTACLES SHALL NOT BE USED TO "FEED THRU" TO THE NEXT SWITCH OR RECEPTACLE. THE DISCONNECTIONS OR REMOVAL OF A DEVICE FROM A BOX SHALL NOT INTERFERE WITH OR INTERRUPT THE CONDUCTOR CONTINUITY.

J. CONDUCTORS SHALL BE CONTINUOUS FROM ORIGIN TO PANEL OR EQUIPMENT WITHOUT SPLICES. WHERE PAT SPLICES ARE NECESSARY AND APPROVED, THEY SHALL BE MADE WITH SUITABLE CONNECTORS IN JUNCTION BOXES.

K. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL CONTROL WIRING.

L. ALL WIRE AND CABLE AMPACITIES INDICATED ON DRAWINGS ARE BASED ON 75°C. TEMPERATURE RATING. ALL LUGS, BREAKERS, SWITCHES AND OTHER TERMINATIONS SHALL HAVE 75°C. RATINGS AS A MINIMUM.

M. BALANCE ALL LOADS BETWEEN PHASES.

N. SEPARATE NEUTRALS SHALL BE RUN FOR ALL CIRCUITS UTILIZING SWITCH MODE POWER SUPPLIES(EG. COMPUTERS, FLUORESCENT LIGHTING, ETC.).

O. ANY COMMUNICATIONS CABLES IN A PLENUM SHALL BE PLENUM RATED. SUPPORTING DEVICES SUCH AS TIES AND WRAPS SHALL ALSO BE PLENUM RATED. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH REQUIREMENT UPON REQUEST.

5. WIRING DEVICES -- PLATES.

A. DEVICES SHALL BE "SPEC GRADE" MANUFACTURED BY LEVITON OR EQUAL. ALL DEVICE COVER PLATES SHALL BE STAINLESS STEEL U.O.N.. STANDARD DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE, 20 AMP, NEMA 5-20R, BACK AND SIDE WIRE U.O.N.. OTHER DEVICES SHALL BE AS INDICED ON THE DRAWINGS OR AS REQUIRED BY THE EQUIPMENT ITEM INTENDED TO BE SERVED. WHERE SWITCHES ARE GROUPED, PROVIDE GANGED PLATES.

6. LIGHTING FIXTURES AND LAMPS.

A. LIGHTING FIXTURES SHALL BE FURNISHED AND COMPLETE WITH NECESSARY MOUNTING OR HANGING HARDWARE AND WITH PLASTER FRAMES WHERE REQUIRED. REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPE.

B. THE ELECTRICAL CONTRACTOR IS TO VERIFY CEILING TYPE AND SPACE LIMITATIONS PRIOR TO ORDERING FIXTURES.
- ELECTRICAL SYMBOL LEGEND
- SYMBOL
-
- (DEVICE AND EQUIPMENT MOUNTING HEIGHTS ARE AS LISTED ON DRAWING AND/OR DESCRIBED IN SPECIFICATIONS UNLESS ITEMIZED BY ARCHITECTURAL DOCUMENTS.)
- DESCRIPTION
- CEILING OR PENDANT MOUNTED FLUORESCENT FIXTURE AND OUTLET. α = SWITCH CONTROL. 3 = CIRCUIT NUMBER -- TYPICAL FOR ALL FIXTURES.

INDUSTRIAL OR STRIP FLUORESCENT FIXTURE.

SURFACE OR RECESSED LIGHT FIXTURE, EMERG. CIRCUIT OR BATTERY BACK-UP.

WALL MOUNTED LIGHT FIXTURE, EMERGENCY CIRCUIT OR BATTERY BACK-UP.

CEILING MOUNTED EXIT SIGN, WALL MOUNTED EXIT SIGN. 90° TO BOTTOM OF SIGN OR CENTERED ON WALL AREA BETWEEN TOP OF DOOR AND CEILING. ARROWS AS INDICATED, SHADED AREA INDICATES FACE(S). TYPE "EXIT" U.O.N..

LED EXIT SIGN WITH BATTERY PAK AND LOCAL EMERGENCY HEADS -- TYPE "EX2" TYPICAL

EMERGENCY BATTERY PACK ABOVE CEILING (WHERE APPLICABLE) DUAL-LITE #AS-180-12V-0.

BATTERY OPERATED EMERGENCY LIGHTING. 90° TO BOTTOM OF FIXTURE OR CENTERED ON WALL AREA BETWEEN TOP OF DOOR AND CEILING. TYPE "EX3" U.O.N..

(2) WEATHERPROOF EMERGENCY FLOOD LIGHTS (DUAL MOUNTED) DUAL-LITE #EXT-OS1208 WITH (1) ONE DUAL-LITE #MP-101 MOUNTING PLATE.

SINGLE POLE 20A, TOGGLE TYPE SWITCH MOUNTED 4'-0" AFF TO TOP. SUBLETTER "Q" DENOTES FIXTURE CONTROLLED.

THREE WAY 20A, TOGGLE TYPE SWITCH MOUNTED 4'-0" AFF TO TOP.

SINGLE RECEPTACLE 125V., 20A., 2P., 3W., 5-20R U.O.N.(SPECIALTY TYPE AS NOTED-A,B,C)

DUPLEX CONVENIENCE RECEPTACLE 20A. 125V. MOUNTED 1'-4" A.F.F. TO CENTER. 3-CIRCUIT NUMBER. CH=ABOVE COUNTER HEIGHT AT 44" MAX TO ABOVE COUNTERS WHICH ARE 20"-25" DEEP. U.O.N. CP=CHILD PROOF.

DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER HEIGHT.

GROUND FAULT RECEPTACLE

DOUBLE DUPLEX RECEPTACLE (QUAD)

DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER HEIGHT WITH GROUND. (GF)

COMBINATION TELE/COMM OUTLET W/ 1" CDT. RUN TO ABOVE ACCESSIBLE CEILING SPACE 1'-4" AFF TO OF DEVICE. PROVIDE PULLSTRING AND END BUSHINGS(NUMBER REPRESENTS # OF KEYSTONES IF NOT TYPICAL).

JUNCTION BOX, CEILING OR WALL MOUNTED AS NOTED, ELECTRICAL CONTRACTOR TO MAKE ALL REQUIRED CONNECTIONS TO DESIGNATED EQUIPMENT.

TV MONITOR OUTLET & RECEPTACLE

RECESSED CEILING SPEAKER, WALL MOUNTED SPEAKER

PHOTOCELL

PANEL BOARD (LIGHTING OR RECEPTACLE) SURFACE MOUNTED

GROUND ROD

ELECTRIC METER

MOTION SENSOR

MOTOR

EXPOSED CONDUIT OR CABLE

CONCEALED CONDUIT OR CABLE

NON-FUSIBLE DISCONNECT SWITCH

FUSIBLE DISCONNECT SWITCH W/ FUSE RATING.

RECESSED FLOOR BOX #RFB4 WITH FLANGE #536CCTCAL, TELE/DATA BRACKET #D7B-2-4TKO AND (2) DUPLEX RECEPTACLE. TELE/DATA JACKS BY OTHERS. FOLLOW CD REQUIREMENT FOR TYPICAL DEVICE.

PUSH-BUTTON, UP/DN/STOP

TIME CLOCK -- TORK ELECTRONIC ASTRONOMICAL TYPE WITH BACKUP AND OVERRIDE INPUT

LIGHTING CONTACTOR -- ASCO WITH NUMBER OF POLLS AS REQUIRED.
- ELECTRICAL ABBREVIATION LEGEND
- ABBREVIATION
- DESCRIPTION
- A AMPERE

AC ALTERNATING CURRENT

AHU AIR HANDLING UNIT

AWG AMERICAN WIRE GAGE

C CONDUIT

CH ABOVE COUNTER 44" +/-

CKT CIRCUIT

EC ELECTRICAL CONTRACTOR

EMT ELECTRICAL METALLIC TUBING

EX EXISTING TO REMAIN

FACP FIRE ALARM CONTROL PANEL

G GROUND

GF1 GROUND FAULT CIRCUIT INTERRUPTER

HP HORSE POWER

GF2 GROUND FAULT CIRCUIT INTERRUPTER

HP2 HORSE POWER

IG ISOLATED GROUND

JB JUNCTION BOX

KCMIL THOUSAND CIRCULAR MILS

KVA KILOVOLT -- AMPERE

KW KILOWATT

LP LIGHTING PANEL

MCB MAIN CIRCUIT BREAKER

MDP MAIN DISTRIBUTION PANEL

MLO MAIN LUGS ONLY

N NEW

NC NORMALLY CLOSED

NIC NOT IN CONTRACT

N/L NIGHT LIGHT

NO NORMALLY OPEN

ø PHASE

PNL PANEL

PP POWER PANEL

PVC POLY VINYL CHLORIDE CONDUIT

R RELOCATED IN NEW POSITION

RGS RIGID GALVANIZED STEEL CONDUIT

RP RECEPTACLE PANEL

SW SWITCH

TBB TELEPHONE BACKBOARD

UON UNLESS OTHERWISE NOTED

V VOLT

WP WEATHER PROOF (NEMA RATED)(WHILE IN USE)
- ELECTRICAL DRAWING LIST
- E-001 ELECTRICAL GENERAL INFORMATION

E-101 ELECTRICAL DEMOLITION

E-201 ELECTRICAL LIGHTING

E-301 ELECTRICAL POWER

E-401 ELECTRICAL SITE PLAN

E-501 ELECTRICAL RISER DIAGRAM

E-601 ELECTRICAL PANEL SCHEDULES
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- | No. | Description | Date |
|-----|--------------------------------|----------|
| | MEP 100% SCHEMATIC DESIGN | 09.26.22 |
| | MEP 50% CONSTRUCTION DOCUMENTS | 11.23.22 |
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- ELECTRICAL GENERAL
INFORMATION
- E-001



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MECHANICAL/ELECTRICAL/PLUMBING/
FIRE PROTECTION ENGINEERS

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No.	Description	Date
	MEP 100% SCHEMATIC DESIGN	09.26.22
	MEP 50% CONSTRUCTION DOCUMENTS	11.23.22
	MEP 100% CD REVIEW SET	12.09.22

JOB NO. 20.031

DRAWN BY: MB CHECKED BY: MA

DATE: 10/1/2022

CAD FILE:

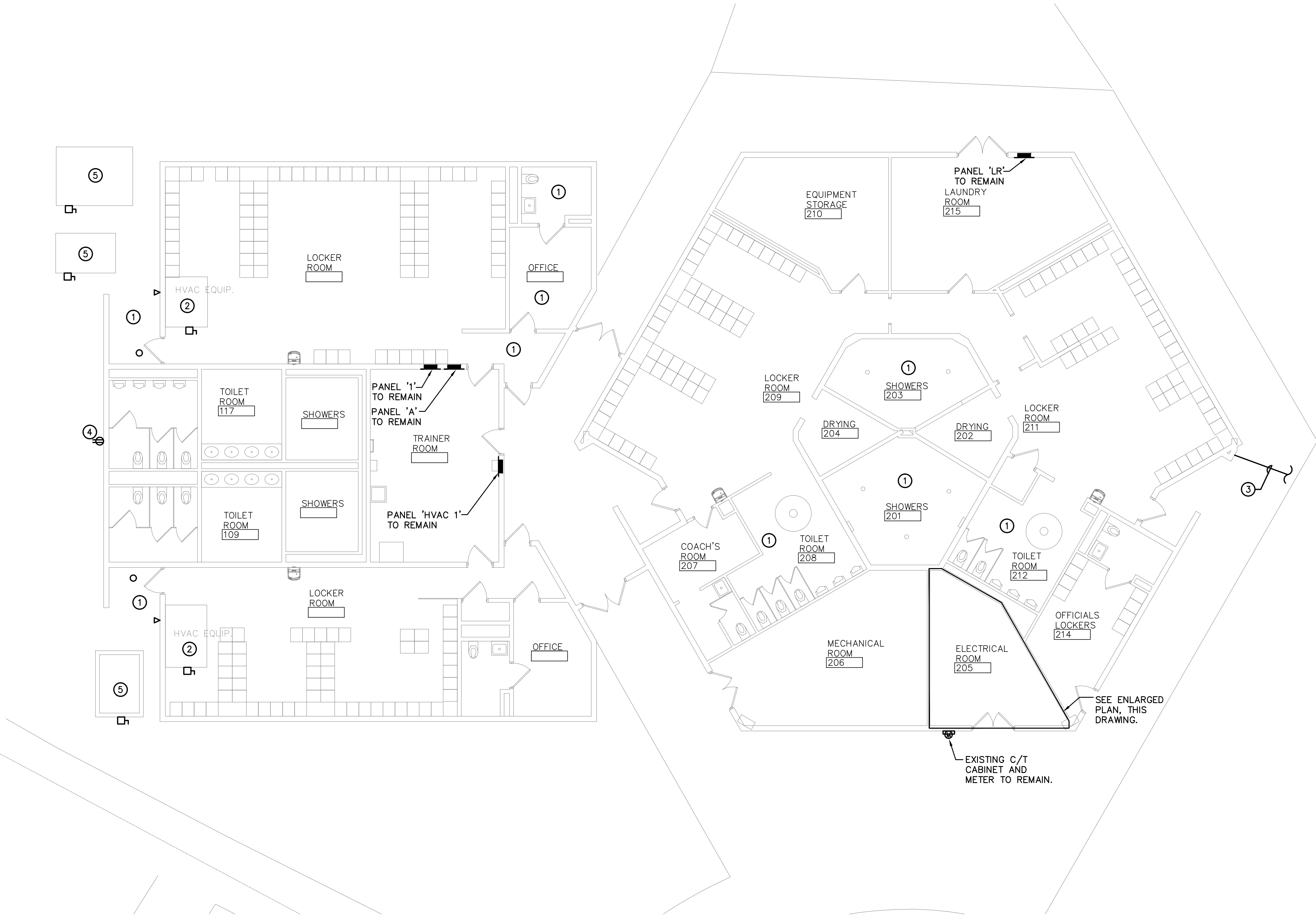
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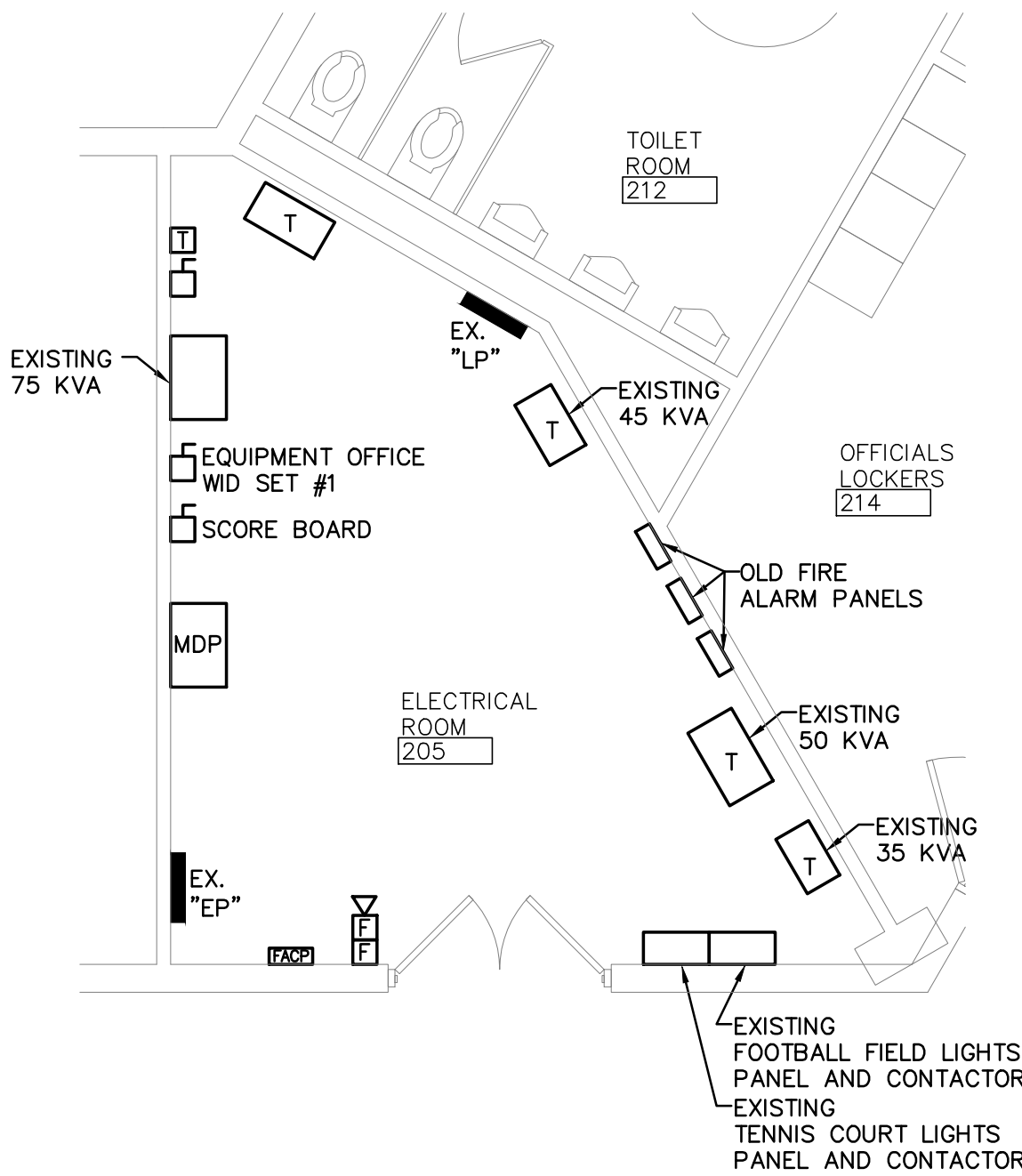
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ELECTRICAL DEMOLITION

E-101



ELECTRICAL — DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



ELECTRICAL — ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"

KEY NOTES (① , ② , ETC.)

- ① EXISTING LIGHTING IN THIS AREA SHALL BE REMOVED, DISCONNECT AND REMOVE WIRING BACK TO SAFE LOCATION TO BE EXTENDED AND RE-CONNECTED TO NEW LIGHTING.
- ② EXISTING AIR HANDLER TO BE RELOCATED, DISCONNECT AND REMOVE EXISTING WIRING BACK TO SAFE LOCATION TO BE EXTENDED AND RE-CONNECTED IN NEXT PHASE. REFER TO POWER PLANS FOR ADDITIONAL INFORMATION.
- ③ EXISTING OVERHEAD WIRING TO GATE TO REMAIN.
- ④ DISCONNECT AND REMOVE EXTERIOR RECEPTACLE WITH WIRING BACK TO NEXT DEVICE TO REMAIN ACTIVE. PROVIDE ADDITIONAL WIRING AS REQUIRED TO MAINTAIN CONTINUITY TO ALL DOWNSTREAM RECEPTACLES TO REMAIN.
- ⑤ EXISTING CONDENSER AND AC UNITS TO BE RELOCATED, DISCONNECT AND REMOVE EXISTING WIRING BACK TO SAFE LOCATION TO BE EXTENDED AND RE-CONNECTED IN NEXT PHASE. REFER TO POWER PLANS FOR ADDITIONAL INFORMATION.



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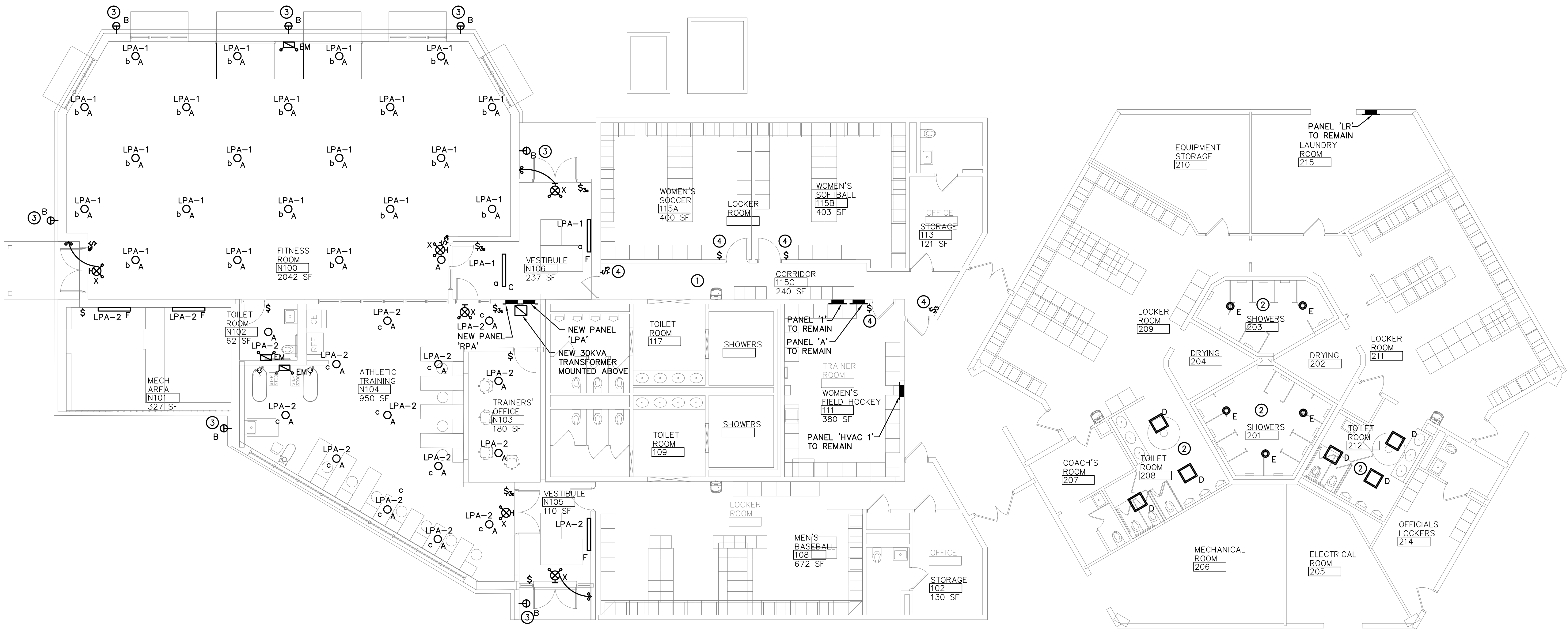
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ELECTRICAL LIGHTING

E-201



ELECTRICAL — LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE									
TYPE	DESCRIPTION	MANUFACTURER	CATALOG #	VOLT	LAMP	CATALOG #	MOUNTING	BALLAST	CONTROL
A	LOW BAY PENDANT LED DOWNLIGHT	SENSO LIGHTING	LETO 11 LB HP 798 A90 660-40-50-601-952-01-LCS-5%	UNIV	--	LED	PENDANT	0-10V DIMMING	LOCAL
B	EXTERIOR LIGHT	MILLENIUM ROUND	MR13EL-20L40K-DV	UNIV	--	LED	SURFACE		LOCAL
C	4'-0" STRIP LIGHTING	COLUMBIA LIGHTING	CSL4-LSCS 3800/4500/5200 GLH5	UNIV	--	LED	PENDANT		LOCAL
D	2'X2' LED FIXTURE	COLUMBIA LIGHTING	LCAT22-40-M-L-G-ED-U	UNIV		LED	RECESSED		LOCAL
E	4" RECESSED LED FIXTURE	PRESCOLITE	LTR-4RD-H-SL-15L-DM1- TRIM/LTR-4RD-T-SH-SL-40K- 8-WT-PML-B24	UNIV		LED	RECESSED		
F	4'-0" STRIP LIGHTING	COLUMBIA LIGHTING	CSL4-LSCS 3800/4500/5200	120	--	LED	SURFACE		LOCAL
EM	LED EMERGENCY LIGHT WITH TWO HEADS SELF CONTAINED WITH BATTERY FOR 1.5 HOURS WITH (2) EXTERIOR REMOTE HEADS	EVENLITE	TEBL3W-SD	120	2	INCLUDED	AS SHOWN ON DRAWING	--	--
X	LED SELF CONTAINED EXIT SIGN	EVENLITE	TCXCOM-R-U-W-SD	120	2	INCLUDED	AS SHOWN ON DRAWING	--	--
Notes:									
1. COORDINATE ALL LIGHTING FIXTURES WITH OWNER AND ARCHITECT PRIOR TO ORDERING.									
2. EMERGENCY FIXTURES SHALL BE CAPABLE OF ILLUMINATION OF 2 LAMPS FOR 90 MINUTES AND SHALL BE WIRED AHEAD OF LOCAL SWITCHING.									
3. PROVIDE ALL NECESSARY MOUNTING HARDWARE.									
4. PROVIDE UNIVERSAL MOUNT CANOPY WITH CEILING MOUNTED EXIT SIGNS.									
5. PROVIDE ACCESSORIES FOR SEISMIC CONSIDERATIONS PER LOCAL CODES.									
6. REFER TO PLAN NOTES FOR COORDINATION BEFORE ORDERING FIXTURES.									

KEY NOTES (① , ② , ETC.)

- ① PROVIDE NEW LIGHTING AND CONTROL IN NEW CORRIDOR.
- ② NEW LIGHTING. EXTEND EXISTING LIGHTING CIRCUIT AND CONNECT TO NEW FIXTURES. REUSE EXISTING LIGHTING CONTROLS.
- ③ NEW EXTERIOR LIGHTING. EXTEND EXISTING EXTERIOR BUILDING LIGHTING CIRCUIT AND CONNECT TO NEW FIXTURES. LIGHTING SHALL BE CONTROLLED VIA EXISTING TIME CLOCK.
- ④ NEW LIGHT SWITCH TO CONTROL LIGHTING IN THIS ROOM OR AREA. DISCONNECT AND REMOVE EXISTING SWITCHES AS REQUIRED.

GENERAL NOTES:

1. ALL EQUIPMENT SHALL BE COORDINATED FOR LOCATIONS AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND OWNER PRIOR TO ROUGH IN.
2. REFER TO MANUFACTURERS WIRING DIAGRAMS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
3. ELECTRICAL CONTRACTOR SHALL CONFIRM ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT WITH EQUIPMENT NAME PLATE PRIOR TO ROUGH IN AND COORDINATE EXACT REQUIREMENTS.
4. WIRE EMERGENCY LIGHTS TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ANY SWITCH OR CONTROL.
5. ELECTRICAL CONTRACTOR MAY RE-USE EXISTING CIRCUITS IF IN GOOD CONDITION AND RE-CONFIGURE AS NECESSARY FOR NEW WORK.
6. LIGHTING CONTROL PER ASHRE 90.1



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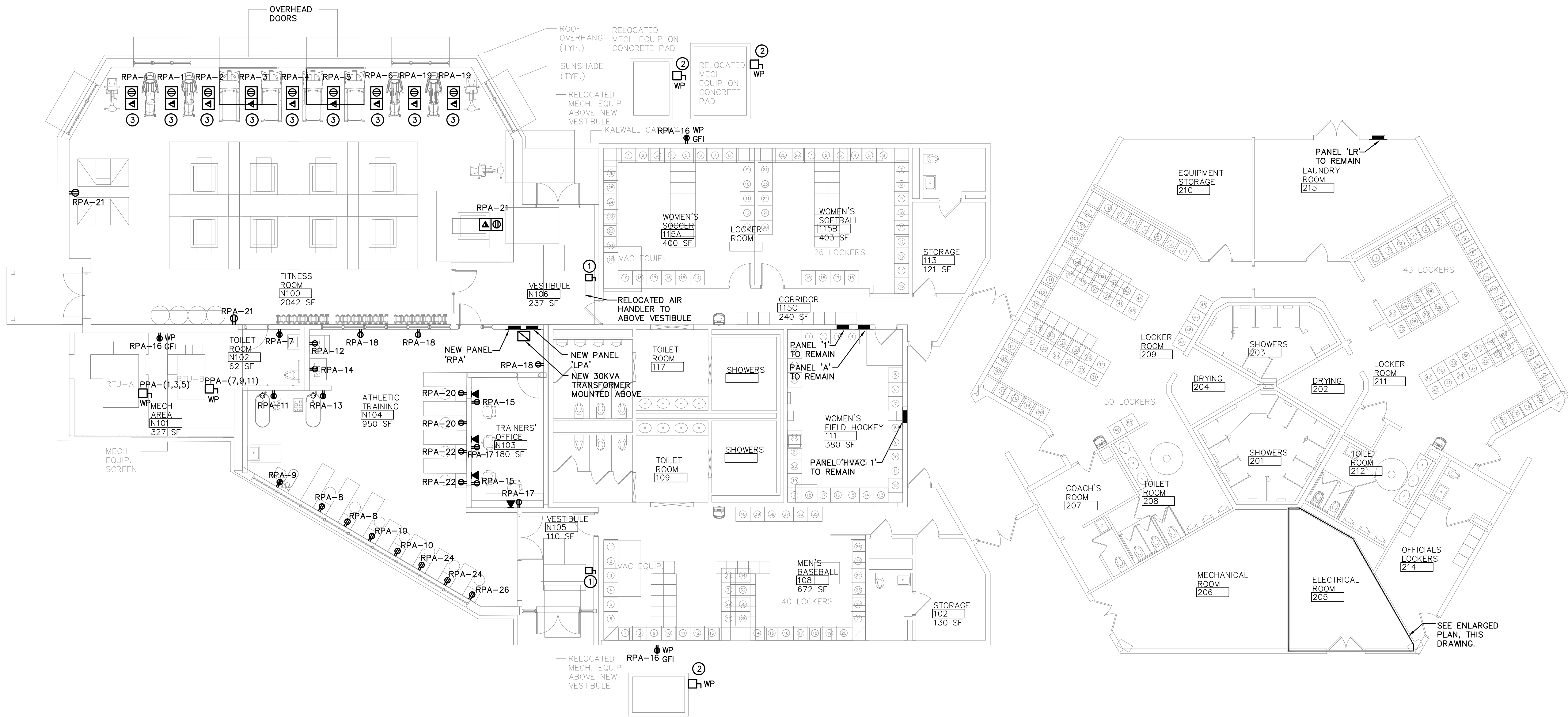
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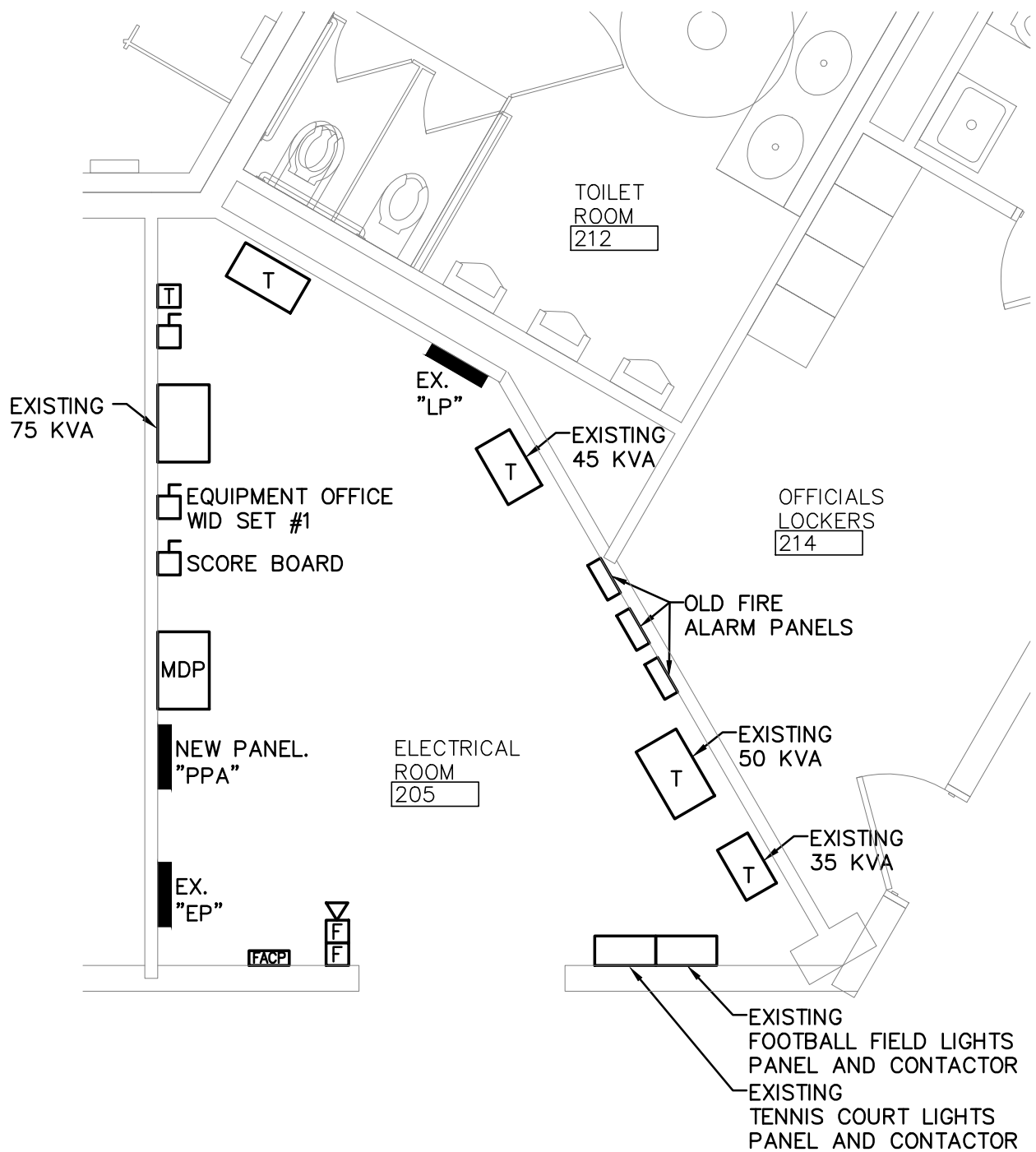
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ELECTRICAL POWER

E-301

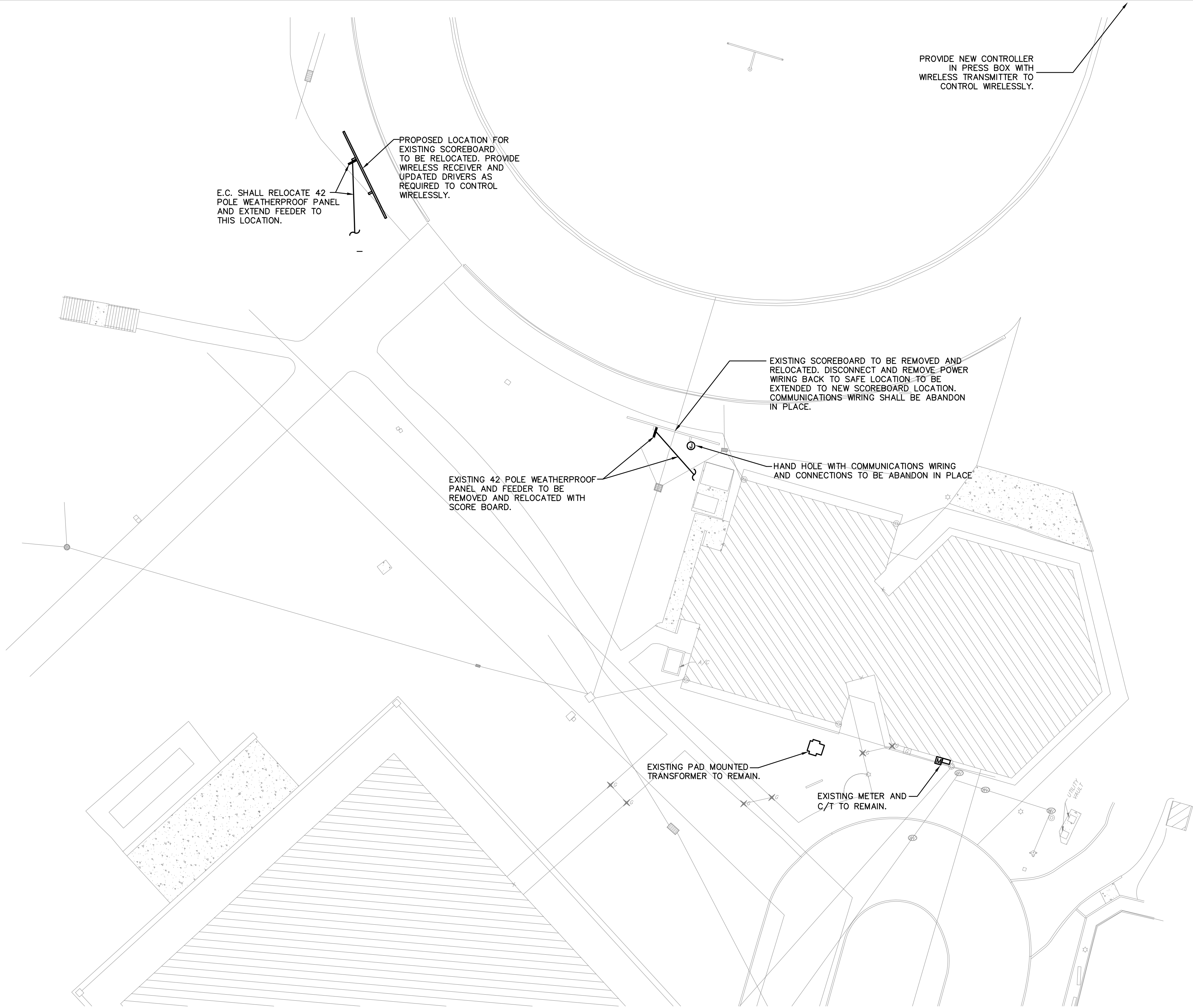


ELECTRICAL - POWER PLAN
SCALE: 1/8" = 1'-0"



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

KEY NOTES (① , ② , ETC.)	GENERAL NOTES:
① RELOCATED AIR HANDLER. REFER TO MECHANICAL PLANS FOR EXACT LOCATION. EXTEND EXISTING WIRING AND RECONNECT AS REQUIRED.	1. CIRCUIT ALL POWER DEVICES TO PANEL NUMBERS AS SHOWN ON PLAN. U.O.N.
② RELOCATED CONDENSER UNIT. REFER TO MECHANICAL PLANS FOR EXACT LOCATION. EXTEND EXISTING WIRING AND RECONNECT.	2. ALL EQUIPMENT SHALL BE COORDINATED FOR LOCATIONS AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND OWNER PRIOR TO ROUGH IN.
③ FLOOR BOXES WITH POWER AND DATA FOR GYM EQUIPMENT. PROVIDE 3/4" CONDUIT FOR EACH POWER AND DATA TO INSIDE NEARBY WALL AND UP TO ROOF DECK.	3. REFER TO MANUFACTURERS WIRING DIAGRAMS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	4. ELECTRICAL CONTRACTOR SHALL CONFIRM ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT WITH EQUIPMENT NAME PLATE PRIOR TO ROUGH IN AND COORDINATE EXACT REQUIREMENTS.
	5. ELECTRICAL CONTRACTOR MAY RE-USE EXISTING CIRCUITS IF IN GOOD CONDITION AND RE-CONFIGURE AS NECESSARY FOR NEW WORK.



ELECTRICAL — SITE PLAN
SCALE: 1" = 20'-0"

GENERAL NOTES:

1. ALL EQUIPMENT SHALL BE COORDINATED FOR LOCATIONS AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND OWNER PRIOR TO ROUGH IN.



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ELECTRICAL SITE PLAN

E-401



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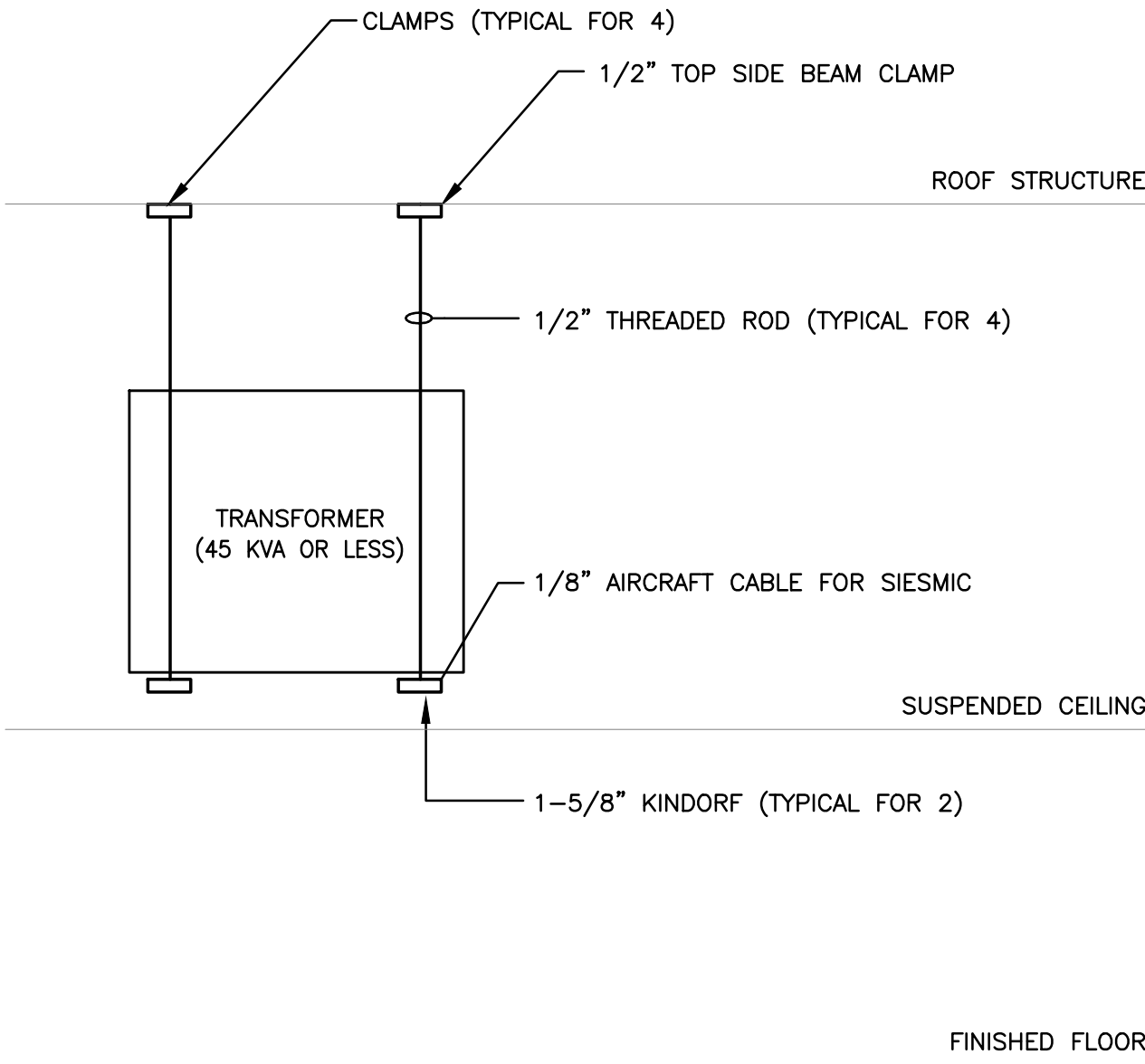
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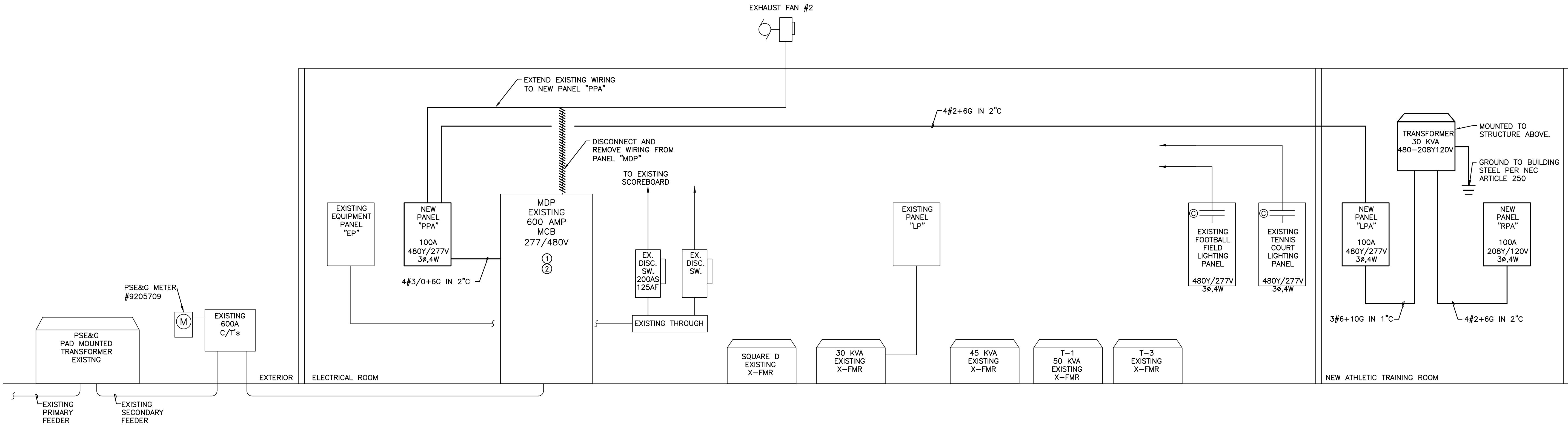
ELECTRICAL RISER
DIAGRAM

E-501



TRANSFORMER MOUNTING DETAIL

SCALE: NONE



ELECTRICAL — RISER DIAGRAM

SCALE: NONE

NEW WIRING AND EQUIPMENT
EXISTING WIRING AND EQUIPMENT
DEMOLITION WIRING AND EQUIPMENT
OR AS NOTED

KEY NOTES (① , ② , ETC.)

- EXISTING PANEL "MDP". DISONCCECT AND REMOVE EXISTING 3P-20 AMP CIRCUIT BREAKER AND WIRING SERVINT EXHAUST FAN #2. EXTEND WIRING IN KIND TO NEW PANEL "PPA" AND INSTALL NEW 3P-20 AMP CIRCUIT BREAKER AND RE-CONNECT.
- PROVIDE NEW 3P-200 AMP CIRCUIT BREAKER IN NEWLY CREATED SPACE TO SERVE NEW PANEL "PPA".

Ampacity Adjustments Factors for More than 3 Current Carrying Conductors in a Raceway or Cable:

NOTES:	67.7	TOTAL CONNECTED LOAD (KVA)
	81.4	TOTAL CONNECTED LOAD (AMPS)

NOTES:	20.2	TOTAL CONNECTED LOAD (KVA)
	24.3	TOTAL CONNECTED LOAD (AMPS)

NOTES:	67.7	TOTAL CONNECTED LOAD (KVA)
	81.4	TOTAL CONNECTED LOAD (AMPS)

NOTES:	17.7	TOTAL CONNECTED LOAD (KVA)
	49.1	TOTAL CONNECTED LOAD (AMPS)



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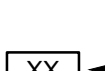
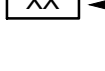

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ELECTRICAL PANEL SCHEDULES

E-601

PLUMBING FIXTURE SCHEDULE										
FIXTURE TAG	FIXTURE	FIXTURE MANUFACTURER & MODEL NUMBER	FINISH	CONTROLS	PIPE DIAMETER (IN.)				NOTES	REMARKS
					CW	HW	DRAIN	VENT		
HWC	HANDICAP WATER CLOSET	KOHLER 'KINGSTON' MODEL #K-4325	VITREOUS CHINA	KOHLER 'TRIPPOINT' TOP SPUD DC SENSOR-OPERATED 1.28 GPF FLUSHOMETER MODEL #K-10956-SV	1 1/2"	-	4"	2"	1, 2, 4, 5	WALL-MOUNTED ELONGATED FLUSHOMETER HANDICAPPED TOILET WITH HEAVY DUTY COMMERCIAL ELONGATED OPEN FRONT SEAT.
CL	COUNTERTOP LAVATORY	KOHLER 'BRYANT OVAL' MODEL #K-2699-1	VITREOUS CHINA	KOHLER 'KUMIN' AC SENSOR-OPERATED FAUCET MODEL #K-103K36-SANA	1/2"	1/2"	1-1/2"	1-1/2"	1, 2, 3, 4, 5	COUNTERTOP LAVATORY WITH GRID DRAIN AND WATTS #LFE-480 BELOW DECK THERMOSTATIC MIXING VALVE ON HW SUPPLY AND 0.5 GPM AERATOR. PROVIDE W/ TRUBRO LAVGUARD2 INSULATION KIT.
WL	WALL-HUNG LAVATORY	KOHLER 'KINGSTON' MODEL #K-2007	VITREOUS CHINA	KOHLER 'KUMIN' AC SENSOR-OPERATED FAUCET MODEL #K-103K36-SANA	1/2"	1/2"	1-1/2"	1-1/2"	1, 2, 3, 4, 5	WALL-HUNG LAVATORY WITH CONCEALED ARMS SUPPORT, WATTS #LFE-480 BELOW DECK THERMOSTATIC MIXING VALVE ON HW SUPPLY AND 0.5 GPM AERATOR. PROVIDE W/ TRUBRO LAVGUARD2 INSULATION KIT.
SH	SHOWER	BRADLEY MODEL #IN250	STAINLESS STEEL	INTEGRAL LEVER HANDLE	1/2"	1/2"	2"	1-1/2"	1, 2, 4, 5	SURFACE-MOUNTED ADA-COMPLIANT SHOWER SYSTEM W/ -HD PRESSURE BALANCING VALVE, -SX15 SHOWERHEAD, -HS SECONDARY HAND SHOWER W/ 60" FLEX HOSE.
TT1	THERAPY TUB	WHITEHALL MFG. MODEL #S-90-M	STAINLESS STEEL	WHITEHALL MFG. MODEL #MXT15-OTG MIXING VALVE ASSEMBLY	3/4"	3/4"	4"	2"	1, 2, 3, 4, 5	PROVIDE W/ 60" BRAIDED STAINLESS STEEL SUPPLY HOSE WITH HOSE END CONNECTION. INSTALL UNIT PER MANUFACTURER INSTRUCTIONS.
TT2	THERAPY TUB	WHITEHALL MFG. MODEL # PER ARCHITECT	STAINLESS STEEL	WHITEHALL MFG. MODEL #MXT15-OTG MIXING VALVE ASSEMBLY	3/4"	3/4"	4"	2"	1, 2, 3, 4, 5	PROVIDE W/ 60" BRAIDED STAINLESS STEEL SUPPLY HOSE WITH HOSE END CONNECTION. INSTALL UNIT PER MANUFACTURER INSTRUCTIONS.
NOTES: 1. COORDINATE ALL REQUIREMENTS, MOUNTING HEIGHTS, FINISHES, ACCESSORIES, ETC. WITH ARCHITECT AND OWNER. 2. ALL TRIM SHALL BE CHROME-PLATED BRASS. 3. PROVIDE WITH DRAIN, TAILPIECE, P-TRAP, ANGLE STOPS AND FLEXIBLE BRAIDED STAINLESS STEEL SUPPLIES. 4. FORWARD FIXTURE SUBMITTALS TO THE ARCHITECT FOR APPROVAL. 5. INSTALL FIXTURE IN ACCORDANCE WITH ALL HANDICAP ACCESSIBILITY REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS.										

PLUMBING SPECIALTIES SCHEDULE				
GENERAL				REMARKS
TAG	DESCRIPTION	MFR.	MODEL #	
FD1	GENERAL SERVICE FLOOR DRAIN	JAY R. SMITH	FIG. 2005Y	6" SQUARE NICKEL BRONZE STRAINER, 3" OUTLET WITH SEDIMENT BUCKET (-B) AND FIG. 2692 QUAD-CLOSE TRAP SEAL.
FD2	SANITARY FLOOR DRAIN	JAY R. SMITH	FIG. 3061Y	ACID-RESISTANT COATED DRAIN W/ 12.5" ROUND NB STRAINER W/ CENTER HOLE (-14), 4" OUTLET, SEDIMENT BUCKET (-B) AND FIG. 2692 QUAD-CLOSE TRAP SEAL.
FCO	FLOOR CLEANOUT	JAY R. SMITH	FIG. 4023S	WITH ADJUSTABLE ROUND NICKEL BRONZE TOP. PROVIDE WITH CARPET MARKER WHERE INSTALLED BELOW CARPET.
GCO	HEAVY-DUTY FLOOR CLEANOUT	JAY R. SMITH	FIG. 4253S	EXTRA HEAVY-DUTY FLOOR CLEANOUT WITH CAST IRON TOP AND TAPER THREAD BRONZE PLUG.
WCO	WALL CLEANOUT	JAY R. SMITH	FIG. 4532S	CAST IRON WALL CLEANOUT W/ STAINLESS STEEL ACCESS COVER.
SA	SHOCK ARRESTER	JAY R. SMITH	SERIES 5000	HYDROTROL SERIES - PROVIDE FIG. NO. FOR FIXTURE UNITS SERVED AT EACH LOCATION. PROVIDE WITH ACCESS DOOR WHERE REQUIRED.
WH	WALL HYDRANT	JAY R. SMITH	FIG. 5618	EXPOSED 3/4" HOSE CONNECTION WITH INTEGRAL VACUUM BREAKER.
FPWH	FREEZE-PROOF WALL HYDRANT	JAY R. SMITH	FIG. 5509QT	BOX-TYPE FREEZE-PROOF WALL HYDRANT W/ INTEGRAL VACUUM BREAKER AND STAINLESS STEEL BOX.

SYMBOLS & EQUIPMENT TAGS	
	CONNECT NEW TO EXISTING
	DEMOLISH UP TO THIS POINT
	SHEET NOTE DESIGNATION
	DEMOLITION NOTE DESIGNATION
	SECTION DESIGNATION
	DETAIL DESIGNATION
	REVISION NUMBER
	EQUIPMENT DESIGNATION (ELECTRIC SERVICE REQUIRED)
	EQUIPMENT NUMBER
	EQUIPMENT DESIGNATION (ELECTRIC SERVICE NOT REQUIRED)
	EQUIPMENT NUMBER

PLUMBING DRAWING LIST	
SHEET	TITLE
P-001	PLUMBING - COVER SHEET
P-100	PLUMBING PARTIAL PLAN - DEMOLITION
P-101	PLUMBING PARTIAL PLAN - DEMOLITION
P-200	PLUMBING PARTIAL PLAN
P-201	PLUMBING PARTIAL PLAN
P-300	PLUMBING RISER DIAGRAMS AND DETAILS
P-400	PLUMBING SPECIFICATIONS
P-401	PLUMBING SPECIFICATIONS

APPLICABLE CODES	
EDITION	TITLE
2021	INTERNATIONAL BUILDING CODE
2021	NATIONAL STANDARD PLUMBING CODE
2021	INTERNATIONAL FUEL GAS CODE

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
-----	EXISTING ITEM TO BE REMOVED
-----	EXISTING DOMESTIC COLD WATER PIPING
-----	EXISTING DOMESTIC HOT WATER PIPING
-----	EXISTING DOMESTIC HOT WATER RECIRC. PIPING
-----G-----	EXISTING NATURAL GAS PIPING.
-----	DOMESTIC COLD WATER PIPING
-----	DOMESTIC HOT WATER PIPING
-----	DOMESTIC HOT WATER RECIRC. PIPING
-----	PLUMBING EQUIPMENT
-----	SANITARY PIPING ABOVE FLOOR.
-----	SANITARY PIPING BELOW FLOOR.
-----PD-----	PUMPED SANITARY DISCHARGE.
-----	VENT PIPING.
-----G-----	NATURAL GAS PIPING.
?	BREAK
-----o-----	PIPING TURNING DOWN.
-----o-----	PIPING TEE.
-----o-----	PIPING TURNING UP.
o	FLOOR DRAIN - ROUND
o	FLOOR DRAIN - SQUARE
o	DRAIN AND TRAP ASSEMBLY.
o	FLOOR CLEAN OUT
+	WALL CLEANOUT
X	SHUT OFF VALVE.
Z	CHECK VALVE
X	BALANCING VALVE
Xo	GAS PRESSURE REGULATOR
	UNION
o	IN-LINE PUMP.
o	GAS COCK
o	UTILITY METER

PIPING MATERIALS/INSULATION SCHEDULE								
SERVICE	SIZES	LOCATION	MATERIAL	FITTINGS	INSULATION	JACKET	THICKNESS	NOTES
DOMESTIC WATER	ALL	ABOVE GROUND	TYPE L COPPER	SOLDER OR PRESSURE SEAL	MINERAL-FIBER	ASJ	1"	3
NATURAL GAS	<= 3"	OUTDOOR	GALVANIZED STEEL	THREADED	-	-	-	1
NATURAL GAS	<= 3"	INDOOR	BLACK STEEL	THREADED	-	-	-	2
SANITARY WASTE	ALL	ALL	CAST IRON	HUB AND SPIGOT	-	-	-	3,4
SANITARY VENT	ALL	ALL	CAST IRON	HUB AND SPIGOT	-	-	-	3,4
SANITARY WASTE	ALL	ALL	CAST IRON / COPPER DWV	HUBLESS / SOLDER	-	-	-	3,4
SANITARY VENT	ALL	ALL	CAST IRON / COPPER DWV	HUBLESS / SOLDER	-	-	-	3,4
NOTES: 1. PAINT PIPING YELLOW. 2. PAINT EXPOSED PIPING YELLOW. 3. PAINT EXPOSED PIPING. COLOR SPECIFIED BY ARCHITECT. 4. FOR ALL BELOW GRADE APPLICATIONS PROVIDE HUB AND SPIGOT OR HUBLESS.								



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MECHANICAL/ELECTRICAL/PLUMBING/
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	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

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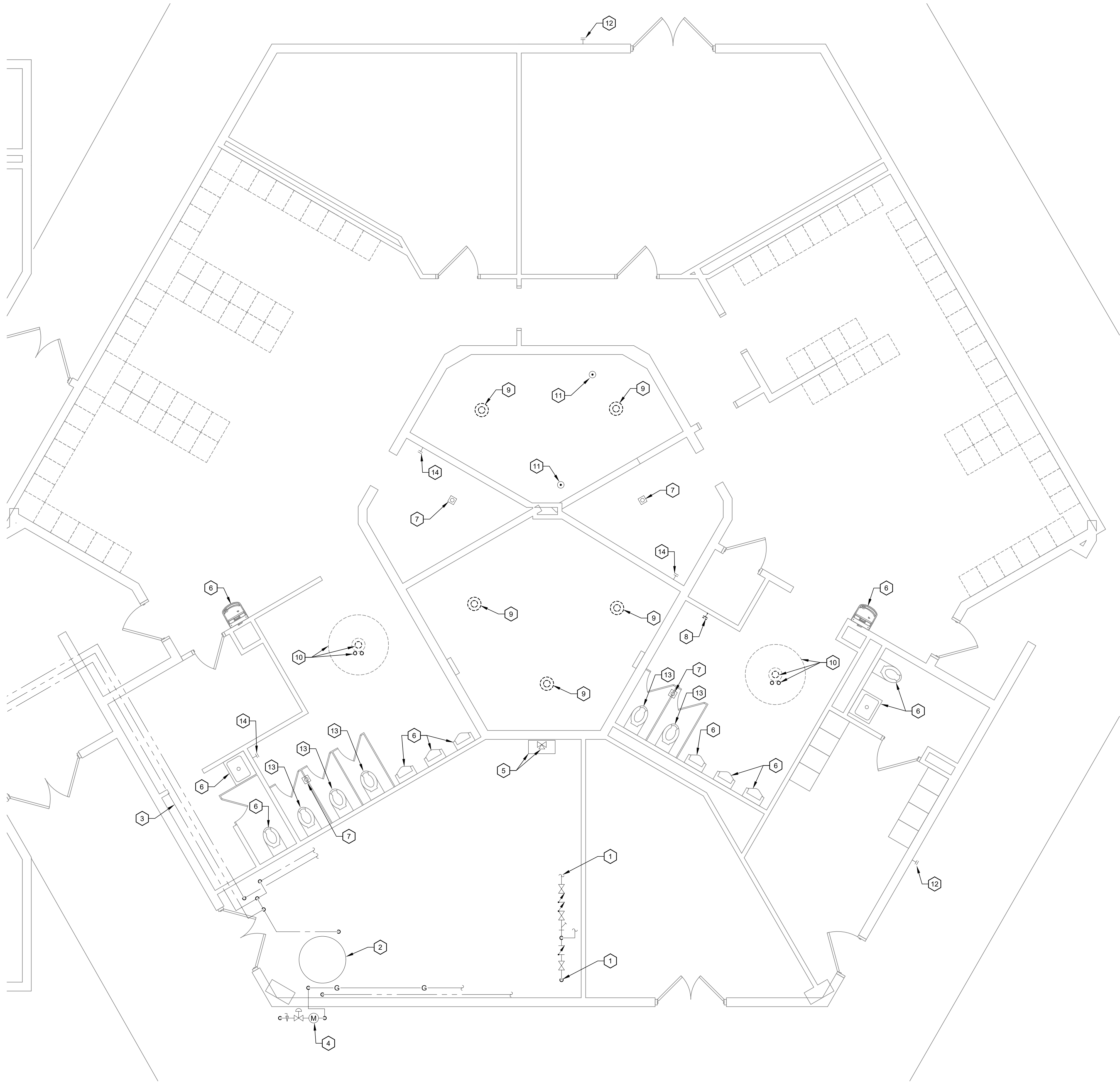
ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

PLUMBING COVER SHEET

P-001



GENERAL DEMOLITION NOTES:

1. LOCATE ALL EXISTING UTILITIES PRIOR TO THE START OF DEMOLITION WORK.
2. PROTECT AND MAINTAIN ALL EXISTING SYSTEMS TO REMAIN.
3. THE DRAWINGS DO NOT INDICATE ALL EXISTING ITEMS. THE CONTRACTOR SHALL VERIFY IN FIELD THE EXTENT OF REQUIRED DEMOLITION.
4. ABANDONING OF EQUIPMENT OR PIPING SYSTEMS SHALL NOT BE PERMITTED. ALL ITEMS RENDERED INOPERABLE OR INACTIVE SHALL BE REMOVED ENTIRELY INCLUDING ALL SUPPORTS, WIRING, CONTROLS, ETC.
5. WHERE SURFACES TO REMAIN ARE DAMAGED FROM REMOVAL OF ATTACHMENTS REPAIR SURFACES AS REQUIRED TO MATCH EXISTING ADJACENT CONSTRUCTION AND SURFACES.
6. COORDINATE WITH THE OWNER ANY EXISTING ITEMS BEING REMOVED WHICH ARE TO BE SALVAGED AND RETAINED.
7. IDENTIFY ALL EXISTING SYSTEMS TO REMAIN AND PROTECT SAME THROUGHOUT DEMOLITION AND CONSTRUCTION.
8. PATCH ALL PENETRATIONS OF FINISHED SURFACES TO REMAIN WHERE EXISTING PIPING IS REMOVED AS REQUIRED TO MATCH ADJACENT SURFACES.

DEMOLITION SHEET NOTES:

1. EXISTING 3 INCH DOMESTIC CW SERVICE AND ALL RELATED PIPING TO REMAIN.
2. EXISTING DOMESTIC HOT WATER HEAT EXCHANGER AND ALL ASSOCIATED PIPING TO REMAIN.
3. EXISTING DOMESTIC WATER MAINS THROUGHOUT CEILING AND ATTIC SPACES TO REMAIN.
4. EXISTING NATURAL GAS METER SETTING AND ALL RELATED PIPING TO REMAIN.
5. EXISTING CENTRAL THERMOSTATIC MIXING VALVES, CABINET AND ALL ASSOCIATED PIPING TO REMAIN.
6. EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED PIPING TO REMAIN.
7. EXISTING FLOOR DRAIN AND ALL ASSOCIATED PIPING TO REMAIN.
8. DISCONNECT AND REMOVE EXISTING HOSE BIBB. CAP EXISTING CW PIPING IN WALL OR CHASE.
9. DISCONNECT AND REMOVE EXISTING PEDESTAL SHOWER, SHOWER DRAIN AND CONNECTED PIPING TO BELOW FLOOR SLAB. PREPARE EXISTING SANITARY PIPING BELOW GRADE FOR EXTENSION TO NEW FLOOR DRAINS.
10. DISCONNECT AND REMOVE EXISTING CIRCULAR WASHFOUNTAIN AND CONNECTED PIPING TO BELOW FLOOR SLAB. PREPARE EXISTING SANITARY PIPING BELOW GRADE FOR EXTENSION TO NEW LAVATORIES.
11. EXISTING FLOOR CLEANOUT TO REMAIN.
12. EXISTING FREEZE-PROOF WALL HYDRANT TO REMAIN.
13. EXISTING WATER CLOSET TO REMAIN.
14. EXISTING HOSE BIBB TO REMAIN.



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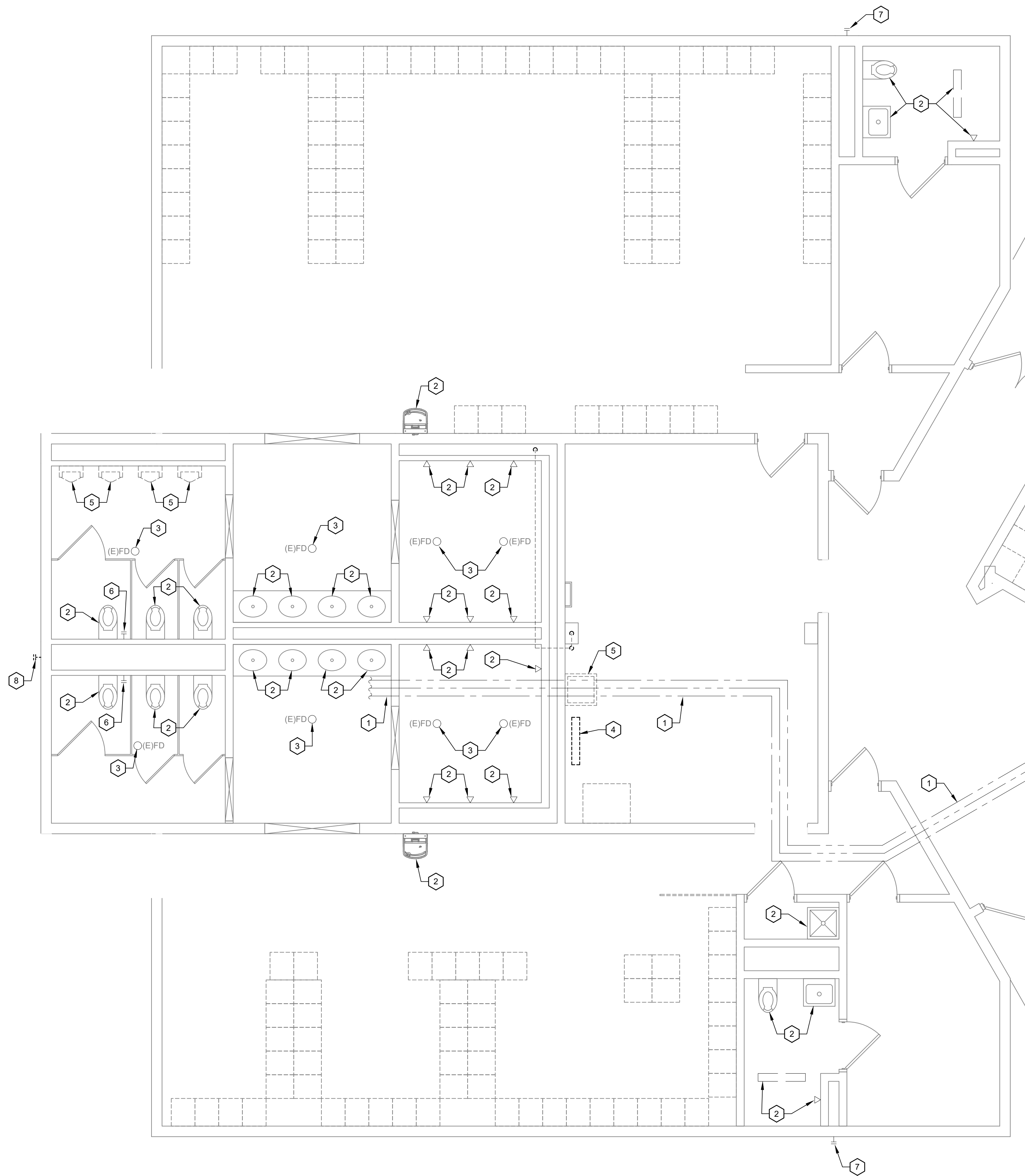
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PLUMBING
PARTIAL PLAN
DEMOLITION

P-100



GENERAL DEMOLITION NOTES:

1. LOCATE ALL EXISTING UTILITIES PRIOR TO THE START OF DEMOLITION WORK.
2. PROTECT AND MAINTAIN ALL EXISTING SYSTEMS TO REMAIN.
3. THE DRAWINGS DO NOT INDICATE ALL EXISTING ITEMS. THE CONTRACTOR SHALL VERIFY IN FIELD THE EXTENT OF REQUIRED DEMOLITION.
4. ABANDONING OF EQUIPMENT OR PIPING SYSTEMS SHALL NOT BE PERMITTED. ALL ITEMS RENDERED INOPERABLE OR INACTIVE SHALL BE REMOVED ENTIRELY INCLUDING ALL SUPPORTS, WIRING, CONTROLS, ETC.
5. WHERE SURFACES TO REMAIN ARE DAMAGED FROM REMOVAL OF ATTACHMENTS REPAIR SURFACES AS REQUIRED TO MATCH EXISTING ADJACENT CONSTRUCTION AND SURFACES.
6. COORDINATE WITH THE OWNER ANY EXISTING ITEMS BEING REMOVED WHICH ARE TO BE SALVAGED AND RETAINED.
7. IDENTIFY ALL EXISTING SYSTEMS TO REMAIN AND PROTECT SAME THROUGHOUT DEMOLITION AND CONSTRUCTION.
8. PATCH ALL PENETRATIONS OF FINISHED SURFACES TO REMAIN WHERE EXISTING PIPING IS REMOVED AS REQUIRED TO MATCH ADJACENT SURFACES.

DEMOLITION SHEET NOTES:

1. EXISTING DOMESTIC WATER MAINS THROUGHOUT CEILING AND ATTIC SPACES TO REMAIN.
2. EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED PIPING TO REMAIN.
3. EXISTING FLOOR DRAIN AND ALL ASSOCIATED PIPING TO REMAIN.
4. DISCONNECT AND REMOVE EXISTING TRENCH DRAIN. CAP SANITARY PIPING BELOW SLAB.
5. DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED SANITARY, VENT C&HW PIPING BACK TO POINTS BELOW FLOOR SLAB AND ABOVE CEILING.
6. EXISTING HOSE BIBB TO REMAIN.
7. EXISTING FREEZE-PROOF WALL HYDRANT TO REMAIN.
8. DISCONNECT AND REMOVE EXISTING FREEZE-PROOF WALL HYDRANT. CAP EXISTING CW PIPING IN WALL OR CHASE.



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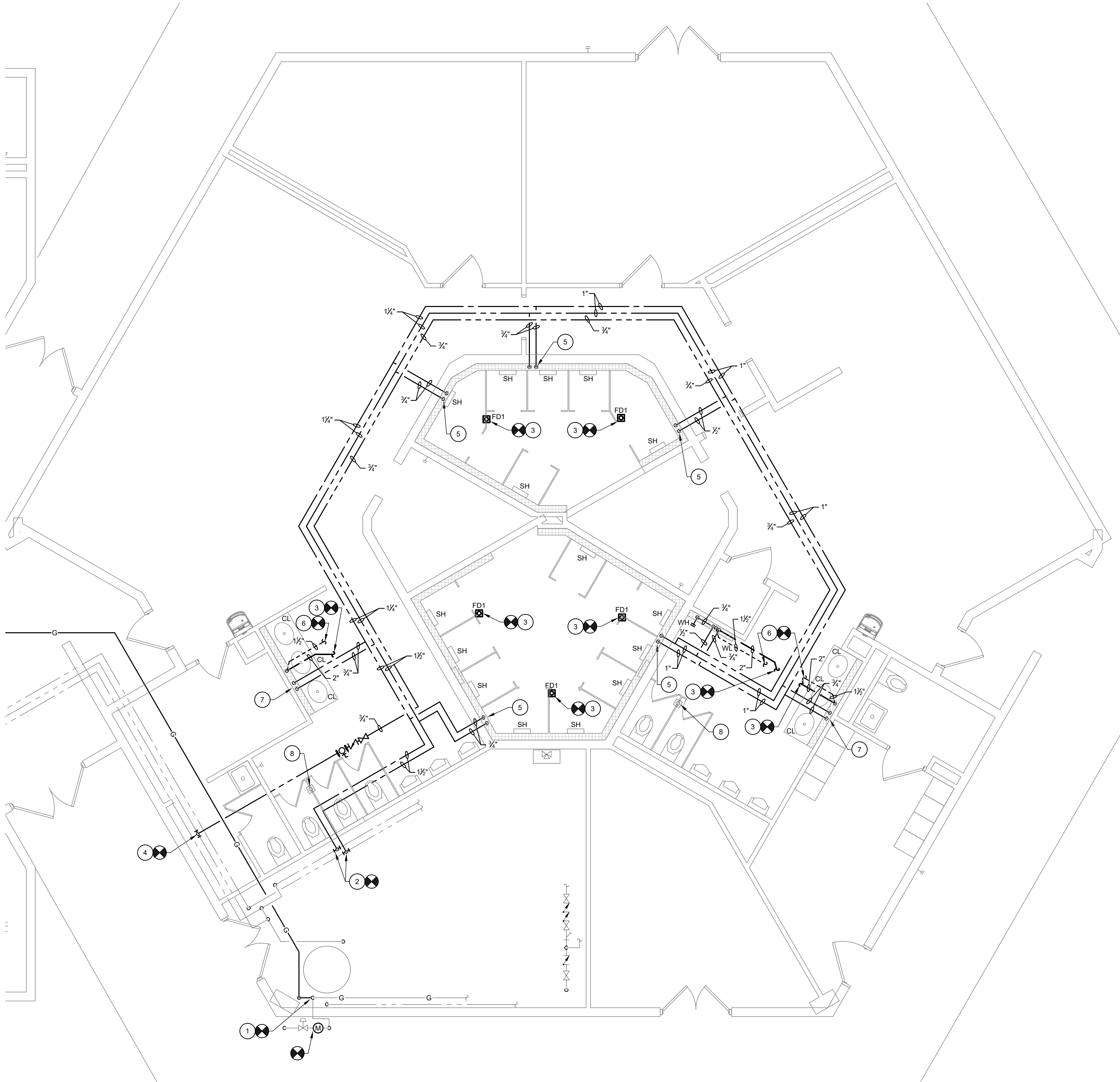
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PLUMBING
PARTIAL PLAN
DEMOLITION

P-101



- GENERAL NOTES:**
1. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES TO EQUIPMENT.
 2. COORDINATE ALL INSTALLATIONS WITH THE WORK OF OTHER TRADES AS CONSTRUCTION PROGRESSES.
 3. COORDINATE ALL UTILITY INSTALLATIONS WITH UTILITY PROVIDER CONSTRUCTION REQUIREMENTS.
 4. CONNECT TO ALL GAS-FIRED EQUIPMENT WITH GAS COCK, DIRT LEG, GAS PRESSURE REGULATOR AND UNION.
 5. REFER TO NATURAL GAS RISER DIAGRAM FOR ALL GAS PIPE SIZES.

- # SHEET NOTES:**
1. CONNECT TO EXISTING NATURAL GAS MAIN PIPING AT SERVICE ENTRANCE INTO BUILDING. EXTEND UP TO AND THROUGH CEILING TO NEW GAS-FIRED EQUIPMENT AS SHOWN. ARRANGE FOR GAS METER UPGRADE AS REQUIRED.
 2. CONNECT TO EXISTING C&HW MAINS ABOVE FLOOR. EXTEND UP TO AND THROUGH CEILING AS SHOWN TO SERVE NEW FIXTURES.
 3. CONNECT TO EXISTING SANITARY BELOW GRADE AS REQUIRED AND EXTEND TO NEW FIXTURES AS SHOWN.
 4. CONNECT TO EXISTING HWR MAIN ABOVE CEILING AS REQUIRED.
 5. C&HW DOWN IN NEW FURRED WALL. OFFSET C&HW THROUGH WALL TO SUPPLY 1/2" C&HW TO EACH SHOWER AS REQUIRED.
 6. LOCATE NEAREST EXISTING 2" VENT OR LARGER ABOVE CEILING. CONNECT TO EXISTING AS REQUIRED AND EXTEND TO NEW FIXTURES AS SHOWN.
 7. 3/4" C&HW DOWN IN WALL. OFFSET THROUGH WALL TO PROVIDE 1/2" C&HW TO EACH LAVATORY FAUCET.
 8. CLEAN AND POLISH EXISTING FLOOR DRAIN STRAINER AT COMPLETION OF CONSTRUCTION.



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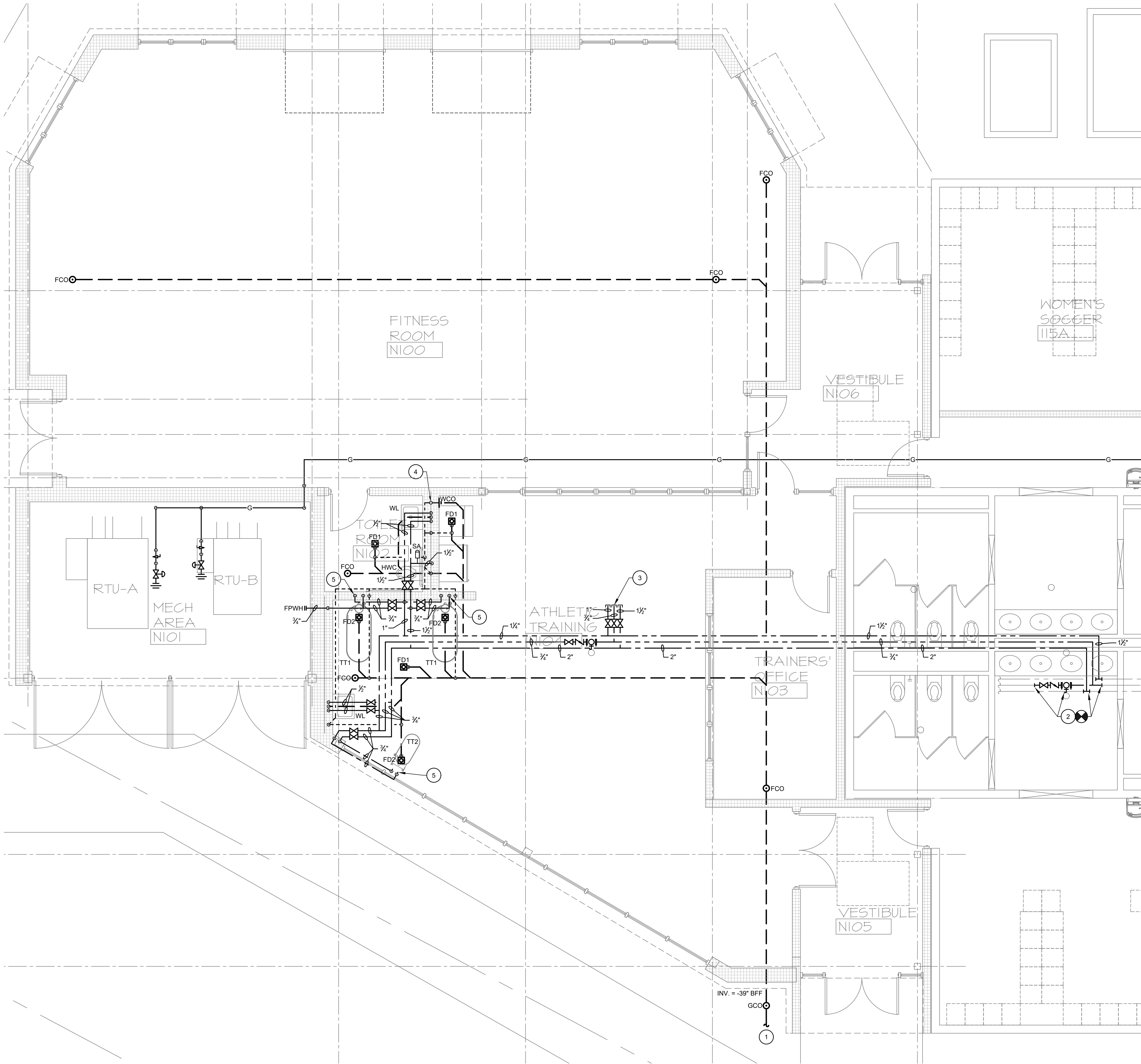
ADDITION AND RENOVATIONS TO:

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WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

PLUMBING
PARTIAL PLAN

P-200



- GENERAL NOTES:**
1. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES TO EQUIPMENT.
 2. COORDINATE ALL INSTALLATIONS WITH THE WORK OF OTHER TRADES AS CONSTRUCTION PROGRESSES.
 3. COORDINATE ALL UTILITY INSTALLATIONS WITH UTILITY PROVIDER CONSTRUCTION REQUIREMENTS.
 4. CONNECT TO ALL GAS-FIRED EQUIPMENT WITH GAS COCK, DIRT LEG, GAS PRESSURE REGULATOR AND UNION.
 5. REFER TO NATURAL GAS RISER DIAGRAM FOR ALL GAS PIPE SIZES.
 6. REFER TO SANITARY RISER DIAGRAM FOR ALL SANITARY AND VENT PIPE SIZES.

- # SHEET NOTES:**
1. REFER TO CIVIL ENGINEER'S SITE UTILITIES PLAN FOR CONTINUATION.
 2. CONNECT TO EXISTING CW, HW AND HWR MAINS IN ATTIC ABOVE. PROVIDE NEW VALVES TO BALANCE HWR BRANCHES.
 3. PROVIDE CAPPED CW, HW AND HWR ABOVE CEILING FOR FUTURE.
 4. 4" STACK UP TO 4" V.T.R. PROVIDE WALL CLEANOUT AT BASE OF STACK ABOVE FLOOR.
 5. CONNECT C&HW TO THERAPY TUB PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

A



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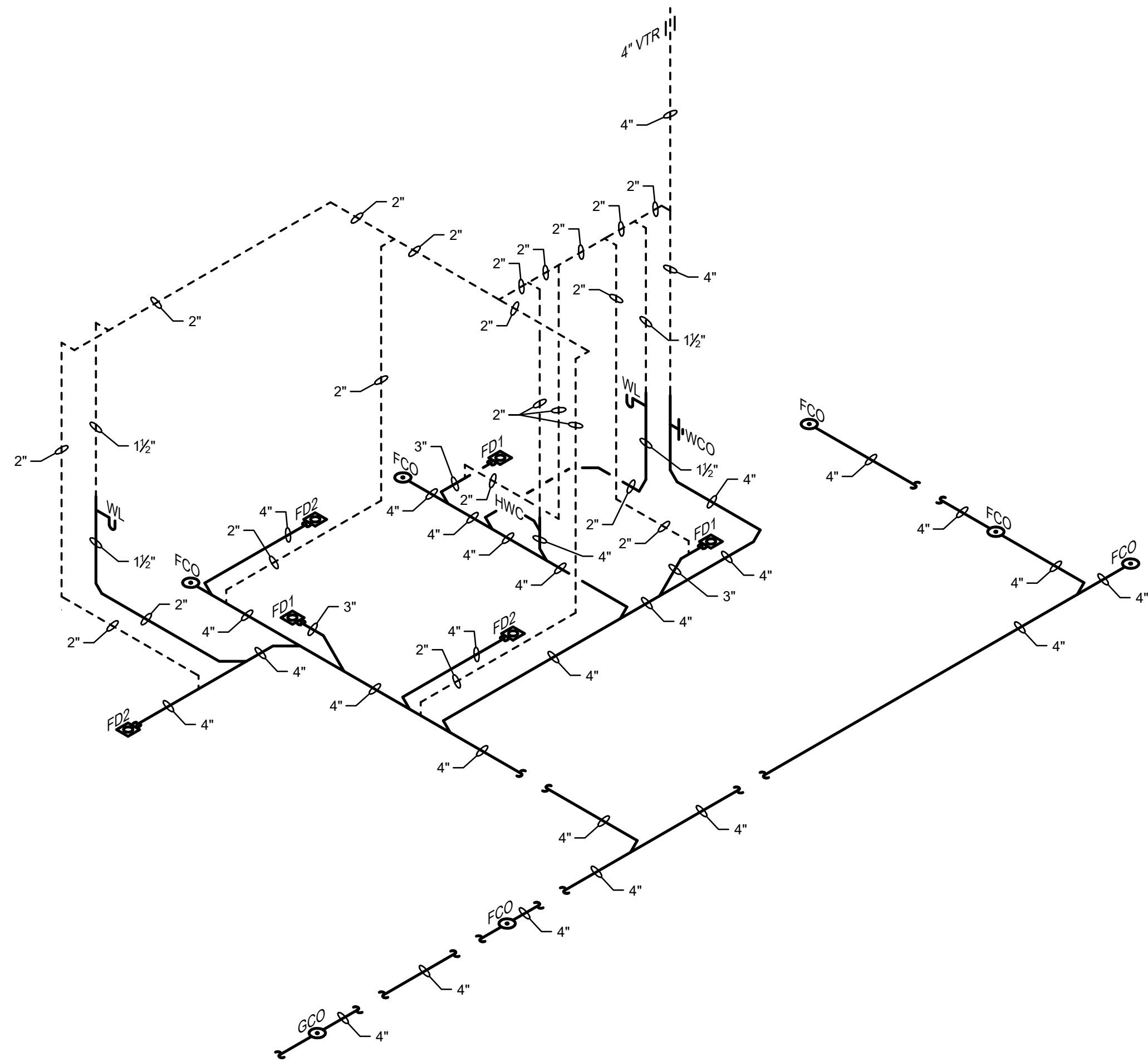
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PLUMBING
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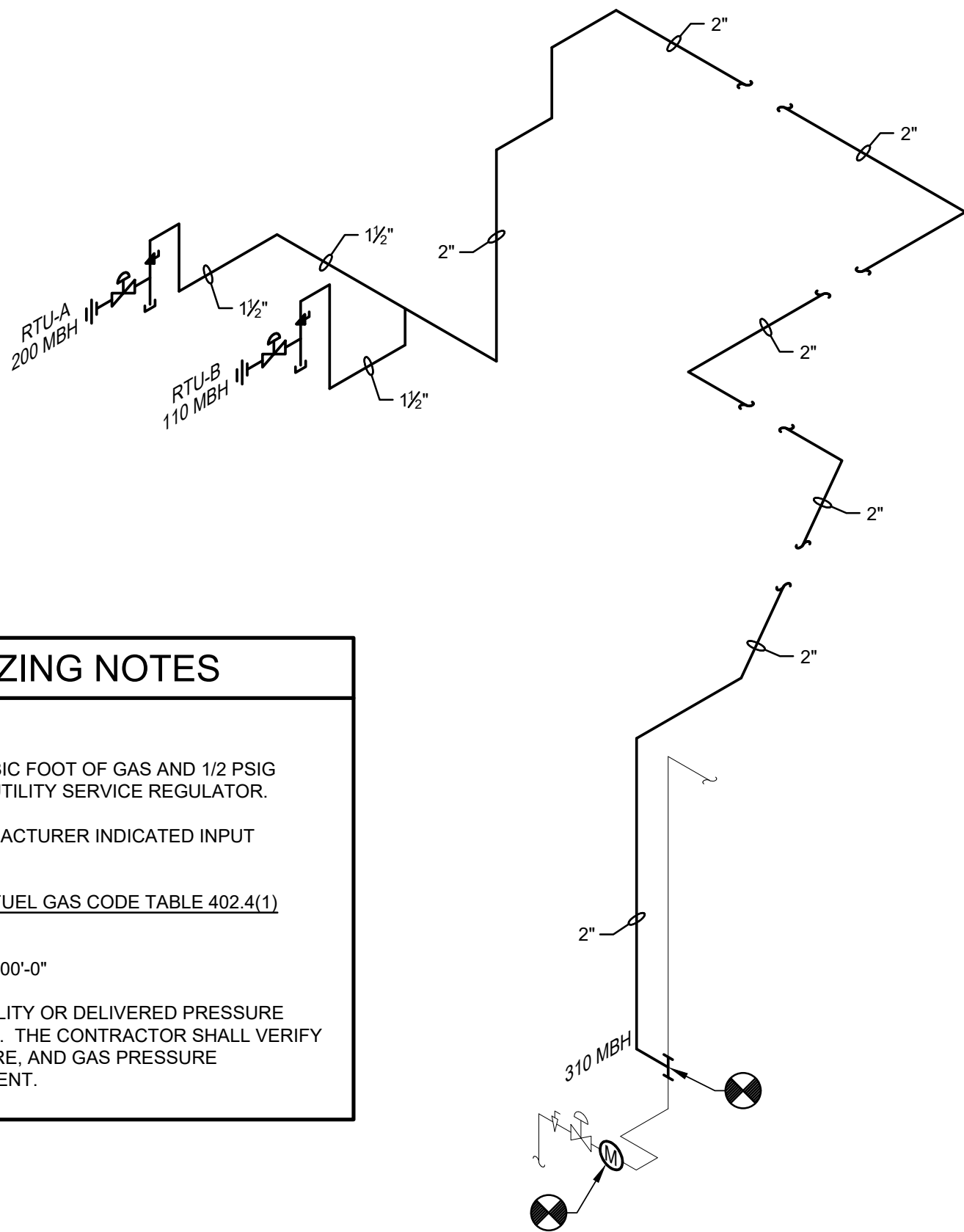
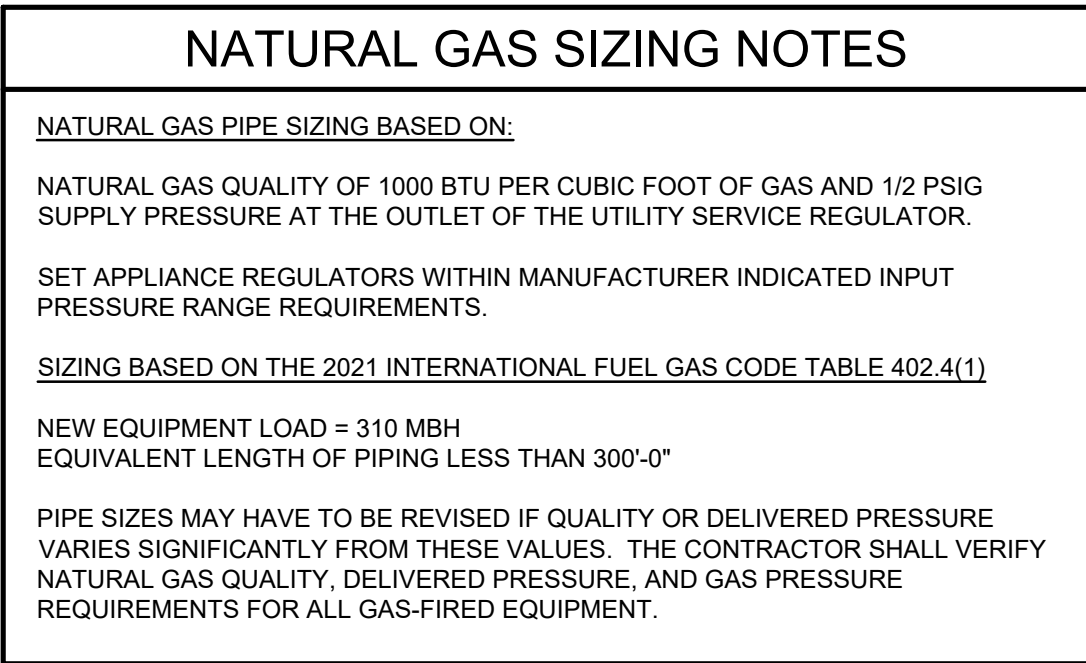
P-201



SANITARY RISER DIAGRAM

SCALE: NONE

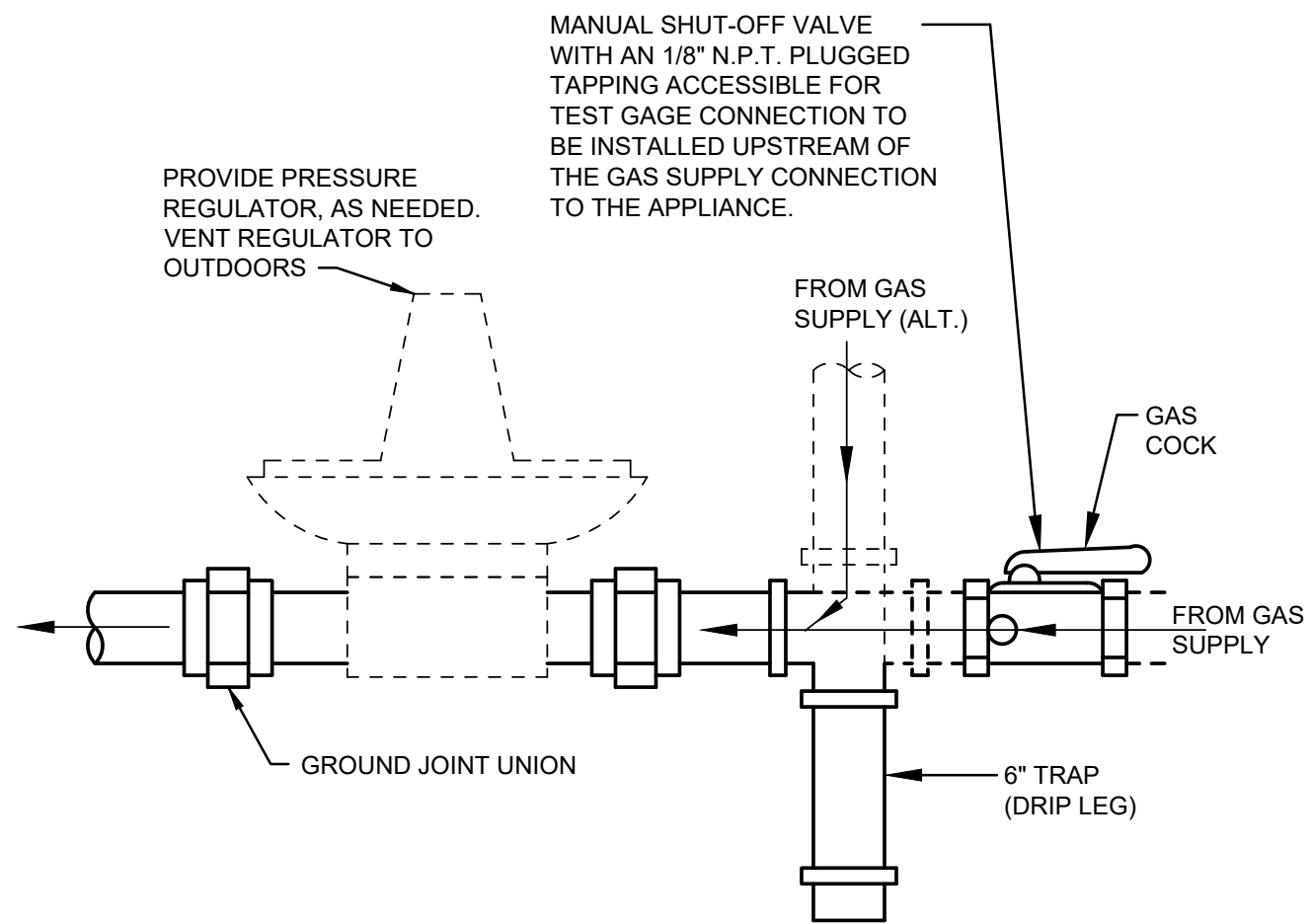
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NATURAL GAS RISER DIAGRAM

SCALE: NONE

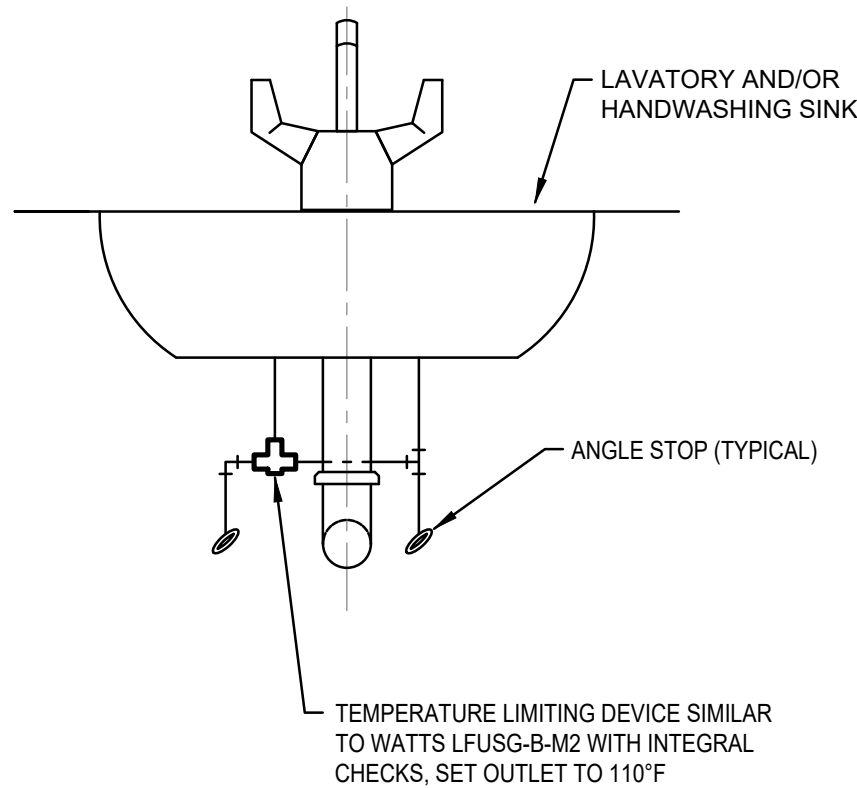
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GAS CONNECTION DETAIL

SCALE: NONE

3



MIXING VALVE DETAIL

SCALE: NONE

4



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PLUMBING
RISER DIAGRAMS
AND DETAILS

P-300

PLUMBING SPECIFICATIONS:

220000 GENERAL REQUIREMENTS

1. GENERAL

A. DEFINITIONS:

a. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.

b. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

c. PROVIDE: TO FURNISH AND INSTALL.

d. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK, WHICH IS SPECIFIED HEREIN AND SHOWN ON THE DRAWINGS.

e. OWNER: THE INDIVIDUAL OR ENTITY HOLDING OWNERSHIP OF THE PROPERTY, OR A DESIGNATED REPRESENTATIVE THEREOF, WHERE THE WORK IS TO BE PERFORMED, AND SHALL INCLUDE TENANTS LEASING SPACE AT THE LOCATION OF THE PROJECT, WHERE APPLICABLE.

B. COMPLY WITH THE LATEST ADOPTED EDITIONS OF ALL APPLICABLE CODES, STANDARDS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO:

a. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI);

b. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME);

c. AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE);

d. AMERICAN WELDING SOCIETY (AWS);

e. AMERICAN WATER WORKS ASSOCIATION (AWWA);

f. ENVIRONMENTAL PROTECTION AGENCY (EPA);

g. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA);

h. NATIONAL SANITATION FOUNDATION/NSF INTERNATIONAL (NSF);

i. PLUMBING & DRAINAGE INSTITUTE (PDI);

j. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM);

k. UNDERWRITERS LABORATORIES (UL);

l. FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA);

m. STATE-ADOPTED BARRIER-FREE REQUIREMENTS;

n. APPLICABLE UNION AND EQUAL OPPORTUNITY STANDARDS OR REQUIREMENTS.

C. ACCESS TO SITE

a. LIMIT USE OF PROJECT SITE TO WORK IN AREAS INDICATED. DO NOT DISTURB PORTIONS OF PROJECT SITE BEYOND AREAS IN WHICH THE WORK IS INDICATED.

b. KEEP DRIVEWAYS, PARKING LOTS/GARAGE, LOADING AREAS, ENTRANCES, ETC. SERVING PREMISES CLEAR AND AVAILABLE TO OWNER, OWNER'S EMPLOYEES AND EMERGENCY VEHICLES AT ALL TIMES. DO NOT USE THESE AREAS FOR PARKING OR STORAGE OF MATERIALS.

c. THE CONTRACTOR'S BID SHALL INCLUDE ALL COSTS ASSOCIATED WITH AFTER-HOURS WORK/PREMIUM TIME NECESSARY TO PREVENT DISRUPTION TO THE OWNER'S OPERATIONS OR BUILDING OCCUPANTS.

D. COORDINATION

a. COOPERATE WITH OWNER DURING CONSTRUCTION OPERATIONS TO MINIMIZE CONFLICTS AND FACILITATE OWNER USAGE. PERFORM THE WORK SO AS NOT TO INTERFERE WITH THE OWNER'S DAY-TO-DAY OPERATIONS.

b. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.

c. COORDINATE WITH THE WORK OF OTHER TRADES. INDICATED ROUTING OF ALL PIPING SYSTEMS IS APPROXIMATE. PROVIDE OFFSETS AND MINOR DEVIATIONS TO INDICATED ROUTING AS REQUIRED TO COORDINATE WITH THE WORK OF OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.

2. PRODUCTS

A. PROVIDE ALL MATERIALS, TOOLS, SUPERVISION AND LABOR REQUIRED FOR THE PLUMBING INSTALLATION SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

B. ALL PRODUCTS AND MATERIALS SHALL BE NEW AND LISTED BY A RECOGNIZED TESTING LABORATORY.

C. COLOR AND FINISH SELECTIONS FOR ALL PRODUCTS AND MATERIALS SHALL BE AS DIRECTED OR APPROVED BY THE ARCHITECT.

D. ALL COMPONENTS AND ACCESSORIES OF EQUIPMENT, FIXTURES AND PRODUCTS OF THE PLUMBING WORK SHALL BE INCLUDED SO AS TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT INDICATED OR SPECIFIED.

3. EXECUTION

A. OBTAIN ALL PERMITS, PAY ALL FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.

B. CONTACT UTILITY SERVICE PROVIDERS, COORDINATE AND ARRANGE FOR THE INSTALLATION OF ALL UTILITY SERVICES INCLUDING PAYMENT OF ALL APPLICABLE FEES.

C. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

D. COMPLY WITH THE REGULATIONS AND REQUIREMENTS OF ALL UTILITY SERVICE PROVIDERS AND ALL AUTHORITIES HAVING JURISDICTION.

E. COMPLY WITH ALL THE REQUIREMENTS OF THE OWNER'S INSURANCE CARRIER.

F. INSTALL PIPING, EQUIPMENT AND FIXTURES IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THE INSTALLATION COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES.

G. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE ALL CONDITIONS AFFECTING HIS SCOPE OF WORK AND BID PRICE.

H. SUBMITTALS:

a. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:

- PIPE AND FITTINGS;
- PLUMBING FIXTURES;
- VALVES AND SPECIALTIES;
- INSULATION;
- HANGERS AND SUPPORTS;

b. PIPING COORDINATION DRAWINGS: DETAIL AT 1/4 SCALE, THE PIPING AND EQUIPMENT LAYOUT, FABRICATION OF PIPE ANCHORS, HANGERS, SUPPORTS, ALIGNMENT GUIDES, EXPANSION JOINTS AND LOOPS AND ATTACHMENTS OF THE SAME TO THE BUILDING STRUCTURE. COORDINATION DRAWINGS SHALL REFLECT THE WORK OF ALL TRADES AND SHALL BE PREPARED AND SUBMITTED FOR REVIEW PRIOR TO THE INSTALLATION OF ANY SUCH WORK.

c. TEST AND BALANCING REPORTS;

d. SUBMIT CLOSE-OUT DOCUMENTS, INCLUSIVE OF ALL EQUIPMENT O&M MANUALS, WARRANTIES, AND AS-BUILT DRAWINGS INDICATING ALL ALTERNATIONS, ADDITIONS AND DELETIONS OF THE SYSTEMS DESIGNED AND AS SHOWN ON THE CONTRACT DOCUMENTS.

e. BELOW GRADE UTILITIES ON AS-BUILT DRAWINGS SHALL BE DIMENSIONED TO NEAREST COLUMN LINES OR OTHER PERMANENT BUILDING FEATURES.

f. SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WILL BE RETURNED REJECTED.

g. THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWING STAMP.

h. SUBSTITUTIONS: ALL SPECIFIED MATERIALS AND PRODUCTS SHALL SERVE AS THE BASIS OF DESIGN. ALL BIDS SHALL BE BASED ON THE SPECIFIED MATERIALS AND PRODUCTS. SUBSTITUTIONS SHALL BE CONSIDERED BY THE ENGINEER AT THE REQUEST OF THE CONTRACTOR. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES THAT ARE AFFECTED BY SUBSTITUTIONS, INCLUSIVE OF ALL RELATED COSTS.

I. DRAWINGS

a. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC. EXACT LOCATIONS OF SUCH ITEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECTURAL DRAWINGS AND/OR THE OWNER AS CONSTRUCTION PROCEEDS.

b. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO COMPLETE WORK IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.

c. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING REQUIREMENTS FOR ALL FIXTURES.

J. ACCESS PANELS

a. ALL BALANCING VALVES, SHUT-OFF VALVES, EQUIPMENT, DISCONNECT SWITCHES, SPECIALTIES, ETC. REQUIRING FUTURE ACCESS OR SERVICE SHALL BE CLEARLY IDENTIFIED AND COMMUNICATED TO THE GENERAL CONTRACTOR.

b. FOR ALL AREAS WHICH THE GENERAL CONSTRUCTION WILL LIMIT THE ACCESS TO THE ABOVE DEVICES, THE PLUMBING CONTRACTOR SHALL FURNISH ACCESS PANELS TO BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION.

c. ACCESS PANELS SHALL BE PAINTED STEEL WITH A CONTINUOUS HINGE AT ONE SIDE AND A SCREW LOCK OPPOSITE THE HINGE.

d. ACCESS PANEL SIZE SHALL BE AS REQUIRED TO PROVIDE PROPER ACCESS TO THE DEVICE SERVED.

K. BASIC PLUMBING METHODS

a. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING FEATURES. INSTALL WORK TO CONSERVE BUILDING SPACE.

b. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT.

c. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. PROVIDE FLANGED FITTINGS AT BASE OF RISERS.

d. ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY ROOF WARRANTIES.

e. EXTERIOR INSTALLATIONS TO BE WEATHER-PROOF IN ALL RESPECTS. EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.

f. AT ALL PIPING PENETRATIONS THROUGH CONCRETE WALLS/PARTITIONS OR FLOOR/CEILING ASSEMBLIES PROVIDE GALVANIZED STEEL OR CAST IRON SLEEVE. SLEEVES THROUGH OTHER THAN CONCRETE ASSEMBLIES SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH WELDED LONGITUDINAL JOINT. SLEEVES ARE NOT REQUIRED AT CORE-DRILLED HOLES.

g. SLEEVES AT PENETRATIONS THROUGH FIRE-RATED PARTITIONS OR FLOOR/CEILING ASSEMBLIES SHALL BE SEALED WITH 3M BRAND UL-RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

h. INSTALL SLEEVE-SEAL SYSTEMS IN SLEEVES IN EXTERIOR CONCRETE WALLS AND SLABS-ON-GRADE AT SERVICE PIPING ENTRIES INTO BUILDING. SLEEVE-SEAL SYSTEMS SHALL BE AS MANUFACTURED BY LINKSEAL MODULAR SEALS OR APPROVED EQUAL.

i. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING ASSOCIATED WITH THE PLUMBING WORK. FINISHED OPENINGS SHALL MATCH EXISTING ADJACENT CONSTRUCTION AND FINISHES. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING.

j. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE EQUIPMENT OR PRODUCT MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.

k. ALL SYSTEMS SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION.

l. ALL PIPING IN FINISHED SPACES SHALL BE CONCEALED.

m. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW FOR CEILING PANEL REMOVAL.

n. INSTALL PIPE TO ALLOW FOR VALVE OPERATION AND MAINTENANCE AND SERVICE OF EQUIPMENT.

o. CLEAN INTERIOR OF PIPING. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES. PLUG ENDS OF UNCOMPLETED PIPING AT THE END OF EACH DAY AND WHEN WORK STOPS.

p. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. REMOVE SCALE, SLAG, DIRT AND DEBRIS FROM INSIDE AND OUTSIDE PIPES, TUBES AND FITTINGS BEFORE ASSEMBLING. BEVEL PLAIN ENDS OF STEEL PIPE.

q. LOW VOLTAGE WIRING SHALL BE PROVIDED BY THIS CONTRACTOR. THE CONTRACTOR FOR ELECTRICAL WORK SHALL BE RESPONSIBLE FOR LINE VOLTAGE WIRING.

r. PIPING SHALL NOT BE SUPPORTED FROM OTHER PIPE, CONDUIT OR DUCTWORK.

s. PIPING HANGERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH MSS SP-58.

t. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROPRIATE SUPPORTS.

u. PROVIDE CHROME-PLATED ESCUTCHEONS AT ALL PIPING PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS IN ALL FINISHED SPACES EXPOSED TO VIEW.

v. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

w. PROVIDE DIELECTRIC FITTINGS WHEN JOINING DISSIMILAR METALS.

x. PROVIDE SLEEVES FOR PIPING PENETRATIONS THROUGH FLOORS, WALLS AND CEILINGS. PROVIDE FIRE-STOPPING WHEN PENETRATING ASSEMBLIES WITH FIRE-RESISTANCE RATING.

L. EXISTING CONDITIONS.

a. VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WITH THE PLUMBING WORK.

b. VERIFY EXISTING CONDITIONS BEFORE COMMENCING WORK, AND REPORT ANY DISCREPANCIES TO THE ENGINEER. BY COMMENCING WORK THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL EXISTING CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE.

c. USE EXISTING CONNECTIONS AT MAINS AND RISERS WHEN AVAILABLE FOR THE CONNECTION OF NEW PIPING.

M. WARRANTY

a. MATERIALS AND WORKMANSHIP OF THE PLUMBING INSTALLATION SHALL BE WARRANTED BY THE CONTRACTOR FOR PLUMBING WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER.

b. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY REPAIR AND CORRECT ANY FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

220001 DEMOLITION

1. GENERAL

A. DEFINITIONS

a. REMOVE: DETACH ITEMS FROM EXISTING CONSTRUCTION AND DISPOSE OF THEM IN A LEGAL MANNER OFF-SITE UNLESS INDICATED TO BE SALVAGED OR REINSTALLED.

b. REMOVE AND SALVAGE: DETACH ITEMS FROM EXISTING CONSTRUCTION, IN A MANNER TO PREVENT DAMAGE, AND DELIVER TO OWNER READY FOR REUSE.

c. REMOVE AND REINSTALL: DETACH ITEMS FROM EXISTING CONSTRUCTION, IN A MANNER TO PREVENT DAMAGE, PREPARE FOR REUSE, AND REINSTALL WHERE INDICATED.

d. EXISTING TO REMAIN: LEAVE EXISTING ITEMS THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE SALVAGED OR REINSTALLED.

B. MATERIALS OWNERSHIP

a. UNLESS OTHERWISE INDICATED, DEMOLITION WASTE BECOMES PROPERTY OF CONTRACTOR.

b. WHERE INDICATED, REMOVE AND SALVAGE EXISTING ITEMS TO BE RETAINED BY THE OWNER.

C. FIELD CONDITIONS

a. CONDUCT DEMOLITION SO OWNER'S OPERATIONS WILL NOT BE DISRUPTED.

b. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION. THE DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING ITEMS.

c. DISPOSE OF ALL REMOVED ITEMS AND MATERIALS AS SOON AS POSSIBLE, AND AT THE END OF EACH WORK SHIFT.

D. WARRANTY

a. REMOVE, REPLACE, PATCH AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING DEMOLITION, BY METHODS AND WITH MATERIALS AND USING APPROVED CONTRACTORS SO AS NOT TO VOID EXISTING WARRANTIES. NOTIFY WARRANTOR BEFORE PROCEEDING.

2. PRODUCTS

A. PERFORMANCE REQUIREMENTS

a. COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING DEMOLITION, COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.

3. EXECUTION

A. EXAMINATION

a. VERIFY THAT ALL UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING DEMOLITION OPERATIONS.

B. UTILITY SERVICES AND PLUMBING/ELECTRICAL SYSTEMS

a. EXISTING SERVICES/SYSTEMS TO REMAIN: MAINTAIN SERVICES/SYSTEMS INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE.

b. LOCATE ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING WORK.

C. PROTECTION

a. PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS, FACILITIES OR TENANTS.

b. EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING DEMOLITION. DAMAGED ITEMS TO BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.

c. REINSTALL ITEMS IN LOCATIONS INDICATED. COMPLY WITH INSTALLATION REQUIREMENTS FOR NEW MATERIALS AND EQUIPMENT. PROVIDE CONNECTIONS, SUPPORTS AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE ITEM FUNCTIONAL FOR USE.

220523 GENERAL-DUTY VALVES FOR PLUMBING PIPING

1. GENERAL

A. SOURCE LIMITATIONS: OBTAIN EACH TYPE OF VALVE FROM SINGLE MANUFACTURER.

B. PROVIDE SHUT-OFF VALVES ON SUPPLY LINES TO ALL PLUMBING FIXTURES AND EQUIPMENT.

C. PROVIDE SHUT-OFF VALVES ON ALL BRANCH LINE TAKE-OFFS FROM MAIN PIPING.

D. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.

E. REMOVE PROTECTIVE COATINGS PRIOR TO INSTALLATION.

2. PRODUCTS

A. BRONZE BALL VALVES: BRONZE BODY, BRONZE STEM, HANDWHEEL, INSIDE SCREW, RENEWABLE COMPOSITION DISC, SOLDER OR SCREW ENDS. REPAACKABLE UNDER PRESSURE.

B. CAST STEEL BALL VALVES: CAST STEEL BODY, CHROME PLATED STEEL BALL, TEFLON SEATS AND PACKING, LEVER HANDLE, FLANGED ENDS.

C. BRONZE GLOBE VALVE: BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, RENEWABLE COMPOSITION DISC, SOLDER OR SCREW ENDS, REPACKABLE UNDER PRESSURE.

D. BRONZE CHECK VALVE: BRONZE BODY, BRONZE RIM, HORIZONTAL SWING TYPE, SCREW OR SOLDER ENDS, WITH REGRINDABLE AND RENEWABLE DISC.

E. BALANCING VALVES: BRONZE Y-PATTERN GLOBE VALVE WITH TWO READ-OUT PORTS AND MEMORY STOP, OR EXTENDED-HANDLE BRONZE BALL VALVE WITH VAPOR SEAL AND ADJUSTABLE MEMORY STOP AS MANUFACTURED BY NIBCO NIB-SEAL, OR APPROVED EQUAL [OR] SELF-ACTUATING THERMOSTATIC BALANCING VALVE AS MANUFACTURED BY THERMOMEGA TECH CIRCUITSOLVER, OR APPROVED EQUAL.

F. PLUG VALVES: CAST STEEL BODY, PRESSURE LUBRICATED, TEFLON PACKING, THREADED ENDS. INCLUDE ONE PLUG VALVE WRENCH FOR EVERY TEN PLUG VALVES WITH A MINIMUM OF ONE WRENCH.

G. PLUG VALVES: CAST STEEL BODY, PRESSURE LUBRICATED, TEFLON PACKING, FLANGED ENDS. INCLUDE ONE PLUG VALVE WRENCH FOR EVERY TEN PLUG VALVES WITH A MINIMUM OF ONE WRENCH.

3. EXECUTION

A. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL.

B. VALVE APPLICATIONS:

a. FOR SHUTOFF DUTY, USE GATE, BALL AND PLUG VALVES.

b. FOR THROTTLING DUTY, USE GLOBE AND MEMORY STOP BALL VALVES.

c. FOR BALANCING DUTY, USE BALANCING VALVES.

C. GLOBE VALVES:

a. 2" AND UNDER: BRONZE GLOBE VALVE.

b. OVER 2": IRON GLOBE VALVE.

D. BALL VALVES:

a. 2" AND UNDER: BRONZE BALL VALVE.

b. OVER 2": CAST STEEL BALL VALVE.

E. CHECK VALVES:

a. 2" AND UNDER: BRONZE CHECK VALVE.

b. OVER 2": IRON CHECK VALVE.

F. PLUG VALVES:

a. 2" AND UNDER: THREADED ENDS.

b. OVER 2": FLANGED ENDS.

220553 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

1. GENERAL

A. COORDINATE INSTALLATION OF IDENTIFYING DEVICES WITH LOCATIONS OF ACCESS PANELS AND DOORS.

B. INSTALL IDENTIFYING DEVICES BEFORE INSTALLING ACOUSTICAL CEILING AND SIMILAR CONCEALMENT.

2. PRODUCTS

A. VALVE TAGS: VALVES, CONTROL DEVICES AND DOMESTIC WATER SPECIALTIES: MINIMUM 1-1/2" DIAMETER BRASS WITH STAMPED LETTERS WITH CORROSION-RESISTANT CHAIN.

B. PIPING LABELS: ADHESIVE BACKED PLASTIC TAPE MARKERS.

C. UNDERGROUND PIPE MARKERS: BRIGHT-COLORED CONTINUOUSLY PRINTED PLASTIC RIBBON TAPE, MINIMUM 6" WIDE BY 4 MIL. THICK, MANUFACTURED FOR DIRECT BURIAL APPLICATIONS.

3. EXECUTION

A. PROVIDE TAGS FOR ALL VALVES, CONTROL DEVICES AND DOMESTIC WATER SPECIALTIES. NUMBER TAGS CONSECUTIVELY BY LOCATION.

B. PIPING LABELS SHALL IDENTIFY SERVICE, FLOW DIRECTION AND TEMPERATURE (WHERE APPLICABLE). LOCATE LABELS 20 FEET ON CENTER AND NOT GREATER THAN 2 FEET FROM CHANGES IN DIRECTION OR PENETRATIONS OF STRUCTURE OR ENCLOSURE.

C. PROVIDE UNDERGROUND PIPE MARKERS 6 TO 8 INCHES BELOW FINISHED GRADE DIRECTLY ABOVE BURIED PIPE.

D. LETTERING FOR ALL PLUMBING IDENTIFICATION SHALL BE AS LARGE AS PRACTICAL, WITH MINIMUM 1/4" HIGH CHARACTERS.

E. SUBMIT TO OWNER A VALVE TAG CHART IN ANODIZED ALUMINUM FRAME WITH PLEXIGLAS COVER. VALVE TAG CHART SHALL INDICATE THE EXACT LOCATION OF ALL ITEMS REFERENCED TO A KEY PLAN PROVIDED BY THE CONTRACTOR, AND THE SERVICE/PURPOSE OF EACH VALVE, CONTROL DEVICE AND DOMESTIC WATER SPECIALTY. PROVIDE TO THE OWNER ONE HARD COPY OF A LAMINATED KEY PLAN AT A SCALE SUFFICIENT TO CLEARLY CONVEY ITEM LOCATIONS, AND A DIGITAL COPY IN ADOBE .PDF FORMAT (OR IN A DIGITAL FORMAT AS DIRECTED BY THE OWNER) OF THE VALVE TAG CHART AND KEY PLAN AT PROJECT CLOSEOUT.

CONTINUED ON SHEET P-401



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No.	Description	Date
	MEP 100% SCHEMATIC DESIGN	09.26.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

JOB NO. 22.031

DRAWN BY: DKR CHECKED BY: MC

DATE:

CAD FILE: WPU FIELD HOUSE PLUMBING

ADDITION AND RENOVATIONS TO:

LOCKER
FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

PLUMBING
SPECIFICATIONS

P-400

PLUMBING SPECIFICATIONS:

CONTINUED FROM SHEET P-400

220593 TESTING, ADJUSTING AND BALANCING

1. GENERAL
- A. ALL PIPING, FIXTURES AND EQUIPMENT SHALL BE LEFT CLEAN AND FREE OF DIRT, DEBRIS, CUTTING OILS, ETC.
- B. ALL COSTS ASSOCIATED WITH TESTING, ADJUSTING AND BALANCING SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- C. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE PLUMBING INSTALLATION FOR PROPER OPERATION. PROVIDE SUFFICIENT NOTICE TO ALL PARTIES TO WITNESS TESTING. CORRECT ALL DEFICIENCIES FOUND.
- D. ALL TESTING SHALL BE IN ACCORDANCE WITH THE STATE-ADOPTED PLUMBING CODE, THE INTERNATIONAL FUEL GAS CODE AND ALL OTHER APPLICABLE CODES AND STANDARDS.
- E. NEW, ALTERED, EXTENDED OR REPLACED PLUMBING SHALL BE LEFT UNCOVERED AND UNCONCEALED UNTIL IT HAS BEEN INSPECTED, TESTED AND APPROVED.
- F. TESTING OF THE INSTALLED SYSTEMS SHALL BE CONDUCTED IN THE PRESENCE OF A REPRESENTATIVE FOR THE OWNER AND APPROPRIATE LOCAL AUTHORITIES.
- G. RESULTS OF ALL TESTING SHALL BE SUBMITTED TO THE OWNER IN THE FORM OF WRITTEN REPORTS.
2. NOT USED
3. EXECUTION

- A. DRAINAGE AND VENT SYSTEMS:
- a. TESTING SHALL BE IN ACCORDANCE WITH THE STATE-ADOPTED PLUMBING CODE.
- b. ALL NEW SYSTEMS, AND ALL MODIFIED SECTIONS OF EXISTING SYSTEMS SHALL BE TESTED.
- c. PROVIDE TESTING AT ROUGH PLUMBING STAGE AND FINISHED PLUMBING STAGE AS INDICATED BELOW.
- d. FOR ROUGH PLUMBING ONE OF THE FOLLOWING TEST METHODS SHALL BE USED:
- WATER TEST - SUBJECT SYSTEM TO MINIMUM 10-FOOT HEAD OF WATER. THIS METHOD IS SUITABLE FOR ANY PIPING MATERIALS.
 - AIR TEST - INTRODUCE AIR UNDER PRESSURE TO UNIFORM GAUGE PRESSURE OF 5 POUNDS PER SQUARE INCH, OR SUFFICIENT PRESSURE TO BALANCE A COLUMN OF MERCURY 10 INCHES IN HEIGHT FOR A PERIOD OF AT LEAST 15 MINUTES WITHOUT INTRODUCING NEW AIR. THIS METHOD MAY NOT BE USED WITH PLASTIC PIPING SYSTEMS.
- e. FOR FINISHED PLUMBING ONE OF THE FOLLOWING TEST METHODS SHALL BE USED:
- SMOKE TEST - FILL ALL FIXTURE TRAPS AND INTRODUCE SMOKE VIA ONE OR MORE SMOKE MACHINES TO A PRESSURE EQUIVALENT TO ONE-INCH WATER COLUMN MAINTAINED FOR THE DURATION OF THE INSPECTION.
 - PEPPERMINT TEST - WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION, A PEPPERMINT TEST CONDUCTED IN ACCORDANCE WITH NSPC SECTION 15.4.2.B.2 MAY BE USED IN LIEU OF A SMOKE TEST.
- B. WATER SUPPLY SYSTEMS:
- a. TEST THE ENTIRE WATER SUPPLY SYSTEM, OR COMPLETED SECTIONS THEREOF TO A WATER PRESSURE NOT LESS THAN THE WORKING PRESSURE UNDER WHICH IT WILL BE USED, OR 80 POUNDS PER SQUARE INCH, WHICHEVER IS GREATER.
- b. WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION AND AIR PRESSURE TEST WITH THE SAME PRESSURES INDICATED ABOVE MAY BE USED IN LIEU OF A WATER PRESSURE TEST.
- c. LOSS OF TEST PRESSURE AND LEAKS CONSTITUTE DEFECTS REQUIRING REPAIR.
- d. TESTING OF PLASTIC PIPING SYSTEMS WITH COMPRESSED GAS OR AIR PRESSURE IS PROHIBITED.
- e. UPON COMPLETION OF TESTING, FLUSH AND DISINFECT THE SYSTEM IN ACCORDANCE WITH NSPC SECTION 10.9.
- C. NATURAL GAS SYSTEMS:
- a. INSPECT, TEST AND PURGE THE NATURAL GAS PIPING SYSTEM IN ACCORDANCE WITH SECTION 406 OF THE IFGC.
- D. DOMESTIC HOT WATER RECIRCULATING SYSTEMS:
- a. ADJUST BALANCING VALVES THROUGHOUT THE HOT WATER RECIRCULATING SYSTEM TO ENSURE ADEQUATE CIRCULATION THROUGH ALL SECTIONS OF THE SYSTEM.

220700 PLUMBING PIPING INSULATION

1. GENERAL
- A. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
- B. ALL INSULATION INSTALLED INDOORS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS AND SMOKE-DEVELOPED INDEX OF 50 OR LESS. ASTM E 84.
- C. INSULATION ENERGY EFFICIENCY SHALL BE IN ACCORDANCE WITH ASHRAE-90.1.
- D. INSULATION THICKNESS AND VAPOR BARRIER SHALL BE AS REQUIRED TO PREVENT CONDENSATION ON COLD SURFACE.
- E. COORDINATE INSTALLATION AND TESTING OF HEAT TRACING.
2. PRODUCTS
- A. DOMESTIC COLD WATER - ABOVE GRADE
- a. 1" THICK, 3 LB/CU FT DENSITY FIBERGLASS INSULATION WITH INTEGRAL, FACTORY APPLIED FIRE RETARDANT JACKET WITH 2" SELF-SEALING LONGITUDINAL OVERLAPS AND 4" CIRCUMFERENTIAL BUTT STRIPS WITH FACTORY-APPLIED VAPOR BARRIER. ASTM C547.
- b. PREFORMED FIBERGLASS FITTINGS, MITERED SECTIONS OF PIPE INSULATION OR FIBERGLASS BLANKET WITH PROTO LO SMOKE OR APPROVED EQUAL PVC FITTING COVERS AT ALL FITTINGS, JOINTS, VALVES, UNIONS, FLANGES, ETC.
- B. DOMESTIC HOT WATER AND HOT WATER RECIRCULATING - ABOVE GRADE - 1-1/4" PIPE SIZE AND SMALLER
- a. 1" THICK, 3 LB/CU FT DENSITY FIBERGLASS INSULATION WITH INTEGRAL, FACTORY APPLIED FIRE RETARDANT JACKET WITH 2" SELF-SEALING LONGITUDINAL OVERLAPS AND 4" CIRCUMFERENTIAL BUTT STRIPS WITH FACTORY-APPLIED VAPOR BARRIER. ASTM C547.
- b. PREFORMED FIBERGLASS FITTINGS, MITERED SECTIONS OF PIPE INSULATION OR FIBERGLASS BLANKET WITH PROTO LO SMOKE OR APPROVED EQUAL PVC FITTING COVERS AT ALL FITTINGS, JOINTS, VALVES, UNIONS, FLANGES, ETC.
- D. DOMESTIC HOT WATER AND HOT WATER RECIRCULATING - ABOVE GRADE - 1-1/2" PIPE SIZE AND LARGER
- a. 1-1/2" THICK, 3 LB/CU FT DENSITY FIBERGLASS INSULATION WITH INTEGRAL, FACTORY APPLIED FIRE RETARDANT JACKET WITH 2" SELF-SEALING LONGITUDINAL OVERLAPS AND 4" CIRCUMFERENTIAL BUTT STRIPS WITH FACTORY-APPLIED VAPOR BARRIER. ASTM C547.
- b. PREFORMED FIBERGLASS FITTINGS, MITERED SECTIONS OF PIPE INSULATION OR FIBERGLASS BLANKET WITH PROTO LO SMOKE OR APPROVED EQUAL PVC FITTING COVERS AT ALL FITTINGS, JOINTS, VALVES, UNIONS, FLANGES, ETC.
- F. SUPPLIES AND DRAINS FOR HANDICAP-ACCESSIBLE LAVATORIES/SINKS
- a. MOLDED VINYL WASTE AND SUPPLY PIPING COVERS, TRUEBRO LAVGUARD, OR APPROVED EQUAL, COMPLYING WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.
3. EXECUTION
- A. VERIFY PIPING HAS BEEN TESTED, AND THAT SURFACES ARE CLEAN AND DRY BEFORE APPLYING INSULATION MATERIALS.
- B. STORE INSULATION IN ORIGINAL PACKAGING AND PROTECT FROM DIRT AND WATER DAMAGE.
- C. FOR A MINIMUM OF 24 HOURS AFTER APPLICATION OF ADHESIVES, MASTICS AND SEALANTS, MAINTAIN PROPER TEMPERATURES AS RECOMMENDED BY THE MANUFACTURER.
- D. ALL PIPING, FITTINGS, VALVES, UNIONS, FLANGES, ETC. SHALL BE INSULATED AS SPECIFIED ABOVE.
- E. CONTINUE INSULATION THROUGH PENETRATIONS OF BUILDING ASSEMBLIES. FOR ASSEMBLIES HAVING A FIRE-RESISTANCE RATING, PROVIDE INTUMESCENT FIRESTOPPING AT PENETRATION TO MAINTAIN FIRE-RESISTANCE RATING.
- F. PROVIDE GALVANIZED STEEL SHIELD BETWEEN HANGER AND PIPING INSULATION FOR ALL INSULATED PIPE, FOR INSULATED PIPE 2" AND LARGER PROVIDE INSERT BETWEEN SUPPORT SHIELD AND PIPING UNDER FINISH JACKET.
- G. WHERE VAPOR-BARRIER IS INDICATED, SEAL JOINTS, SEAMS AND INSULATION PENETRATIONS AT HANGERS AND SUPPORTS WITH VAPOR-BARRIER MASTIC.
- H. REPAIR DAMAGED INSULATION AND FACINGS TO MATCH ADJACENT INSULATION AND FACINGS.
- I. FILL JOINTS, SEAMS, VOIDS AND IRREGULAR SURFACES WITH INSULATING CEMENT TO A UNIFORM SMOOTH CONTOUR.
- J. TAPE PVC COVERS TO ADJOINING INSULATION WITH PVC TAPE.

221100 DOMESTIC WATER

1. GENERAL
- A. DOMESTIC WATER PIPING SHALL NOT BE INSTALLED IN UNHEATED SPACES.
- B. ALL PRODUCTS AND COMPONENTS IN THE DOMESTIC WATER SYSTEM SHALL BE LEAD-FREE.
2. PRODUCTS
- A. COPPER TUBE AND FITTINGS:
- a. HARD COPPER TUBE: ASTM B 88 TYPE L WATER TUBE, DRAWN TEMPER. ABOVE GRADE.
- b. SOFT COPPER TUBE: ASTM B 88 TYPE K WATER TUBE, ANNEALED TEMPER. BELOW GRADE.
- c. CAST-COPPER, SOLDER-JOINT FITTINGS: ASME B16.18, PRESSURE FITTINGS. BRAZED BELOW GRADE.
- d. WROUGHT-COPPER, SOLDER-JOINT FITTINGS: ASME B16.22, WROUGHT-COPPER PRESSURE FITTINGS.
- e. COPPER PRESSURE-SEAL-JOINT FITTINGS: WROUGHT COPPER FITTING WITH EPDM-RUBBER O-RING SEALS IN SIZES 2" AND SMALLER; CAST-BRONZE OR WROUGHT-COPPER FITTING WITH EPDM-RUBBER O-RING SEALS IN SIZES ABOVE 2".
- f. SOLDER FILLER METALS: ASTM B 32, LEAD-FREE ALLOYS.
- g. FLUX: ASTM B 813, WATER-FLUSHABLE.
3. EXECUTION
- A. INSTALL DOMESTIC WATER PIPING LEVEL, PLUMB AND PARALLEL TO BUILDING FEATURES AND LINES.
- B. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALL FOR CEILING PANEL REMOVAL.
- C. INSTALL SHUT-OFF VALVES AND UNIONS UPSTREAM AND DOWNSTREAM OF ALL PUMPS AND PIPING SPECIALTIES.
- D. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER RECIRCULATING PIPING SEGMENTS THAT EXCEED 30'-0" IN LENGTH.
- E. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
- a. NPS 3/4 AND SMALLER: 60 INCHES WITH 3/8" ROD.
- b. NPS 1 AND NPS 1-1/4: 72 INCHES WITH 3/8" ROD.
- c. NPS 1-1/2 AND NPS 2: 96 INCHES WITH 3/8" ROD.
- F. INSTALL SUPPORTS FOR VERTICAL COPPER TUBING EVERY 10 FEET.
- G. INSTALL PIPING TO ALLOW FOR THE OPERATION OF VALVES AND FOR SERVICE AND MAINTENANCE OF EQUIPMENT.
- H. PROVIDE WATER HAMMER ARRESTERS ON WATER SUPPLY PIPING SERVING FLUSHOMETERS AND QUICK-CLOSING VALVES. WHERE INSTALLED ON A BRANCH SERVING MULTIPLE FLUSHOMETERS, INSTALL WATER HAMMER ARRESTER UPSTREAM OF LAST FLUSHOMETER SERVED BY THE BRANCH.
- I. PROVIDE CHECK VALVES TO MAINTAIN CORRECT DIRECTION OF FLOW TO AND FROM EQUIPMENT.
- J. INSTALL Y-PATTERN STRAINER ON SUPPLY SIDE OF EACH WATER PRESSURE-REDUCING VALVE, BACKFLOW PREVENTER, SOLENOID VALVE, PUMP AND THERMOSTATIC MIXING VALVE.
- K. SET FIELD-ADJUSTABLE PRESSURE, FLOW AND TEMPERATURE SET POINTS FOR WATER PRESSURE-REDUCING VALVES, BALANCING VALVES AND WATER MIXING VALVES, AS APPLICABLE.
- L. USE CLEANING, PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION. PREPARE AND SUBMIT REPORTS OF PURGING AND DISINFECTING ACTIVITIES, INCLUDING COPIES OF WATER-SAMPLE APPROVALS WHERE REQUIRED.

221300 DRAINAGE, WASTE AND VENT

1. GENERAL
- A. THIS SECTION INCLUDES SANITARY SEWER AND VENT SYSTEMS.
- B. EXISTING SANITARY PIPING RECEIVING NEW CONNECTIONS SHALL BE SNAKED AND JET-FLUSHED PRIOR TO NEW CONNECTIONS BEING MADE TO ENSURE UNOBSTRUCTED FLOW.
- C. PRIOR TO INSTALLING ANY NEW SANITARY PIPING, VERIFY INVERT ELEVATIONS ON EXISTING PIPING RECEIVING NEW CONNECTIONS TO ENSURE ADEQUATE ELEVATION OF EXISTING PIPING.
- D. VERIFY SIZE AND CONDITION OF EXISTING PIPING RECEIVING NEW CONNECTIONS.
- E. FOR ALL BELOW GRADE SEWER PIPING PROVIDE OFFSETS TO INDICATED ROUTING WHERE REQUIRED TO COORDINATE WITH STRUCTURAL FOOTINGS AND FOUNDATIONS.
- F. CAST IRON SOIL PIPE AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) STANDARD 301, ASTM A 888 OR ASTM A 74, LATEST EDITIONS.
- G. PVC AND OTHER COMBUSTIBLE PIPING PRODUCTS MAY NOT BE INSTALLED IN ANY CEILING SPACES WHICH FUNCTION AS A RETURN AIR PLENUM.
- H. AT ALL INDIRECT WATER DRAINS, MAINTAIN AIR GAP OR AIR BREAK AS REQUIRED BY CODE.
2. PRODUCTS
- A. CAST IRON SOIL PIPE AND FITTINGS:
- a. HUB-AND-SPIGOT CAST IRON SOIL PIPE AND FITTINGS: ASTM A 74, SERVICE CLASS WITH ASTM C 564 RUBBER COMPRESSION GASKET.
- b. HUBLESS CAST IRON SOIL PIPE AND FITTINGS: ASTM A 888 OR CISPI 301.
- c. CISPI HUBLESS COUPLINGS: ASTM C 1277 OR CISPI 310, STAINLESS-STEEL SHIELD, BANDS AND TIGHTENING DEVICES WITH ASTM C 564 RUBBER SLEEVE WITH INTEGRAL CENTER PIPE STOP. NSF CERTIFIED.
- d. HEAVY-DUTY HUBLESS COUPLINGS: ASTM C 1277 AND ASTM C 1540, STAINLESS-STEEL SHIELD, BANDS AND TIGHTENING DEVICES WITH ASTM C 564 RUBBER SLEEVE WITH INTEGRAL CENTER PIPE STOP.
- B. ACCEPTABLE MANUFACTURERS OF CAST IRON PIPE AND FITTINGS ARE CHARLOTTE PIPE AND FOUNDRY, TYLER PIPE AND AMERICAN BRASS AND IRON, OR APPROVED EQUAL.
- C. ACCEPTABLE MANUFACTURERS OF HUBLESS COUPLINGS ARE TYLER COUPLING, MISSION RUBBER AND IDEAL COUPLING, OR APPROVED EQUAL.
3. EXECUTION
- A. INSTALL CAST IRON SOIL PIPING IN ACCORDANCE WITH CISPI "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."
- B. INSTALL HEAVY-DUTY HUBLESS COUPLINGS IN STORM SEWER AND SANITARY SEWER HUBLESS PIPING.
- C. INSTALL CISPI HUBLESS COUPLINGS FOR VENT PIPING.
- D. SANITARY PIPING SHALL BE PITCHED IN THE DIRECTION OF FLOW WITH A SLOPE OF 1/4" PER FOOT OF RUN FOR ALL PIPE BELOW 3" AND 1/8" PER FOOT OF RUN FOR ALL PIPE 3" AND LARGER.
- E. VENT PIPING SHALL BE PITCHED TO DRAIN TO CONNECTED SANITARY PIPING.
- F. EXTEND CLEANOUTS TO FLOORS AND GRADES FLUSH WITH SURROUNDING SURFACES.
- G. PROTECT DRAINS THROUGHOUT CONSTRUCTION TO PREVENT DAMAGE AND CLOGGING WITH DIRT AND DEBRIS.
- H. VENT TERMINAL PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED. COORDINATE WITH THE ARCHITECT AND THE CONTRACTOR FOR ROOFING WORK.
- I. MAINTAIN MINIMUM 10'-0" DISTANCE BETWEEN VENT TERMINALS AND ALL OUTDOOR AIR INTAKES.
- J. INSTALL HANGERS FOR CAST IRON SOIL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
- a. NPS 1-1/2 AND NPS 2: 60 INCHES WITH 3/8" ROD.
- b. NPS 3: 60 INCHES WITH 1/2" ROD.
- c. NPS 4 AND NPS 5: 60 INCHES WITH 5/8" ROD.
- M. INSTALL SUPPORTS FOR VERTICAL CAST IRON SOIL PIPING EVERY 15 FEET.
- N. WHERE FLOORS ARE SLOPED TO DRAINS, SET FLOOR DRAIN STRAINERS AT LOW POINTS OF SLAB DEPRESSION FLUSH WITH FLOOR.

221123 NATURAL GAS

1. GENERAL
- A. STEEL SUPPORT WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND PERSONNEL ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE - STEEL."
- B. PIPE WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE.
- C. CONFIRM GAS PRESSURE REQUIREMENTS FOR ALL GAS-FIRED EQUIPMENT.
- D. CONNECT TO EACH PIECE OF GAS-FIRED EQUIPMENT WITH GAS COCK, DIRT LEG, GAS PRESSURE REGULATOR, UNION AND APPLIANCE CONNECTOR.
- E. GAS PRESSURE REGULATORS SHALL BE INDIVIDUALLY VENTED TO THE BUILDING EXTERIOR. TERMINATE REGULATOR VENTS WITH GOOSENECK FITTING AND INSECT SCREEN.

2. PRODUCTS

- A. STEEL PIPE: ASTM A 53, BLACK AND GALVANIZED STEEL, SCHEDULE 40.
- B. MALLEABLE-IRON THREADED FITTINGS: ASME B 16.3. PROVIDE WITH GALVANIZED COATING WHEN USED WITH GALVANIZED PIPING.
- C. WROUGHT-STEEL WELDING FITTINGS: ASTM A 234 FOR BUTT WELDING AND SOCKET WELDING.
- D. APPLIANCE FLEXIBLE CONNECTORS: ANSI Z21.24 - INDOOR, FIXED; ANSI Z21.69 - INDOOR, MOVABLE; ANSI Z21.75 - OUTDOOR. CORRUGATED STAINLESS STEEL TUBING WITH POLYMER COATING.
- E. JOINT COMPOUND AND TAPE: SUITABLE FOR NATURAL GAS APPLICATIONS.
- F. PRESSURE REGULATORS: MAXITROL, OR APPROVED EQUAL. ANSI Z21.18.
3. EXECUTION
- A. INDOOR NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON THREADED FITTINGS.
- B. OUTDOOR NATURAL GAS PIPING SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH GALVANIZED THREADED FITTINGS. OUTDOOR NATURAL GAS PIPING SHALL BE COMPLETELY COATED. PIPE AND FITTINGS SHALL BE ETCHED OR COATED WITH BONDING PRIMER AND TWO COATS OF YELLOW PAINT.
- C. DO NOT INSTALL GAS PIPING IN SOLID WALLS OR PARTITIONS.
- D. DO NOT USE NATURAL GAS PIPING AS GROUNDING ELECTRODE.
- E. JOINTS SHALL BE WELDED FOR ALL PIPE SIZES 3" AND LARGER.
- F. ANY SEGMENTS OF STEEL PIPE OR FITTINGS WHICH MAY BE EXPOSED TO SOIL SHALL BE COATED WITH FACTORY-APPLIED COATINGS, OR FIELD-APPLIED COATING TAPE SUCH AS TAPECOAT H50, OR APPROVED EQUAL.
- G. PROVIDE PIPE SUPPORTS AS MANUFACTURED BY MIRO INDUSTRIES, OR APPROVED EQUAL FOR ALL PIPING INSTALLED ON THE ROOF. WOOD SUPPORTS ARE NOT ACCEPTABLE. PROVIDE TRAFFIC/WALL PADS BELOW ALL PIPE STANDS.
- H. PIPING SUPPORT SHALL BE IN ACCORDANCE WITH IFGC SECTION 407 AND SECTION 415.
- I. HANGER AND SUPPORTS SHALL BE IN ACCORDANCE WITH MSS SP-58.
- J. INSTALL HANGERS FOR HORIZONTAL STEEL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
- a. NPS 1 AND SMALLER: 96 INCHES WITH 3/8" ROD.
- b. NPS 1-1/4 TO NPS 2: 108 INCHES WITH 3/8" ROD.
- c. NPS 2-1/2 TO NPS 3-1/2: 120 INCHES WITH 1/2" ROD.
- d. NPS 4 AND LARGER: 120 INCHES WITH 5/8" ROD.
- K. INSTALL SUPPORTS FOR VERTICAL STEEL PIPING AT EVERY FLOOR LEVEL.

224000 FIXTURES

1. GENERAL
- A. REFER TO PLUMBING FIXTURE SCHEDULE FOR ALL FIXTURE SPECIFICATIONS.
- B. ALL VITREOUS CHINA FIXTURES SHALL BE BY THE SAME MANUFACTURER.
- C. ALL COLOR AND FINISH SELECTIONS SHALL BE AS DETERMINED BY THE ARCHITECT OR THE OWNER.
- D. WATER CLOSET CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET COMPARTMENT.
- E. HANDICAP FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH STATE-ADOPTED BARRIER-FREE REQUIREMENTS.
- F. PLUMBING FIXTURE SUBMITTALS SHALL BE APPROVED BY THE ARCHITECT.
- G. CONTRACTOR MAY NOT USE FIXTURES AS TEMPORARY FACILITIES UNLESS APPROVED IN WRITING BY THE OWNER.
- H. ALL FIXTURES WHICH REQUIRE VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.
2. PRODUCTS
- A. VITREOUS CHINA FIXTURES SHALL BE KOHLER, AMERICAN STANDARD, SLOAN OR APPROVED EQUAL.
- B. SINK FAUCETS AND FITTINGS SHALL BE CHICAGO FAUCETS, SPEAKMAN, T&S BRASS AND BRONZE WORKS, OR APPROVED EQUAL.
- C. WATER CLOSET FLUSHOMETERS SHALL BE SLOAN, KOHLER, TOTO OR APPROVED EQUAL.
- D. ALL TRIM FITTINGS SHALL BE CHROME-PLATED BRASS AS MANUFACTURED BY ADVANCE TABCO, BRASSCRAFT, PROFLO, OR APPROVED EQUAL. PLASTIC TAILPIECES, TRAPS, ETC. SHALL NOT BE ACCEPTABLE.
- E. SUPPLIES TO ALL FIXTURES SHALL INCLUDE CHROME-PLATED STOP VALVES. PROVIDE LOOSE-KEY STOPS IN PUBLIC SPACES. EXPOSED RISERS SHALL BE CHROME-PLATED RIORD COPPER, WHERE CONCEALED FROM VIEW, SUPPLIES MAY BE BRAIDED STAINLESS STEEL FLEXIBLE SUPPLY HOSES.
- F. FAUCETS AT ALL LAVATORIES AND SINKS SHALL INCLUDE A 0.5 GPM FLOW RESTRICTOR/AERATOR.
3. EXECUTION
- A. LOCATE ALL FIXTURES IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS.
- B. INSTALL FIXTURES LEVEL AND PLUMB ACCORDING TO MANUFACTURER'S ROUGH-IN DRAWINGS.
- C. SUPPORTS FOR FLOOR-MOUNTED FIXTURES SHALL BE AFFIXED TO BUILDING SUBSTRATE.
- D. SET FLOOR-MOUNTED SINKS IN LEVELING BED OF CEMENT GROUT.
- E. SEAL JOINTS BETWEEN FIXTURES AND WALLS/FLOORS WITH MILDEW-RESISTANT SILICONE SEALANT.
- F. ADJUST ALL CONTROLS FOR PROPER FLOW AND PRESSURE.
- G. INSTALL CHROME-PLATED ESCUTCHEONS AT ALL PIPING PENETRATIONS THROUGH WALLS/FLOORS IN EXPOSED, FINISHED LOCATIONS. USE DEEP PATTERN WHERE REQUIRED TO CONCEAL PROTRUDING FITTINGS.



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No.	Description	Date
	MEP 100% SCHEMATIC DESIGN	09.26.22
	50% CD SET	11.23.22
	100 % CD REVIEW SET	12.09.22

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DRAWN BY: DKR CHECKED BY: MC

DATE:

CAD FILE: WPU FIELD HOUSE PLUMBING

ADDITION AND RENOVATIONS TO:

LOCKER FACILITY

WILLIAM PATERSON UNIVERSITY
WAYNE, NEW JERSEY 07470

PLUMBING SPECIFICATIONS

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