

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conistor St

Liberty, MO 64068

CONFORMED CONSTRUCTION DOCUMENTS



we design the future®

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Structural # 2006031333

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INDEX OF DRAWINGS				DESIGN TEAM		
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ALTERNATES						
ALTERNATE 1:  BASE BID: NO WORK ALTERNATE: ALTERNATE INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND APPURTENANANCES NECESSARY TO REPLACE ALL EXISTING CEILING TILE. REFER TO SHEETS DA 101 AND REFLECTED CEILING PLANS.						
VICINITY MAP						
						
ARCHITECT: Hollis + Miller Architects 1828 Walnut Street Ste 922 Kansas City, MO 64108 CONTACT: Hannah Bain PHONE: 816.442.7700 FAX: 816.599.2545						
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CIVIL ENGINEER: MKEC Engineering, Inc. 11827 W 112th Street, Suite 200 Overland Park, KS 66210 CONTACT: Braden Taylor PHONE: 913.317.9390						
STRUCTURAL ENGINEER: Bob D. Campbell & Co. 4338 Belleview Avenue Kansas City, MO 64111 CONTACT: Ryan Hagedorn PHONE: 816.531.4144 FAX: 816.531.8572						
MECH/ELECT ENGINEER: Smith & Boucher Engineers 25618 W 103rd Street Olathe, KS 66061 CONTACT: Ryan Diediker PHONE: 913.345.2127 FAX: 913.345.0617						
GEOTECHNICAL ENGINEER: Kruger Technologies, Inc. 8721 Melrose Drive Lenexa, KS 66214 CONTACT: Dylan Kruger PHONE: 913.498.1114 FAX: 913.498.1116						
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THEATRICAL CONSULTANT: Peerbolte Creative 109 E. Pine St Warrensburg, MO 64093-0754 CONTACT: Shannon Johnson PHONE: 660.429.1383						
G000						

Conformed Construction Documents

EPic Elementary Storm Shelter Addition

Liberty Public Schools

650 Conister St

Liberty, MO 64068

REVISIONS:

#	Description	Date
4	Addendum 04	09/29/2023

STATE OF MISSOURI

KEVIN E. NELSON

A-2019015618

ARCHITECT

OCT 2023

Kevin E. Nelson

A-2019015618

The Professional architect and engineer shall be held to the usual and best practice in the state of Missouri. All drawings, specifications and documents shall be prepared and submitted to the Missouri State Board of Professional Engineers and Architects for review and approval. The Missouri State Board of Professional Engineers and Architects shall be held to the usual and best practice in the state of Missouri.

JOB NO: 23020.00

DRAWN BY: HB

CHECKED BY: JB

DATE: 10/11/2023

ARCHITECT:

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BASE BID: NO WORK  
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VICINITY MAP

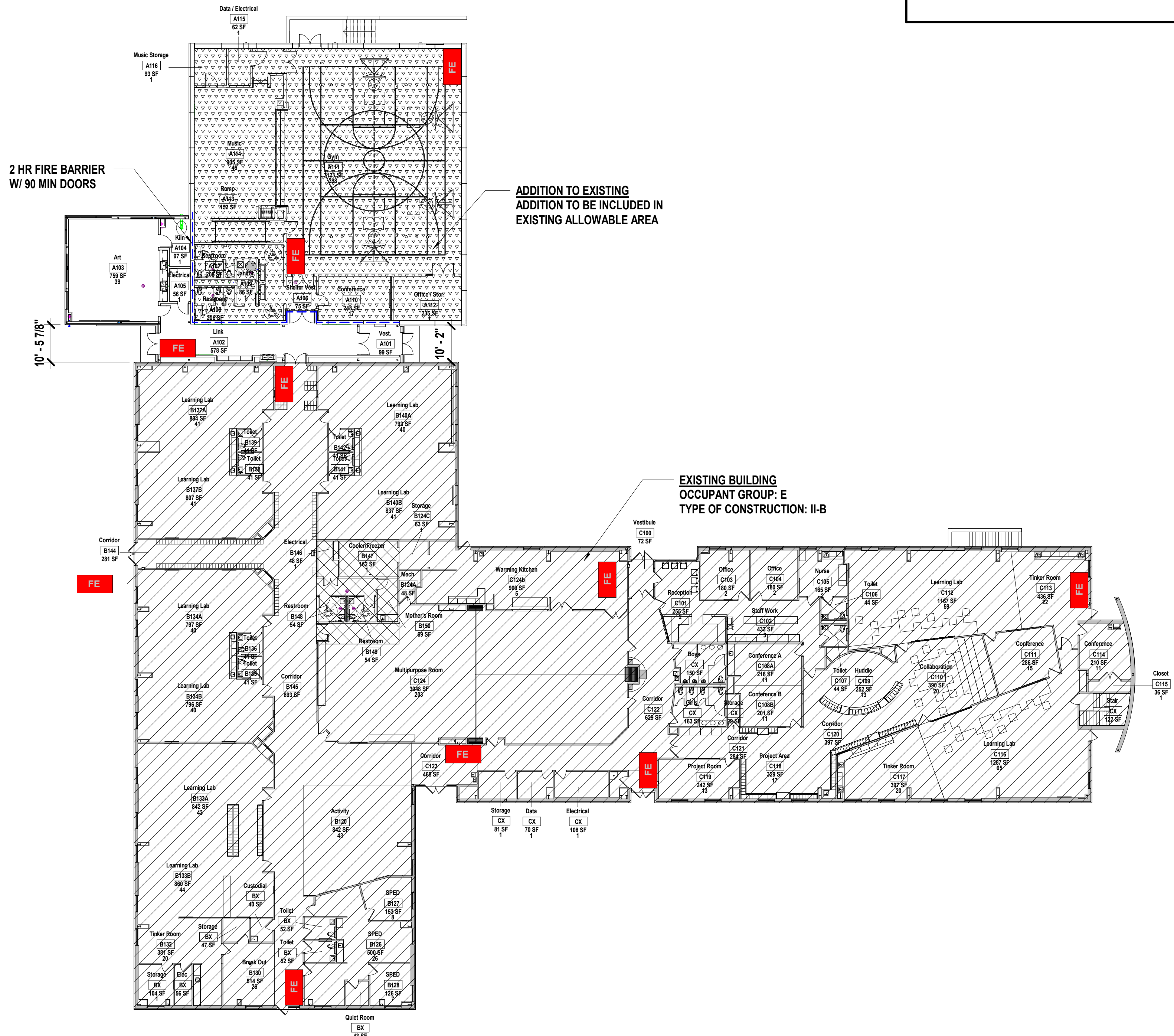


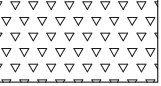














EPiC Elementary Storm Shelter Addition



	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
	Educational Classroom area	759 SF	20 SF	39
	Accessory Storage Areas, Mechanical Equipment Room	97 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	56 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	86 SF	300 SF	1
	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	248 SF	15 SF	17
	Assembly Without Fixed Seats Concentrated (chairs only - not fixed)	3123 SF	7 SF	398
	Accessory Storage Areas, Mechanical Equipment Room	235 SF	300 SF	1
	Educational Classroom area	905 SF	20 SF	46
	Accessory Storage Areas, Mechanical Equipment Room	62 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	93 SF	300 SF	1
				506

	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
	Educational Classroom area	842 SF	20 SF	43
	Accessory Storage Areas, Mechanical Equipment Room	48 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	63 SF	300 SF	1
	Educational Classroom area	500 SF	20 SF	26
	Educational Classroom area	153 SF	20 SF	8
	Educational Classroom area	126 SF	20 SF	7
	Educational Classroom area	514 SF	20 SF	26
	Educational Classroom area	381 SF	20 SF	20
	Educational Classroom area	842 SF	20 SF	43
	Educational Classroom area	860 SF	20 SF	44
	Educational Classroom area	797 SF	20 SF	40
	Educational Classroom area	796 SF	20 SF	40
	Educational Classroom area	804 SF	20 SF	41
	Educational Classroom area	807 SF	20 SF	41
	Educational Classroom area	793 SF	20 SF	40
	Educational Classroom area	837 SF	20 SF	41
	Accessory Storage Areas, Mechanical Equipment Room	48 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	104 SF	300 SF	1
	Educational Classroom area	43 SF	20 SF	3
	Business Areas	256 SF	150 SF	2
	Business Areas	433 SF	150 SF	3
	Business Areas	180 SF	150 SF	2
	Business Areas	180 SF	150 SF	2
	Business Areas	165 SF	150 SF	2
	Educational Classroom area	216 SF	20 SF	11
	Educational Classroom area	201 SF	20 SF	11
	Educational Classroom area	252 SF	20 SF	13
	Educational Classroom area	390 SF	20 SF	20
	Educational Classroom area	286 SF	20 SF	15
	Educational Classroom area	1167 SF	20 SF	59
	Educational Classroom area	436 SF	20 SF	22
	Educational Classroom area	210 SF	20 SF	11
	Accessory Storage Areas, Mechanical Equipment Room	36 SF	300 SF	1
	Educational Classroom area	1287 SF	20 SF	65
	Educational Classroom area	387 SF	20 SF	20
	Educational Classroom area	329 SF	20 SF	17
	Educational Classroom area	242 SF	20 SF	13
	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	3048 SF	15 SF	203
	Kitchens, Commercial	909 SF	200 SF	5
	Accessory Storage Areas, Mechanical Equipment Room	81 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	70 SF	300 SF	1
	Accessory Storage Areas, Mechanical Equipment Room	108 SF	300 SF	1
	Agricultural Building	29 SF	300 SF	1



2:FB	2:FB	2:FB	2:FB	2:FB
2 HOUR FIRE BARRIER W/ 90 MIN DOORS				
	HIGH WIND AREA			
	NEW ADDITION			
	EXISTING BUILDING - NO WORK			
	EXISTING BUILDING - ALTERATION LEVEL 1 <u>ALTERATIONS DO NOT INVOLVE SPACE RECONFIGURATION</u>			
	EXISTING BUILDING - ALTERATION LEVEL 2 SPACE RECONFIGURATION DOES NOT <u>EXCEED 50% OF THE BUILDING AREA</u>			
	EXISTING BUILDING - ALTERATION LEVEL 3 SPACE RECONFIGURATION COVERS <u>MORE THAN 50% OF THE BUILDING AREA</u>			
	FIRE HYDRANT			
	FIRE DEPARTMENT CONNECTION			
	FIRE ALARM CONTROL PANEL			
	FIRE DEPARTMENT ACCESS (KNOX BOX)			
	FIRE EXTINGUISHER: ON BRACKET: MOUNT HANDLE 48" MAX AFF IN CABINET; BOTTOM OF CABINET 32" AFF			
	EXIT COMPONENT			
	CAPACITY ACTUAL OCCUPANT LOAD			
	OCCUPANT COUNT @ ROOM EXIT			
	TRAVEL DISTANCE			

PROJECT NAME	EPIC Elementary Storm Shelter Addition
OWNER	Liberty Public Schools 8 Victory Lane Liberty, MO 64068
AUTHORITY HAVING JURISDICTION	City of Liberty, MO Planning Department 101 East Kansas Street Liberty, MO 64068
RESPONDING FIRE SERVICE	City of Liberty Fire Department
ANTICIPATED OCCUPANCY	8/1/2024 12:00:00 AM
ADOPTED CODES AND ORDINANCES	2018 International Building Code 2018 International Existing Building Code 2017 National Electric Code (NFPA 70) 2018 International Mechanical Code 2018 International Plumbing Code 2012 International Energy Conservation Code 2009 ICC A117.1 Accessible and Usable Buildings and Facilities 2016 ASME A17.1 Safety Code for Elevators and Escalators ASTM C108 Standard on Design and Construction of Storm Shelters Amendments
BLDG	
<b>BUILDING INFORMATION</b>	
OCCUPANCY CLASSIFICATION:	Educational, Group E (305.1)
CONSTRUCTION TYPE:	I-II (602.2, Non-combustible, non-protected) Addition to existing structure
BUILDING HEIGHT:	
Allowable Height (Table 504.3):	75' above grade plane
Building Height:	32'
Allowable Stories (Table 504.4):	3 stories above grade plane
Building Stories:	1 story above grade plane
BUILDING AREA:	
Sprinkler (Table 506.2):	S1: Building one story max. above grade plane with automatic sprinkler system
Allowable Area:	43500 sq ft
Building Area:	23864 (Existing Building) +7950 (Addition) = 36354 sq ft
OCCUPANCY SEPARATION:	No separation requirement (Table 506.4)
INCIDENTAL USE SEPARATION:	No separation requirement (509.3)
FIRE RESISTANCE RATINGS:	(Per Table 601, 602)
Primary Structural Frame:	0-Hour fire-resistance rating
Exterior Bearing Walls:	0-Hour fire-resistance rating
Interior Bearing Walls:	0-Hour fire-resistance rating
Exterior Nonbearing Walls:	0-Hour fire-resistance rating
Interior Nonbearing Walls:	0-Hour fire-resistance rating
Floor Construction / Secondary Members:	0-Hour fire-resistance rating
Roof Construction / Secondary Members:	0-Hour fire-resistance rating
Fire Walls:	No fire walls
Fire Barriers:	2-Hour shafts, exit enclosures and passageway walls (Section 707) 90 Minute door for 90 Minute glazing, 100 or 1296 sq in max (Table 716.112), No Windows Permitted except those meeting ASTM E119 or UL 263 (Table 716.113)
Fire Partitions:	No fire partitions
Smoke Barriers / Partitions:	No smoke barriers / partitions
Shafts:	No shaft enclosures

NUMBER OF EXITS:	2 per space greater than 49 occupants (Table 1006.2.1) 3 per space with load 50 to 1,000; 4 per space over 1,000
DEAD-END CORRIDORS:	50' Max. with automatic sprinkler system in groups B, E, F, I, M, R-1, R-2, R-4, S, U (1002.4, Exception 2)
COMMON PATH OF TRAVEL:	75' (Table 1006.2.1)
TRAVEL DISTANCE TO EXIT:	250' Maximum for A, E, F-1, I-1, M, R, S-1 with sprinkler (Table 1017.2)
CORRIDOR CONSTRUCTION:	0-hour fire rating in A, B, E, F-2, I-2, M-2, U, occupancies with sprinkler (1002.1)
CORRIDOR WIDTH:	72" minimum for Group E corridor with required capacity of 100 or more (Table 1002.2) 44" minimum corridor width (Table 1002.2)
MEANS OF EGRESS CAPACITY:	0.20 for stairways (1005.3.1) 0.15* for doors and other (1005.3.2) (sprinklered bldg)

SPRINKLER:	Automatic sprinkler system provided throughout Sprinkler installed per NFPA 13 (903.3.1.1)
FIRE ALARM SIGNALING:	EVAC (Emergency Voice/Alarm Communication Fire Alarm System provided throughout)

Lavatories (Male):	E: 1 per 50; A-3: 1 per 200; B: 1 per 40 then 1 per 80 over 80
Lavatories (Female):	E: 1 per 50; A-3: 1 per 200; B: 1 per 40 then 1 per 80 over 80
Drinking Fountains:	E: 1 per 100; A-3: 1 per 500; B: 1 per 100
Service Sink:	1

506.2	Allowable Area Determination: Equation 5-2	
Aa =	$[A + (NS \times f)] \times Sa$ where: Aa = Allowable area (square feet, ft <sup>2</sup> ) A = Tabular allowable area factor (per sprinkler qualifier) in accordance with Table 506.2 NS = Tabular number of areas factor per Table 506.2 (regardless of whether building is sprinklered) f = Area increase due to frontage/percentage per Section 506.3 Sa = Actual number of stories above grade plane: not to exceed 3 (4 if building is fully sprinklered)	Aa = 43500 NS = 14500 f = 0 Sa = 1
Aa =	43500 sq ft	
506.3	Frontage Increase: Per Equation 5-5:	
If =	$[F - (0.25) W] / 30$ where: If = Area increase due to frontage F = Building perimeter that fronts a public way or open space having 20 feet open minimum width P = Perimeter of entire building (feet) W = Width of public way or open space (feet) – min. 20' to be allowed, use 30' max.	F = 1 P = 1234 W = 30
If =	0	
<b>EXISTING BUILDING FIXTURES NUMBERS BASED ON ACTUAL OCCUPANCY OF</b>		
<b>00 STUDENTS + 30 STAFF = 330</b>		
<b>ADDITION TO EXISTING FIXTURES NUMBERS BASED ON CALCULATED OCCUPANT LOADS</b>		

Total Facility Fixture Counts							
Fixture	Required			Provided			
	Male	Female	Total	Total	Male	Female	Gender Neutral
Water Closets	8	9	17	26	12	12	2
Lavatories	8	9	17	20	10	10	0
Drinking Fountains			4	4			
Service Sinks			1	2			

Urinal Substitutions				
Occupancy Group	Percentage Allowed	Required Water Closets	Permitted Substitutions	Substitutions Applied
Assembly / Education	67% of required	17	11	4
All other occupancies	50% of required			

# EPiC Elementary Storm Shelter Addition

**Liberty Public Schools**  
**650 Conister St**  
**Liberty, MO 64068**

#	Description	Date
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Kevin E. Nelson  
A-2019015618

JOB NO: 23020.00  
DRAWN BY: HB  
CHECKED BY: JB  
DATE: 10/11/2023

# G021

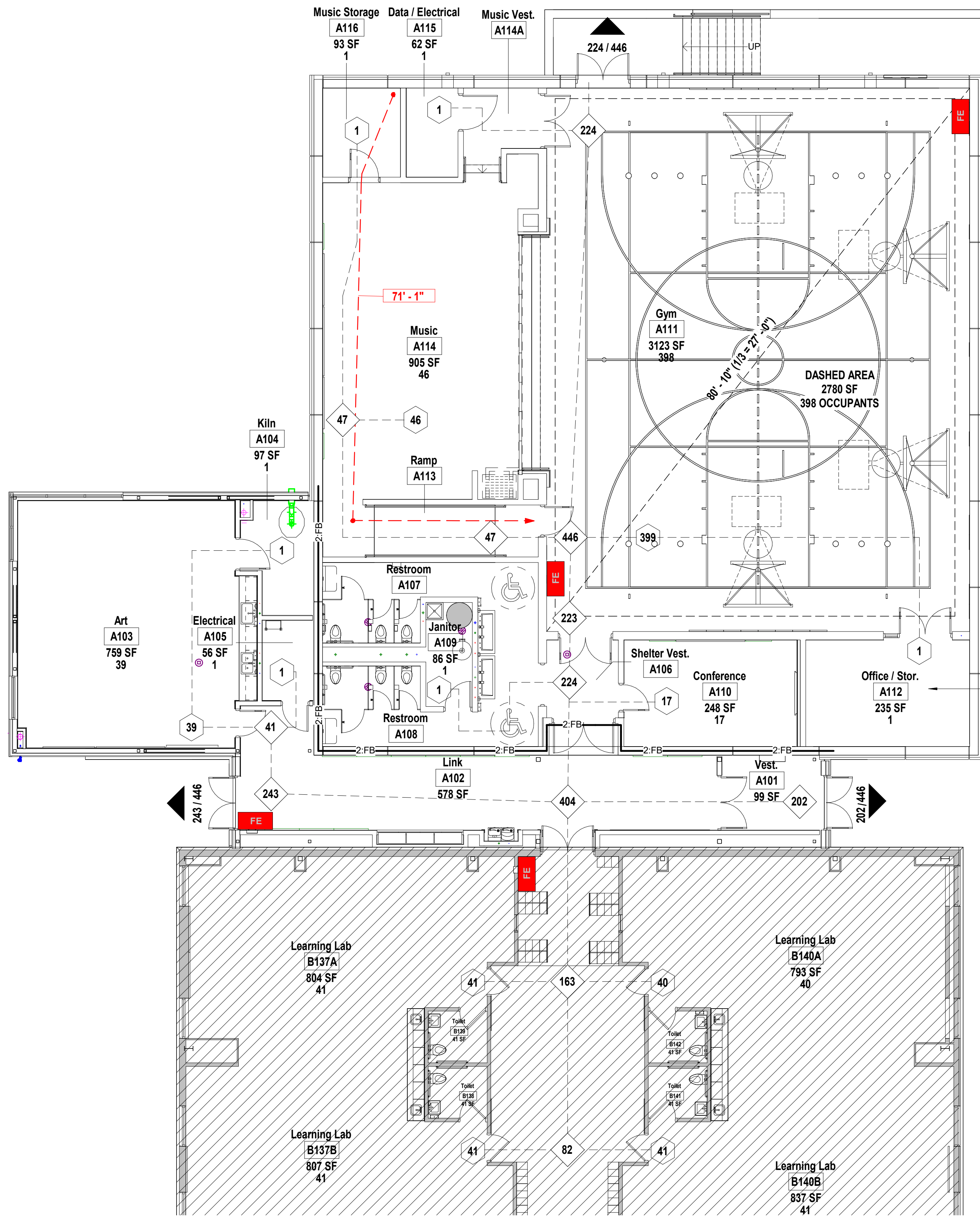


Addition Occupant Load Table

Rm No	Room Name	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
A103	Art	Educational Classroom area	759 SF	20 SF	39
A104	Klin	Accessory Storage Areas, Mechanical Equipment Room	97 SF	300 SF	1
A105	Electrical	Accessory Storage Areas, Mechanical Equipment Room	56 SF	300 SF	1
A109	Janitor	Accessory Storage Areas, Mechanical Equipment Room	86 SF	300 SF	1
A110	Conference	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	248 SF	15 SF	17
A111	Gym	Assembly Without Fixed Seats Concentrated (chairs only - not fixed)	3123 SF	7 SF	398
A112	Office / Stor.	Accessory Storage Areas, Mechanical Equipment Room	235 SF	300 SF	1
A114	Music	Educational Classroom area	905 SF	20 SF	46
A115	Data / Electrical	Accessory Storage Areas, Mechanical Equipment Room	62 SF	300 SF	1
A116	Music Storage	Accessory Storage Areas, Mechanical Equipment Room	93 SF	300 SF	1
Level 1					506

Existing Building Occupant Load Table

Rm No	Room Name	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
B120	Activity	Educational Classroom area	842 SF	20 SF	43
B124A	Mech	Accessory Storage Areas, Mechanical Equipment Room	48 SF	300 SF	1
B124C	Storage	Accessory Storage Areas, Mechanical Equipment Room	63 SF	300 SF	1
B126	SPED	Educational Classroom area	500 SF	20 SF	26
B127	SPED	Educational Classroom area	153 SF	20 SF	8
B128	SPED	Educational Classroom area	126 SF	20 SF	7
B130	Break Out	Educational Classroom area	514 SF	20 SF	26
B132	Tinker Room	Educational Classroom area	381 SF	20 SF	20
B133A	Learning Lab	Educational Classroom area	842 SF	20 SF	43
B133B	Learning Lab	Educational Classroom area	860 SF	20 SF	44
B134A	Learning Lab	Educational Classroom area	797 SF	20 SF	40
B134B	Learning Lab	Educational Classroom area	796 SF	20 SF	40
B137A	Learning Lab	Educational Classroom area	804 SF	20 SF	41
B137B	Learning Lab	Educational Classroom area	807 SF	20 SF	41
B140A	Learning Lab	Educational Classroom area	793 SF	20 SF	40
B140B	Learning Lab	Educational Classroom area	837 SF	20 SF	41
B146	Electrical	Accessory Storage Areas, Mechanical Equipment Room	48 SF	300 SF	1
BX	Storage	Accessory Storage Areas, Mechanical Equipment Room	104 SF	300 SF	1
BX	Quiet Room	Educational Classroom area	43 SF	20 SF	3
C101	Reception	Business Areas	255 SF	150 SF	2
C102	Staff Work	Business Areas	433 SF	150 SF	3
C103	Office	Business Areas	180 SF	150 SF	2
C104	Office	Business Areas	180 SF	150 SF	2
C105	Nurse	Business Areas	165 SF	150 SF	2
C108A	Conference A	Educational Classroom area	216 SF	20 SF	11
C108B	Conference B	Educational Classroom area	201 SF	20 SF	11
C109	Huddle	Educational Classroom area	252 SF	20 SF	13
C110	Collaboration	Educational Classroom area	390 SF	20 SF	20
C111	Conference	Educational Classroom area	286 SF	20 SF	15
C112	Learning Lab	Educational Classroom area	1167 SF	20 SF	59
C113	Tinker Room	Educational Classroom area	436 SF	20 SF	22
C114	Conference	Educational Classroom area	210 SF	20 SF	11
C115	Closet	Accessory Storage Areas, Mechanical Equipment Room	36 SF	300 SF	1
C116	Learning Lab	Educational Classroom area	1287 SF	20 SF	65
C117	Tinker Room	Educational Classroom area	397 SF	20 SF	20
C118	Project Area	Educational Classroom area	329 SF	20 SF	17
C119	Project Room	Educational Classroom area	242 SF	20 SF	13
C124	Multipurpose Room	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	3046 SF	15 SF	203
C124b	Warming Kitchen	Kitchens, Commercial	909 SF	200 SF	5
CX	Storage	Accessory Storage Areas, Mechanical Equipment Room	81 SF	300 SF	1
CX	Data	Accessory Storage Areas, Mechanical Equipment Room	70 SF	300 SF	1
CX	Electrical	Accessory Storage Areas, Mechanical Equipment Room	108 SF	300 SF	1
CX	Storage	Agricultural Building	29 SF	300 SF	1
Level 1					968



OWNER PROVIDED FIRST AID KIT SHALL BE SUPPLIED FOR SHELTER USE (702.4) FIRST AID KIT TO BE LOCATED IN OFFICE /STOR. FINAL LOCATION TBD BY OWNER

CODE LEGEND

- 2:FB 2:FB 2:FB 2:FB 2:FB  
2 HOUR FIRE BARRIER W/ 90 MIN DOORS
- HIGH WIND AREA
- NEW ADDITION
- EXISTING BUILDING - NO WORK
- EXISTING BUILDING - ALTERATION LEVEL 1  
ALTERATIONS DO NOT INVOLVE SPACE RECONFIGURATION
- EXISTING BUILDING - ALTERATION LEVEL 2  
SPACE RECONFIGURATION DOES NOT EXCEED 50% OF THE BUILDING AREA
- EXISTING BUILDING - ALTERATION LEVEL 3  
SPACE RECONFIGURATION COVERS MORE THAN 50% OF THE BUILDING AREA
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- FIRE ALARM CONTROL PANEL
- FIRE DEPARTMENT ACCESS (KNOX BOX)
- FIRE EXTINGUISHER:  
ON BRACKET: MOUNT HANDLE 48" MAX AFF  
IN CABINET: BOTTOM OF CABINET 32" AFF
- EXIT COMPONENT
- CAPACITY
- ACTUAL OCCUPANT LOAD
- OCCUPANT COUNT @ ROOM EXIT
- OCCUPANT SUM
- TRAVEL DISTANCE

STORM SHELTER OCCUPANT LOAD

USABLE SPACES WITHIN SHELTER: A107 & A108 Restroom, A1110 Conference, A111 Gym, A112 PE Office / Storage, A114 Music Classroom, A116 Music Storage, A114A Music Vest, & A115a Data/Electrical

GROSS AREA OF USABLE SPACES: 5258 SF  
USABLE FLOOR AREA OF SHELTER: 5258 SF

USABLE SPACE IS BASED UPON ACTUAL NET AREA PER 501.1.2.2

STANDING OR SEATED OCCUPANTS: 1052  
WHEELCHAIR SPACES: 6  
TOTAL OCCUPANCY OF SHELTER: 1058

VENTILATION AREA

TOTAL OCCUPANCY OF SHELTER: 1058  
VENTING AREA PER OCCUPANT: 6 SQ IN (TABLE 702.1.1)  
MINIMUM VENTING AREA REQUIRED: 6348 SQ IN

REQUIRED SANITATION FACILITIES

TOILET FACILITIES: REQUIRED: 4 PROVIDED: 6  
HANDWASHING FACILITIES: REQUIRED: 2 PROVIDED: 4

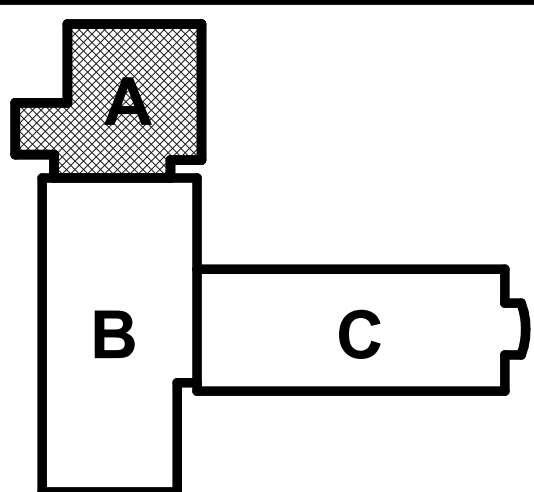
GYMNASIUM OCCUPANT LOAD

ASSEMBLY 4

ASSEMBLY EVENT  
BLEACHERS 0' at 18"/occ 0  
TEMPORARY SEATING 2780 sf at 7 sf/occ 398  
TEMPORARY STAGE 450 sf at 15 sf/occ 0  
TOTAL ASSEMBLY OCCUPANTS: 398

ATHLETIC EVENT  
BLEACHERS 0' at 18"/occ 0  
GYM FLOOR 2130 sf at 50sf/occ 56  
TOTAL ATHLETIC OCCUPANTS: 56

KEY PLAN



EPiC Elementary Storm Shelter Addition

Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

REVISIONS:

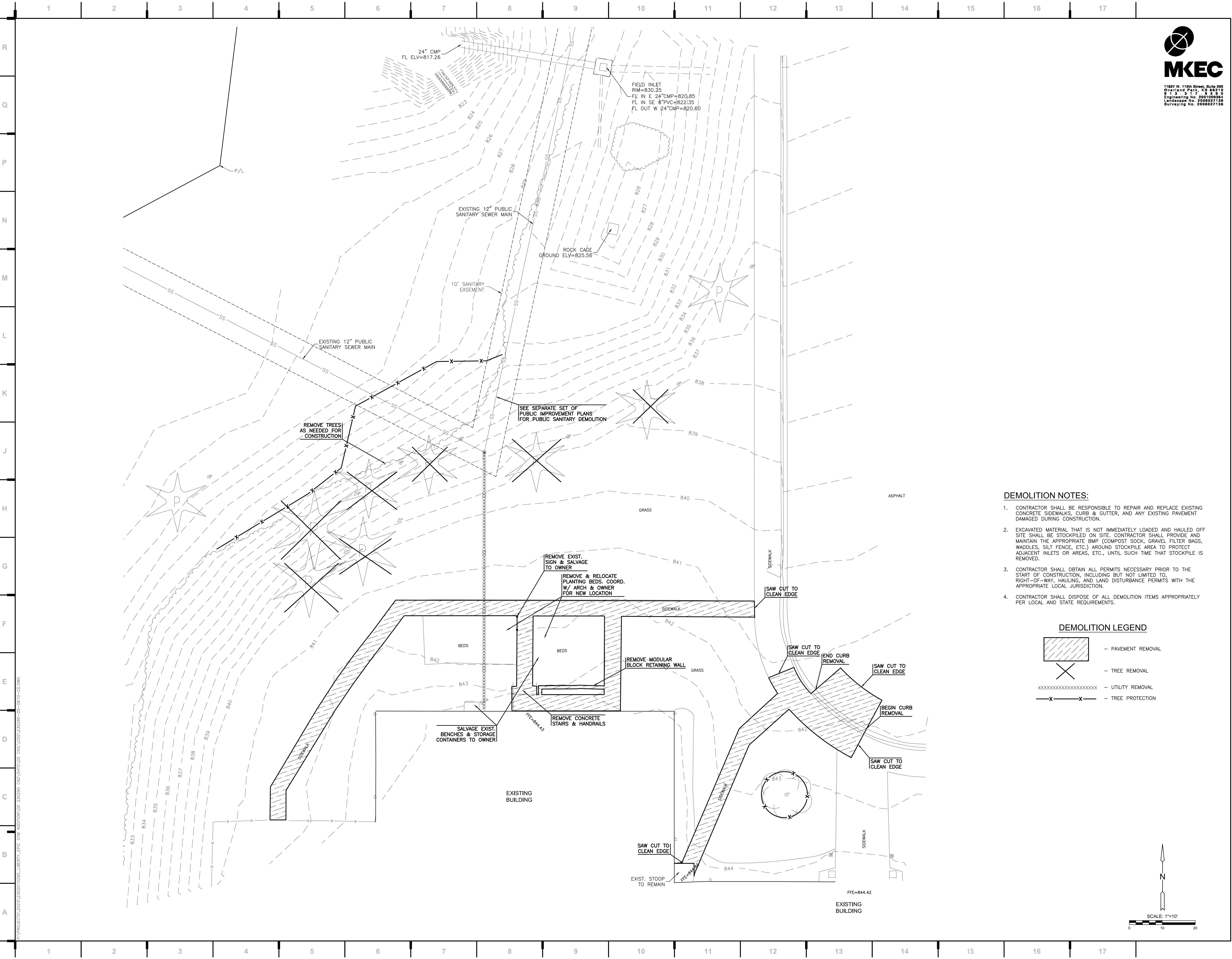
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JOB NO: 23020.00  
DRAWN BY: HB  
CHECKED BY: JB  
DATE: 10/11/2023

G101





DEMOLITION NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND REPLACE EXISTING CONCRETE SIDEWALKS, CURB & GUTTER, AND ANY EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION.
- EXCAVATED MATERIAL THAT IS NOT IMMEDIATELY LOADED AND HAULED OFF SITE SHALL BE STOCKPILED ON SITE. CONTRACTOR SHALL PROVIDE AND MAINTAIN THE APPROPRIATE BMP (COMPOST SOCK, GRAVEL FILTER BAGS, WADDLES, SILT FENCE, ETC.) AROUND STOCKPILE AREA TO PROTECT ADJACENT INLETS OR AREAS, ETC., UNTIL SUCH TIME THAT STOCKPILE IS REMOVED.
- CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, RIGHT-OF-WAY, HAULING, AND LAND DISTURBANCE PERMITS WITH THE APPROPRIATE LOCAL JURISDICTION.
- CONTRACTOR SHALL DISPOSE OF ALL DEMOLITION ITEMS APPROPRIATELY PER LOCAL AND STATE REQUIREMENTS.

DEMOLITION LEGEND

- PAVEMENT REMOVAL
- TREE REMOVAL
- UTILITY REMOVAL
- TREE PROTECTION

EPiC Elementary Addition

Liberty Public Schools

650 Conistor St  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



BRADEN L. TAYLOR, P.E.  
LISC. #2021001896

JOB NO: 23020.00  
DRAWN BY: SEK  
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DATE: 10.11.2023

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DEMOLITION PLAN

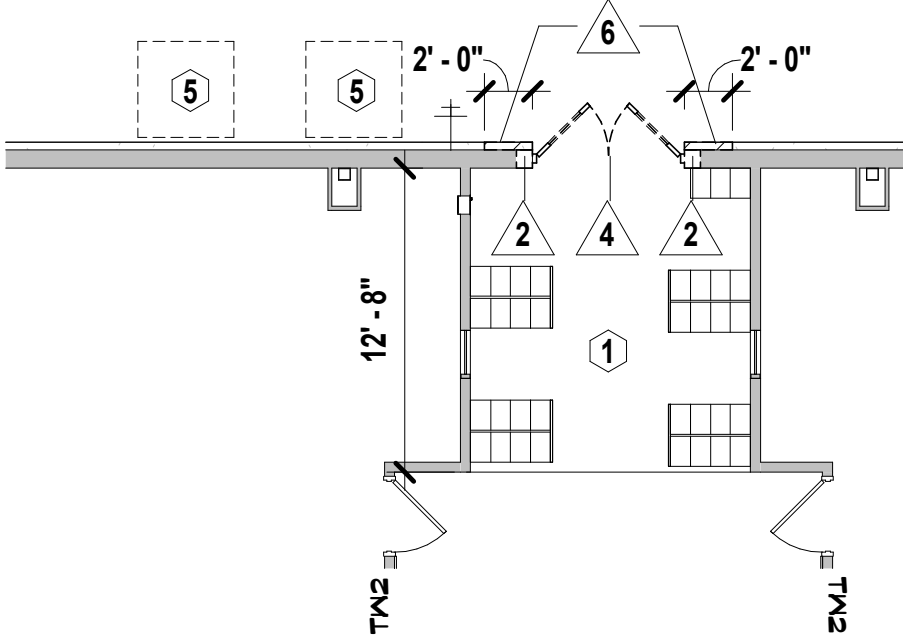




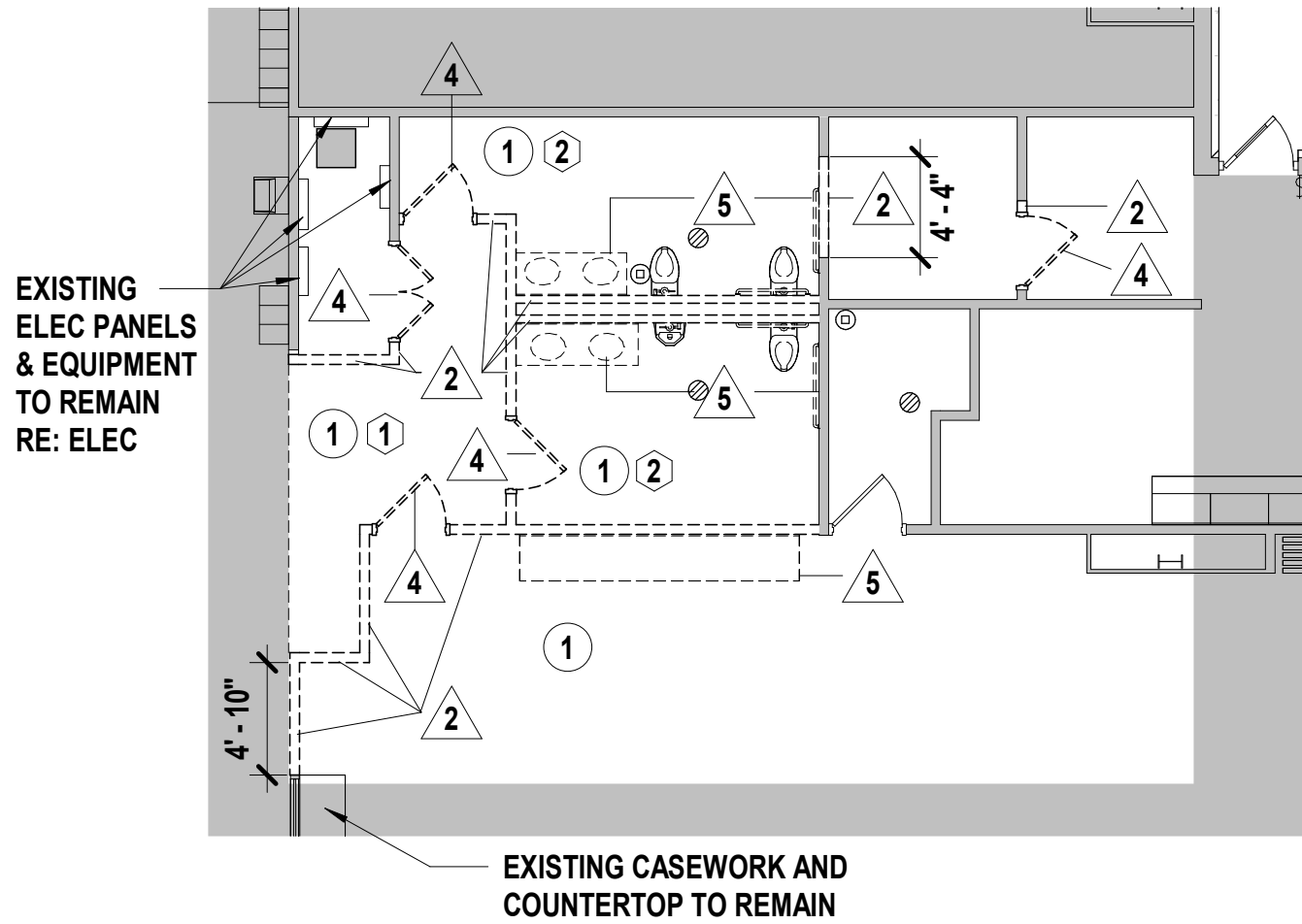
**L1** Scale Existing Exterior Door Photos  
1/2" = 1'-0"



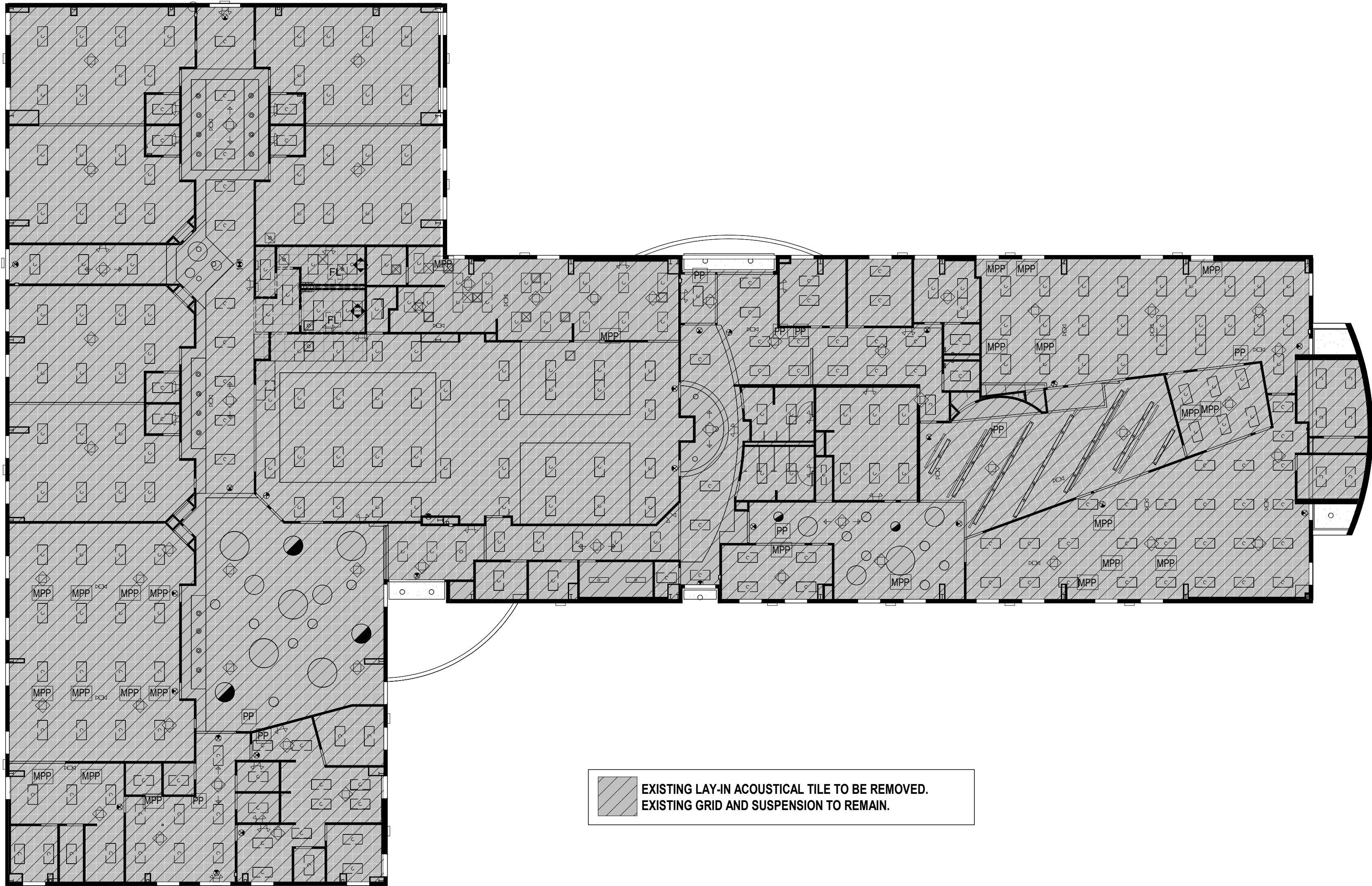
**H1** Scale Existing Repeater  
1 1/2" = 1'-0"



**E1** Scale Demo Area Floor Plan - Level 1 - Area B - Link  
1/8" = 1'-0"

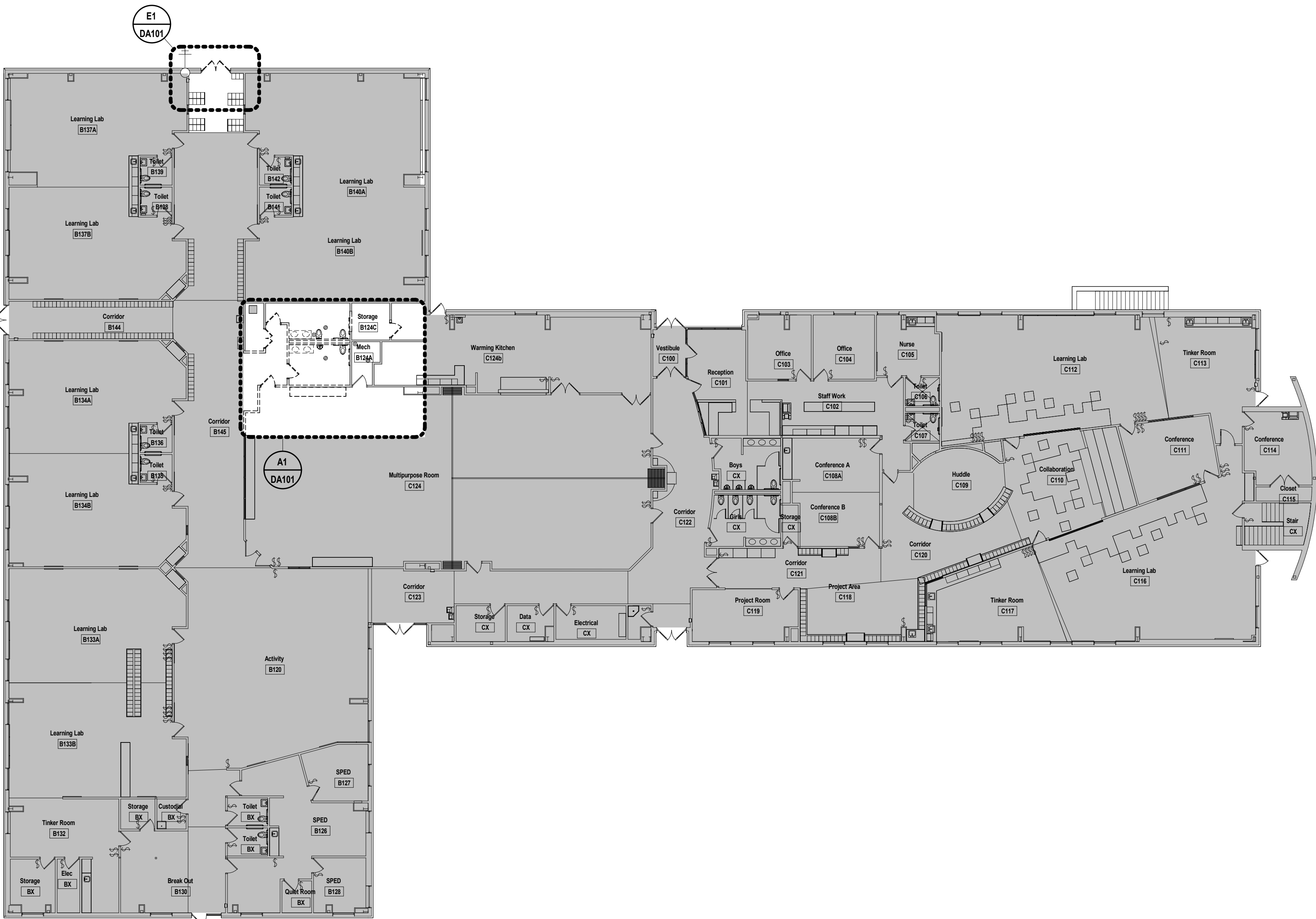


**A1** Scale Demo Area Floor Plan - Level 1 - Area B - Cooler / Freezer  
1/8" = 1'-0"



EXISTING LAY-IN ACOUSTICAL TILE TO BE REMOVED.  
EXISTING GRID AND SUSPENSION TO REMAIN.

**J5** Scale Overall Demolition Reflected Ceiling Plan - Level 1  
1/16" = 1'-0"



**A5** Scale Overall Demolition Floor Plan - Level 1  
1/16" = 1'-0"

GENERAL DEMOLITION NOTES

- DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED
- DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE DEMOLISHED/REMOVED
- HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN
- EVERY DETAIL OF THE DEMOLITION WORK MAY NOT BE COVERED ON THESE DRAWINGS, BUT THE DEMOLITION CONTRACTOR SHALL COORDINATE WITH THE GC/CM TO ENSURE ALL REQUIRED ITEMS ARE REMOVED IN ORDER FOR NEW WORK TO BE COMPLETED
- IN AREAS SCHEDULED FOR DEMOLITION, ALL ACCESSORIES ATTACHED TO THE CEILINGS, FLOOR AND WALLS ARE TO BE REMOVED, INCLUDING BRACKETS, SCREWS, SIGNAGE, SURFACE MOUNTED ELECTRICAL AND TECHNOLOGY; REMOVE ALL WINDOW COVERINGS; MINI-BLINDS, ROLLER SHADES AND ALL BRACKETS
- THE OWNER WILL IDENTIFY ALL ITEMS TO BE SALVAGED PRIOR DEMOLITION STARTING. CONTRACTOR SHALL SALVAGE AND TURN OVER TO THE OWNER ALL EQUIPMENT IDENTIFIED. ALL REMAINING ITEMS SHALL BE REMOVED BY THE DEMOLITION CONTRACTOR
- DO NOT DISTURB SOIL UNDER EXISTING FOOTINGS AND/OR FLOOR SLABS NOTED TO REMAIN
- COORDINATE THE REMOVAL OF ALL PORTIONS OF LOAD BEARING ELEMENTS WITH THE STRUCTURAL ENGINEER PRIOR TO REMOVAL. PROVIDE TEMPORARY SHORING AS REQUIRED
- REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED

DEMOLITION NOTES

FLOORS & BASE

- REMOVE EXISTING CARPET AND BASE INCLUDING ADHESIVE
- REMOVE EXISTING SEAMLESS RESINOUS FLOORING AND BASE INCLUDING ADHESIVE
- REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR NEW CONSTRUCTION. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS.
- REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR UNDER SLAB MECHANICAL, ELECTRICAL AND PLUMBING WORK. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS. COORDINATE WITH MEP SHEETS FOR NEW WORK AND CAPPING OF ABANDONED SERVICES
- REMOVE DISPOSAL BINS AND CONCRETE PADS. SALVAGE TO OWNER.

WALLS

- REMOVE ALL PORTION OF EXISTING CMU/BRICK WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK. SALVAGE BRICK FOR REUSE AS MAY BE REQUIRED.
- REMOVE ALL PORTION OF EXISTING METAL STUD AND GYPSUM BOARD WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK WITH MEP DRAWINGS.
- REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAMED GLAZING SYSTEM.
- REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAME, DOOR AND ALL RELATED HARDWARE.
- REMOVE EXISTING CASEWORK (COUNTERTOP, BASE CABINETS AND UPPER CABINETS) AND ALL PLUMBING FIXTURES. REFER TO MEP SHEETS FOR EXISTING PLUMBING AND ELECTRICAL CONDUIT TO BE CAPPED
- REMOVE EXISTING BRICK WAINSCOT & EIFS PANEL SILL. COORDINATE EXTENTS OF REMOVAL W/ NEW CONSTRUCTION.
- COORDINATE REMOVAL OR RELOCATION OF EXISTING T-MOBILE REPEATER W/ OWNER.

CEILINGS

- REMOVE EXISTING LAY-IN ACOUSTICAL TILE AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM.
- REMOVE EXISTING SOFFITS AND ALL EXISTING FRAMING.
- REMOVE EXISTING GYPSUM BOARD CEILINGS AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM
- REMOVE EXISTING CEILING TILE AND RETAIN EXISTING SUSPENSION SYSTEM FOR RE-INSTALLATION OF NEW TILE

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816.531.8572 fax

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conlister St

Liberty, MO 64068

REVISIONS:

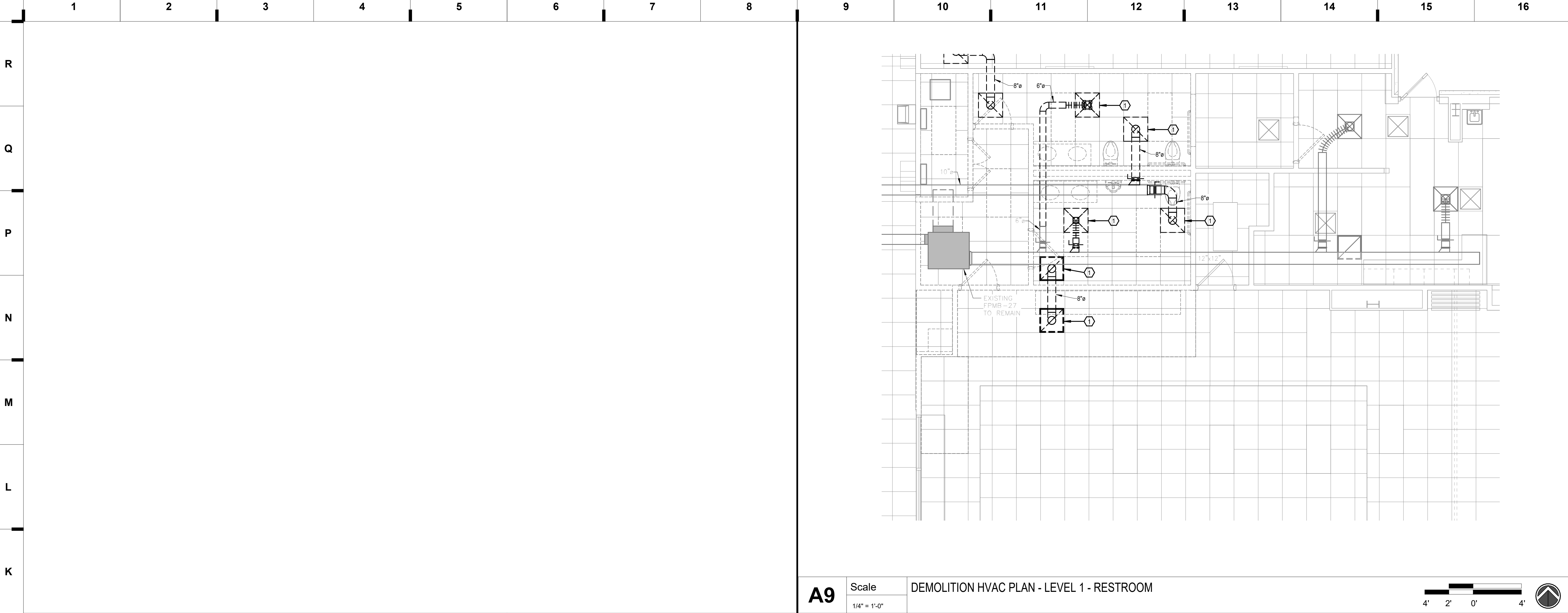
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JOB NO: 23020.00  
DRAWN BY: EW/HB  
CHECKED BY: JB  
DATE: 10/11/2023

DA101





## SHEET KEYNOTE LEGEND

### GENERAL DEMOLITION NOTES:

- UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.
- THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTION AND ARE NOT TO BE CONSIDERED "AS BUILT" CONDITIONS. THE INFORMATION SHOWN IS TO ESTABLISH THE EXTENT OF THE SCOPE OF WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM WORK AS REQUIRED TO MEET THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK INDICATED.
- PATCH ROOFS, WALLS, AND CEILINGS WHERE ANY SERVICES ARE REMOVED UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE ALL DUCTWORK, PIPING, WIRING, AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF EQUIPMENT INDICATED TO BE REMOVED.
- WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.
- PROVIDE FOR THE CONTINUITY OF ALL REMAINING SERVICES, SYSTEMS, AND CIRCUITS. RELOCATE AND RECONNECT ANY MECHANICAL AND ELECTRICAL FACILITIES THAT MUST BE RELOCATED IN ORDER TO ACCOMPLISH THE REMODELING SHOWN IN THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS.

### DEMOLITION PLAN NOTES:

- REMOVE EXISTING AIR DEVICE AND SALVAGE FOR RE-INSTALLATION.

## EPiC Elementary Storm Shelter Addition

Liberty Public Schools

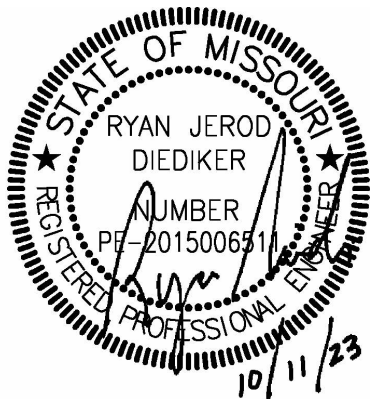
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engineers  
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project number 2314704



JOB NO: 23020.00  
DRAWN BY: SBI  
CHECKED BY: RJD  
DATE: 10/11/2023

# DM101

DEMOLITION HVAC PLAN - LEVEL 1

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Construction  
Documents

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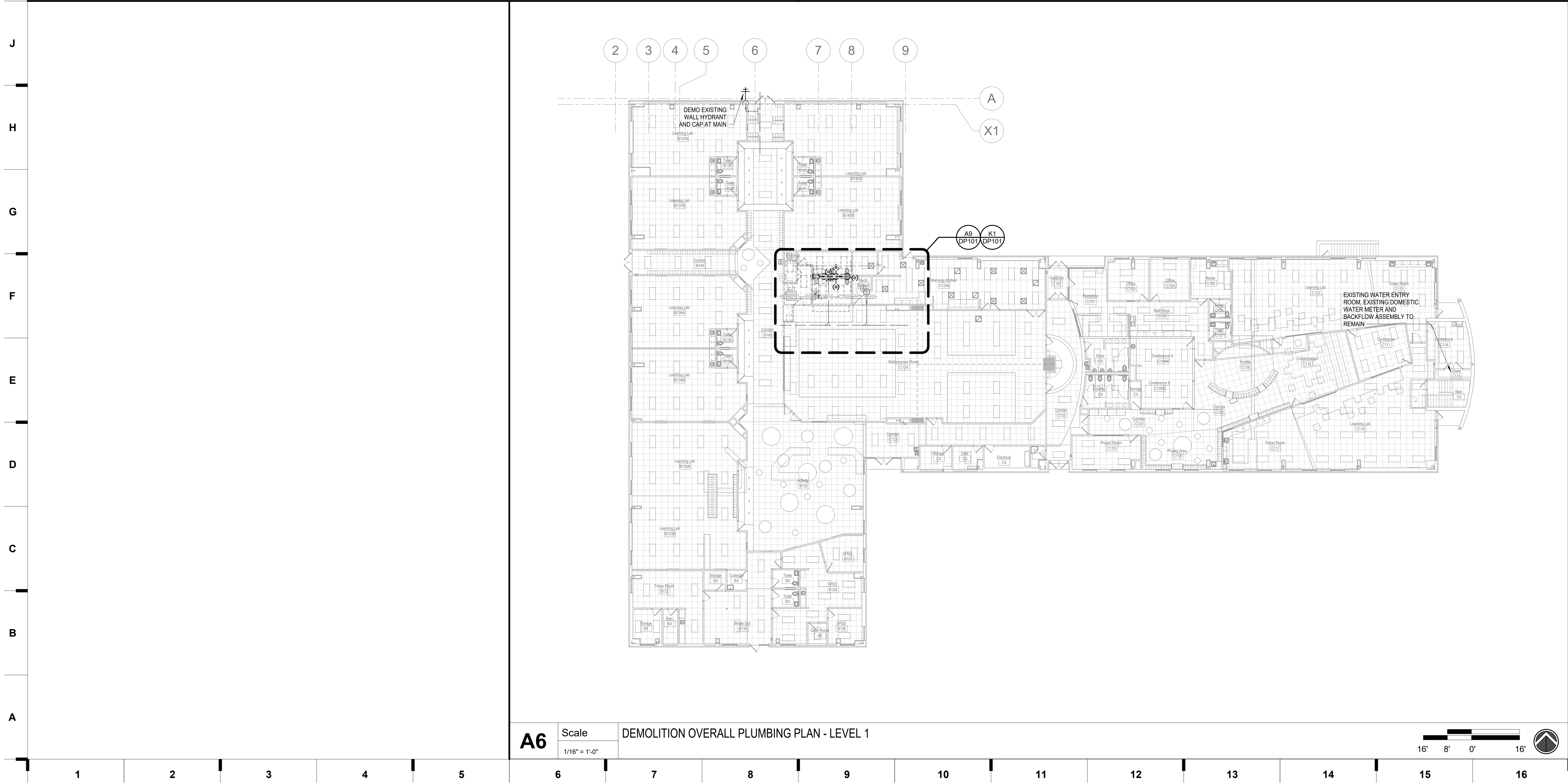
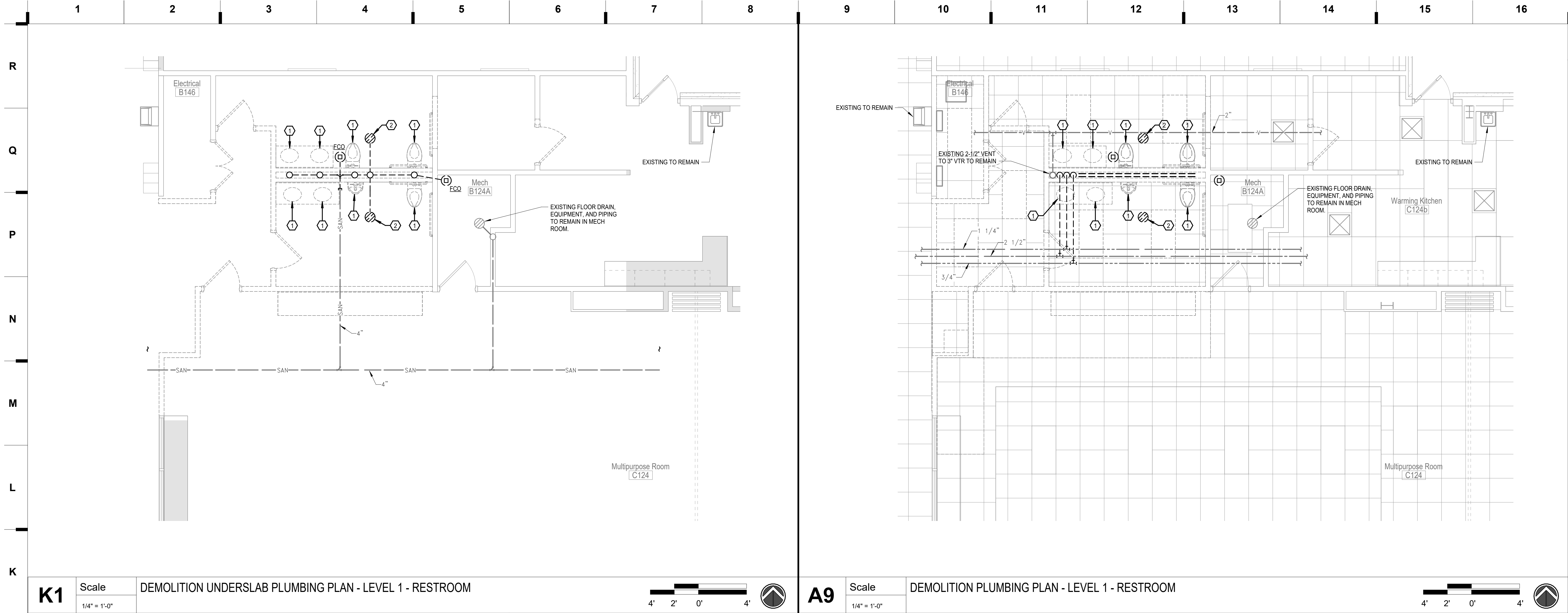
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### SHEET KEYNOTE LEGEND

**DEMOLITION GENERAL NOTES:**

- UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.
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- PATCH ROOFS, WALLS, AND CEILINGS WHERE ANY SERVICES ARE REMOVED UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE ALL DUCTWORK, PIPING, WIRING, AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF EQUIPMENT INDICATED TO BE REMOVED.
- WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.
- PROVIDE FOR THE CONTINUITY OF ALL REMAINING SERVICES, SYSTEMS, AND CIRCUITS. RELOCATE AND RECONNECT ANY MECHANICAL AND ELECTRICAL FACILITIES THAT MUST BE RELOCATED IN ORDER TO ACCOMPLISH THE REMODELING SHOWN IN THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS.

**DEMOLITION PLAN NOTES:**

- DEMO EXISTING PLUMBING FIXTURE. REMOVE EXISTING WATER AND VENT PIPING AND CAP AT MAIN. REMOVE AND CAP SANITARY PIPE BELOW GRADE.
- DEMO EXISTING FLOOR DRAIN. REMOVE EXISTING VENT PIPING AND CAP AT MAIN. CAP SANITARY PIPE BELOW GRADE.

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**smith & boucher engineers**

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phone 913.345.2127 fax 913.345.0617  
project number 2314704

**KEY PLAN**

**DP101**

**EPiC Elementary Storm Shelter Addition**

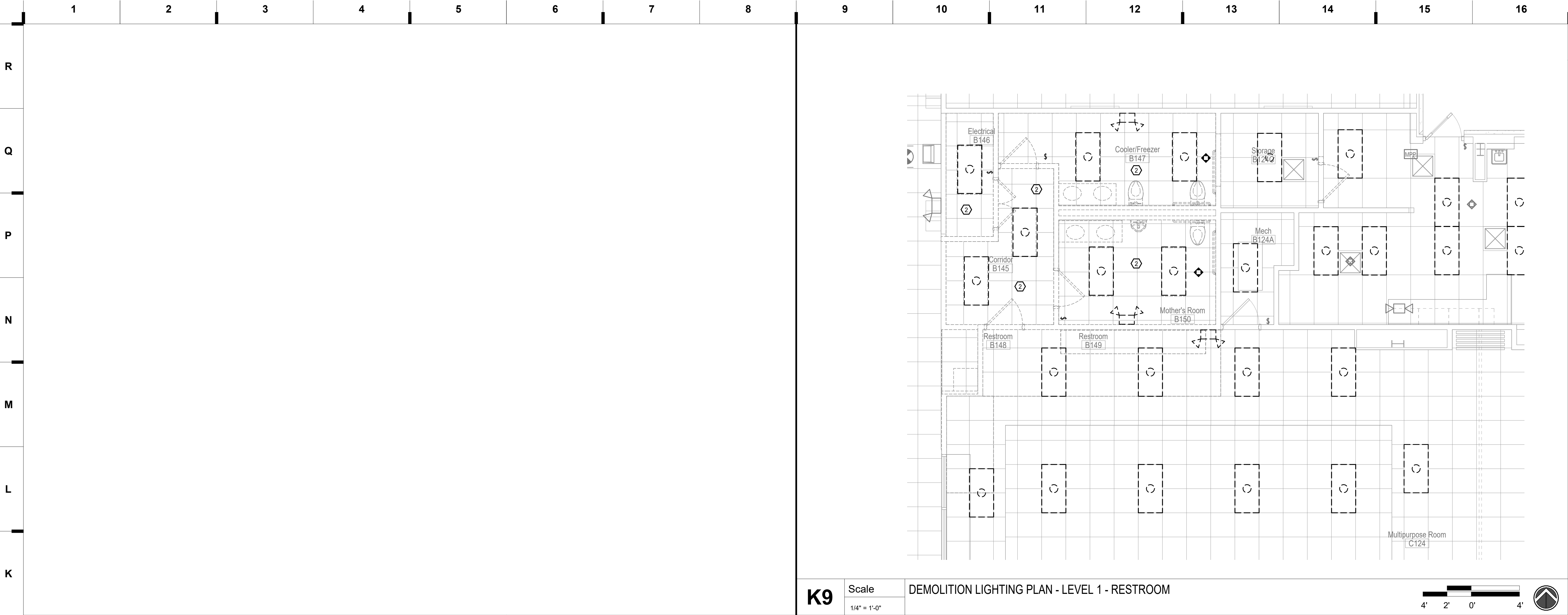
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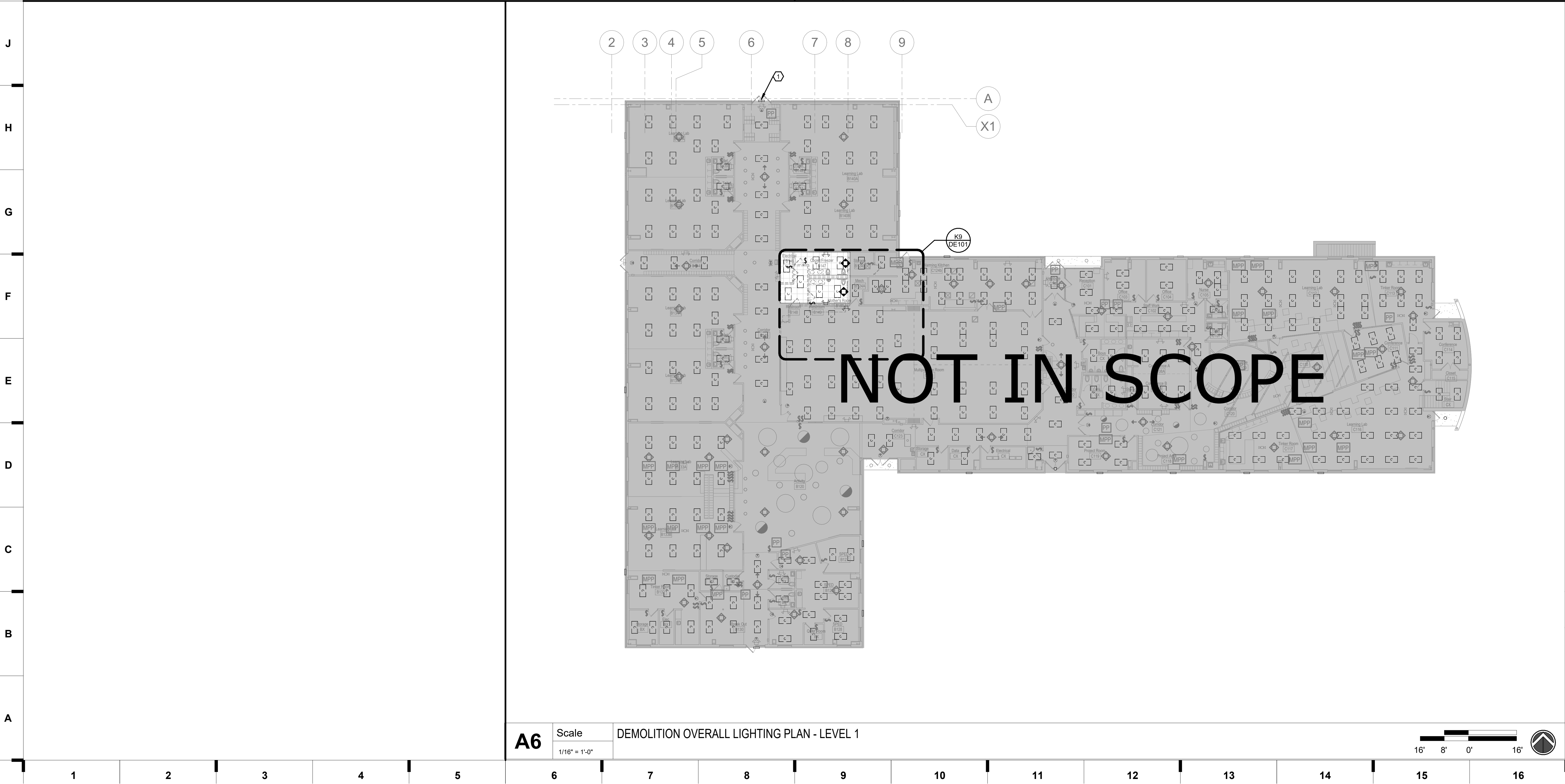
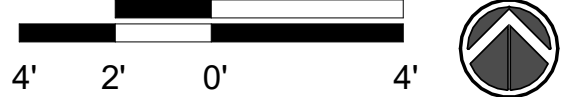
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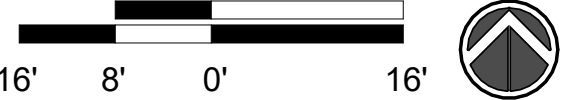




**K9** Scale DEMOLITION LIGHTING PLAN - LEVEL 1 - RESTROOM  
1/4" = 1'-0"



**A6** Scale DEMOLITION OVERALL LIGHTING PLAN - LEVEL 1  
1/16" = 1'-0"



## SHEET KEYNOTE LEGEND

### GENERAL DEMO NOTES:

1. THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTIONS AND ARE NOT TO BE CONSTRUED AS "AS-BUILT" CONDITIONS. THE INFORMATION IS SHOWN TO HELP ESTABLISH THE EXTENT OF THE NEW WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM THE WORK AS REQUIRED TO MEET THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK INDICATED.

2. DASHED LINES INDICATED MECHANICAL OR ELECTRICAL FIXTURES, DEVICES OR EQUIPMENT THAT SHALL BE REMOVED. SOLID LINES REPRESENT EXISTING EQUIPMENT OR MATERIAL TO REMAIN, EXCEPT WHERE OTHERWISE INDICATED.

3. DISCONNECT AND REMOVE ALL CIRCUITRY, DISCONNECTS, CONTROLLERS AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF FIXTURES, DEVICES OR EQUIPMENT INDICATED TO BE REMOVED. LABEL ALL CIRCUIT BREAKERS IN EXISTING PANELBOARDS NO LONGER IN USE AS SPARE. CAP ALL UNUSED CONDUIT AND WIRING BEYOND THE FLOOR LINE OR WALL LINE TO FACILITATE RESTORATION OF FINISH.

4. VERIFY AND RESTORE CONTINUITY OF ALL EXISTING CIRCUITRY INDICATED TO REMAIN IN USE. WHERE REMOVAL OF EXISTING WIRING INTERRUPTS ELECTRICAL CONTINUITY OF CIRCUITS WHICH ARE TO REMAIN, FURNISH AND INSTALL ALL REQUIRED CIRCUITRY, CONDUIT, JUNCTION BOXES, ETC. TO INSURE CONTINUED ELECTRICAL CONTINUITY.

5. RELOCATE AND RECONNECT ANY MECHANICAL EQUIPMENT AND ANY ELECTRIC FIXTURES, DEVICES OR EQUIPMENT THAT MUST BE RELOCATED IN ORDER TO ACCOMPLISH THE REVISIONS INDICATED ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS OR TO MEET NEC CODE REQUIRED CLEARANCES.

6. ELECTRIC CONTRACTOR TO FURNISH AND INSTALL BLANK JUNCTION BOX COVERS ON ALL EXISTING JUNCTION BOXES WITHIN THE CONSTRUCTION AREA.

### DEMO PLAN NOTES:

- ① DEMO WALL PACK, REPAIR CIRCUIT SERVING OTHER EXISTING TO REMAIN WALL PACKS
- ② DEMOLIGHTS AND ASSOCIATED CONTROLS WITH DEMO'S WALLS AND CEILINGS. REPAIR CIRCUITS OF EXISTING TO REMAIN LIGHTS

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

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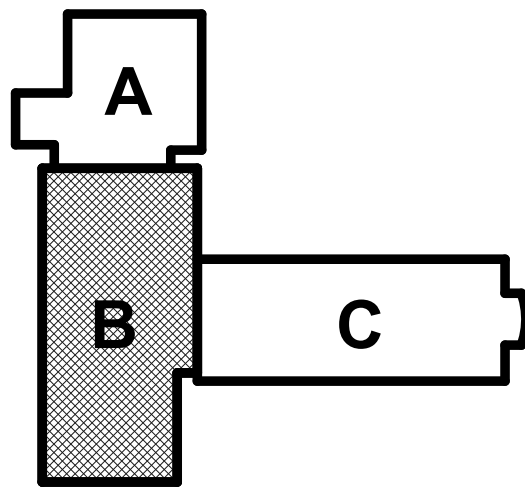
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**smith & boucher**  
engineers

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project number 2314704

## KEY PLAN



JOB NO: 23020.00  
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CHECKED BY: RJD  
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**DE101**

DEMOLITION LIGHTING PLAN - LEVEL 1

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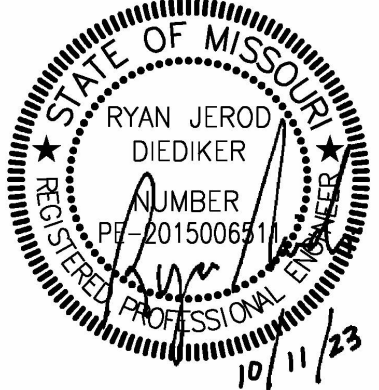
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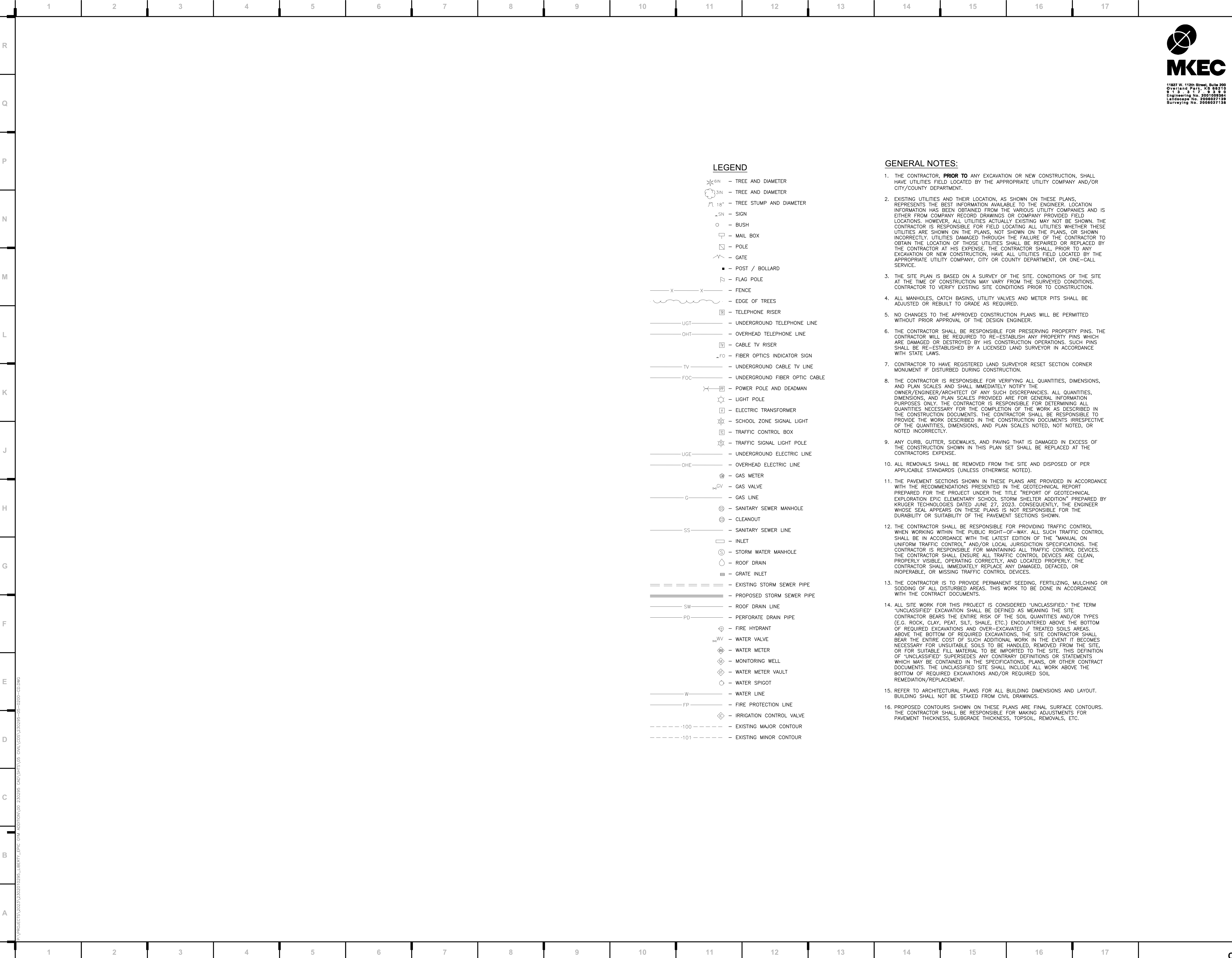


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Conformed  
Construction  
Documents

**EPiC Elementary Addition**  
Liberty Public Schools  
**650 Conistor St**  
Liberty, MO 64068

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#	Description	Date



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LISC. #2021001896

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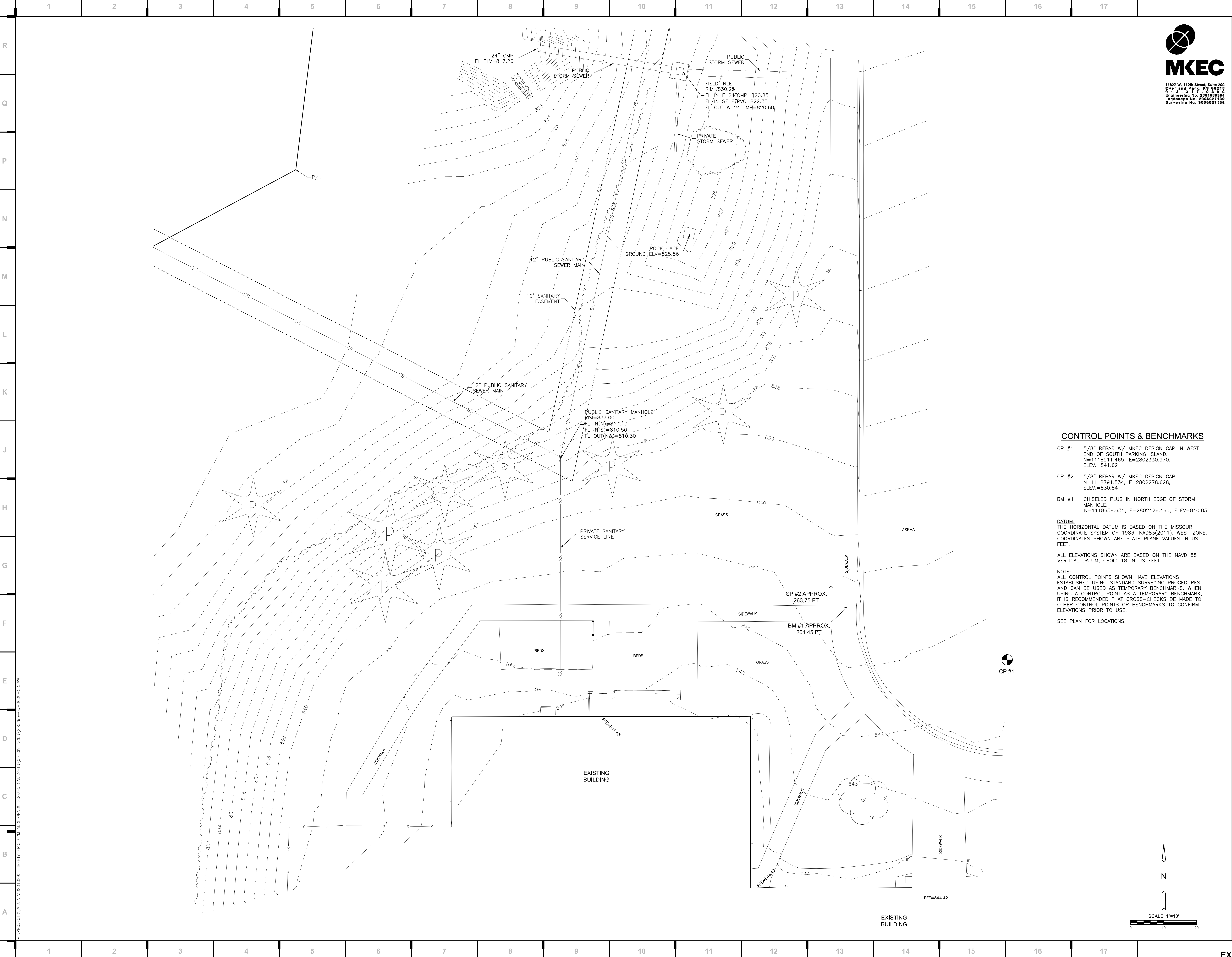
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#### CONTROL POINTS & BENCHMARKS

- CP #1 5/8" REBAR W/ MKEC DESIGN CAP IN WEST  
END OF SOUTH PARKING ISLAND.  
N=1118511.465, E=2802330.970,  
ELEV.=841.62
- CP #2 5/8" REBAR W/ MKEC DESIGN CAP.  
N=1118791.534, E=2802278.628,  
ELEV.=830.84
- BM #1 CHISELED PLUS IN NORTH EDGE OF STORM  
MANHOLE.  
N=1118658.631, E=2802426.460, ELEV.=840.03

**DATUM:**  
THE HORIZONTAL DATUM IS BASED ON THE MISSOURI  
COORDINATE SYSTEM OF 1983, NAD83(2011), WEST ZONE.  
COORDINATES SHOWN ARE STATE PLANE VALUES IN US  
FEET.

ALL ELEVATIONS SHOWN ARE BASED ON THE NAVD 88  
VERTICAL DATUM, GEOID 18 IN US FEET.

**NOTE:**  
ALL CONTROL POINTS SHOWN HAVE ELEVATIONS  
ESTABLISHED USING STANDARD SURVEYING PROCEDURES  
AND CAN BE USED AS TEMPORARY BENCHMARKS. WHEN  
USING A CONTROL POINT AS A TEMPORARY BENCHMARK,  
IT IS RECOMMENDED THAT CROSS-CHECKS BE MADE TO  
OTHER CONTROL POINTS OR BENCHMARKS TO CONFIRM  
ELEVATIONS PRIOR TO USE.

SEE PLAN FOR LOCATIONS.

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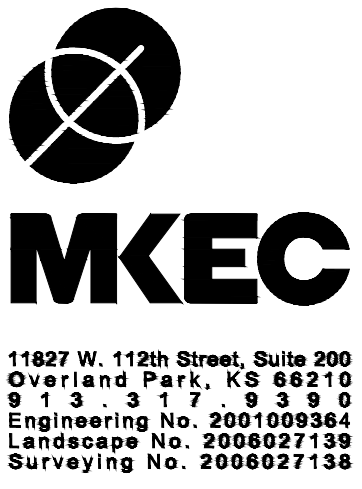
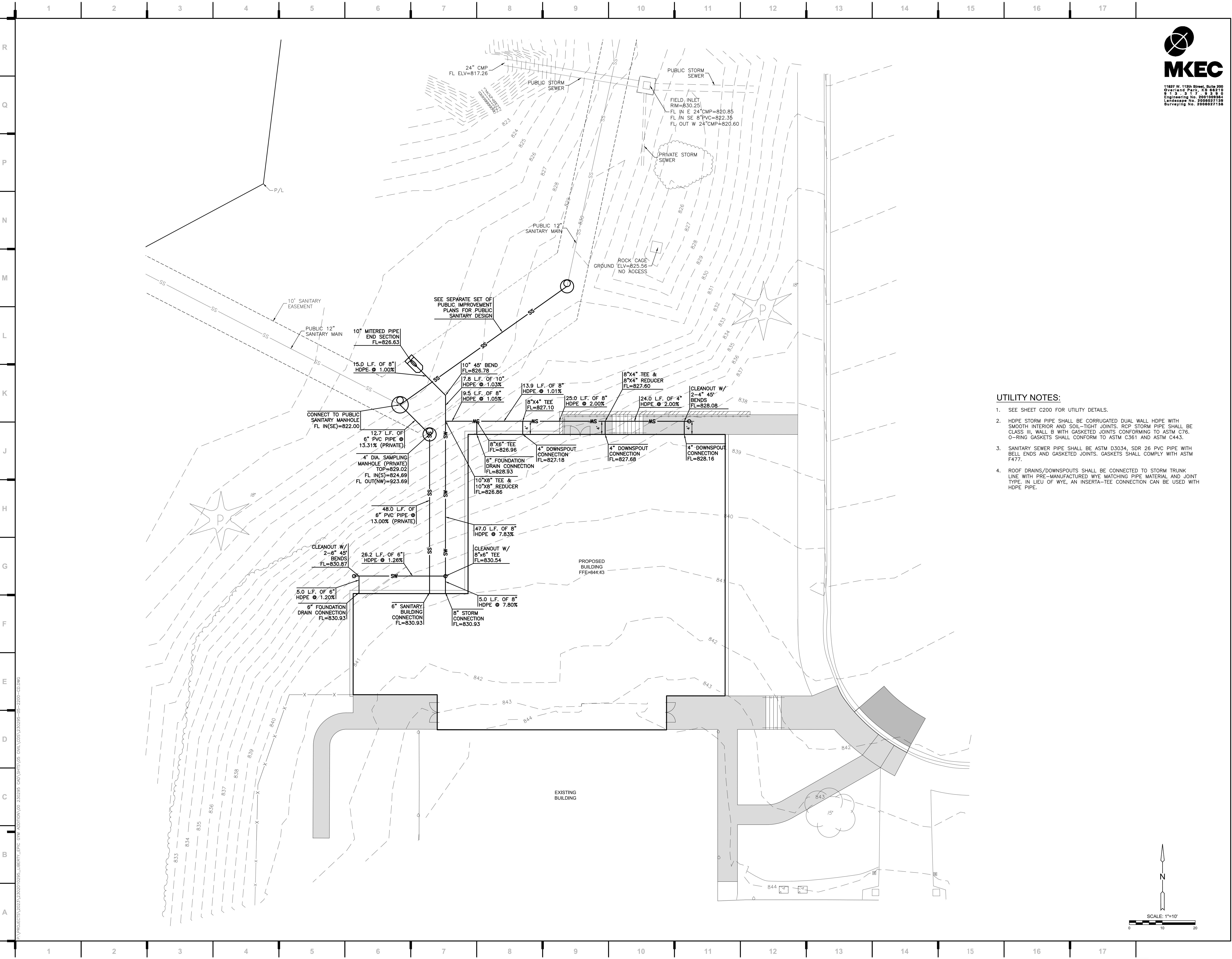


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- UTILITY NOTES:**
- SEE SHEET C200 FOR UTILITY DETAILS.
  - HDPE STORM PIPE SHALL BE CORRUGATED DUAL WALL HDPE WITH SMOOTH INTERIOR AND SOIL-TIGHT JOINTS. RCP STORM PIPE SHALL BE CLASS III, WALL B WITH GASKETED JOINTS CONFORMING TO ASTM C76. O-RING GASKETS SHALL CONFORM TO ASTM C361 AND ASTM C443.
  - SANITARY SEWER PIPE SHALL BE ASTM D3034, SDR 26 PVC PIPE WITH BELL ENDS AND GASKETED JOINTS. GASKETS SHALL COMPLY WITH ASTM F477.
  - ROOF DRAINS/DOWNSPOUTS SHALL BE CONNECTED TO STORM TRUNK LINE WITH PRE-MANUFACTURED WYE MATCHING PIPE MATERIAL AND JOINT TYPE. IN LIEU OF WYE, AN INSERTA-TEE CONNECTION CAN BE USED WITH HDPE PIPE.

**EPiC Elementary Addition**  
Liberty Public Schools  
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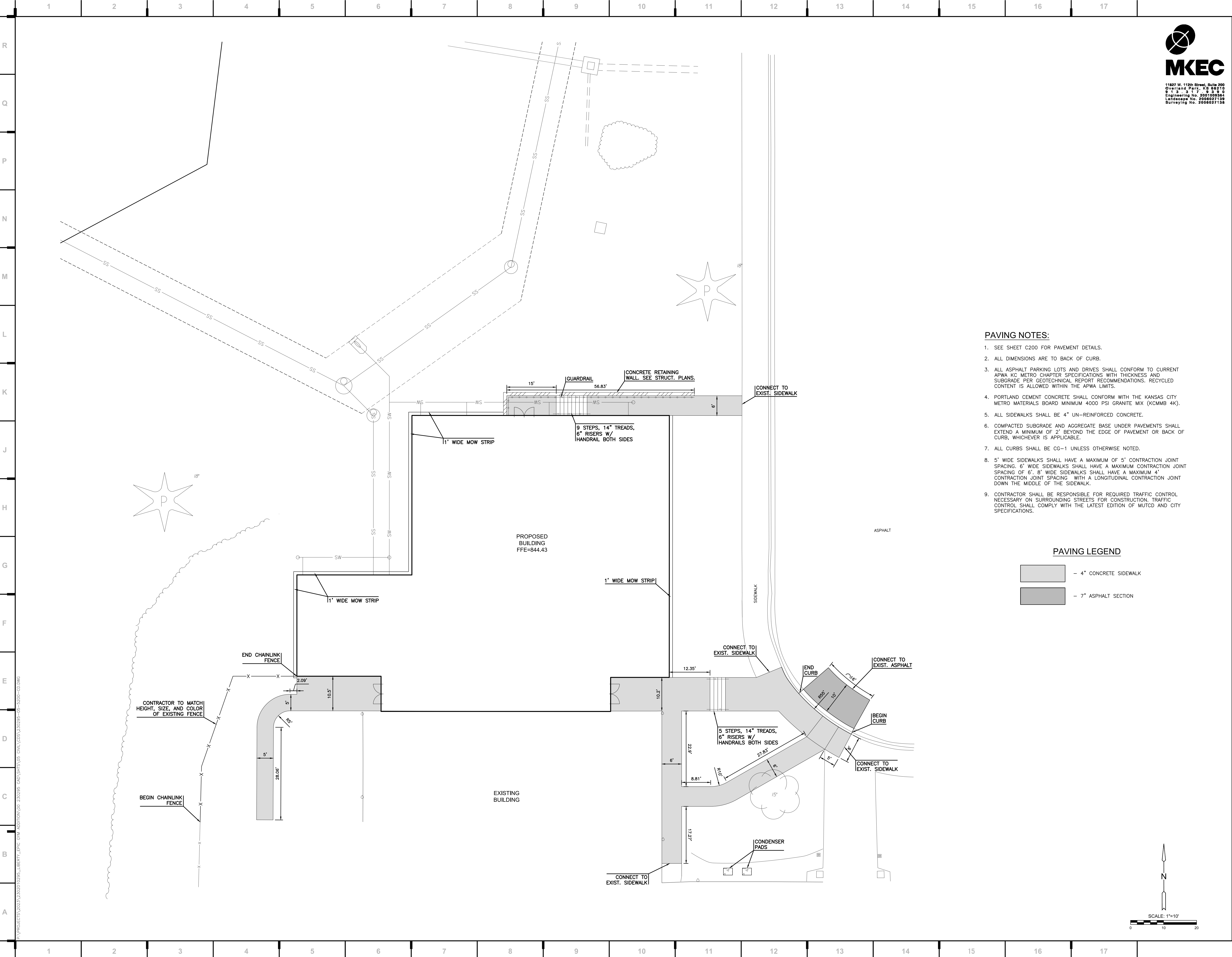
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1	ADDENDUM 01	09/14/2023



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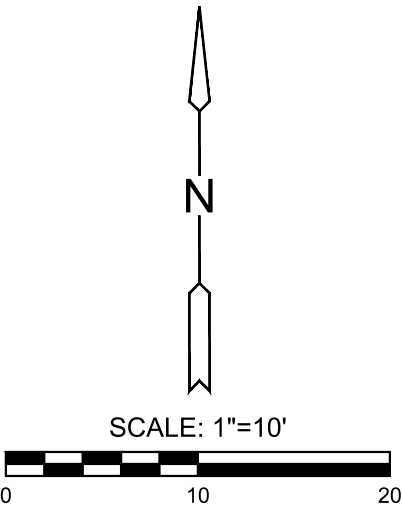


PAVING NOTES:

- 1. SEE SHEET C200 FOR PAVEMENT DETAILS.
- 2. ALL DIMENSIONS ARE TO BACK OF CURB.
- 3. ALL ASPHALT PARKING LOTS AND DRIVES SHALL CONFORM TO CURRENT APWA KC METRO CHAPTER SPECIFICATIONS WITH THICKNESS AND SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS. RECYCLED CONTENT IS ALLOWED WITHIN THE APWA LIMITS.
- 4. PORTLAND CEMENT CONCRETE SHALL CONFORM WITH THE KANSAS CITY METRO MATERIALS BOARD MINIMUM 4000 PSI GRANITE MIX (KCMMB 4K).
- 5. ALL SIDEWALKS SHALL BE 4" UN-REINFORCED CONCRETE.
- 6. COMPACTED SUBGRADE AND AGGREGATE BASE UNDER PAVEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS APPLICABLE.
- 7. ALL CURBS SHALL BE CG-1 UNLESS OTHERWISE NOTED.
- 8. 5' WIDE SIDEWALKS SHALL HAVE A MAXIMUM OF 5' CONTRACTION JOINT SPACING. 6' WIDE SIDEWALKS SHALL HAVE A MAXIMUM CONTRACTION JOINT SPACING OF 6'. 8' WIDE SIDEWALKS SHALL HAVE A MAXIMUM 4' CONTRACTION JOINT SPACING WITH A LONGITUDINAL CONTRACTION JOINT DOWN THE MIDDLE OF THE SIDEWALK.
- 9. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TRAFFIC CONTROL NECESSARY ON SURROUNDING STREETS FOR CONSTRUCTION. TRAFFIC CONTROL SHALL COMPLY WITH THE LATEST EDITION OF MUTCD AND CITY SPECIFICATIONS.

PAVING LEGEND

- 4" CONCRETE SIDEWALK
- 7" ASPHALT SECTION



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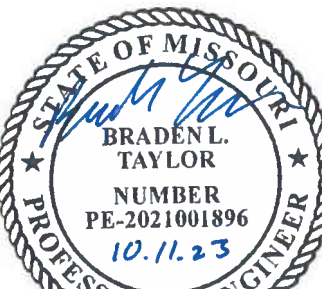
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2	ADDENDUM 05	10.06.2023

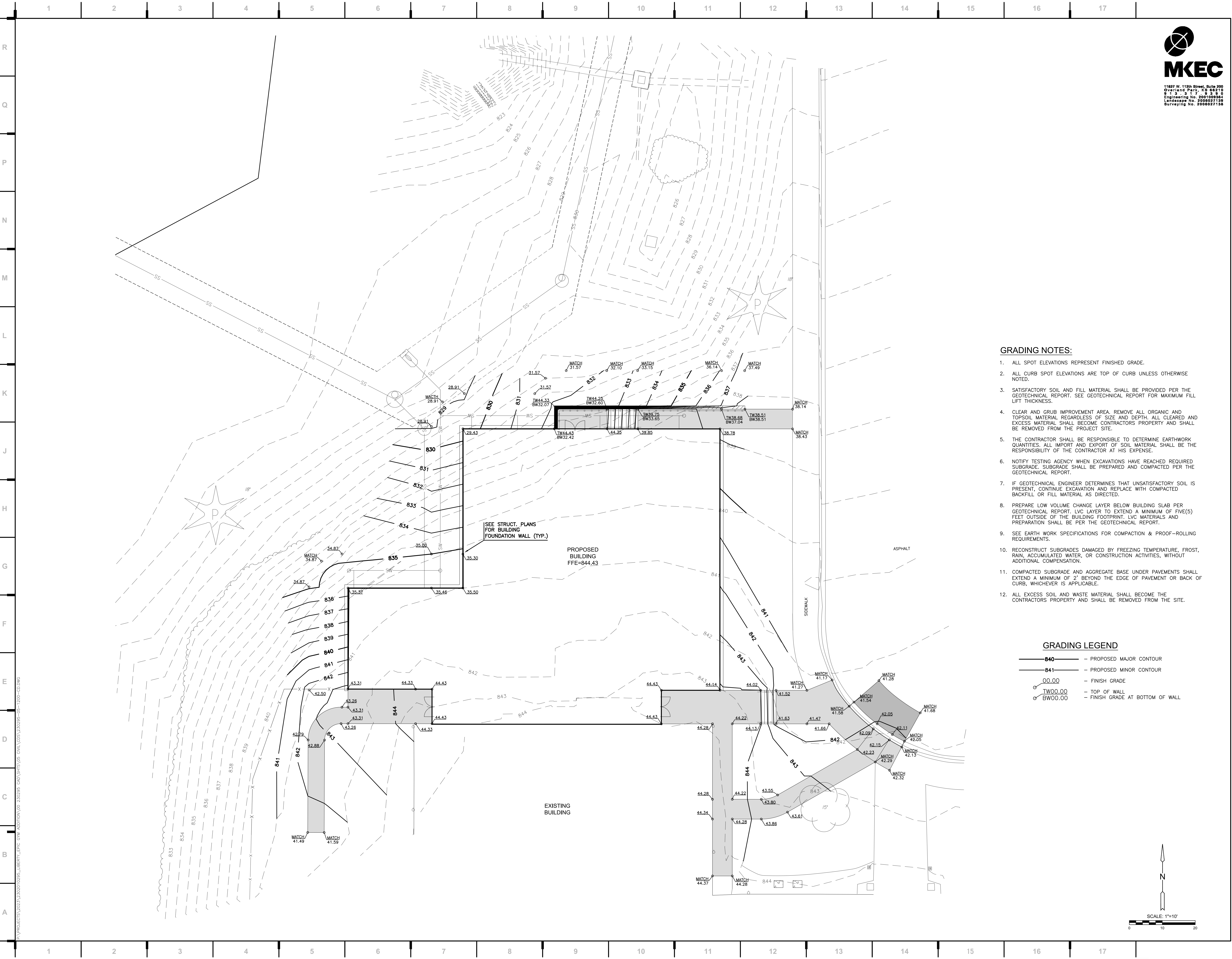


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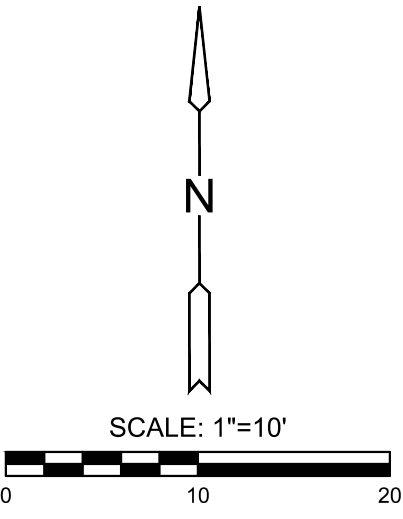


**GRADING NOTES:**

1. ALL SPOT ELEVATIONS REPRESENT FINISHED GRADE.
2. ALL CURB SPOT ELEVATIONS ARE TOP OF CURB UNLESS OTHERWISE NOTED.
3. SATISFACTORY SOIL AND FILL MATERIAL SHALL BE PROVIDED PER THE GEOTECHNICAL REPORT. SEE GEOTECHNICAL REPORT FOR MAXIMUM LIFT THICKNESS.
4. CLEAR AND GRUB IMPROVEMENT AREA. REMOVE ALL ORGANIC AND TOPSOIL MATERIAL REGARDLESS OF SIZE AND DEPTH. ALL CLEARED AND EXCESS MATERIAL SHALL BECOME CONTRACTORS PROPERTY AND SHALL BE REMOVED FROM THE PROJECT SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE EARTHWORK QUANTITIES. ALL IMPORT AND EXPORT OF SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS EXPENSE.
6. NOTIFY TESTING AGENCY WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE. SUBGRADE SHALL BE PREPARED AND COMPACTED PER THE GEOTECHNICAL REPORT.
7. IF GEOTECHNICAL ENGINEER DETERMINES THAT UNSATISFACTORY SOIL IS PRESENT, CONTINUE EXCAVATION AND REPLACE WITH COMPACTED BACKFILL OR FILL MATERIAL AS DIRECTED.
8. PREPARE LOW VOLUME CHANGE LAYER BELOW BUILDING SLAB PER GEOTECHNICAL REPORT. LVC LAYER TO EXTEND A MINIMUM OF FIVE(5) FEET OUTSIDE OF THE BUILDING FOOTPRINT. LVC MATERIALS AND PREPARATION SHALL BE PER THE GEOTECHNICAL REPORT.
9. SEE EARTH WORK SPECIFICATIONS FOR COMPACTION & PROOF-ROLLING REQUIREMENTS.
10. RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURE, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, WITHOUT ADDITIONAL COMPENSATION.
11. COMPACTED SUBGRADE AND AGGREGATE BASE UNDER PAVEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS APPLICABLE.
12. ALL EXCESS SOIL AND WASTE MATERIAL SHALL BECOME THE CONTRACTORS PROPERTY AND SHALL BE REMOVED FROM THE SITE.

**GRADING LEGEND**

- 840 - PROPOSED MAJOR CONTOUR
- 841 - PROPOSED MINOR CONTOUR
- 00.00 - FINISH GRADE
- TW00.00 - TOP OF WALL
- BW00.00 - FINISH GRADE AT BOTTOM OF WALL



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**EPiC Elementary Addition**

Liberty Public Schools

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**REVISIONS:**

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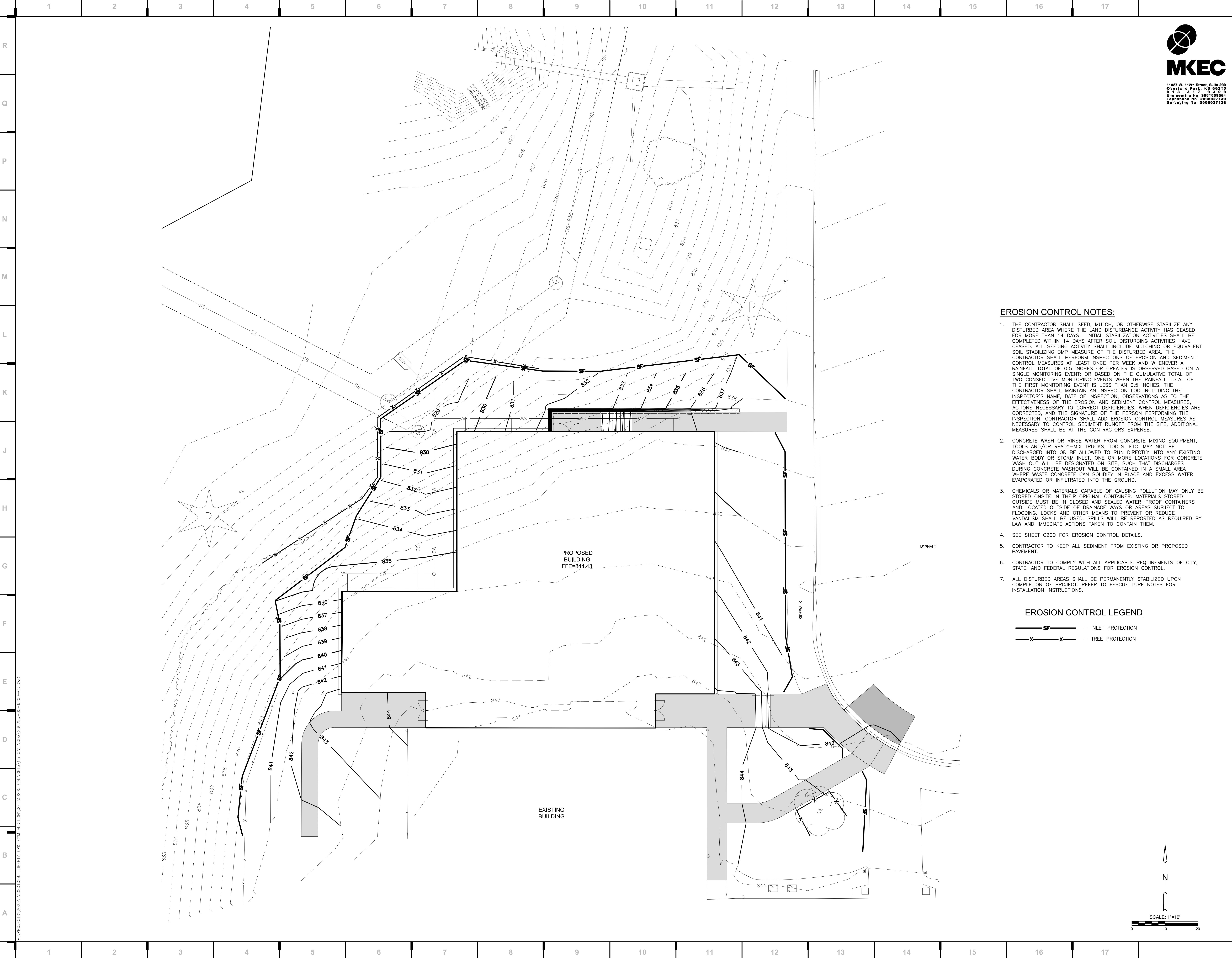


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### EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL SEED, MULCH, OR OTHERWISE STABILIZE ANY DISTURBED AREA WHERE THE LAND DISTURBANCE ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS. INITIAL STABILIZATION ACTIVITIES SHALL BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES HAVE CEASED. ALL SEEDING ACTIVITY SHALL INCLUDE MULCHING OR EQUIVALENT SOIL STABILIZING BMP MEASURE OF THE DISTURBED AREA. THE CONTRACTOR SHALL PERFORM INSPECTIONS OF EROSION AND SEDIMENT CONTROL MEASURES AT LEAST ONCE PER WEEK AND WHENEVER A RAINFALL TOTAL OF 0.5 INCHES OR GREATER IS OBSERVED BASED ON A SINGLE MONITORING EVENT, OR BASED ON THE CUMULATIVE TOTAL OF TWO CONSECUTIVE MONITORING EVENTS WHEN THE RAINFALL TOTAL OF THE FIRST MONITORING EVENT IS LESS THAN 0.5 INCHES. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG INCLUDING THE INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS AS TO THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL MEASURES, ACTIONS NECESSARY TO CORRECT DEFICIENCIES, WHEN DEFICIENCIES ARE CORRECTED, AND THE SIGNATURE OF THE PERSON PERFORMING THE INSPECTION. CONTRACTOR SHALL ADD EROSION CONTROL MEASURES AS NECESSARY TO CONTROL SEDIMENT RUNOFF FROM THE SITE, ADDITIONAL MEASURES SHALL BE AT THE CONTRACTORS EXPENSE.
2. CONCRETE WASH OR RINSE WATER FROM CONCRETE MIXING EQUIPMENT, TOOLS AND/OR READY-MIX TRUCKS, TOOLS, ETC. MAY NOT BE DISCHARGED INTO OR BE ALLOWED TO RUN DIRECTLY INTO ANY EXISTING WATER BODY OR STORM INLET. ONE OR MORE LOCATIONS FOR CONCRETE WASH OUT WILL BE DESIGNATED ON SITE, SUCH THAT DISCHARGES DURING CONCRETE WASHOUT WILL BE CONTAINED IN A SMALL AREA WHERE WASTE CONCRETE CAN SOLIDIFY IN PLACE AND EXCESS WATER EVAPORATED OR INFILTRATED INTO THE GROUND.
3. CHEMICALS OR MATERIALS CAPABLE OF CAUSING POLLUTION MAY ONLY BE STORED ONSITE IN THEIR ORIGINAL CONTAINER. MATERIALS STORED OUTSIDE MUST BE IN CLOSED AND SEALED WATER-PROOF CONTAINERS AND LOCATED OUTSIDE OF DRAINAGE WAYS OR AREAS SUBJECT TO FLOODING. LOCKS AND OTHER MEANS TO PREVENT OR REDUCE VANDALISM SHALL BE USED. SPILLS WILL BE REPORTED AS REQUIRED BY LAW AND IMMEDIATE ACTIONS TAKEN TO CONTAIN THEM.
4. SEE SHEET C200 FOR EROSION CONTROL DETAILS.
5. CONTRACTOR TO KEEP ALL SEDIMENT FROM EXISTING OR PROPOSED PAVEMENT.
6. CONTRACTOR TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF CITY, STATE, AND FEDERAL REGULATIONS FOR EROSION CONTROL.
7. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED UPON COMPLETION OF PROJECT. REFER TO FESCUE TURF NOTES FOR INSTALLATION INSTRUCTIONS.

### EROSION CONTROL LEGEND

- SF — INLET PROTECTION
- X — X — TREE PROTECTION

### EPiC Elementary Addition

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#### REVISIONS:

#	Description	Date



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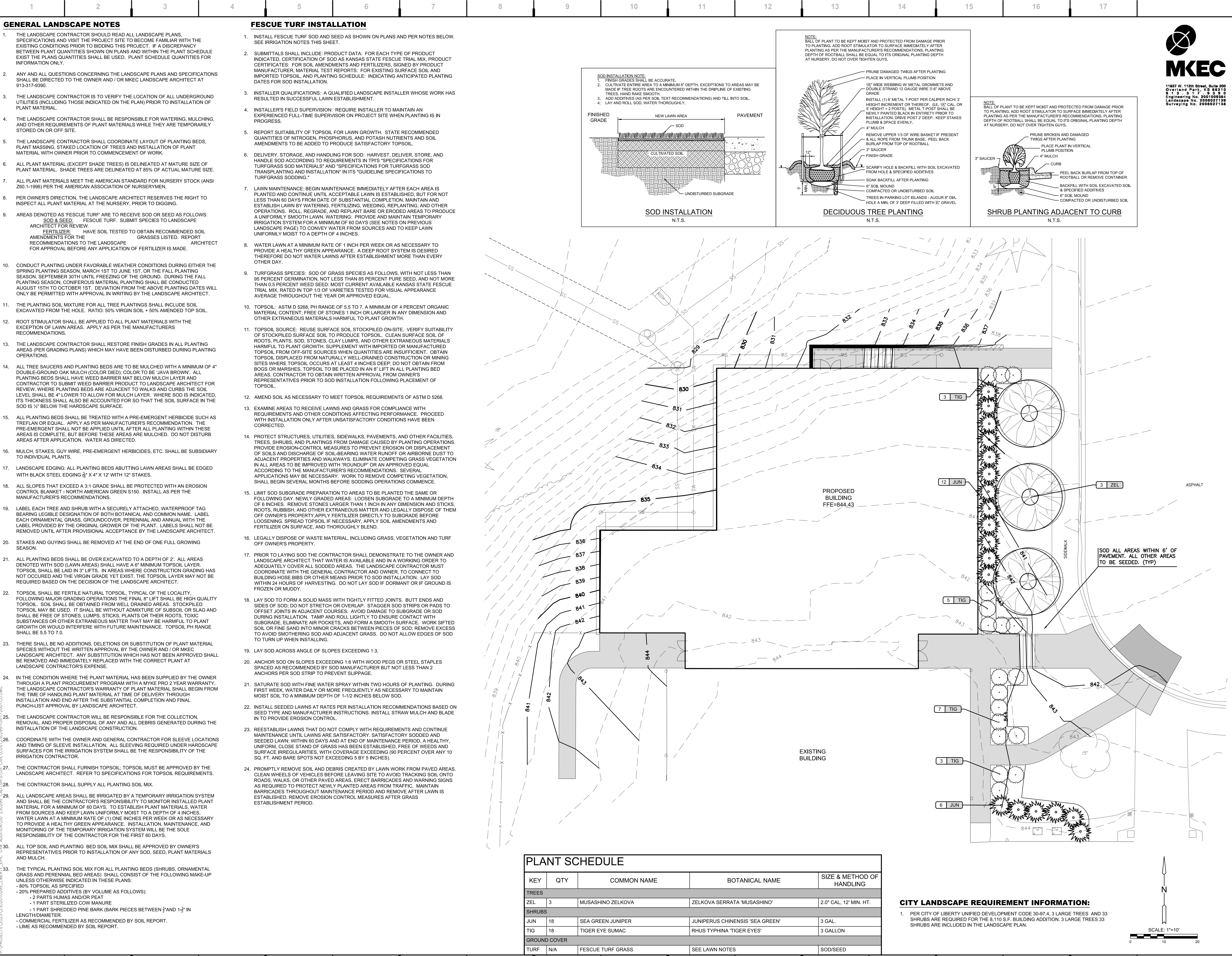
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**BRIAN J. HOCHSTEIN, L.A.**  
LISC. #2010013958

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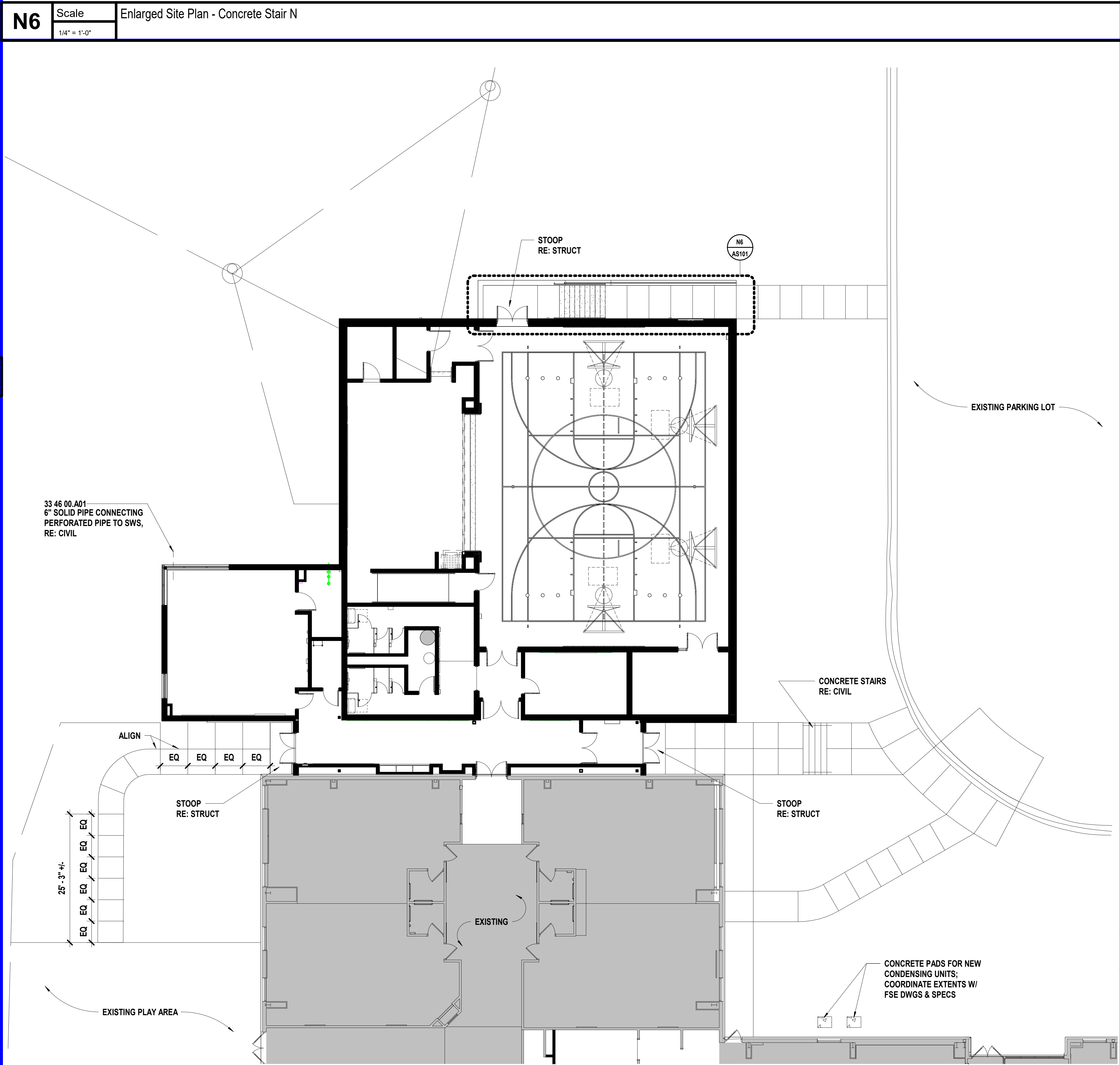
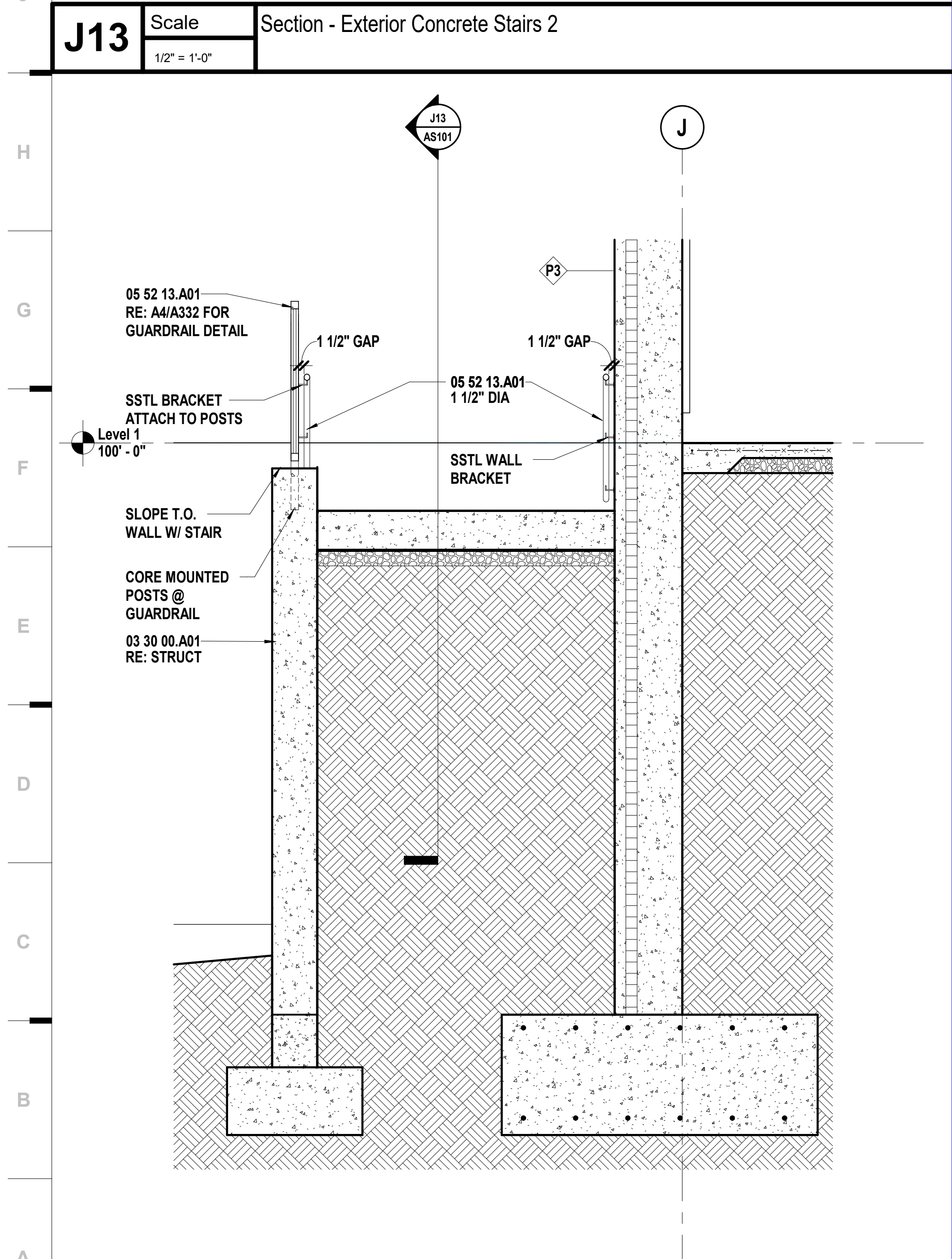
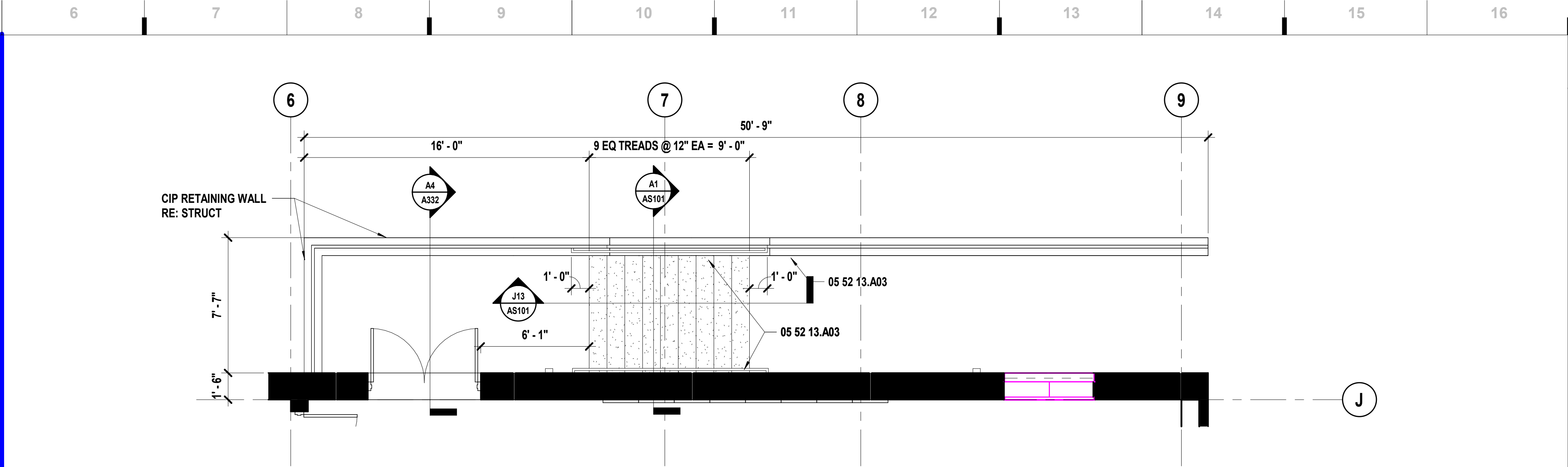
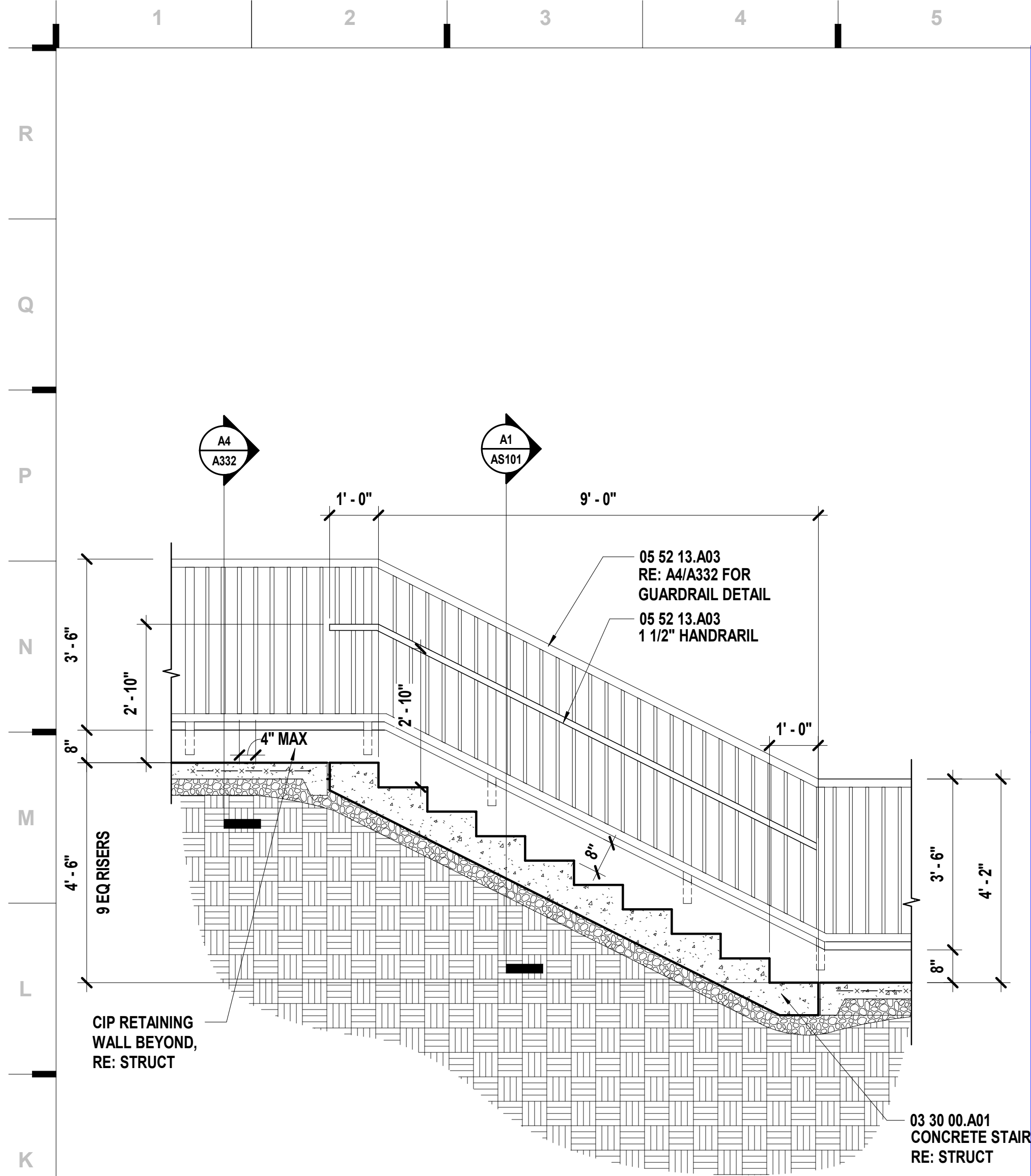
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**LANDSCAPE PLAN**

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### SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
05 52 13.A01	STEEL PIPE AND TUBE RAILINGS
05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
33 46 00.A01	SUBDRAINAGE SYSTEM PIPING

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### KEY PLAN

Key Plan diagram showing the location of the project on a site map. The project is labeled 'A' and is located on the corner of the site. The site is labeled 'B' and 'C'.

### AS101

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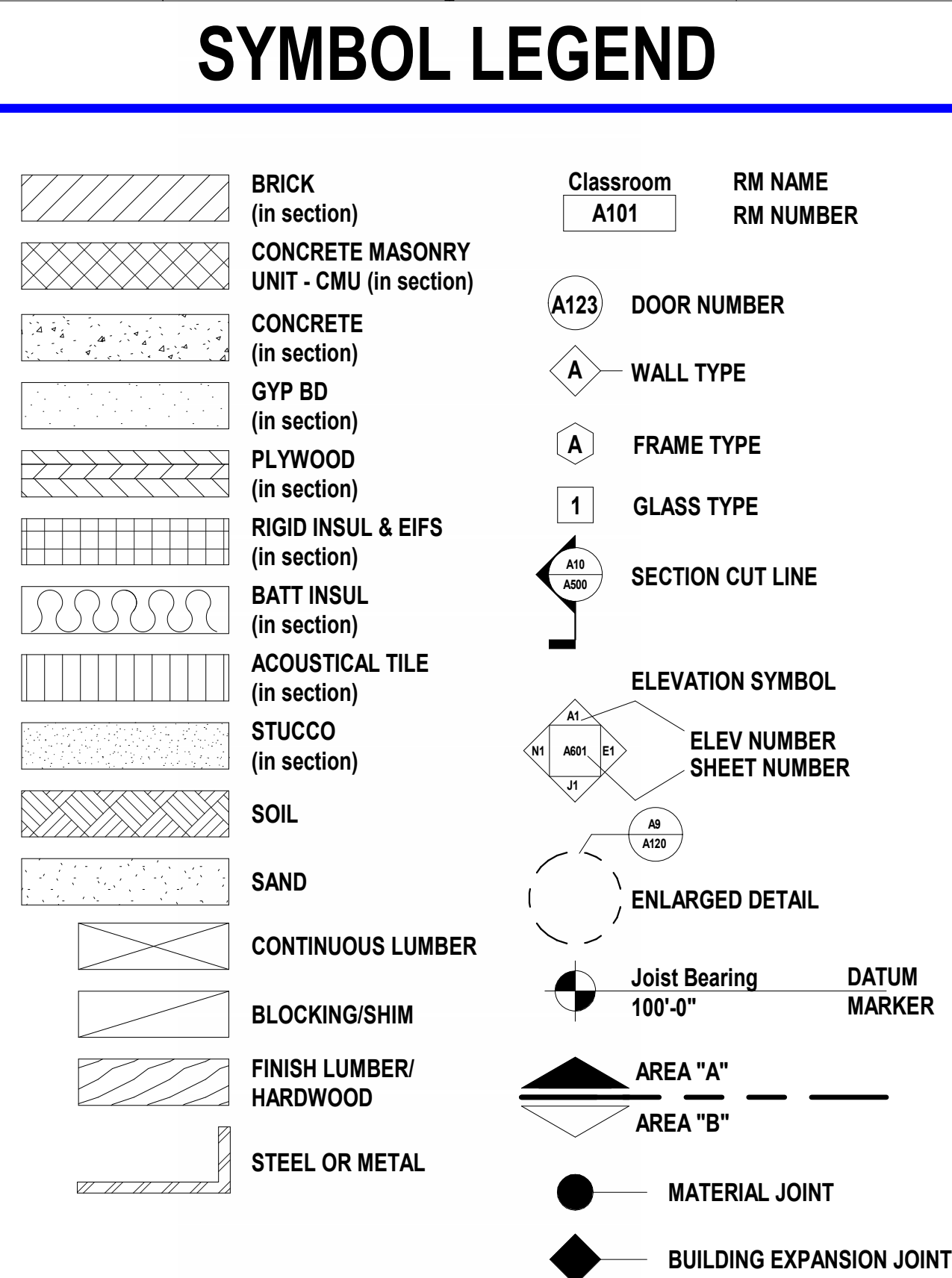
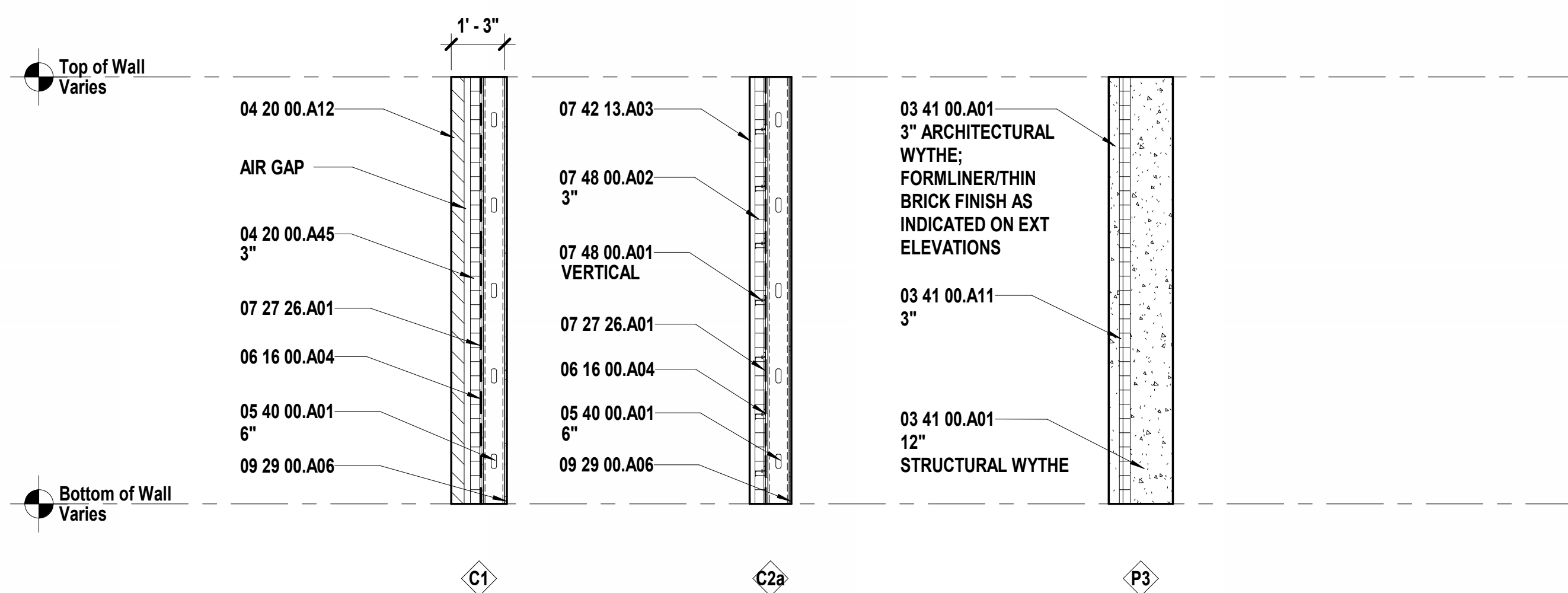
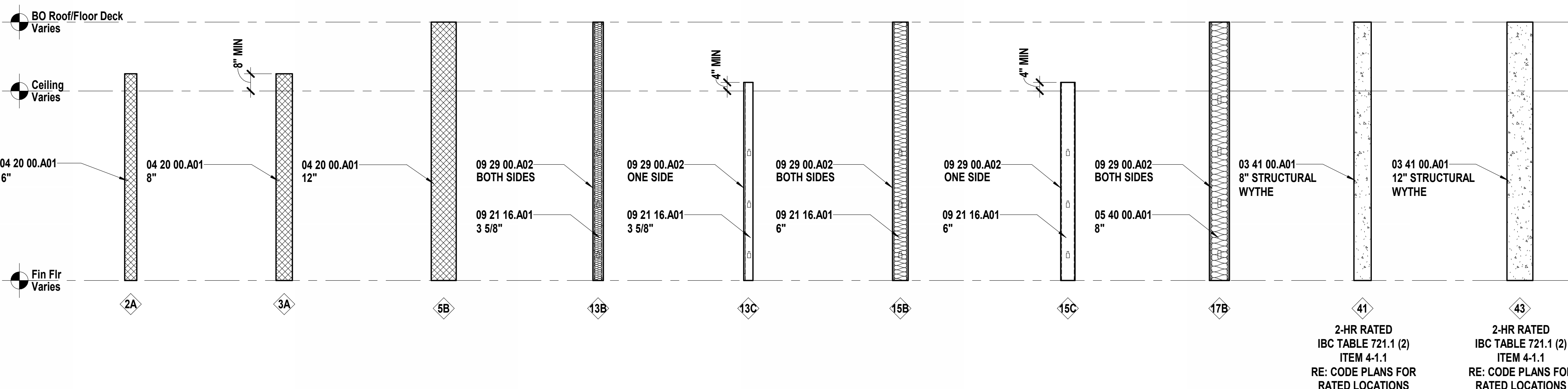
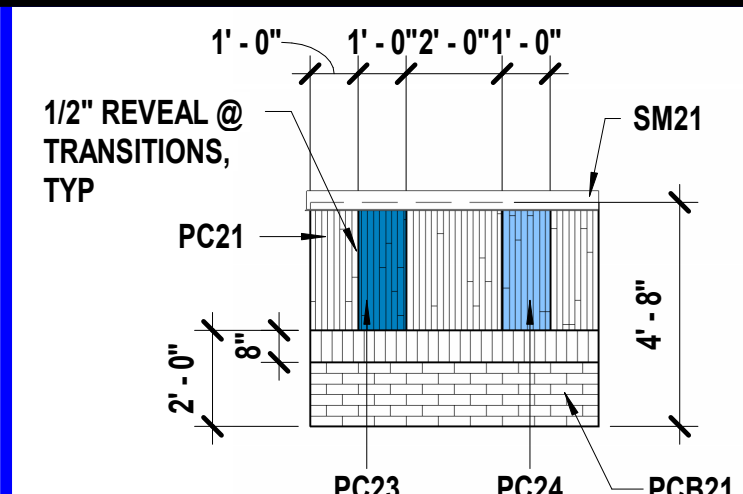
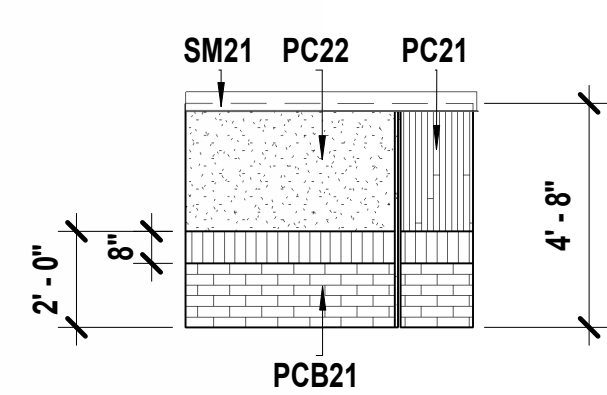
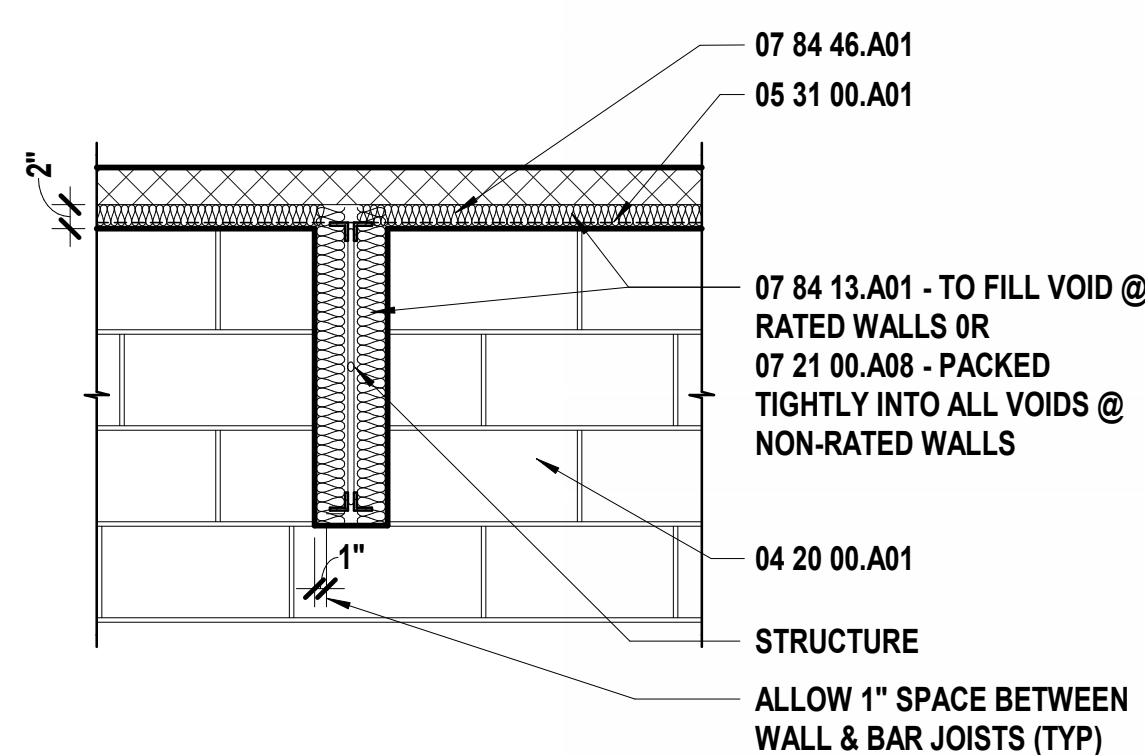
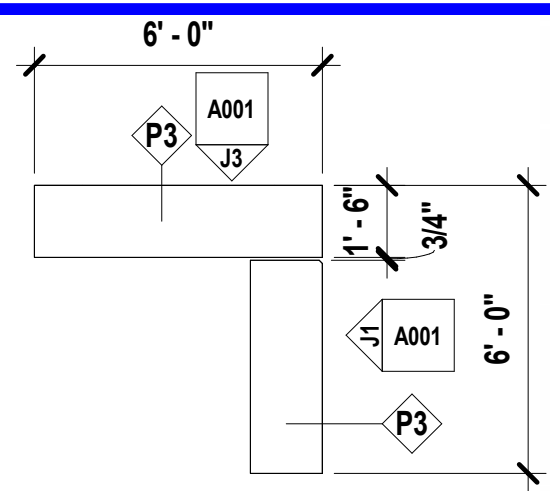
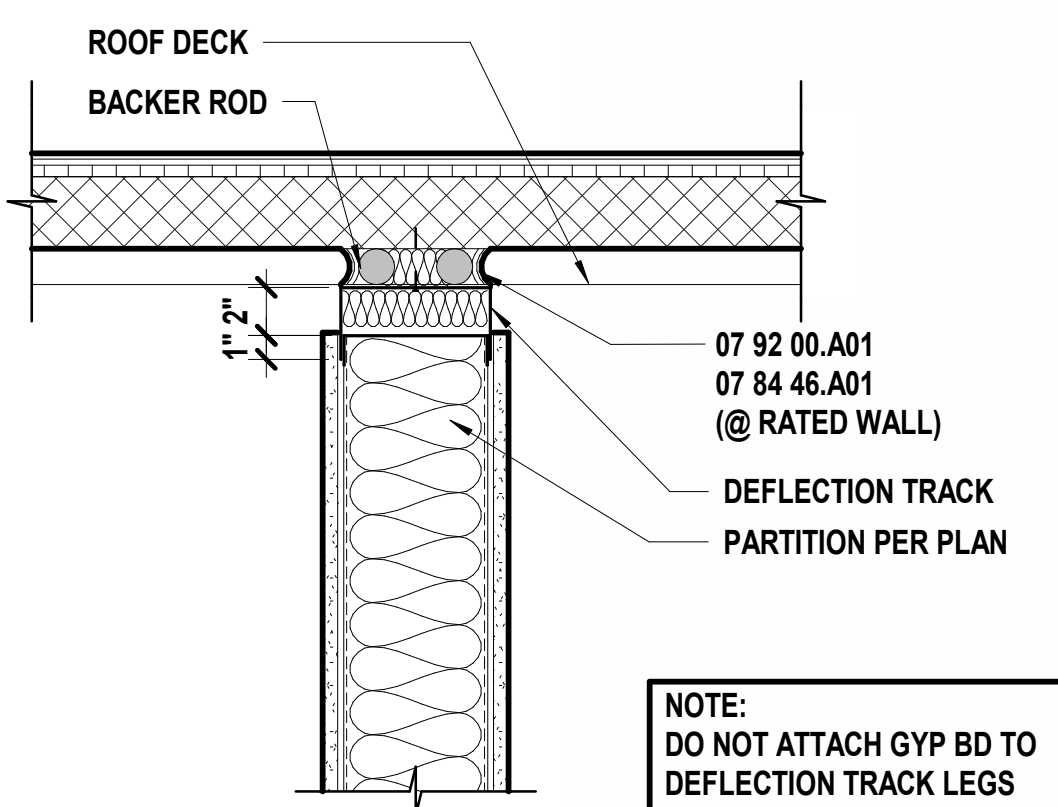
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1	Added	09/29/2023

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A-2019015618  
OCTOBER 10, 2023  
A-2019015618

JOB NO: 23020.00  
DRAWN BY: HB  
CHECKED BY: JB  
DATE: 10/11/2023





ABBREVIATIONS	
<b>A</b>	<b>M</b>
ACT	acoustical
ADJ	adjustable/adjacent
AFF	above finish floor
ALUM	aluminum
ALT	alternate
ANOD	anodized
APPROX	approximate(ly)
ARCH	architect(ural)
<b>B</b>	
BLDG	building
BLKG	blocking
BM	beam
BOT	bottom of
BRG	bearing
BRKT	bracket
BTM	bottom
BSMT	basement
BTWN	between
<b>C</b>	
CAB	cabinet
CC	center to center
CEM	cement(itious)
CG	corner guard
CJ	control joint
CLG	ceiling
CLR	clear(ance)
CM	construction manager
CMU	concrete masonry unit
COL	column
CONC	concrete
CONST	construction
CONT	continuous
CTR	center
CY	cubic yard(s)
<b>D</b>	
DF	drinking fountain
DIA	diameter
DIM	dimension(s)
DN	down
DS	downspout
DTL	detail
DWG	drawing
<b>E</b>	
E	east
EA	each
EF	each face
EIFS	exterior insulation finish system
EJ	expansion joint
ELEC	electrical
ELEV	elevation
EQ	equal
EQUIP	equipment
ETR	existing to remain
EW	each way
EXIST	existing
EXP	expansion
EXT	exterior
<b>F</b>	
FA	fire alarm
FD	fire drain
FND	foundation
FE	fire extinguisher
FEC	fire extinguisher cabinet
FF	finish floor
FH	fire hose
FIN	finish(ed)
FIXT	fixture
FLR	floor
FLX	flexible
FOM	face of masonry
FOPC	face of precast
FOS	face of stud
FT (')	foot
FTG	footing
FV	field verify
<b>G</b>	
GA	gauge
GALV	galvanized
GC	general contractor
GEN	general
GL	glass
GR	grade
GYP	gypsum
GYP BD	gypsum board
<b>H</b>	
HC	handicapped
HD	head
HDWD	hardwood
HDWR	hardware
HM	hollow metal
HORIZ	horizontal
HR	hour
HT	height
HVAC	heating, ventilation & air conditioning
<b>I</b>	
ID	inside diameter
IN (")	inch(es)
INDV	individual
INFO	information
INSUL	insulation
MAS	masonry
MATL	material
MAX	maximum
MB	markerboard
MECH	mechanical
MEP	mechanical/electrical/plumbing
MFR	manufacturer
MIN	minimum
MISC	miscellaneous
MO	masonry opening
MTD	mounted
MTG HT	mounting height
MTL	metal
MULL	mullion
<b>N</b>	
N	north
NIC	not in contract
NO (#)	number
NOM	nominal
NRC	noise reduction coefficient
NTS	not to scale
<b>O</b>	
OC	on center
OD	outside diameter
OTS	open to structure
OPNG	opening
OPP	opposite
<b>P</b>	
PAR	parallel
PCP	portland cement plaster
PERP	perpendicular
PL	property line
PLBG	plumbing
PLYWD	plywood
PNL	panel
PR	pair
PREFAB	prefabricated
PTD	painted
PVC	poly(vinyl) chloride
<b>R</b>	
RAD	radius
RD	roof drain
RE:	refer to
REINF	reinforcing (ed)
REV	reversed
REQ'D	required
RFG	roofing
<b>S</b>	
S	south
SCHED	schedule
SECT	section
SF	square foot
SHT	sheet
SHWR	shower
SIM	similar
SPEC	specification
SQ	square
STSL	stainless steel
STC	sound transmission coefficient
STD	standard
STL	steel
STRUCT	structure(al)
SUSP	suspend(ed)
SY	square yard
SYM	symmetrical
<b>T</b>	
T&B	top & bottom
T&G	tongue & groove
TO	top of
TOC	top of curb
TOM	top of masonry
TOS	top of slab/steel
TOW	top of wall
TS	tube steel
TP	typical
<b>U</b>	
UNO	unless noted otherwise
<b>V</b>	
VERT	vertical
VTR	vent thru roof
<b>W</b>	
W	west
WD	wood
WDO	window
W/	with
W/O	without
<b>Y</b>	
YD	yard
<b>SYMBOLS</b>	
/	per (or by)
&	and
@	at
[	channel
⋈	centerline
Ø	diameter/round
±	plus/minus

SHEET KEYNOTE LEGEND	
03 41 00 A01	PRECAST STRUCTURAL CONCRETE
03 41 00 A11	INSULATION
04 20 00 A01	CONCRETE MASONRY UNITS
04 20 00 A12	FACE BRICK
04 20 00 A45	CAVITY WALL INSULATION
05 31 00 A01	ROOF DECK
05 40 00 A01	COLD-FORMED METAL FRAMING
06 10 00 A04	GLASS-MAT GYPSUM WALL SHEATHING
07 21 00 A08	UNFACED GLASS FIBER BLANKET INSULATION
07 27 26 A01	VAPOR RETARDING FLUID-APPLIED AIR BARRIER
07 42 13 A03	CONCEALED FASTENER METAL WALL PANELS
07 48 00 A01	RAINSCREEN FURRING SYSTEM
07 48 00 A02	RAINSCREEN FURRING SYSTEM INSULATION
08 14 13 A01	FIRESTOPPING
07 84 46 A01	FIRE RESISTIVE JOINT SYSTEM
07 92 00 A01	SEALANT
09 21 16 A01	NON-STRUCTURAL FRAMING
09 29 00 A02	GYPSUM BOARD - TYPE X
09 29 00 A06	MOLD AND MOISTURE RESISTANT GYPSUM BOARD

<b>L1</b>	Scale	Enlarged Plan - Precast Mockup
	1/4" = 1'-0"	

<b>J1</b>	Scale	Mockup 1
	1/4" = 1'-0"	

<b>J3</b>	Scale	Mockup 2
	1/4" = 1'-0"	

<b>J5</b>	Scale	Structural Joist Penetration @ Rated & Non-Rated Walls
	3/4" = 1'-0"	

<b>E1</b>	Scale	Interior Wall Types - Page 1
	3/8" = 1'-0"	

A1	Scale	Exterior Wall Types
	3/8" = 1'-0"	

## EPiC Elementary Storm Shelter Addition

Liberty Public Schools

**650 Conister St  
Liberty, MO 64068**

Conformed  
Construction  
Documents

**REVISIONS:**

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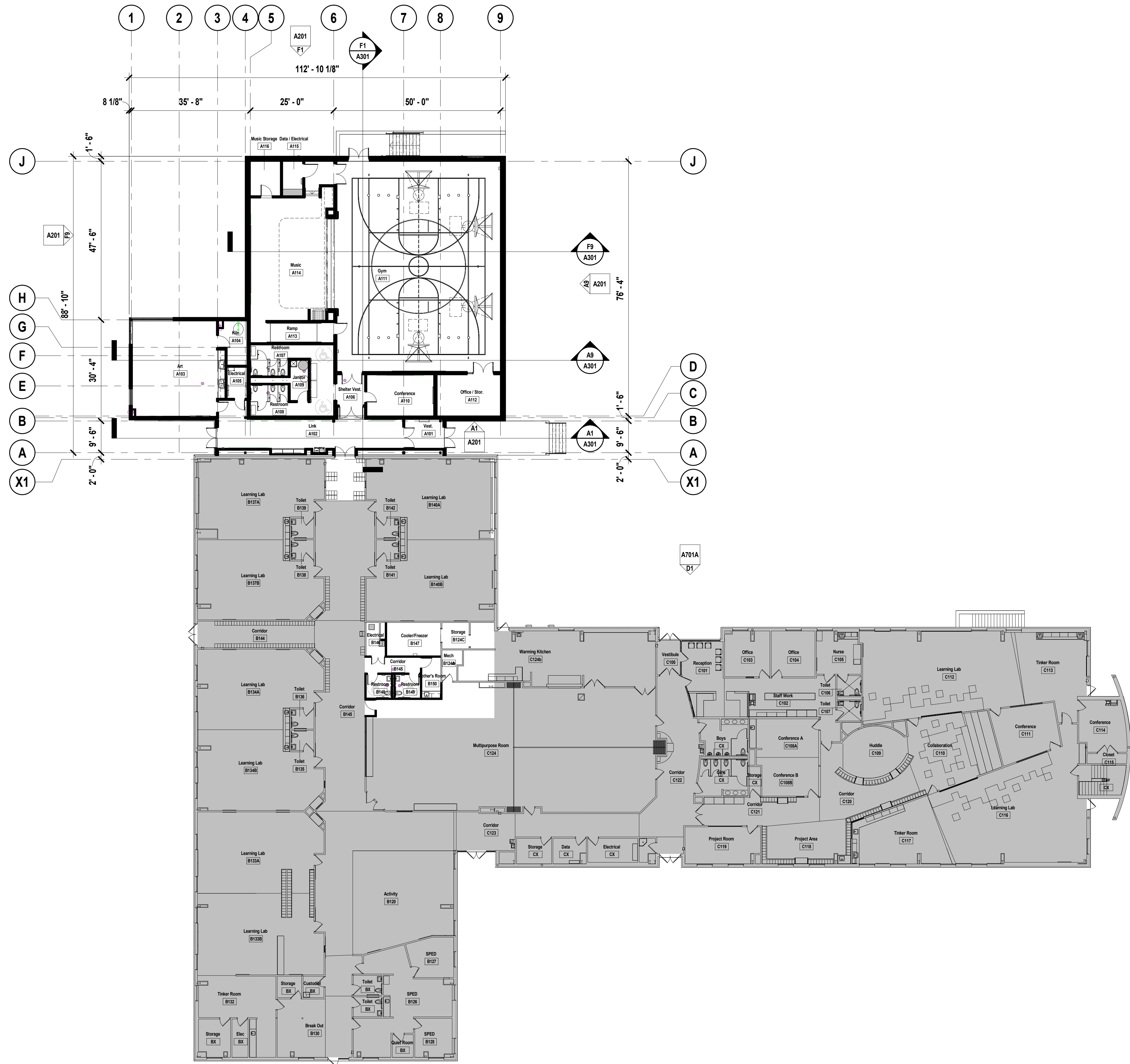
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**A001**

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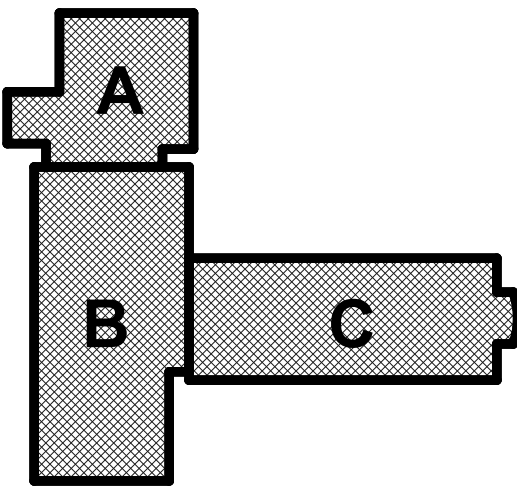
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- ALL EXTERIOR WALLS ARE WALL TYPE P3 UNLESS NOTED OTHERWISE.
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A. TO FACE OF STUD  
B. TO FACE OF MASONRY UNIT  
C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
- EXTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:  
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B. TO FACE OF MASONRY UNIT  
C. TO FACE OF PRECAST
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- COORDINATE FINISHES TO REMAIN WITH DEMOLITION SHEET
- PRECAST PANEL JOINTS DIMENSIONED ON SHEET A201 AND SHEET A422

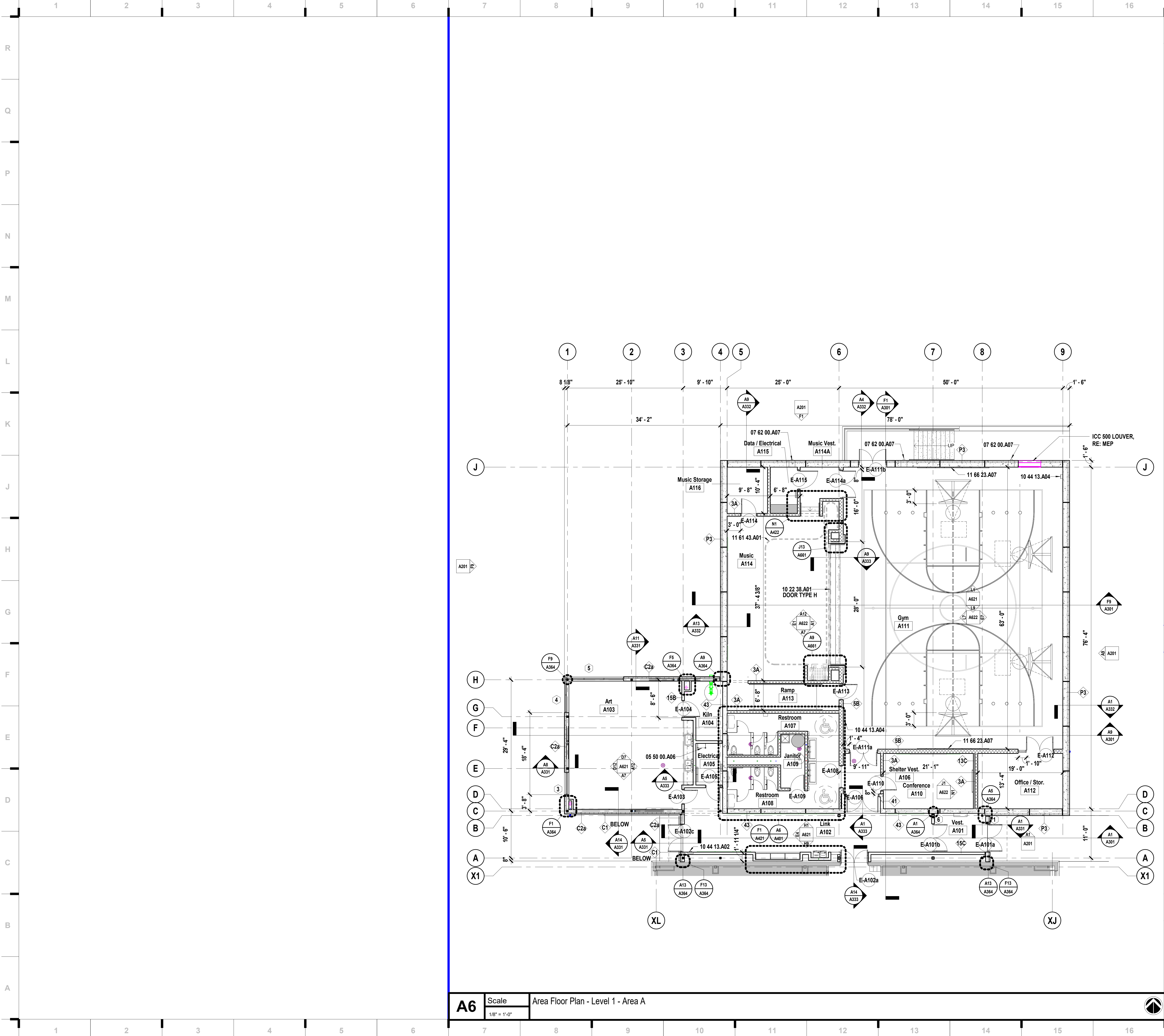
KEY PLAN



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A101





**A6** Scale Area Floor Plan - Level 1 - Area A  
1/8" = 1'-0"

SHEET KEYNOTE LEGEND

05 50 00.A06	METAL LADDER
07 62 00.A07	DOWNSPOUTS
10 22 38.A01	OPERABLE PANEL PARTITION (SINGLE PANEL)
10 44 13.A02	SEMI-RECESSED STEEL CABINET
10 44 13.A04	SURFACE MOUNTED STEEL CABINET
11 61 43.A01	STAGE CURTAINS
11 66 23.A07	WALL SAFETY PADS

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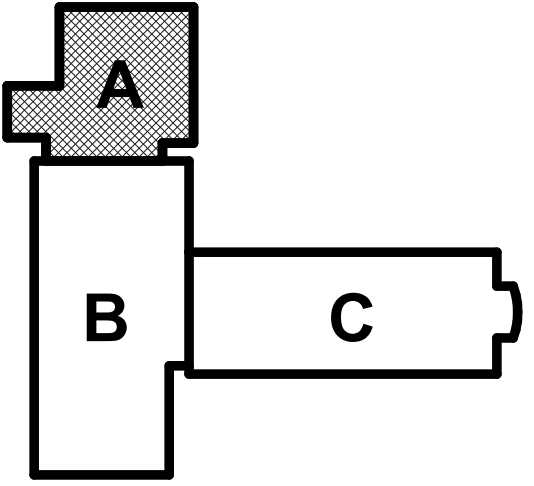
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- PRECAST PANEL JOINTS DIMENSIONED ON SHEET A201 AND SHEET A422

KEY PLAN



**EPiC Elementary Storm Shelter Addition**  
Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

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# Description Date  
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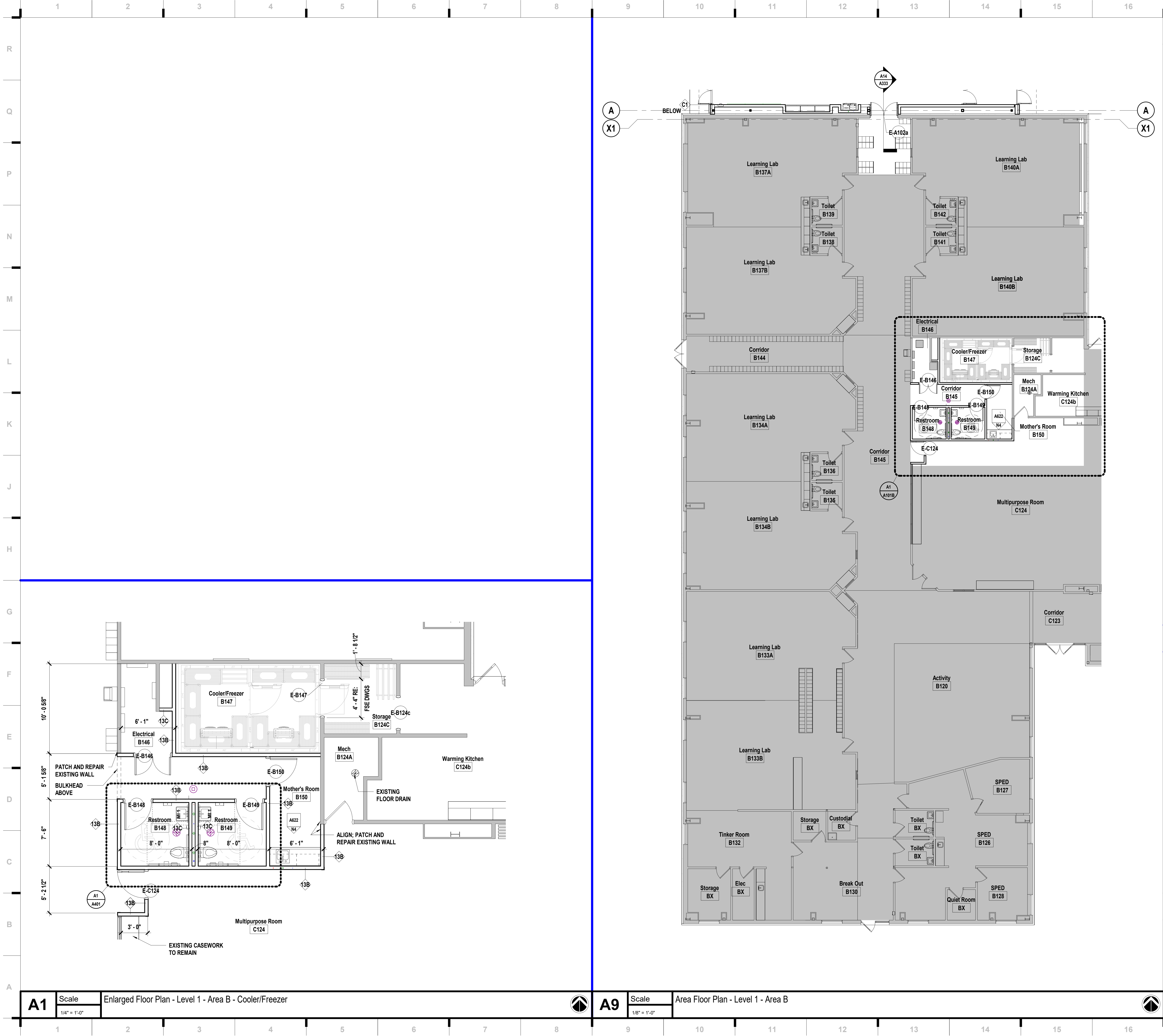


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Liberty Public Schools  
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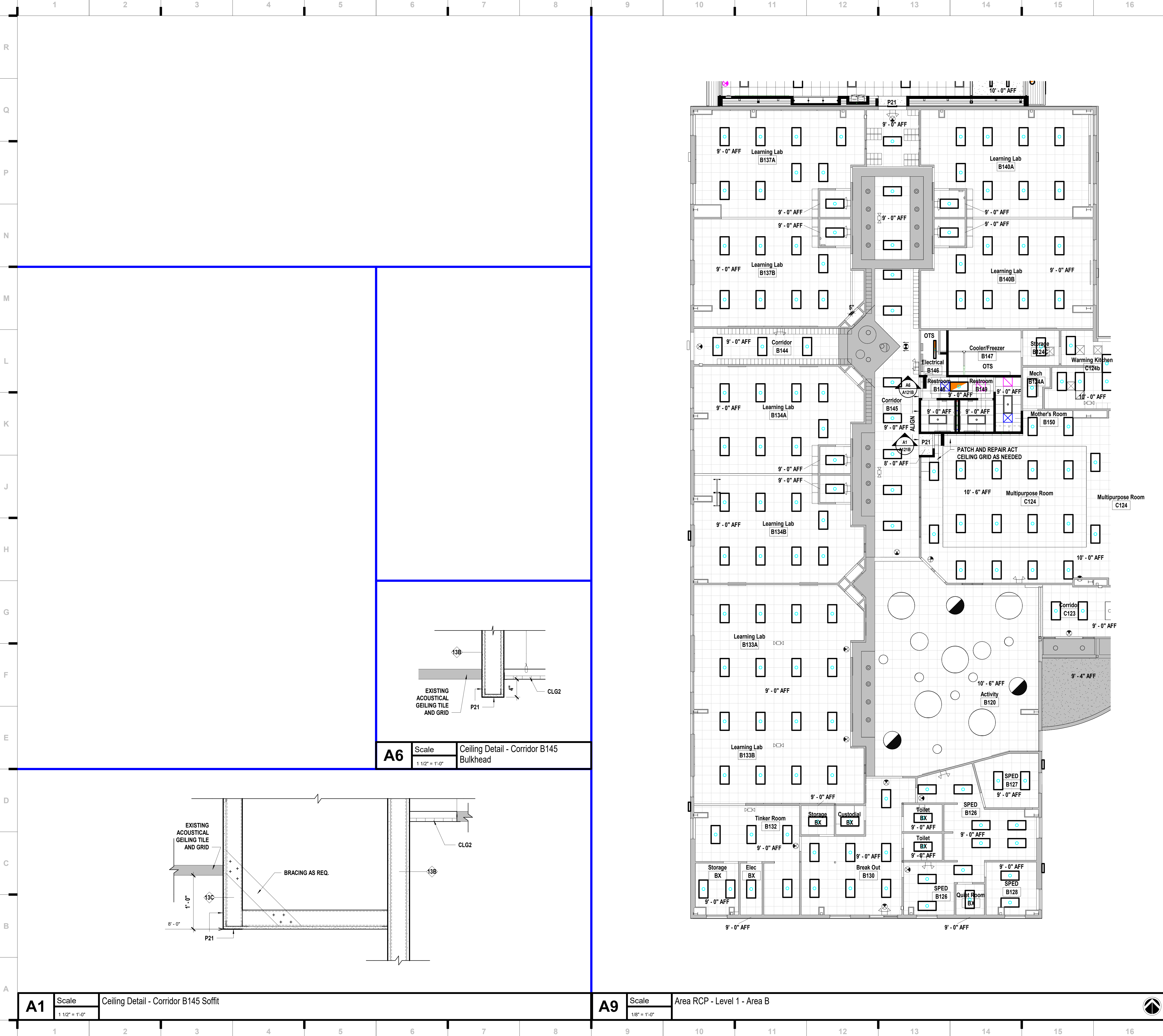
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SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CLG2	Ceiling	White
CLG3	Ceiling	White
CLG5	Ceiling	White
CLG21	Ceiling	White
F21	Fabric	Bermuda
HP21	High Performance Coating	Natural Choice
HP22	High Performance Coating	Silver Grey
HP23	High Performance Coating	Adriatic Sea
HP24	High Performance Coating	Freshwater
HP25	High Performance Coating	Gentle Aquamarine
HP26	High Performance Coating	Grasshopper
HP27	High Performance Coating	Organic Green
HP28	High Performance Coating	Harvester
HP29	High Performance Coating	Serape
P21	Paint	Natural Choice
P22	Paint	Silver Grey
P23	Paint	Adriatic Sea
P24	Paint	Freshwater
P25	Paint	Gentle Aquamarine
P26	Paint	Grasshopper
P27	Paint	Organic Green
P28	Paint	Harvester
P29	Paint	Serape
P30	Paint	Iron Ore
P31	Paint	Virtual Green

SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- REFER TO MEP AND TECHNOLOGY SHEETS FOR SPECIFIC CEILING MOUNTED DEVICES
- CEILING GRIDS SHOULD BE CENTERED IN ROOM

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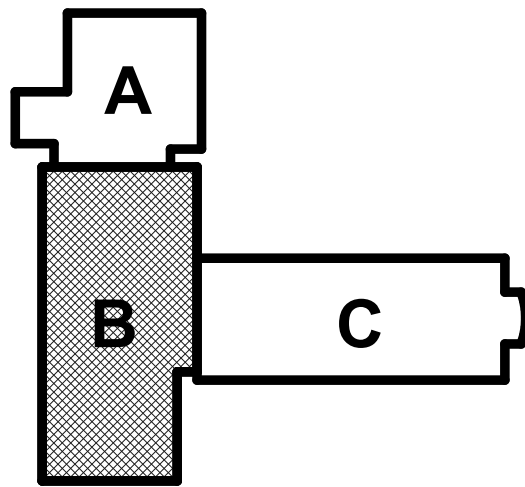
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OCTOBER 2023  
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A-2019015618

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A121B

REFLECTED CEILING PLAN - LEVEL 1 - AREA B

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A1

Scale

Area RCP - Level 1 - Area C

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SHEET MATERIAL FINISH LEGEND

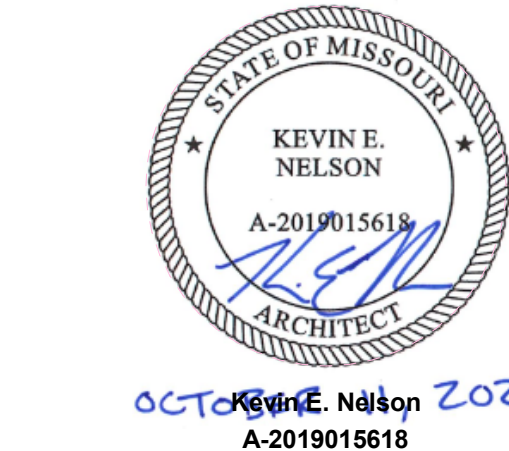
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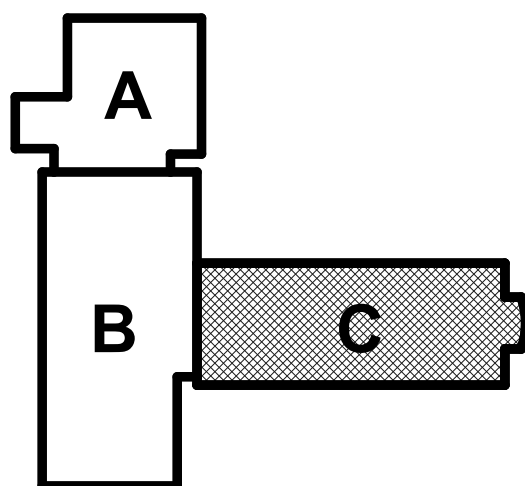


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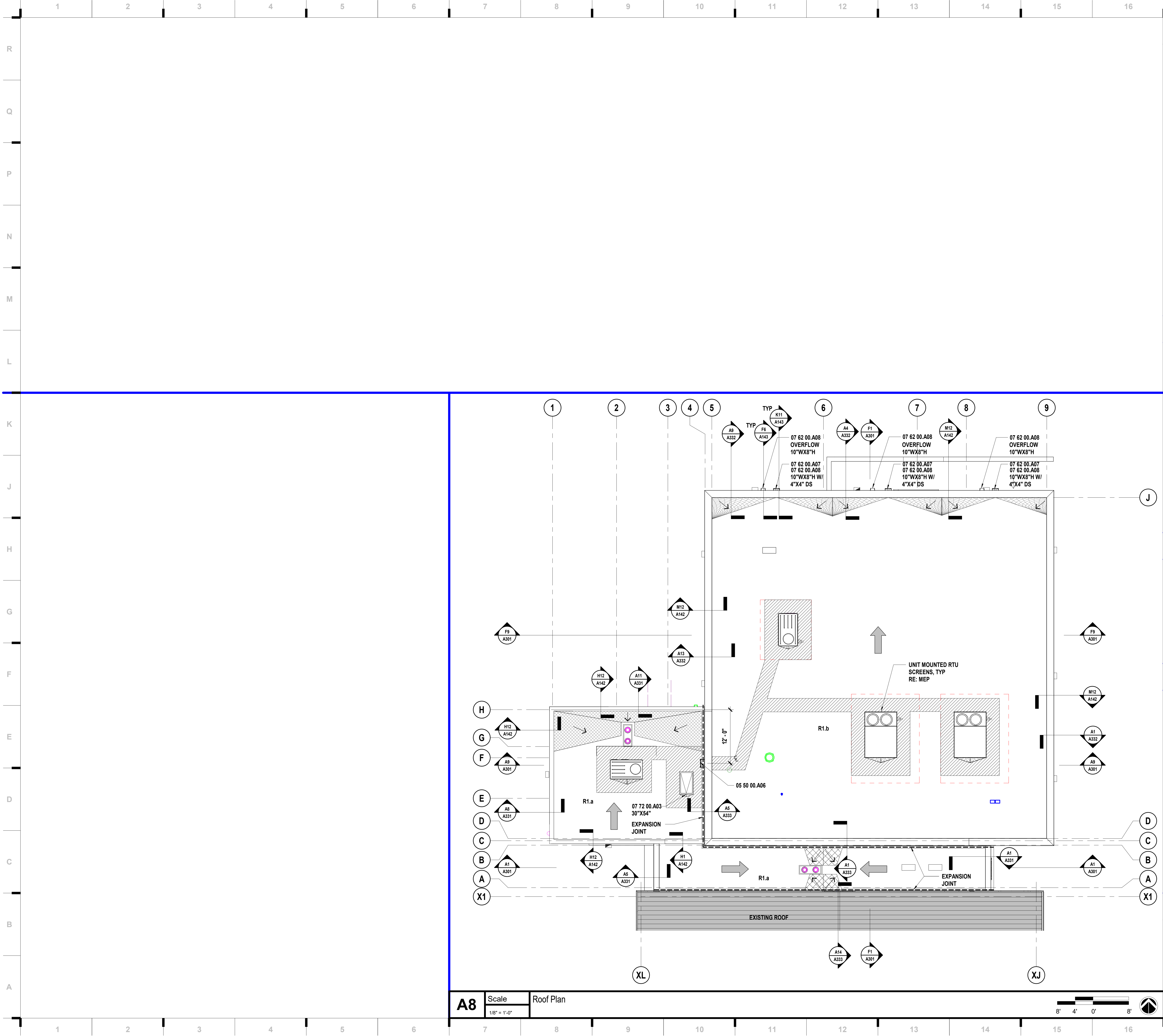
A121C

KEY PLAN





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A8

Scale  
1/8" = 1'-0"

Roof Plan

8' 4' 0' 8'



## SHEET KEYNOTE LEGEND

05 50 00.A06	METAL LADDER
07 54 23.A01	ADHERED TPO MEMBRANE ROOFING SYSTEM
07 54 23.A20	ROOF INSULATION
07 54 23.A25	COVERBOARD
07 62 00.A07	DOWNSPOUTS
07 62 00.A08	SCUPPERS
07 72 00.A03	ROOF HATCHES

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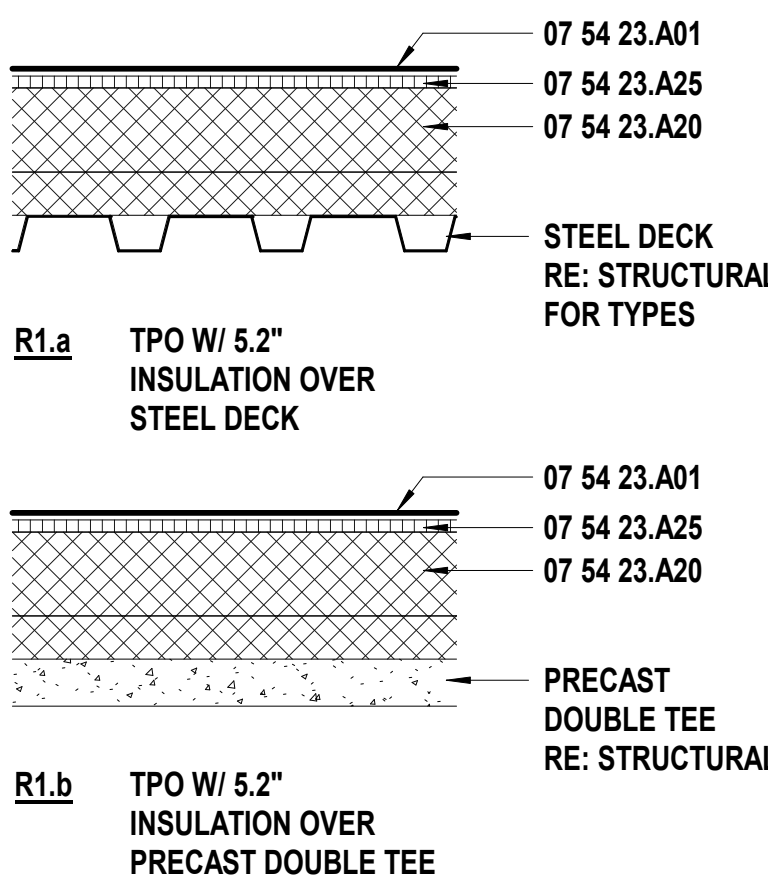
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## ROOF TYPES



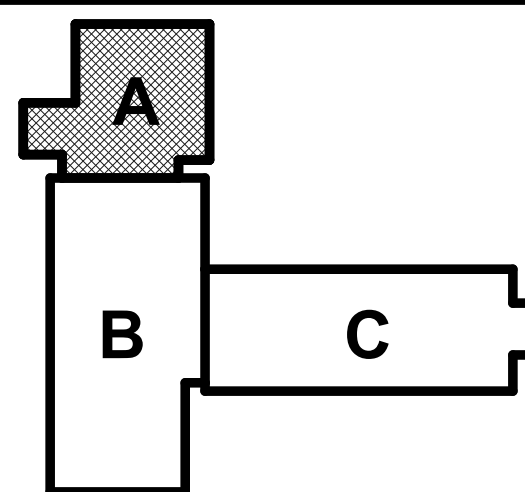
## SHEET NOTES

- REFER TO PLUMBING DRAWINGS FOR ROOF DRAIN DETAILS
- REFER TO MECHANICAL DRAWINGS FOR ROOF MOUNTED EQUIPMENT AND CURBS
- REFER TO PLUMBING DRAWINGS FOR EXPOSED GAS PIPING AND SUPPORTS
- SCUPPER SIZES CALLED OUT ON DRAWINGS ARE INTENDED TO BE THE FINISHED SIZE OF SCUPPER, NOT SIZE OF HOLE THROUGH PRECAST.

## ROOF PLAN LEGEND

	SLOPED STRUCTURE RE: STRUCTURAL FOR ROOF BEARING HEIGHTS/SLOPE
	SLOPE PROVIDED BY TAPERED INSULATION OVER FLAT STRUCTURE @ SLOPE INDICATED
	TAPERED INSULATION CRICKET
	ROOF MEMBRANE 07 54 23.A01
	WALKWAY PADS 07 54 23.A12
	EXISTING ROOF AREA
	BUILDING EXPANSION JOINTS PATH. REFER TO SPECIFIC DETAILS FOR MORE INFORMATION.

## KEY PLAN



EpIC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conlister St  
Liberty, MO 64068

REVISIONS:

#	Description	Date
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JOB NO: 23020.00

DRAWN BY: HB

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DATE: 10/11/2023

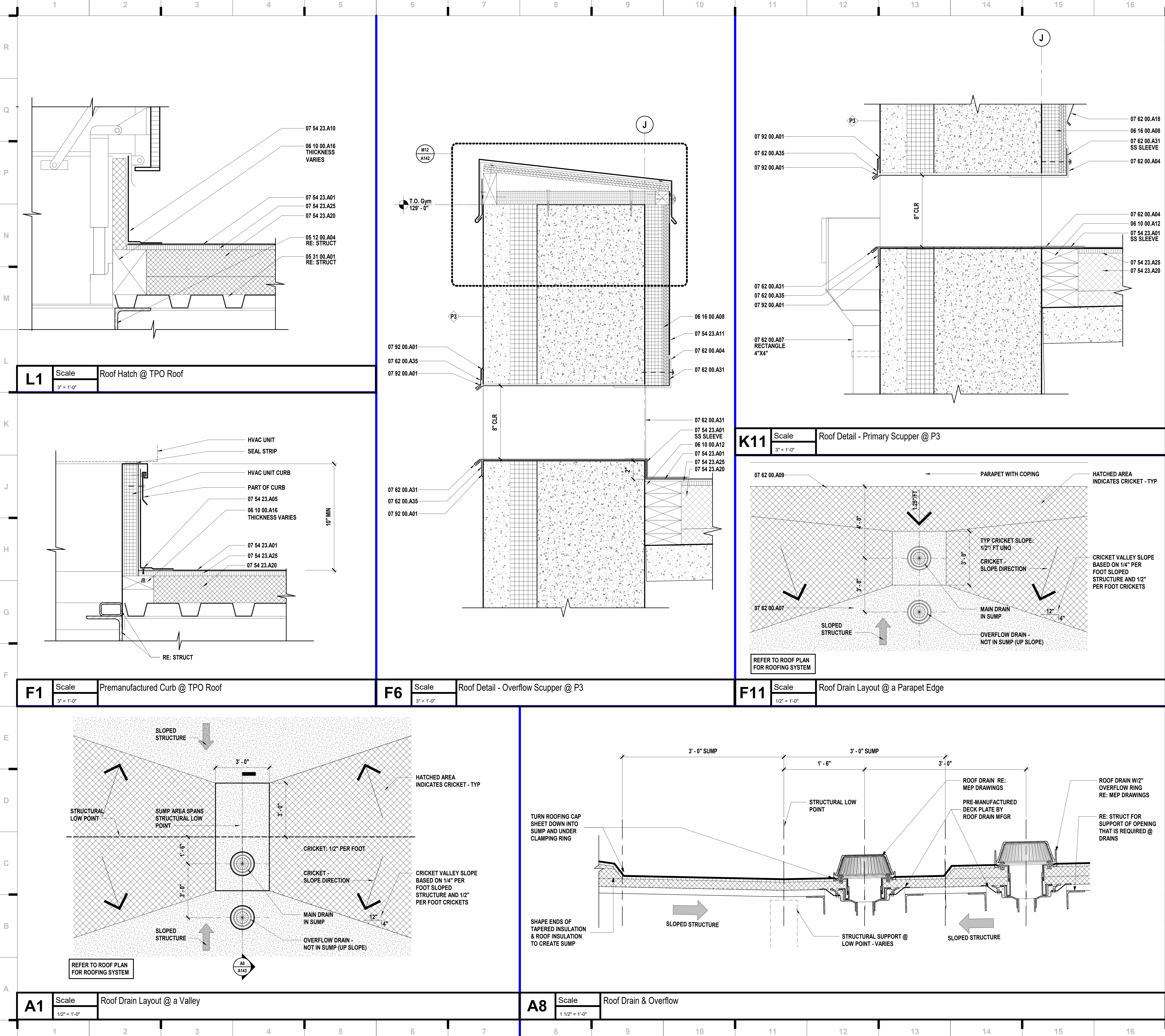
A141

ROOF PLAN









### SHEET KEYNOTE LEGEND

05 12 00.A04	ANGLE
05 31 00.A01	ROOF DECK
06 10 00.A12	PRESERVATIVE TREATED WOOD BLOCKING/NAILERS
06 10 00.A16	FIRE-RETARDANT TREATED WOOD BLOCKING & NAILERS
06 16 00.A08	COMPOSITE INSULATED ROOF SHEATHING
07 54 23.A01	ADHERED TPO MEMBRANE ROOFING SYSTEM
07 54 23.A05	VENTED BASE SHEET
07 54 23.A10	BASE FLASHING
07 54 23.A11	VERTICAL WALL FLASHING
07 54 23.A20	ROOF INSULATION
07 54 23.A25	COVERBOARD
07 62 00.A04	FLEXIBLE MEMBRANE CLOSURE
07 62 00.A07	DOWNSPOUTS
07 62 00.A09	CONDUCTOR HEADS
07 62 00.A18	COUNTER FLASHING
07 62 00.A31	CLOSURE FLASHING AT OPENINGS
07 62 00.A35	PRE-FINISHED MISC METAL FLASHING
07 92 00.A01	SEALANT

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### KEY PLAN

A

B

C

# A143

EPiC Elementary Storm Shelter Addition  
Liberty Public Schools  
650 Conifer St  
Liberty, MO 64068

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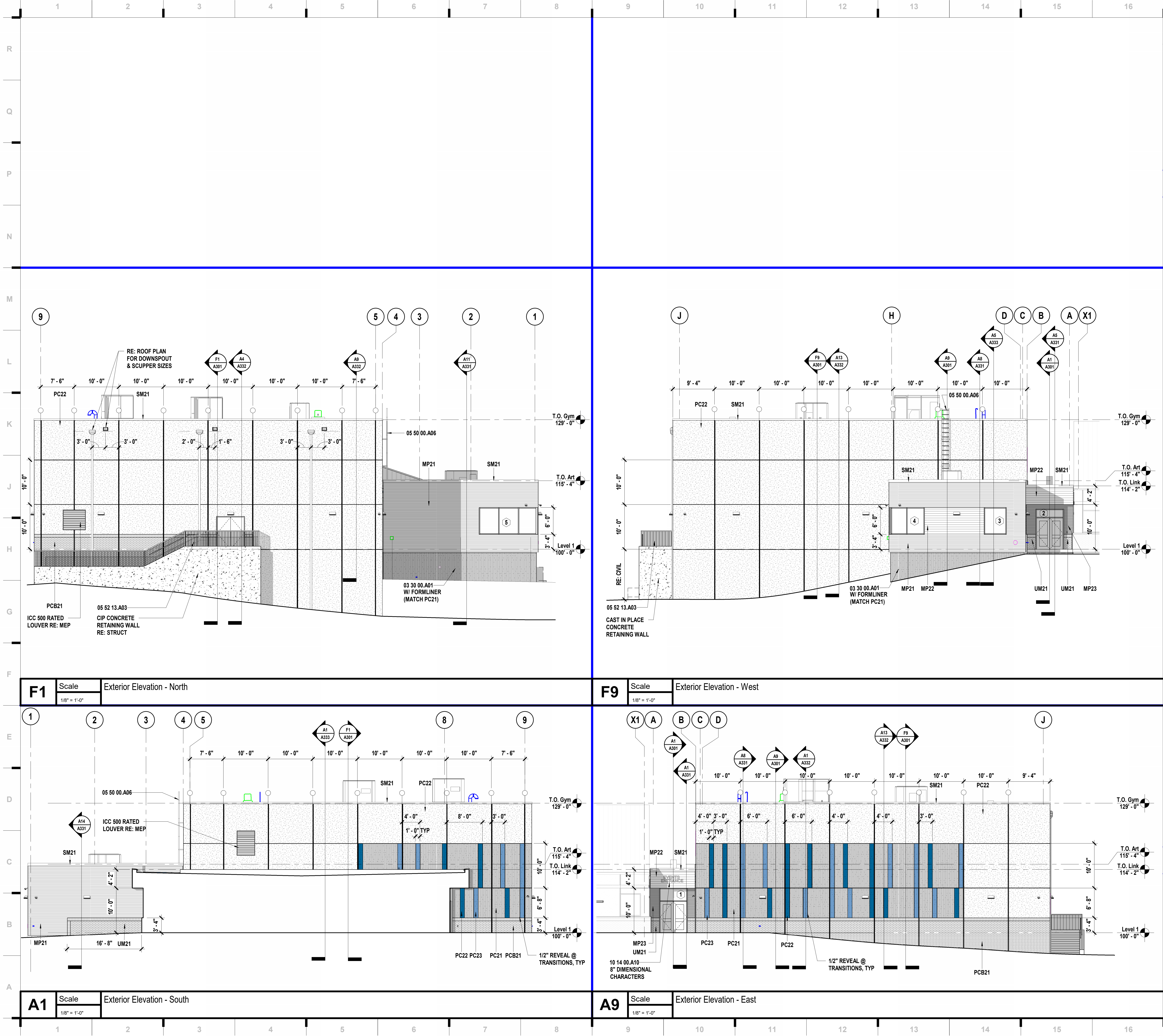
#	Description	Date

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DATE: 10/11/2023

# A143

ROOF DETAILS





## SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
03 41 00.A03	BRICK-FACED PRECAST STRUCTURAL CONCRETE
03 41 00.A21	ABRASIVE-BLAST FINISH
03 41 00.A26	FORMLINER FINISH
05 50 00.A06	METAL LADDER
05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
07 42 13.A03	CONCEALED FASTENER METAL WALL PANELS
07 62 00.A13	COPING
08 41 13	ALUMINUM FRAMED ENTRANCES AND STOREFRONTS
09 97 23.A01	CONCRETE AND MASONRY COATINGS
10 14 00.A10	NON-ILLUMINATED

## EXTERIOR MATERIAL LEGEND

**PCB21 = PRECAST W/ THIN BRICK**  
03 41 00.A03 BRICK-FACED PRECAST STRUCTURAL CONCRETE  
BOD: METROBRICK  
COLOR: #320 SCHOOLHOUSE RED  
SIZE/ PATTERN: MODULAR SIZE, RUNNING BOND  
RE: ELEVATIONS FOR SOLDIER COURSE LOCATIONS

**PC21 = PRECAST W/ FORMLINER**  
03 41 00.A26 FORMLINER FINISH  
BOD: AP FORMLINERS, 315-M BRAINTREE  
COLOR: INTEGRAL COLOR BUFF, MATCH ARCHITECTS SAMPLE  
FINISH: LIGHT SANDBLAST

**PC22 = PRECAST W/ MEDIUM SANDBLAST**  
03 41 00.A21 ABRASIVE-BLAST FINISH  
BOD: CORESLAB SAMPLE  
COLOR: INTEGRAL COLOR BUFF, MATCH ARCHITECTS SAMPLE  
FINISH: MEDIUM SANDBLAST, EXPOSED AGGREGATE

**PC23 = PRECAST W/ POST APPLIED STAIN**  
03 41 00.A26 FORMLINER FINISH W/  
09 97 23.A01 CONCRETE AND MASONRY COATINGS  
BOD: CORESLAB SAMPLE  
COLOR: INTEGRAL COLOR BUFF, MATCH ARCHITECTS SAMPLE  
STAIN: KEIM DESIGN LASUR, COLOR TO MATCH SW 6509 GEORGIAN BAY

**PC24 = PRECAST W/ POST APPLIED STAIN**  
03 41 00.A26 FORMLINER FINISH W/  
09 97 23.A01 CONCRETE AND MASONRY COATINGS  
BOD: CORESLAB SAMPLE  
COLOR: INTEGRAL COLOR BUFF, MATCH ARCHITECTS SAMPLE  
STAIN: KEIM DESIGN LASUR, COLOR NR 9448

**MP21 = METAL PANEL TYPE 1**  
07 42 13.A03 CONCEALED FASTENER METAL WALL PANELS  
BOD: MORIN MATRIX MX-1  
COLOR: REGAL BLUE  
SIZE/ PATTERN: HORIZONTAL

**MP22 = METAL PANEL TYPE 2**  
07 42 13.A03 CONCEALED FASTENER METAL WALL PANELS  
BOD: MORIN MATRIX MX-10  
COLOR: REGAL BLUE  
SIZE/ PATTERN: HORIZONTAL

**MP23 = METAL PANEL TYPE 3**  
07 42 13.A03 CONCEALED FASTENER METAL WALL PANELS  
BOD: MORIN MATRIX MX-10  
COLOR: SILVERSMITH  
SIZE/ PATTERN: HORIZONTAL

**SM21 = SHEET METAL TYPE 1**  
07 62 00.A13 COPING  
BOD: N/A  
COLOR: MATCH MP1 & MP2  
SIZE/ PATTERN: PER DETAILS

**UM21 = UNIT MASONRY TYPE 1**  
BOD: CLOUD CERAMICS  
COLOR: BURGANDY SHADOWTEX  
SIZE/ PATTERN: MODULAR SIZE, RUNNING BOND  
RE: ELEVATIONS FOR SOLDIER COURSE LOCATIONS

**AS1 = ALUMINUM FRAMES**  
08 41 13 ALUMINUM FRAMED ENTRANCES AND STOREFRONTS  
BOD: KAWNEER  
COLOR: ANODIZED ALUMINUM

## SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- DO NOT SCALE THIS DRAWING
- WALL MOUNTED LIGHT FIXTURES, LAMBS TONGUES AND OTHER MEP ITEMS ARE SHOWN FOR PLACEMENT ONLY

## REVISIONS:

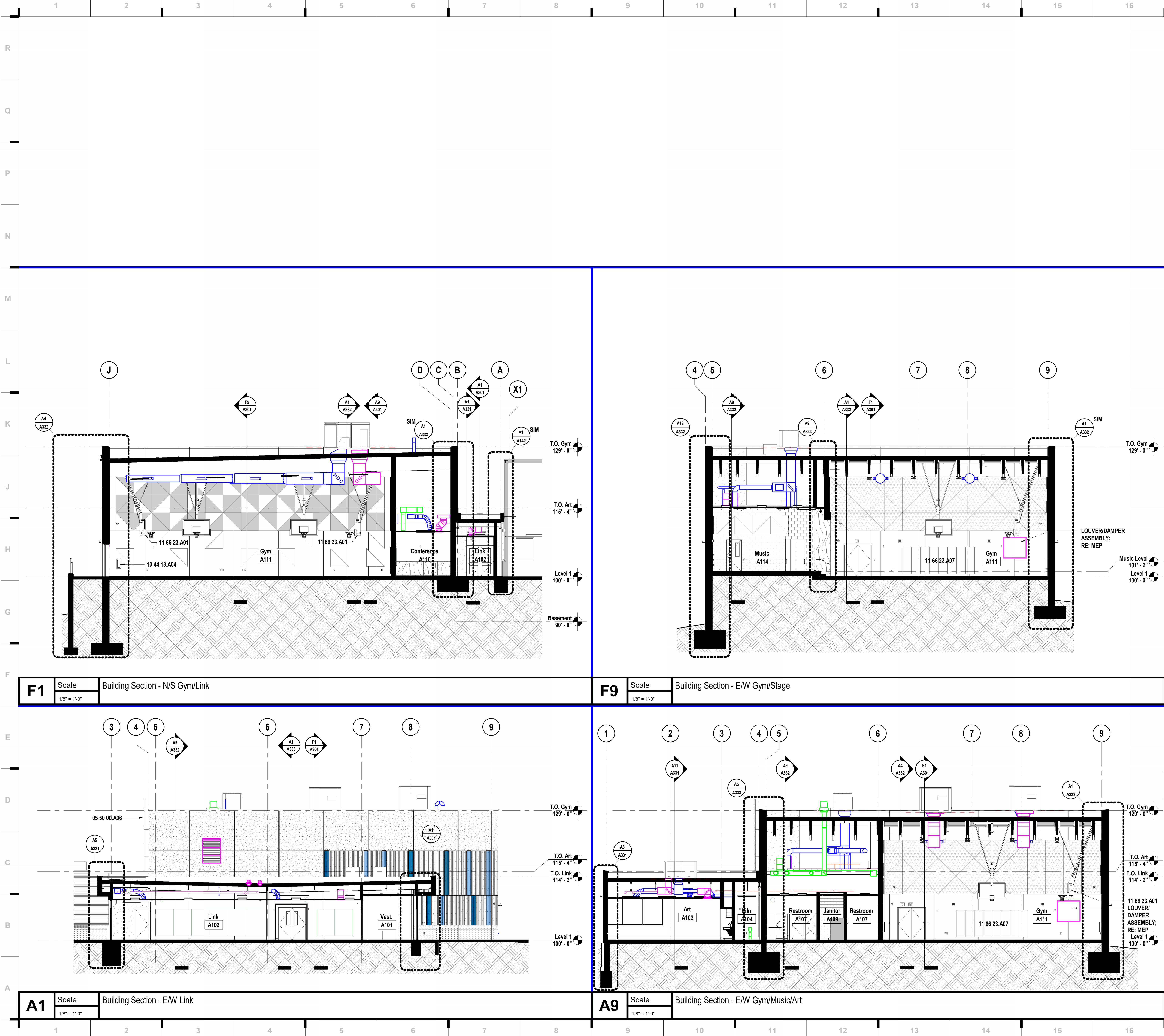
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1	Addendum 5a	09/28/2023



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A201





### SHEET KEYNOTE LEGEND

05 50 00.A06	METAL LADDER
10 44 13.A04	SURFACE MOUNTED STEEL CABINET
11 66 23.A01	OVERHEAD BACKBOARD SUPPORTS
11 66 23.A07	WALL SAFETY PADS

### SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- DO NOT SCALE THIS DRAWING
- REFER TO INTERIOR ELEVATIONS, FOR PLACEMENT OF ALL WALL MOUNTED ITEMS
- WALL MOUNTED LIGHT FIXTURES, GRILLES AND OTHER MEP ITEMS ARE SHOWN FOR PLACEMENT ONLY

### KEY PLAN

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**EPiC Elementary Storm Shelter Addition**  
Liberty Public Schools  
650 Conister St  
Liberty, MO 64068

**KEVIN E. NELSON**  
A-2019015618  
OCTOBER 1, 2023  
ARCHITECT

REVISIONS:  
# Description Date

JOB NO: 23020.00  
DRAWN BY: HB  
CHECKED BY: JB  
DATE: 10/11/2023

**A301**

**BUILDING SECTIONS**

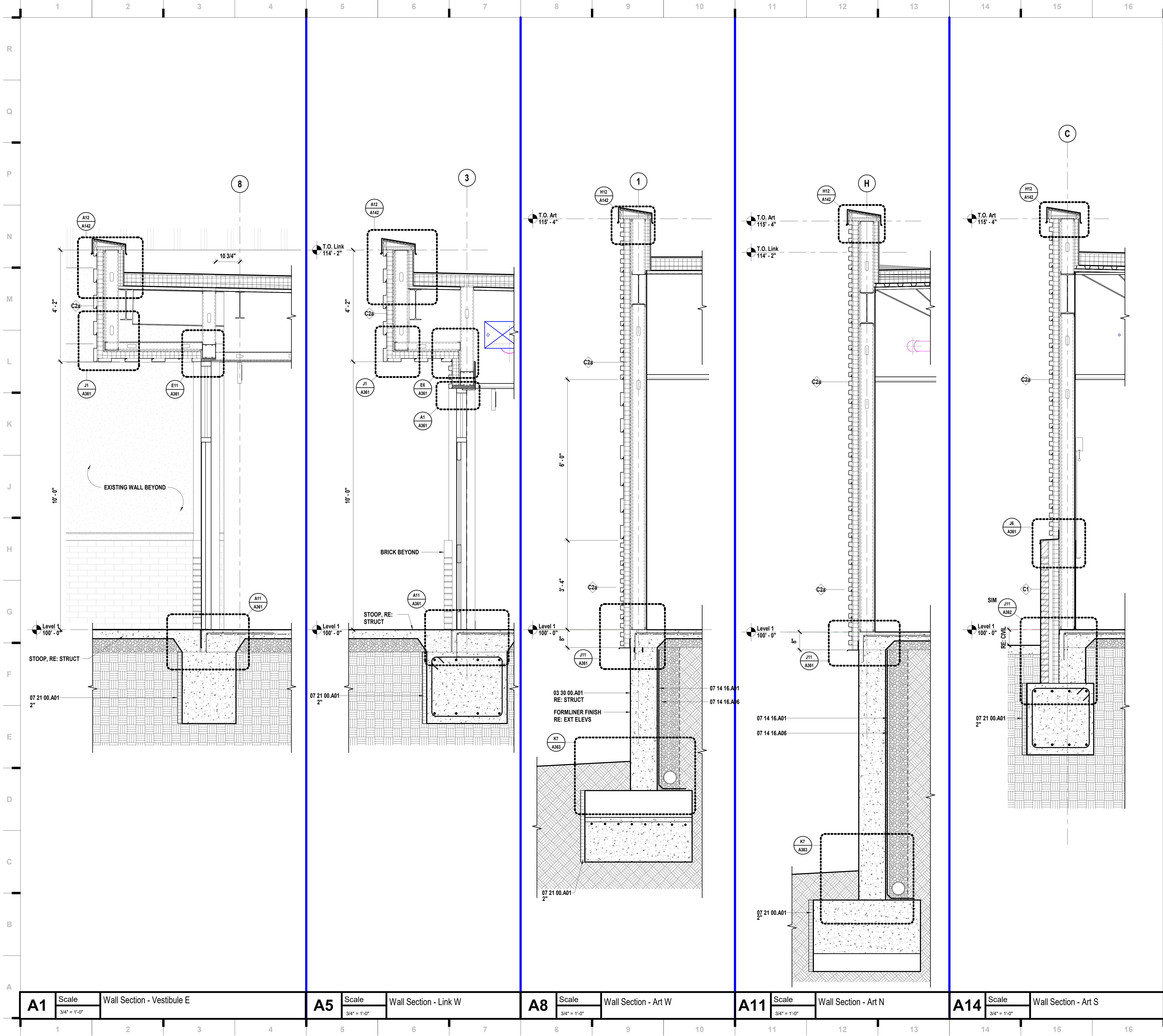
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Confirmed Construction Documents

10/11/2023 9:17:55 AM



10/11/2023 9:17:59 AM



# SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
07 14 16.A01	COLD FLUID-APPLIED WATERPROOFING
07 14 16.A06	MOLDED SHEET DRAINAGE PANELS
07 21 00.A01	EXTRUDED POLYSTYRENE BOARD INSULATION

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## EPiC Elementary Storm Shelter Addition

Liberty Public Schools

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### REVISIONS:

#	Description	Date
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1	Amendment Set	09/29/2023
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OCT 11 2023  
Kevin E. Nelson  
A-2019015618

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# A331

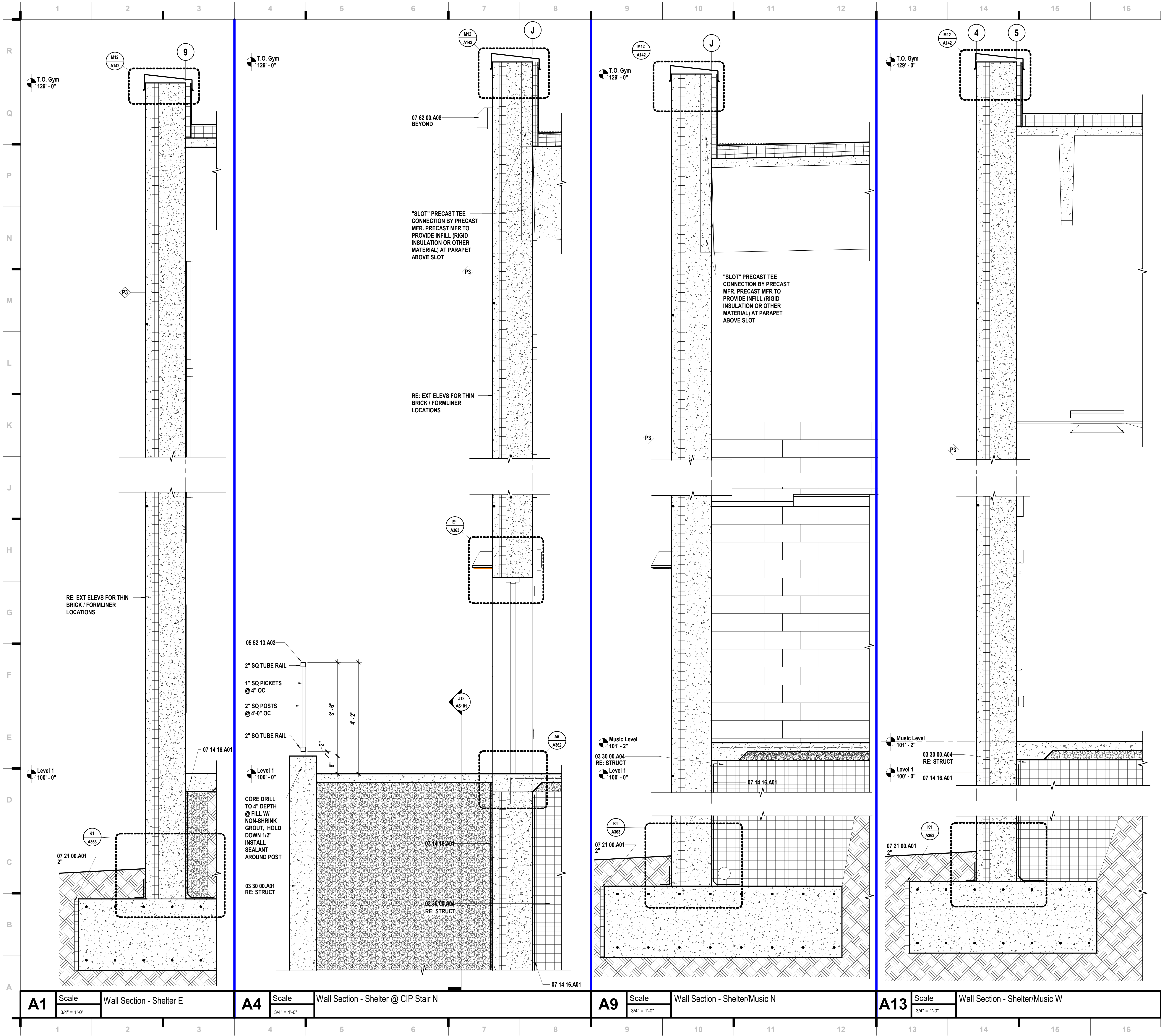
WALL SECTIONS

Conformed  
Construction  
Documents

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## SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
03 30 00.A04	FOAM VOID FILL
05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
07 14 16.A01	COLD FLUID-APPLIED WATERPROOFING
07 21 00.A01	EXTRUDED POLYSTYRENE BOARD INSULATION
07 62 00.A08	SCUPPERS

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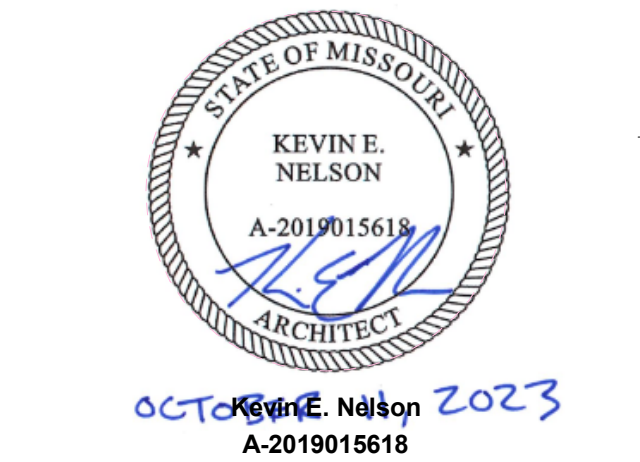
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1	Addendum 5a	09/29/2023
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# A332

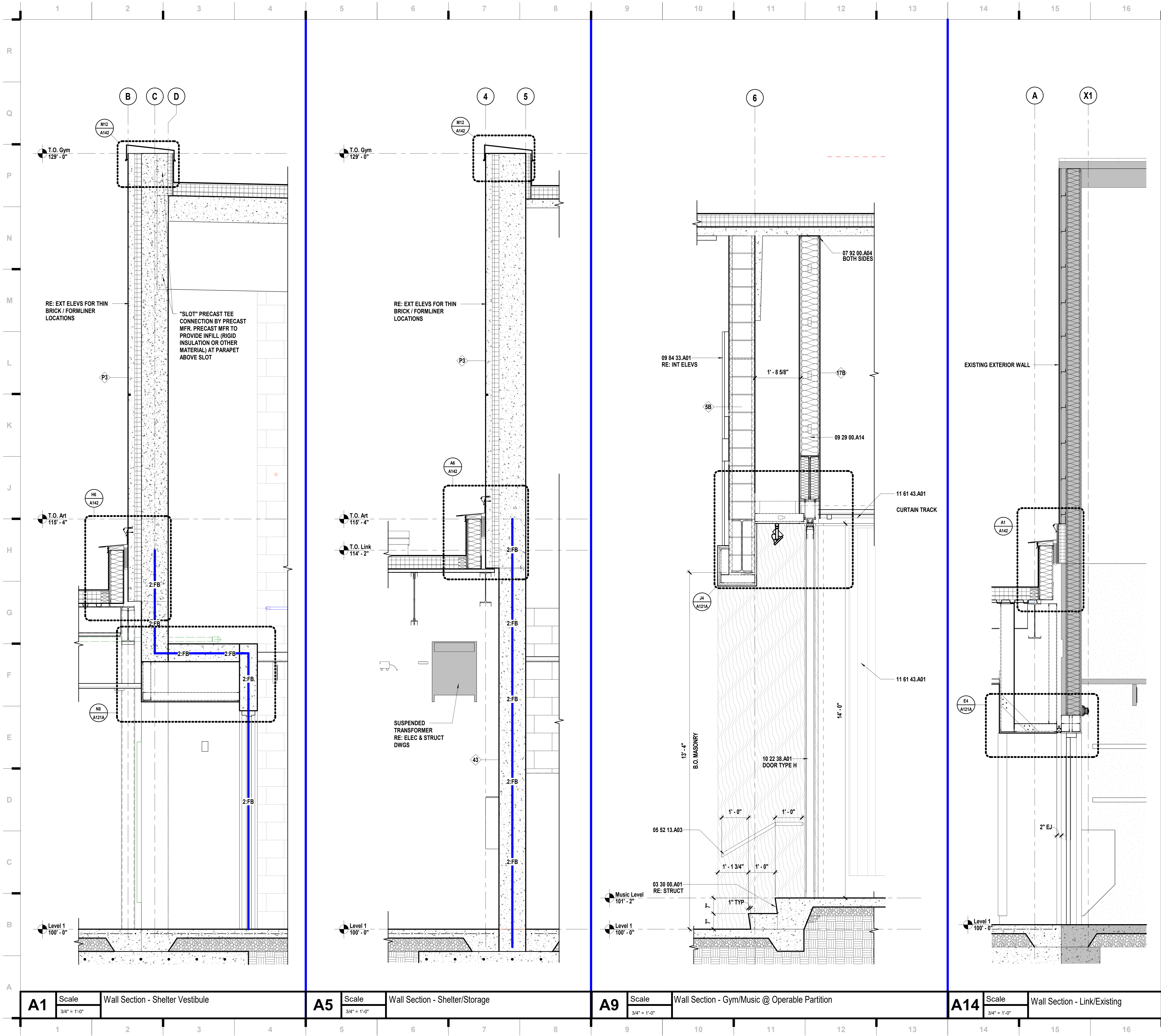
WALL SECTIONS

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Construction  
Documents

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### SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
07 92 00.A04	ACOUSTICAL SEALANT
09 29 00.A14	SOUND ATTENUATION BLANKETS
09 84 33.A01	SOUND-ABSORBING WALL PANELS
10 22 38.A01	OPERABLE PANEL PARTITION (SINGLE PANEL)
11 61 43.A01	STAGE CURTAINS

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### EPiC Elementary Storm Shelter Addition

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STATE OF MISSOURI  
KEVIN E. NELSON  
A-2019015618  
ARCHITECT

OCT 10 2023  
Kevin E. Nelson  
A-2019015618

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# A333

## WALL SECTIONS





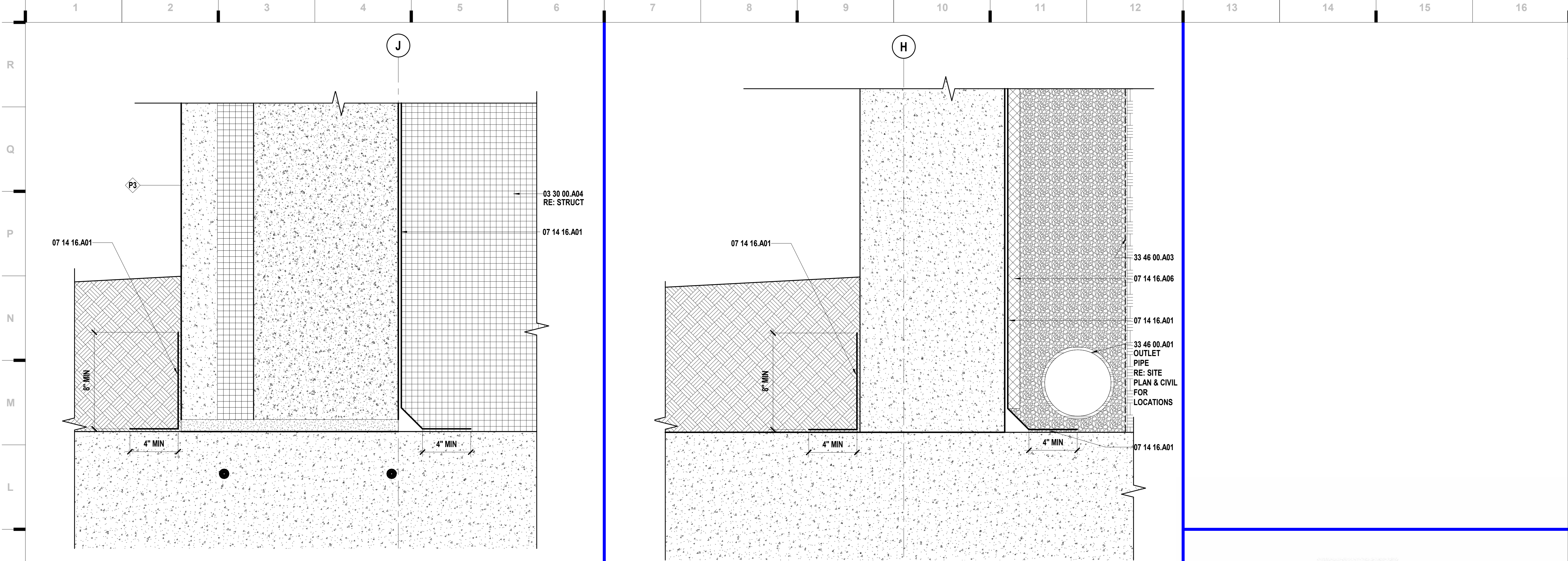




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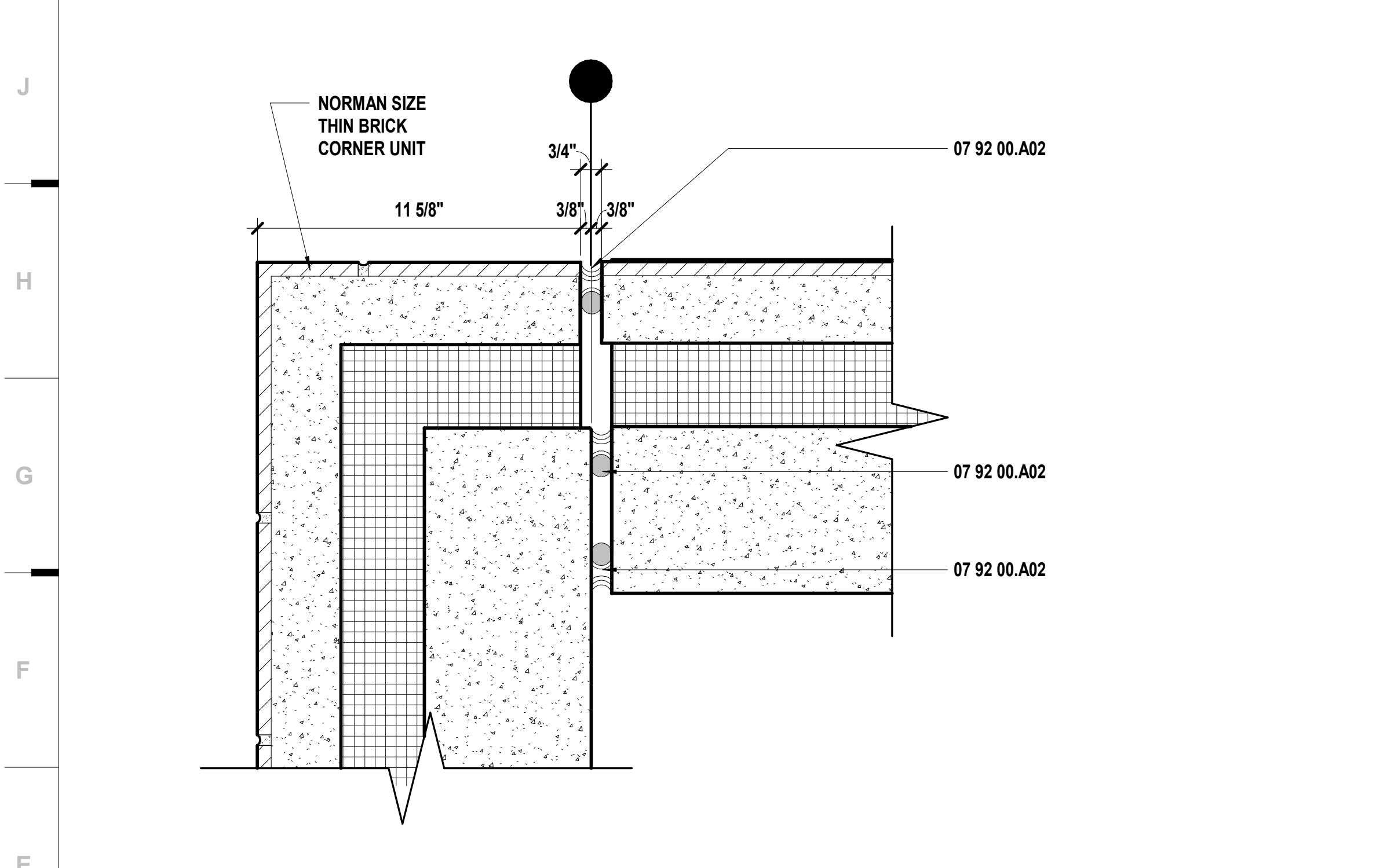
## EXTERIOR DETAILS



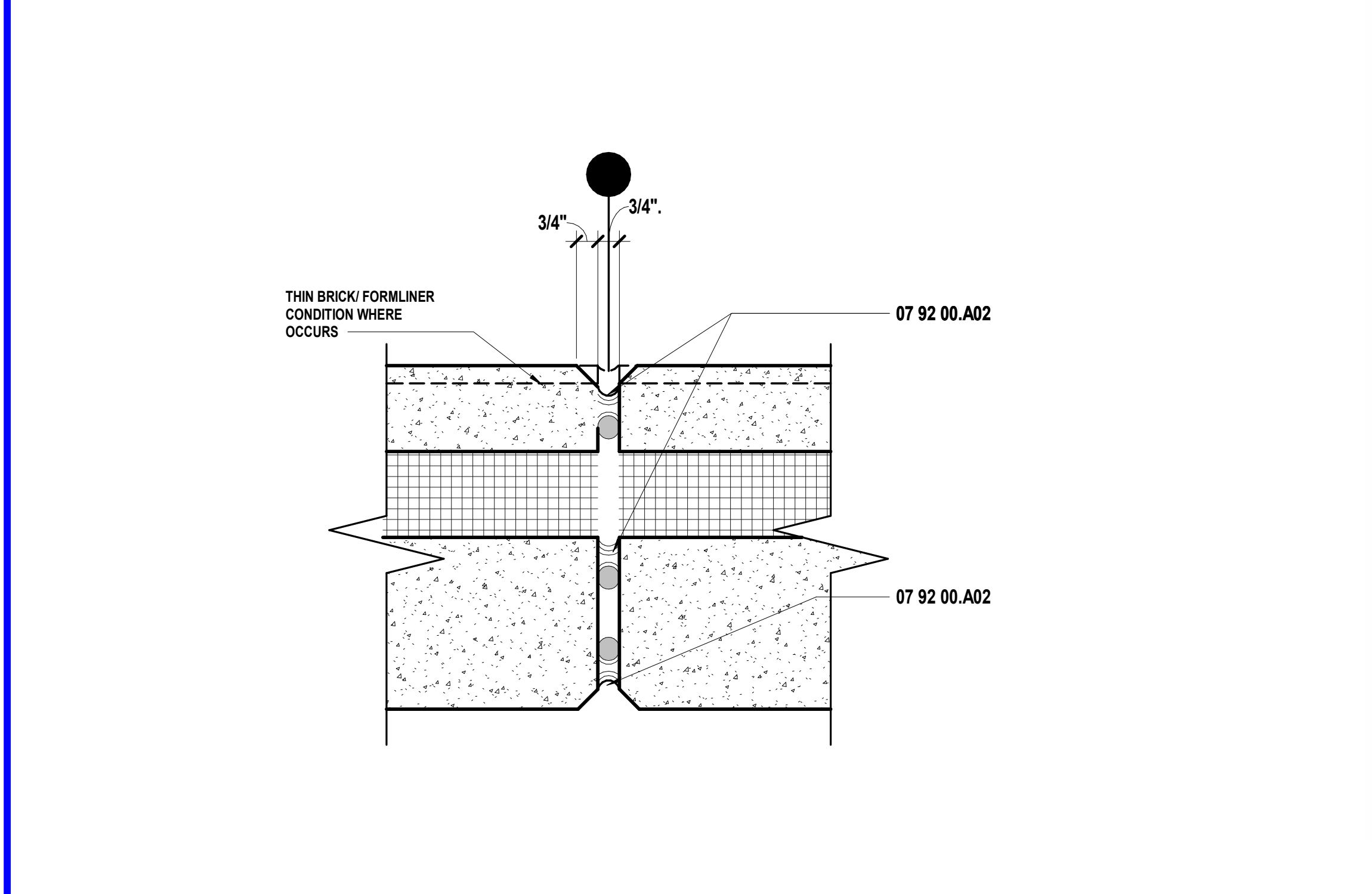


**K1** Scale 3" = 1'-0" Exterior Detail - Base of Wall @ Precast/Retaining

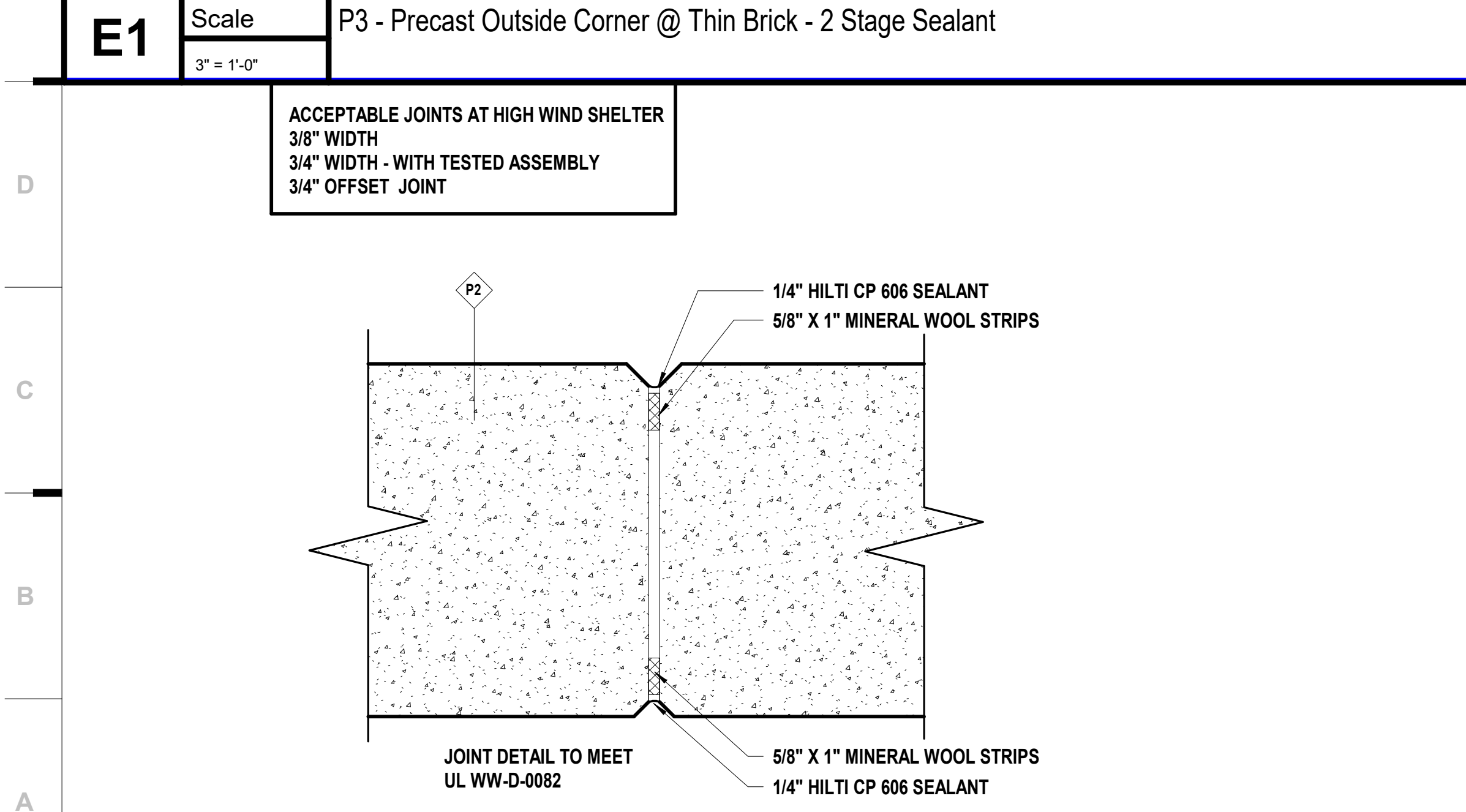
**K7** Scale 3" = 1'-0" Exterior Detail - Base of Wall @ Retaining/CIP



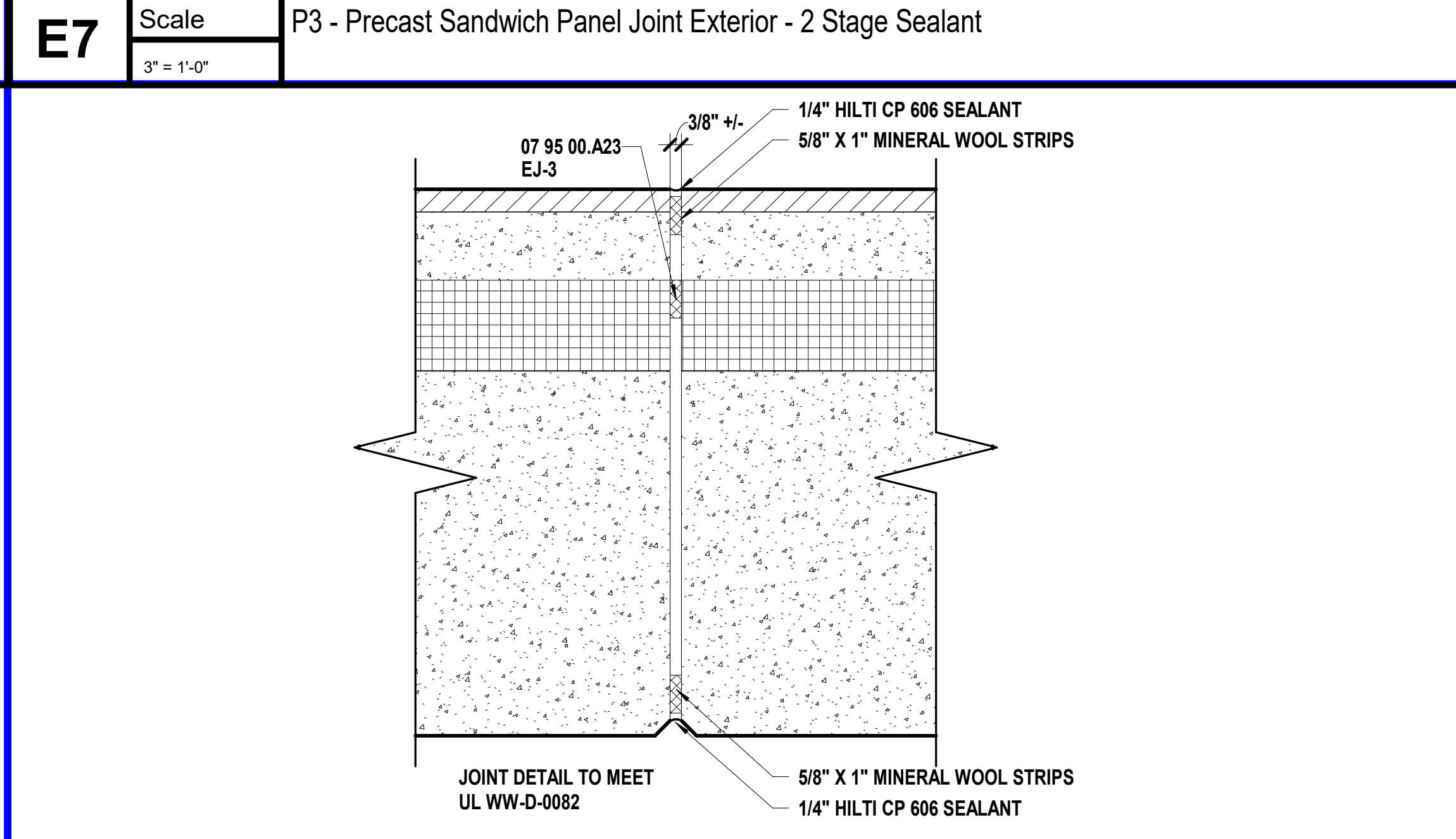
**E1** Scale 3" = 1'-0" P3 - Precast Outside Corner @ Thin Brick - 2 Stage Sealant



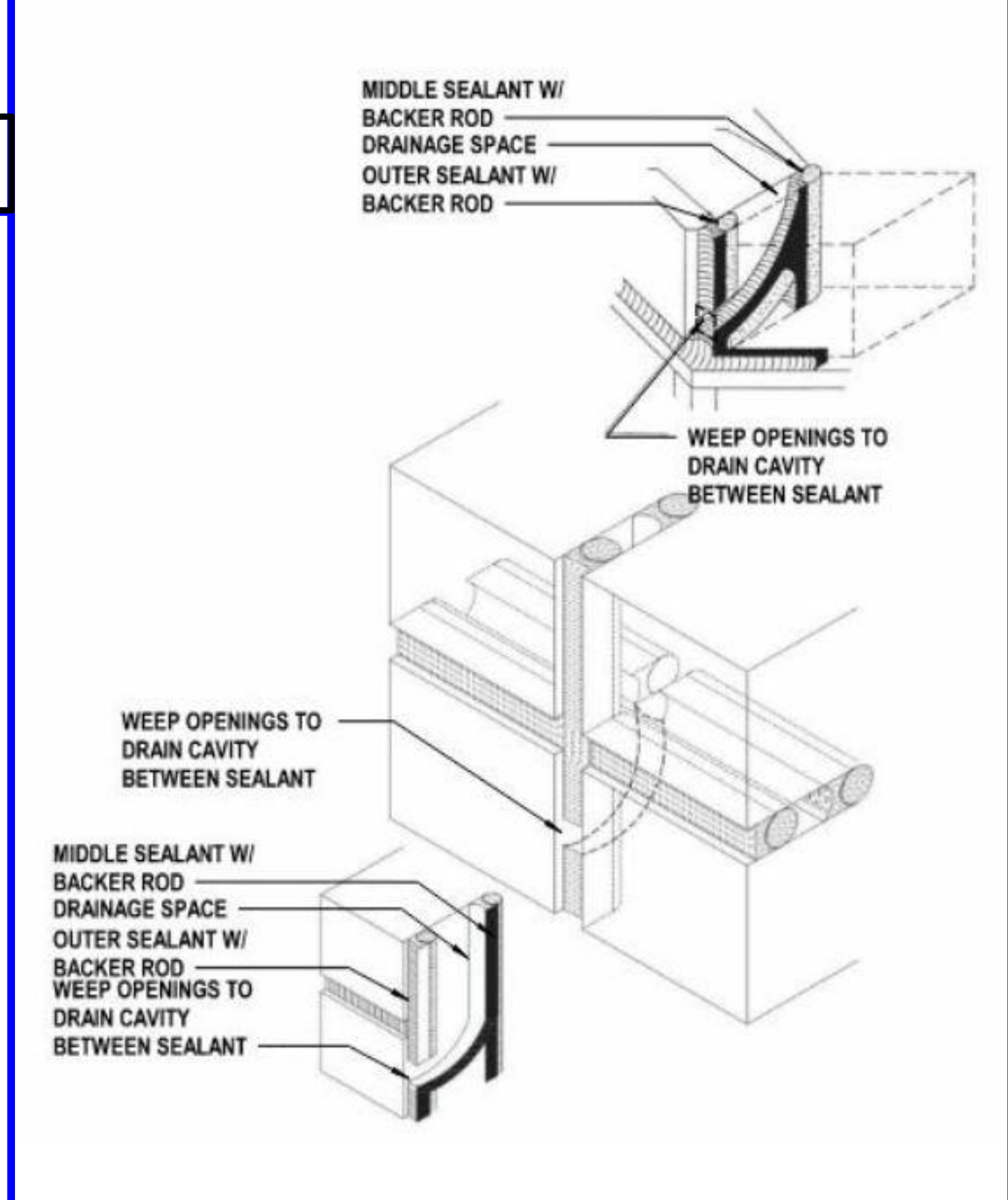
**E7** Scale 3" = 1'-0" P3 - Precast Sandwich Panel Joint Exterior - 2 Stage Sealant



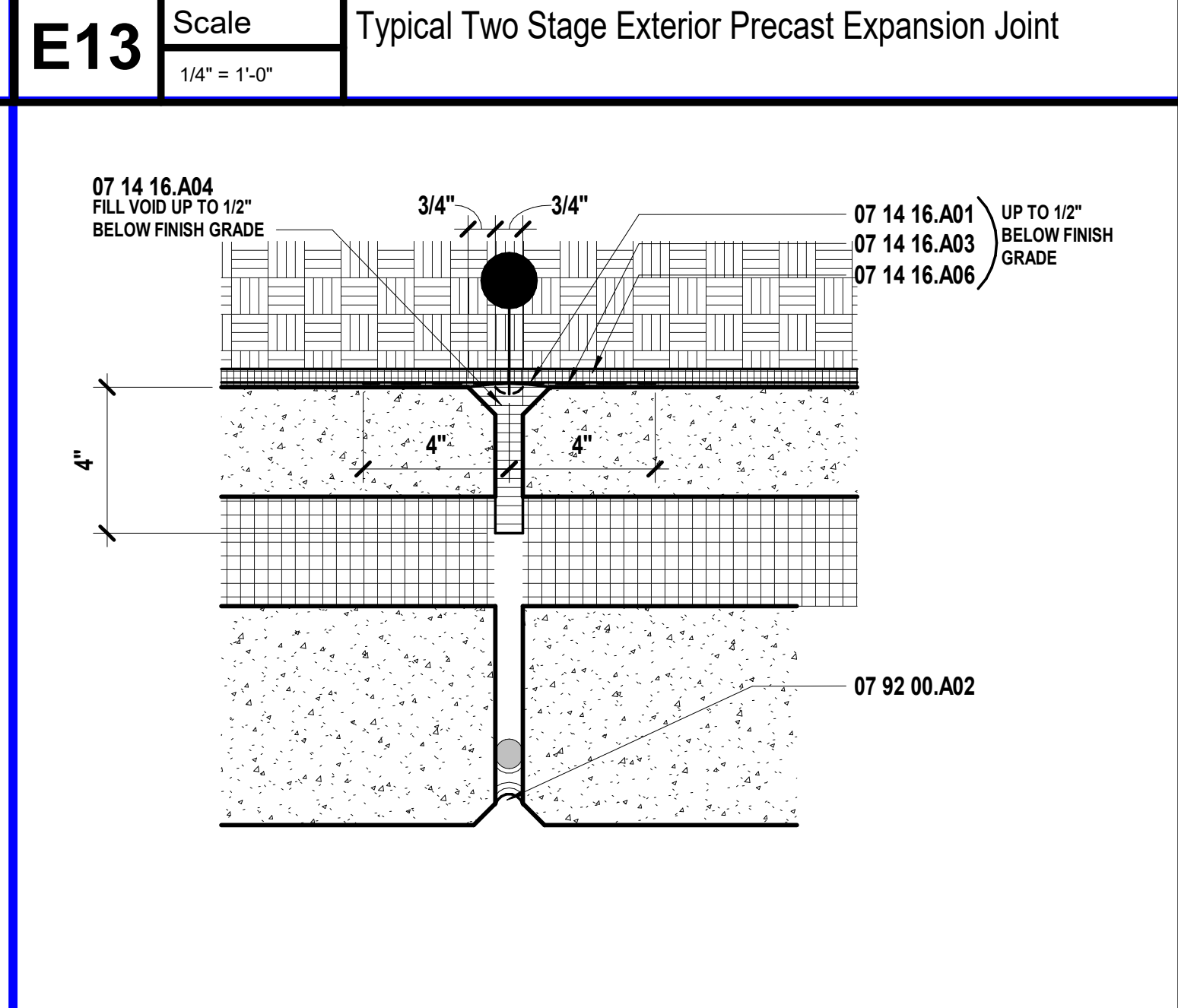
**A1** Scale 3" = 1'-0" 41 & 43 - Precast Joint - Interior 2 Hr rated



**A7** Scale 3" = 1'-0" P3 - Precast Joint - Exterior - 2 Stage Sealant



**E13** Scale 1/4" = 1'-0" Typical Two Stage Exterior Precast Expansion Joint



**A13** Scale 3" = 1'-0" P3 Precast Panel Joint Below Grade

SHEET KEYNOTE LEGEND	
03 30 00.A04	FOAM VOID FILL
07 14 16.A01	COLD FLUID-APPLIED WATERPROOFING
07 14 16.A03	REINFORCING FABRIC
07 14 16.A04	WATERPROOFING FILLER
07 14 16.A06	MOLDED SHEET DRAINAGE PANELS
07 92 00.A02	SEALANT W/BACKER ROD
07 95 00.A23	PRE-FORMED CELLULAR FOAM SECONDARY SEAL
33 46 00.A01	SUBDRAINAGE SYSTEM PIPING
33 46 00.A03	GEOTEXTILE FILTER FABRICS

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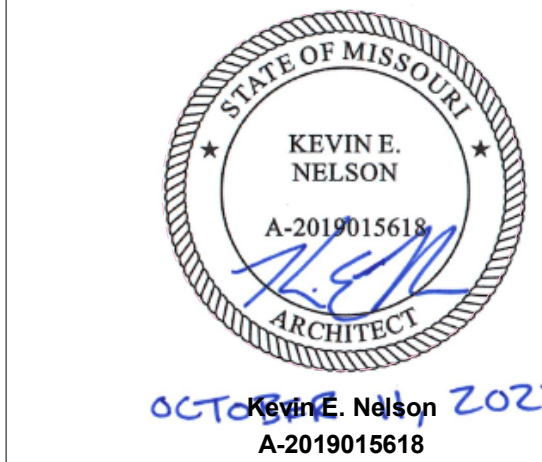
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REVISIONS:		
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1	Addendum 5a	09/28/2023



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**A363**





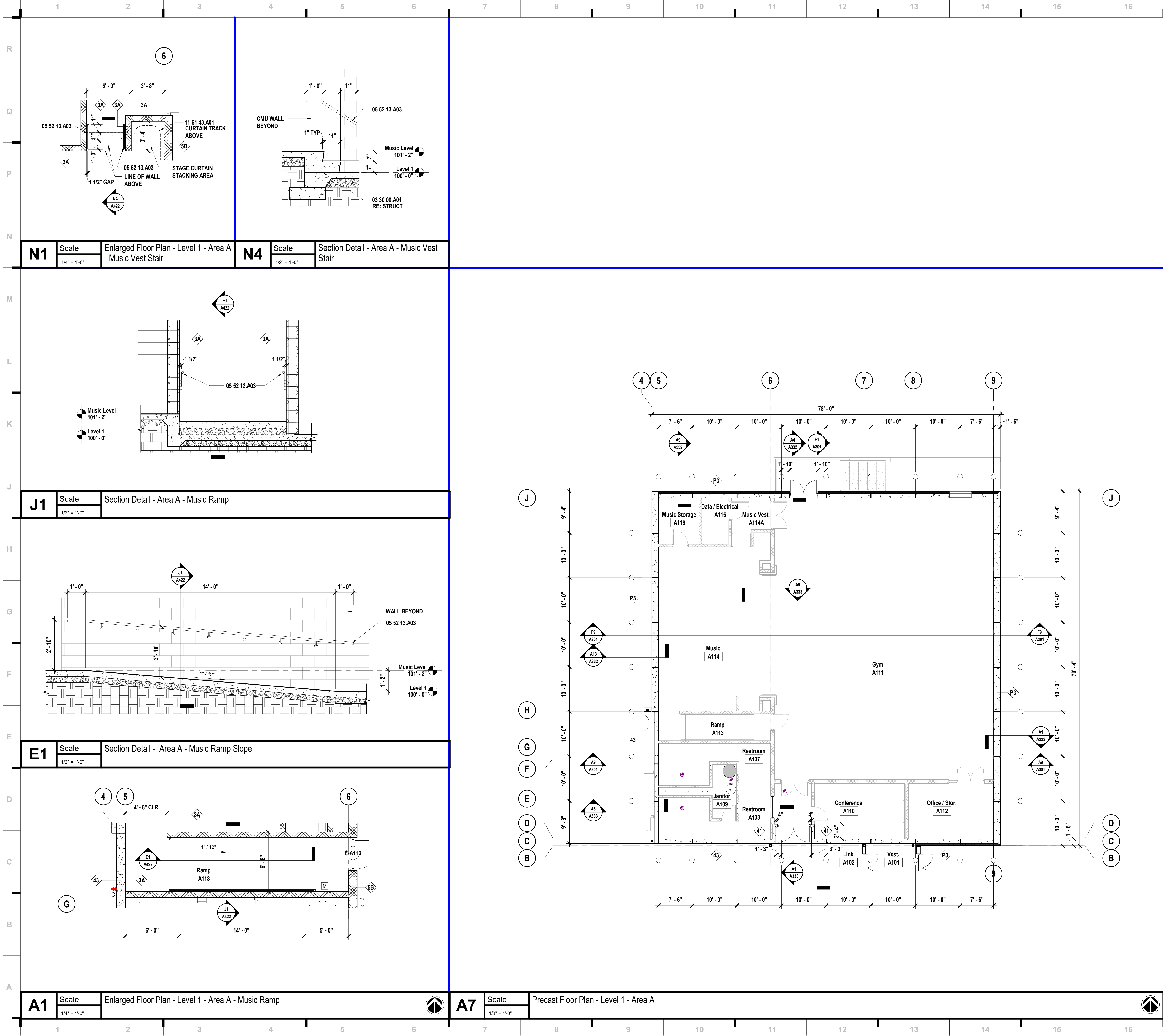












# SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
11 61 43.A01	STAGE CURTAINS

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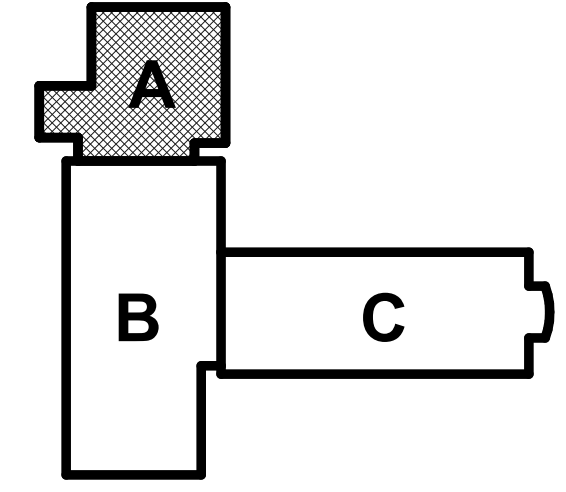
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#	Description	Date
1	Revisions	09/28/2023

# SHEET NOTES

- DO NOT SCALE THIS DRAWING

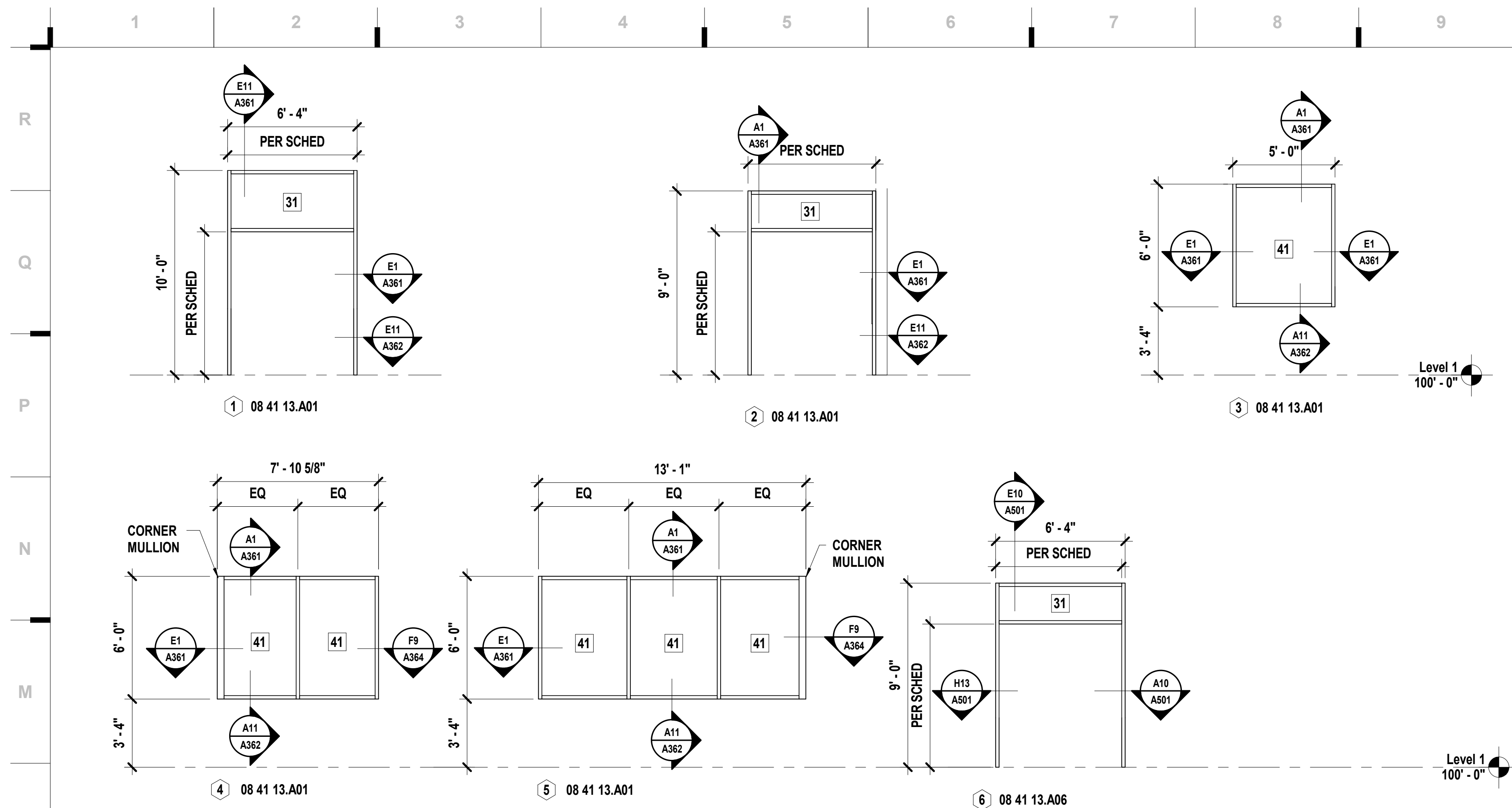
# KEY PLAN



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DATE: 10/11/2023

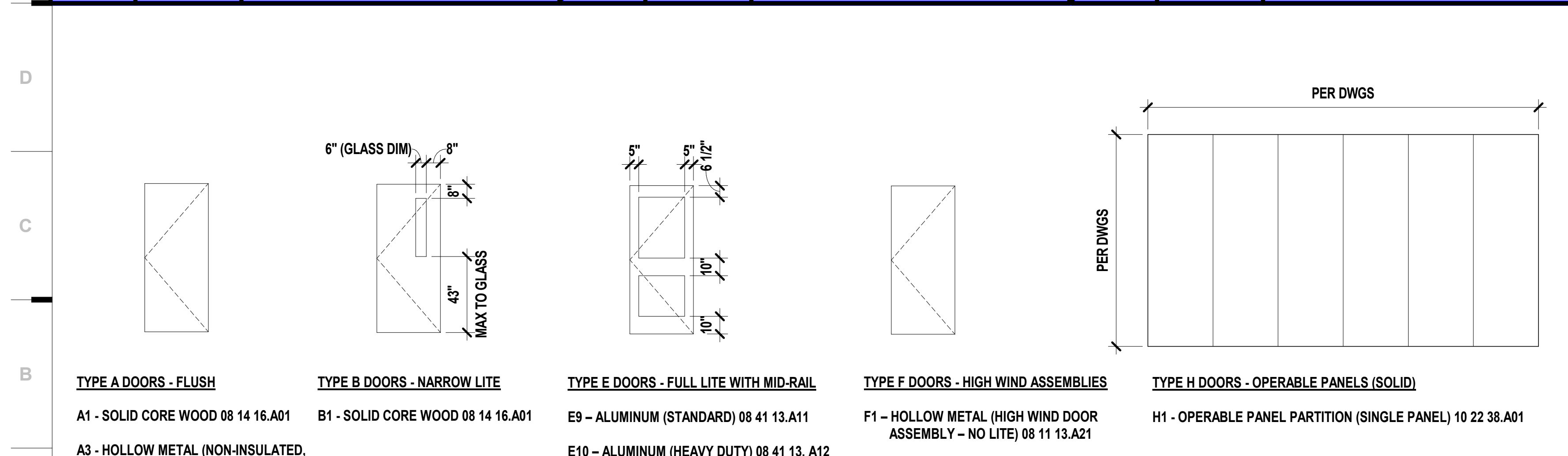
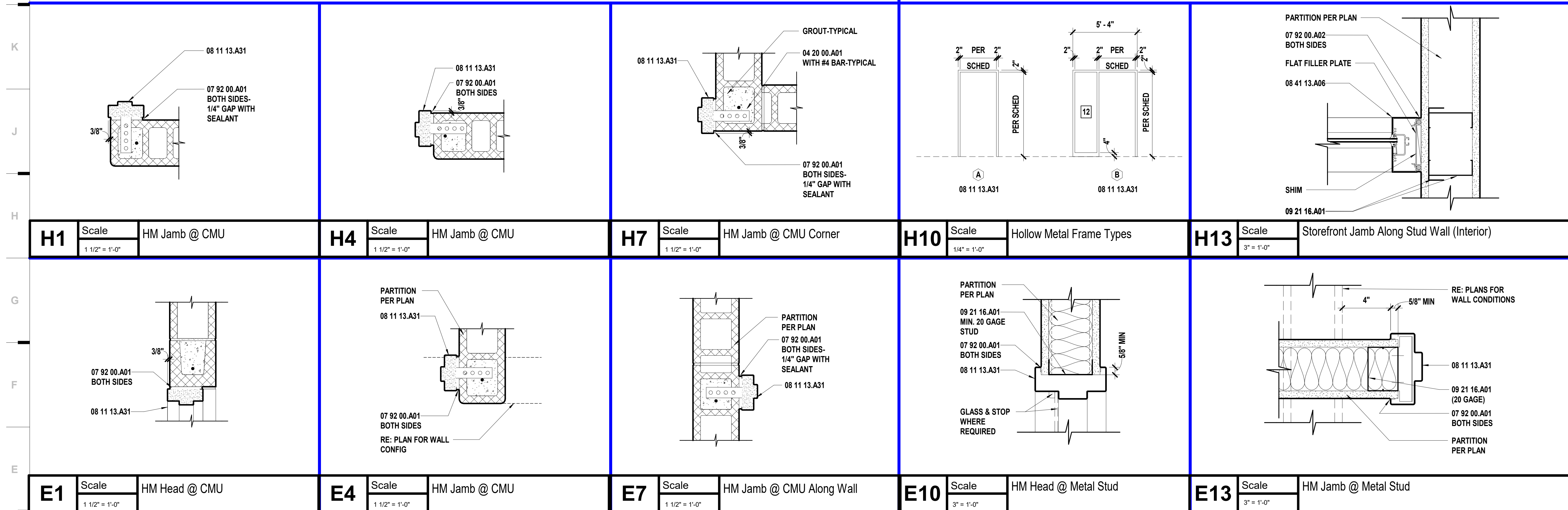
**A422**





DOOR SCHEDULE												
DOOR				Frame		All DETAILS ON A521 UNO						Remarks
Number	Size	Type	Glass	Type	Material	Head	Strike	Hinge	Thresh	Fire Rating		
E-A101a	PR 3'-0" x 7'-0" x 1 3/4"	E10	41	1	ALUM	--	--	--		--		
E-A101b	PR 3'-0" x 7'-0" x 1 3/4"	E10	41	6	ALUM	A13	--	--		--		
E-A102a	PR 3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	E4/A121A	--	J1/A421		--		
E-A102c	PR 3'-0" x 7'-0" x 1 3/4"	E10	41	2	ALUM	A1/A361	--	--		--		
E-A103	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	E10	E13	E13		--		
E-A104	3'-6" x 7'-0" x 1 3/4"	B1	11	A	HM	E10	E13	E13		--		
E-A105	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	E10	E13	E13		--		
E-A106	PR 3'-6" x 8'-0" x 1 3/4"	F1	--	A	HM	A1/A362	--	A1/A362		90 MIN	PAINT DOOR & FRAME P26	
E-A108	4'-8" x 7'-2" CO	--	--	A	HM	E1	H4	H4		--	CASED OPENING	
E-A109	3'-0" x 7'-0" x 1 3/4"	A3	--	A	HM	E1	H4	E4		--		
E-A110	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	E1	H4	A1/A362		--		
E-A111a	PR 3'-0" x 7'-2" x 1 3/4"	B1	11	A	HM	E1	--	H4		--		
E-A111b	PR 3'-0" x 7'-2" x 1 3/4"	F1	--	A	HM	E1/A362	--	E1/A362		--		
E-A112	PR 3'-0" x 7'-0" x 1 3/4"	B1	11	B	HM	E1	--	H4		--		
E-A113	3'-4" x 7'-2" x 1 3/4"	B1	11	A	HM	E1	H4	H4		--		
E-A114	3'-4" x 7'-2" x 1 3/4"	B1	11	A	HM	E1	H4	H4		--		
E-A114a	PR 3'-0" x 7'-0" x 1 3/4"	A3	--	A	HM	E1	--	H4		--		
E-A115	4'-0" x 7'-2" x 1 3/4"	A1	--	A	HM	E1	H4	H4		--		
E-B124c	3'-6" x 7'-0" CO	--	--	A	HM	E10	E13	E13		--	CASED OPENING	
E-B146	PR 2'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	E10	--	E13		--		
E-B147	4'-0" x 7'-0" CO	--	--	A	HM	E10	E13	E13		--	CASED OPENING	
E-B148	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	E10	E13	E13		--		
E-B149	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	E10	E13	E13		--		
E-B150	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	E10	E13	E13		--		
E-C124	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	E10	E13	E13		--		

SHEET KEYNOTE LEGEND	
04 20 00.A01	CONCRETE MASONRY UNITS
06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
07 92 00.A01	SEALANT
07 92 00.A02	SEALANT W/BACKER ROD
08 11 13.A31	HOLLOW METAL FRAME
08 41 13.A01	THERMAL BROKEN STOREFRONT FRAMING (4.5")
08 41 13.A06	NON-THERMAL BROKEN STOREFRONT FRAMING (4.5")
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A11	GYPSUM BOARD TRIM



<p>FLAT FILLER PLATE 08 41 13.A06</p> <p>SHIM</p> <p>07 92 00.A02 BOTH SIDES</p> <p>09 21 16.A01 (2) 20 GA</p> <p>L' BEAD BOTH SIDES 09 29 00.A11</p>			<p>PARTITION PER PLAN 06 10 00.A19</p> <p>SHIM</p> <p>07 92 00.A02 BOTH SIDES</p> <p>FLAT FILLER PLATE 08 41 13.A06</p> <p>L' BEAD BOTH SIDES 09 29 00.A11</p>		
<b>A10</b>	Scale 3" = 1'-0"	Storefront Jamb @ Stud Wall (Interior)	<b>A13</b>	Scale 3" = 1'-0"	Storefront Head @ Stud Wall (Interior)

# GLASS LEGEND

GLASS TYPE = 1

FULLY-TEMPERED MONOLITHIC FLOAT GLASS

11 08 80 00.A11 1/4" CLEAR FULLY-TEMPERED MONOLITHIC  
FLOAT GLASS

12 08 80 00.A12 3/8" CLEAR FULLY-TEMPERED MONOLITHIC  
FLOAT GLASS

13 08 80 00.A13 1/2" CLEAR FULLY-TEMPERED MONOLITHIC  
FLOAT GLASS

INSULATING GLASS

31 08 80 00.A31 LOW-E CLEAR INSULATING GLASS


INSULATING FULL-TEMPERED GLASS

41 08 80 00.A41 LOW-E CLEAR INSULATED FULLY-TEMPERED  
GLASS

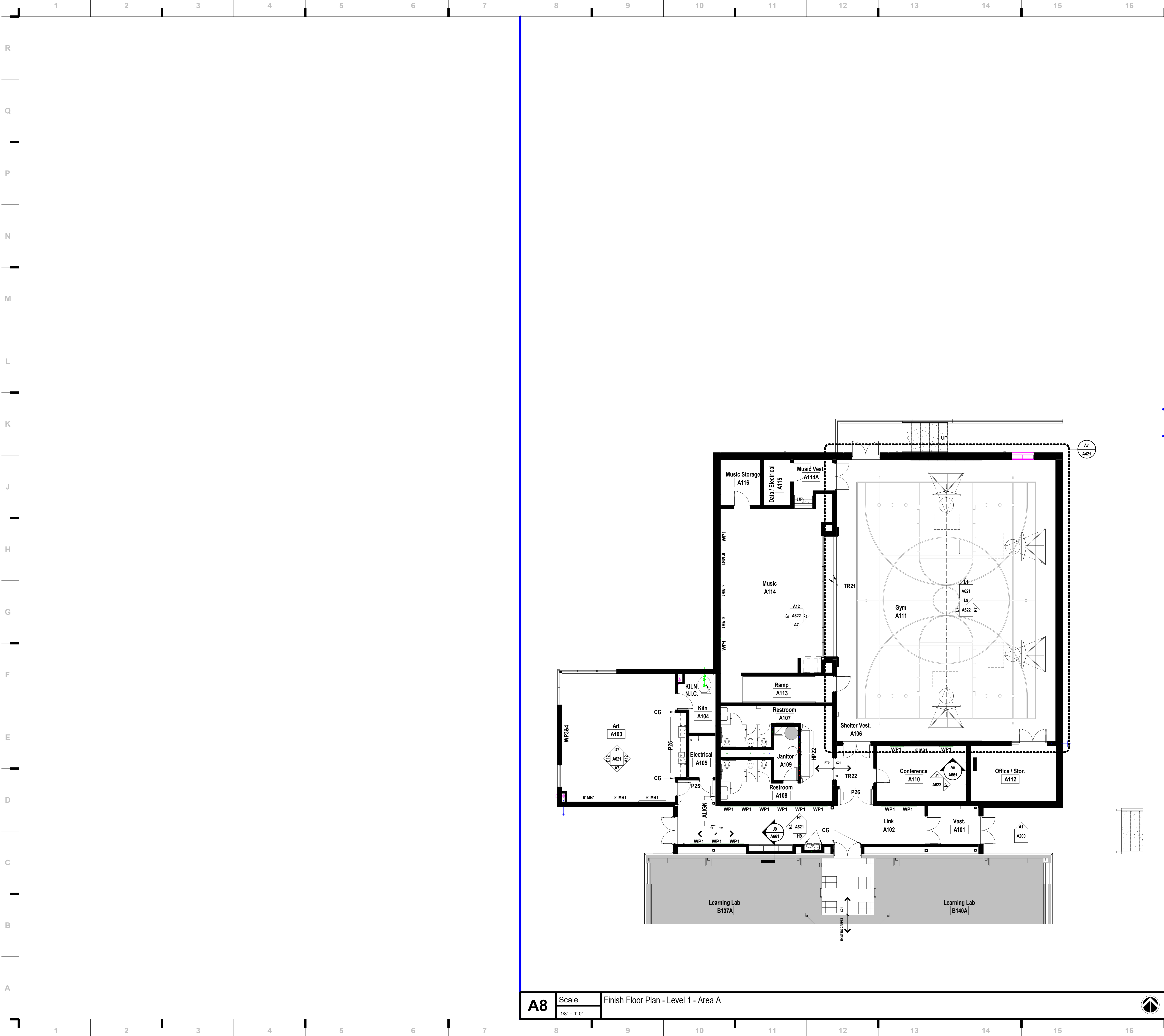
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## DOOR TYPE NOTES

1. REFER TO DOOR SCHEDULE FOR OVERALL DOOR  
DIMENSIONS
2. DIMENSIONS ASSUMED WITH VISION LITES ARE TO THE  
OUTSIDE OF THE VISION LITE FRAME UNLESS NOTED  
OTHERWISE
3. REFER TO DOOR SCHEDULE TO DETERMINE WHICH DOORS  
ARE REQUIRED TO BE FIRE RATED
4. REFER TO DOOR SCHEDULE FOR GLASS TYPES IN DOORS

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1828 Walnut Street Suite 522 Kansas City, MO 64108 1 816.442.7700		
115 Wilcox Street Suite 210 Castle Rock, CO 80104 1 720.949.1689		
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MKEC Engineering, Inc. Civil Engineer State Certificate of Authority Engineering #201000364 Landscaping #2006027139 Surveying #2006027136 11827 W 11th Street, Suite 200 Overland Park, KS 66210 913.317.9390 phone		
Smith & Boucher Engineers Mechanical, Electrical, & Plumbing State Certificate of Authority #EGC00178 25616 W 103rd Street Olathe, KS 66061 913.345.2127 phone		
Bob D. Campbell & Co. Structural Engineers State Certificate of Authority #000442 4338 Bellevue Avenue Kansas City, MO 64111 816.531.4144 phone 816.531.8572 fax		
<b>architects</b> <b>hollis + miller</b> <sup>®</sup>		
<b>EPiC Elementary Storm Shelter Addition</b> <b>Liberty Public Schools</b> <b>650 Conister St</b> <b>Liberty, MO 64068</b>		
<b>Conformed Construction Documents</b>		
REVISIONS:		
#	Description	Date
1	Addendum 54	06/29/2023
		
JOB NO: 23020.00 DRAWN BY: HB CHECKED BY: JB DATE: 10/11/2023		
<b>A501</b>		





**A8** Scale 1/8" = 1'-0" Finish Floor Plan - Level 1 - Area A

SHEET KEYNOTE LEGEND

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Surveying #2006027138  
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913.317.9580 phone

**Smith & Boucher Engineers**  
Mechanical, Electrical, & Plumbing  
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Olathe, KS 66061  
913.345.2127 phone

**Bob D. Campbell & Co.**  
Structural Engineers  
State Certificate of Authority #000442  
4338 Belleview Avenue  
Kansas City, MO 64111  
816.531.4144 phone  
816.531.8572 fax

SHEET MATERIAL FINISH LEGEND

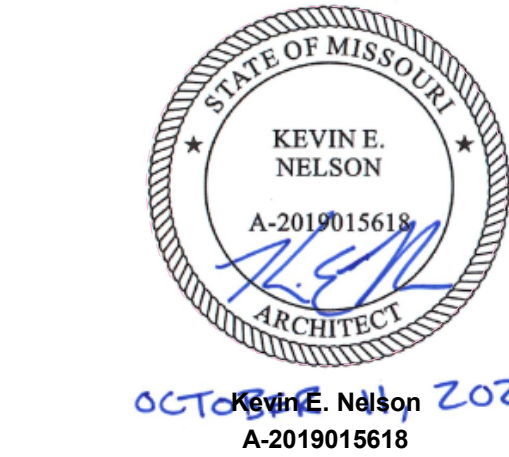
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CLG2	Ceiling	White
CLG3	Ceiling	White
CLG5	Ceiling	White
CLG21	Ceiling	White
F21	Fabric	Bermuda
HP21	High Performance Coating	Natural Choice
HP22	High Performance Coating	Silver Grey
HP23	High Performance Coating	Adriatic Sea
HP24	High Performance Coating	Freshwater
HP25	High Performance Coating	Gentle Aquamarine
HP26	High Performance Coating	Grasshopper
HP27	High Performance Coating	Organic Green
HP28	High Performance Coating	Harvester
HP29	High Performance Coating	Serape
P21	Paint	Natural Choice
P22	Paint	Silver Grey
P23	Paint	Adriatic Sea
P24	Paint	Freshwater
P25	Paint	Gentle Aquamarine
P26	Paint	Grasshopper
P27	Paint	Organic Green
P28	Paint	Harvester
P29	Paint	Serape
P30	Paint	Iron Ore
P31	Paint	Virtual Green

SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- FINISH FLOOR PATTERNS TO BE CENTERED IN EACH ROOM UNO
- CORNER GUARD LOCATIONS ARE INDICATED BY SYMBOL AND ARE TO BE FULL HEIGHT FROM TOP OF BASE
- COORDINATE FLOORING INSTALLATION WITH CASEWORK TO ENSURE FLOORING EXTENDS UNDER CABINET TOE SPACES AND OPEN KNEE/APPLIANCE SPACES
- ALL CLOSETS AND ALCOVES WITHOUT SEPARATE ROOM NUMBERS TO HAVE SAME FLOORING AND PATTERNS AS THE LARGER, IDENTIFIED ROOM
- NOT ALL FLOORING MATERIALS SHOWN ON FINISH PLANS. REFER TO FINISH SCHEDULE FOR MATERIALS IN LOCATIONS NOT SHOWN
- PATTERNS SHOWN THIS SHEET SHOULD REFLECT PATTERN OF MATERIAL MODULE

REVISIONS:

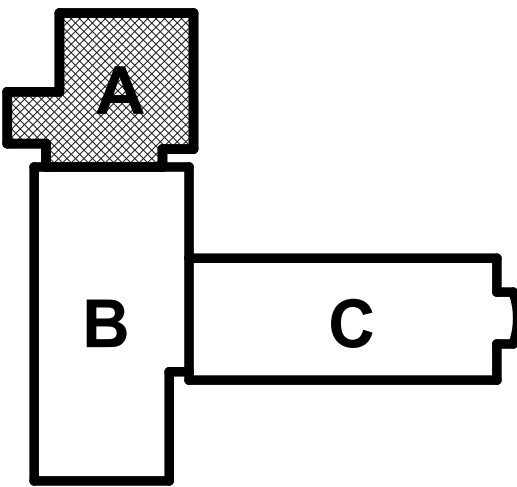
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JOB NO: 23020.00  
DRAWN BY: EW  
CHECKED BY: JB  
DATE: 10/11/2023

**A601A**

KEY PLAN



FINISH FLOOR PLAN - LEVEL 1 - AREA A

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

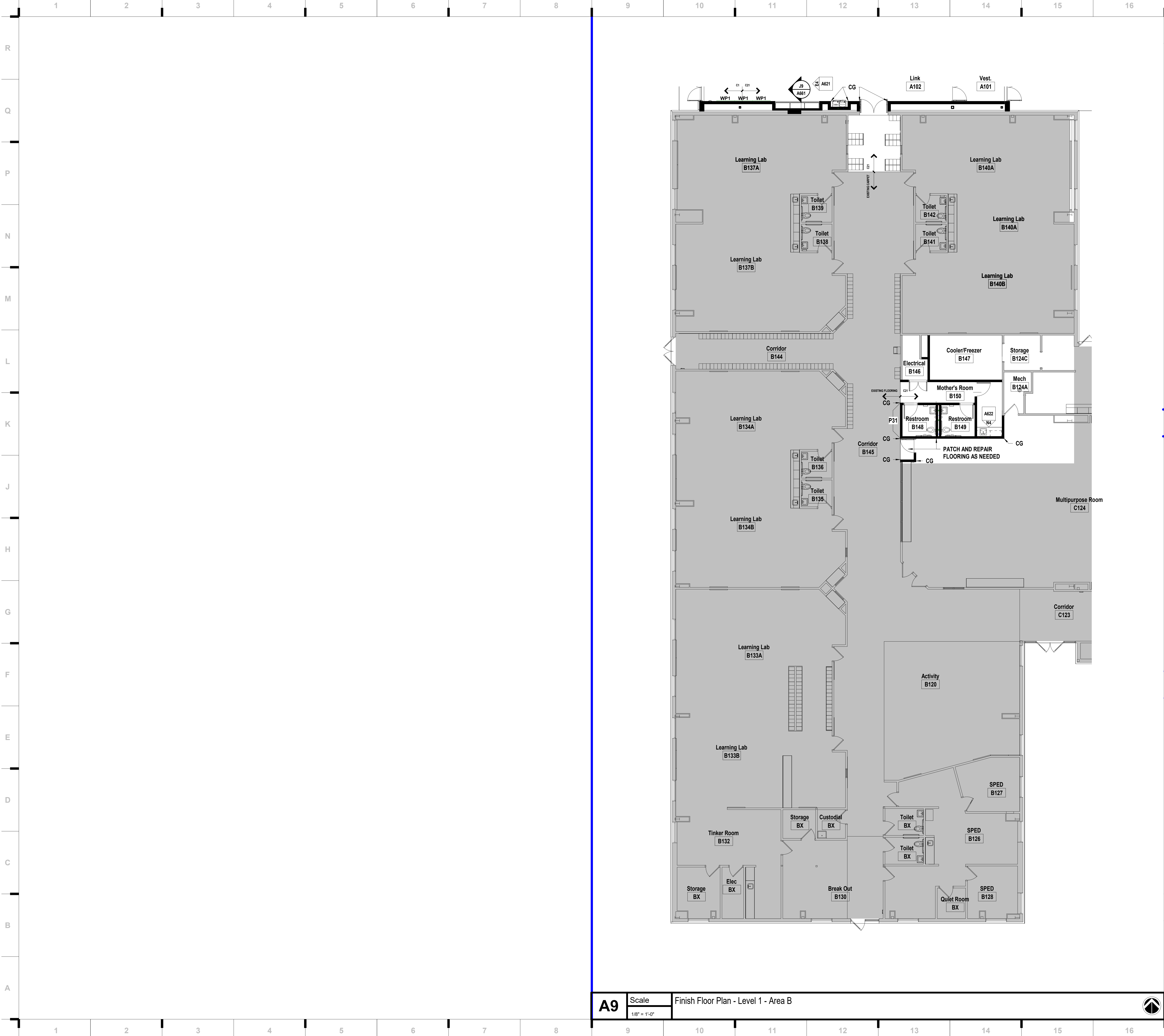
650 Conlister St  
Liberty, MO 64068

Conformed  
Construction  
Documents

hollis + miller architects®



10/11/2023 9:16:38 AM



**A9** Scale Finish Floor Plan - Level 1 - Area B  
1/8" = 1'-0"

SHEET KEYNOTE LEGEND

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Castle Rock, CO 80104  
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Hollis + Miller Architects  
Missouri State Certificate of Authority  
Architecture # 00001051  
Structure # 2006031333

**MKEC Engineering, Inc.**  
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State Certificate of Authority  
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Landscaping #2006027139  
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913.317.9580 phone

**Smith & Boucher Engineers**  
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Structural Engineers  
State Certificate of Authority #000442  
4338 Bellevue Avenue  
Kansas City, MO 64111  
816.531.4144 phone  
816.531.8572 fax

SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CLG2	Ceiling	White
CLG3	Ceiling	White
CLG5	Ceiling	White
CLG21	Ceiling	White
F21	Fabric	Bermuda
HP21	High Performance Coating	Natural Choice
HP22	High Performance Coating	Silver Grey
HP23	High Performance Coating	Adriatic Sea
HP24	High Performance Coating	Freshwater
HP25	High Performance Coating	Gentle Aquamarine
HP26	High Performance Coating	Grasshopper
HP27	High Performance Coating	Organic Green
HP28	High Performance Coating	Harvester
HP29	High Performance Coating	Serape
P21	Paint	Natural Choice
P22	Paint	Silver Grey
P23	Paint	Adriatic Sea
P24	Paint	Freshwater
P25	Paint	Gentle Aquamarine
P26	Paint	Grasshopper
P27	Paint	Organic Green
P28	Paint	Harvester
P29	Paint	Serape
P30	Paint	Iron Ore
P31	Paint	Virtual Green

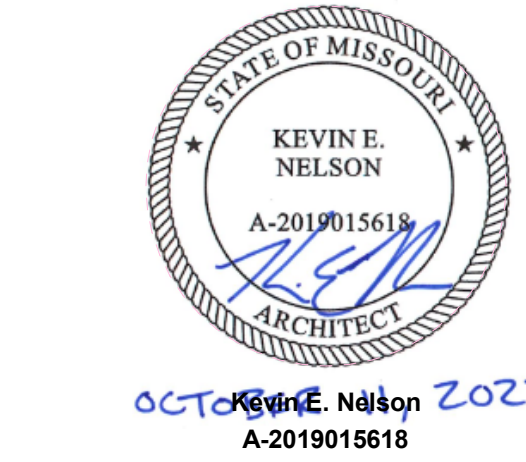
SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- FINISH FLOOR PATTERNS TO BE CENTERED IN EACH ROOM UNO
- CORNER GUARD LOCATIONS ARE INDICATED BY SYMBOL AND ARE TO BE FULL HEIGHT FROM TOP OF BASE
- COORDINATE FLOORING INSTALLATION WITH CASEWORK TO ENSURE FLOORING EXTENDS UNDER CABINET TOE SPACES AND OPEN KNEE/APPLIANCE SPACES
- ALL CLOSETS AND ALCOVES WITHOUT SEPARATE ROOM NUMBERS TO HAVE SAME FLOORING AND PATTERNS AS THE LARGER, IDENTIFIED ROOM
- NOT ALL FLOORING MATERIALS SHOWN ON FINISH PLANS. REFER TO FINISH SCHEDULE FOR MATERIALS IN LOCATIONS NOT SHOWN
- PATTERNS SHOWN THIS SHEET SHOULD REFLECT PATTERN OF MATERIAL MODULE

EPiC Elementary Storm Shelter Addition  
Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

REVISIONS:

#	Description	Date
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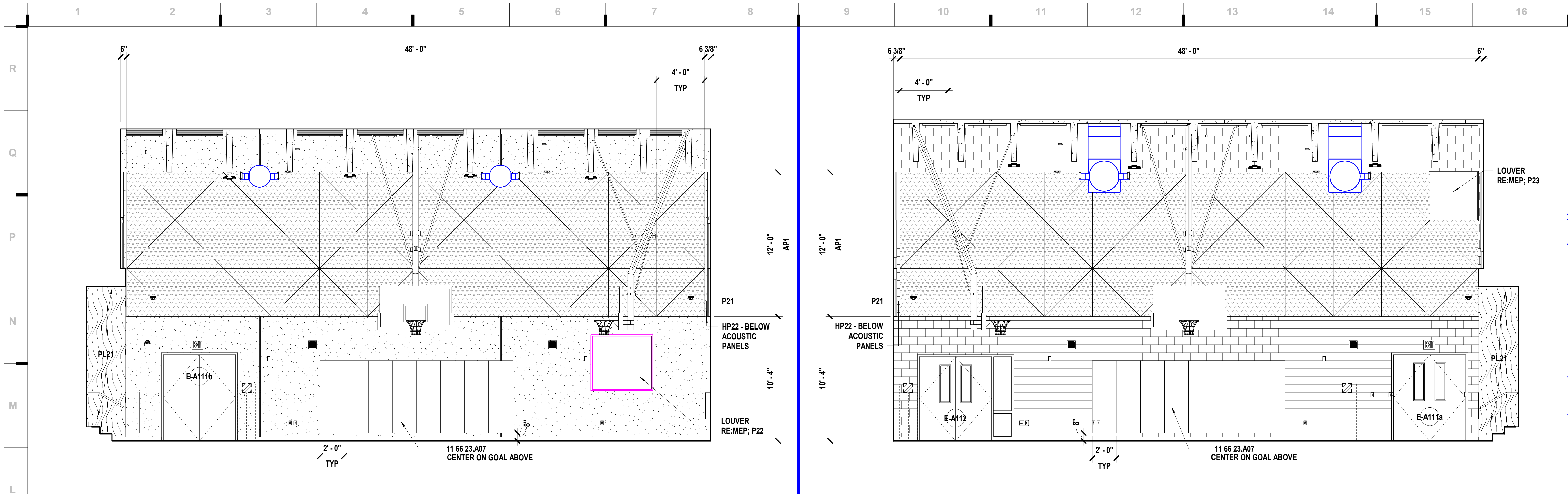
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CHECKED BY: JB  
DATE: 10/11/2023

**A601B**

FINISH FLOOR PLAN - LEVEL 1 - AREA B

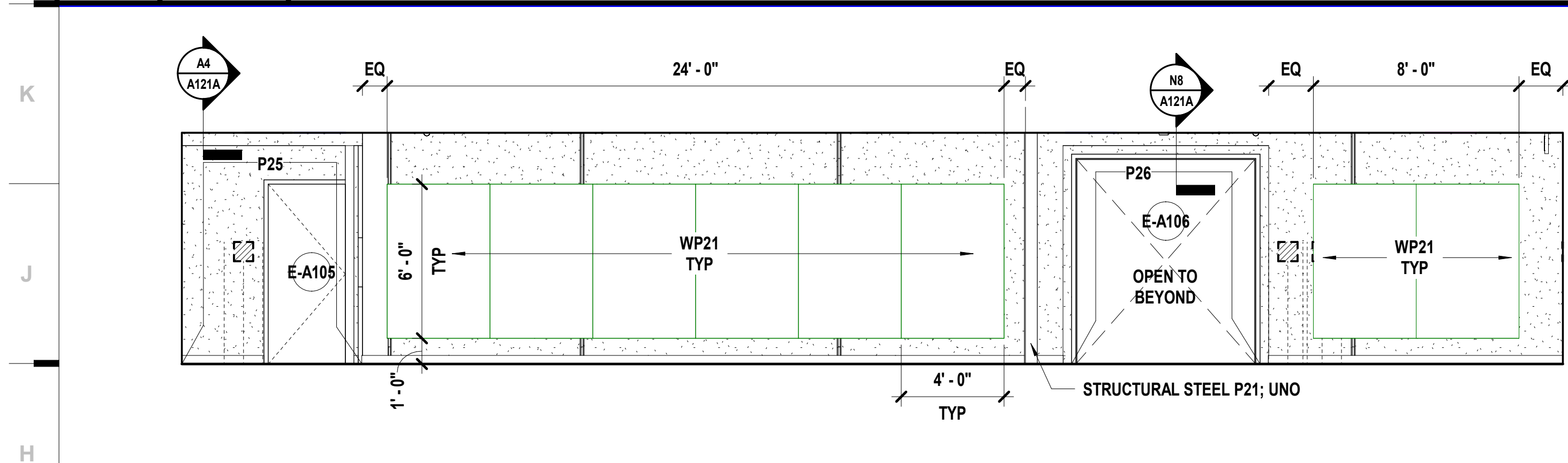


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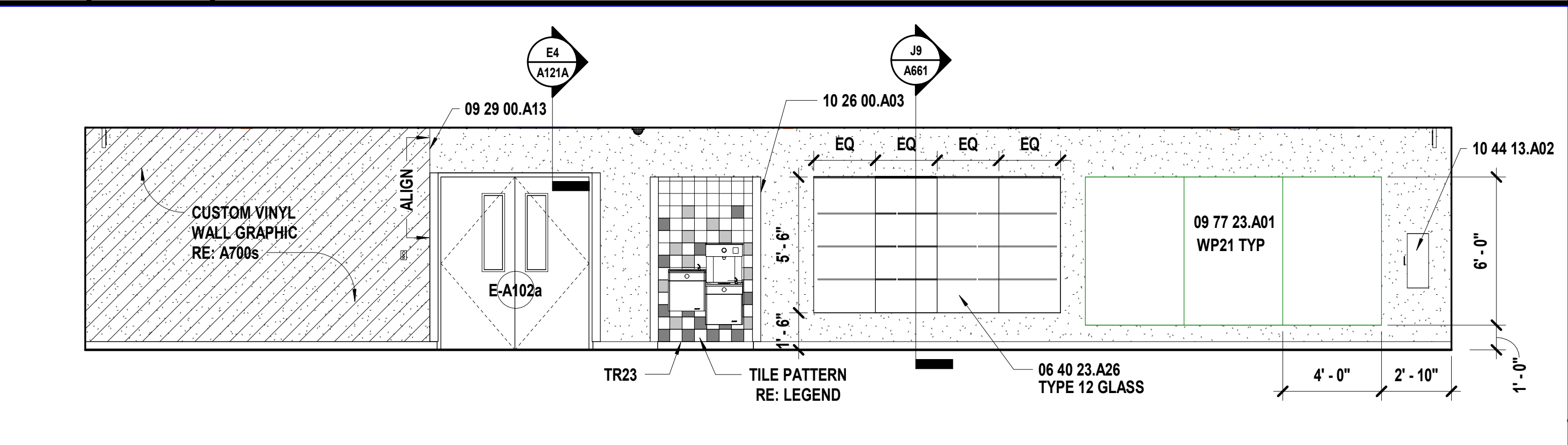


**L1** Scale Interior Elevation - Gym A111 - N  
1/4" = 1'-0"

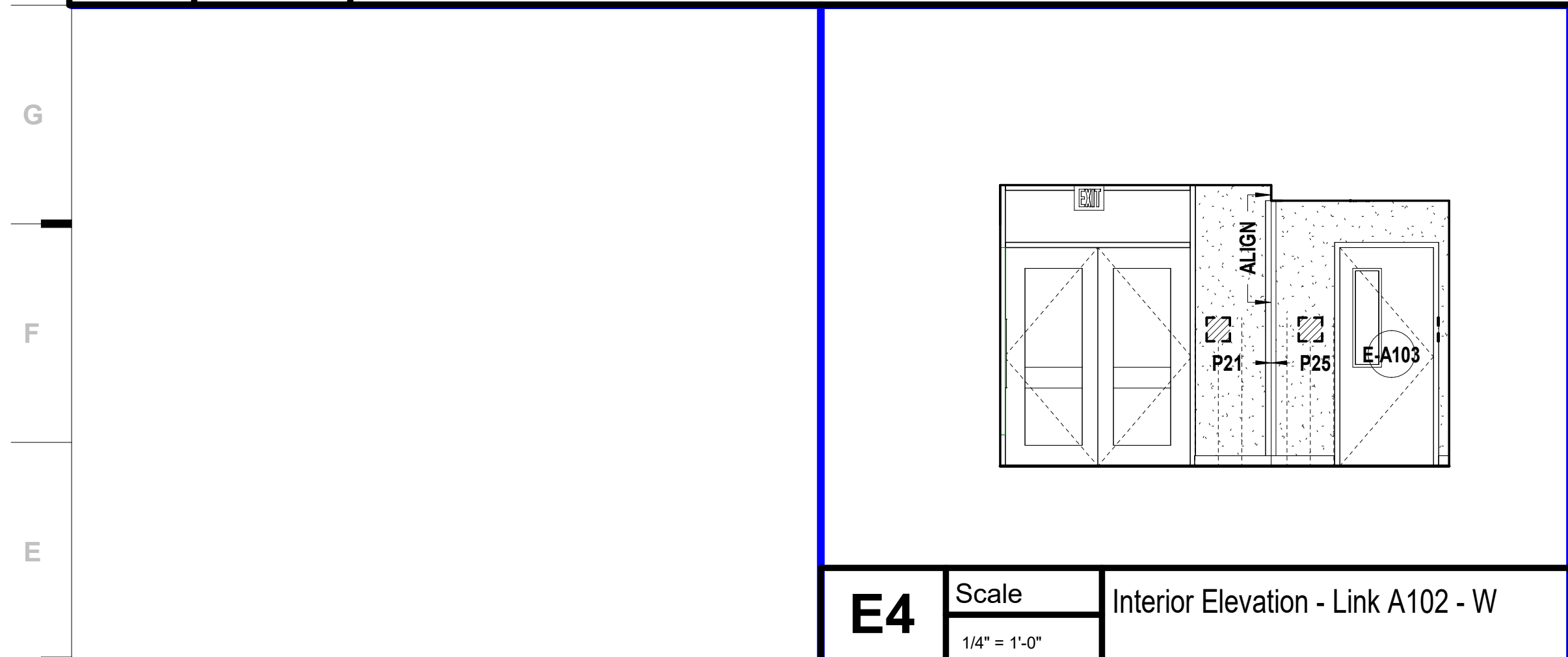
**L9** Scale Interior Elevation - Gym A111 - S  
1/4" = 1'-0"



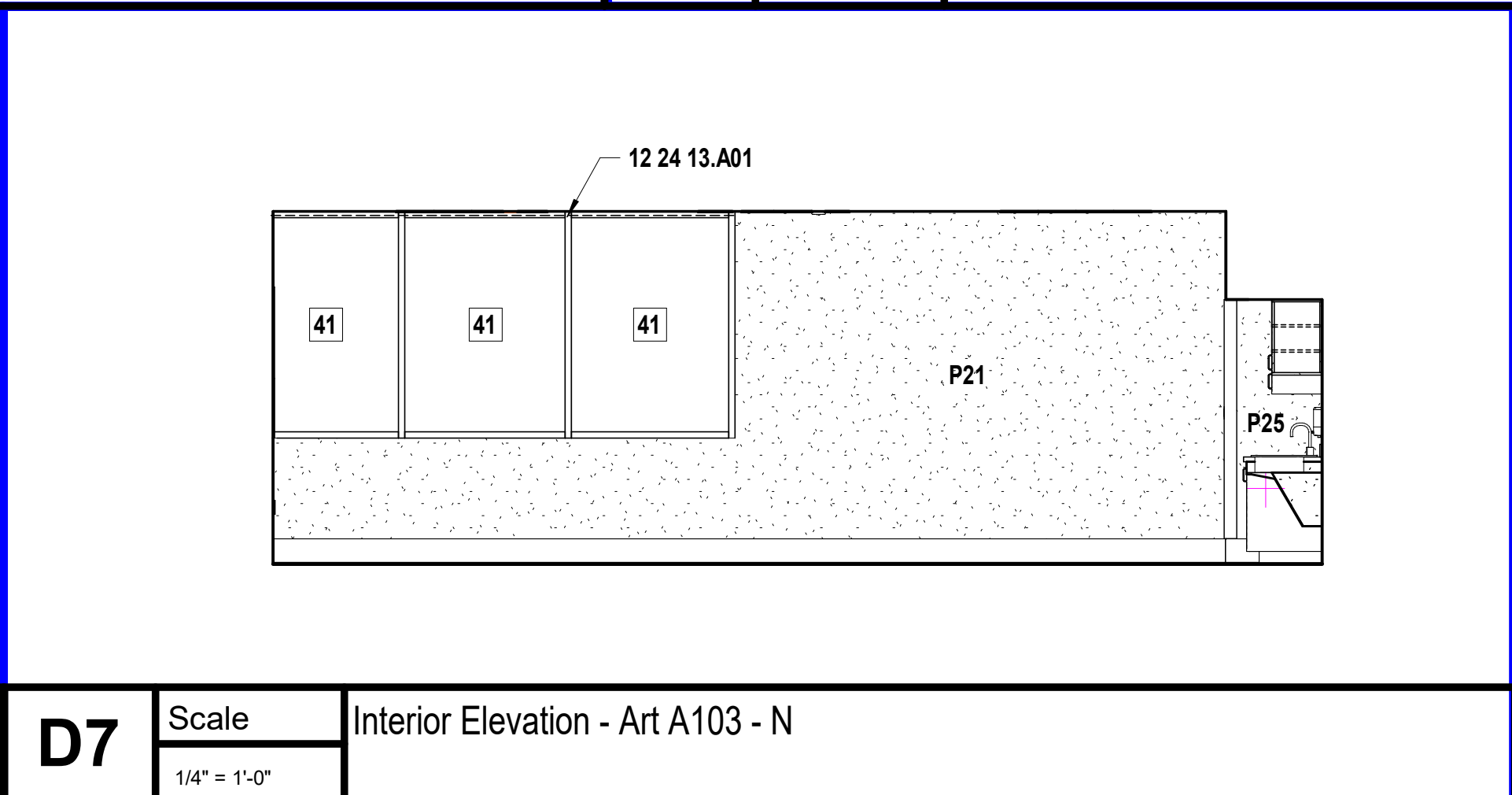
**H1** Scale Interior Elevation - Link A102 - N  
1/4" = 1'-0"



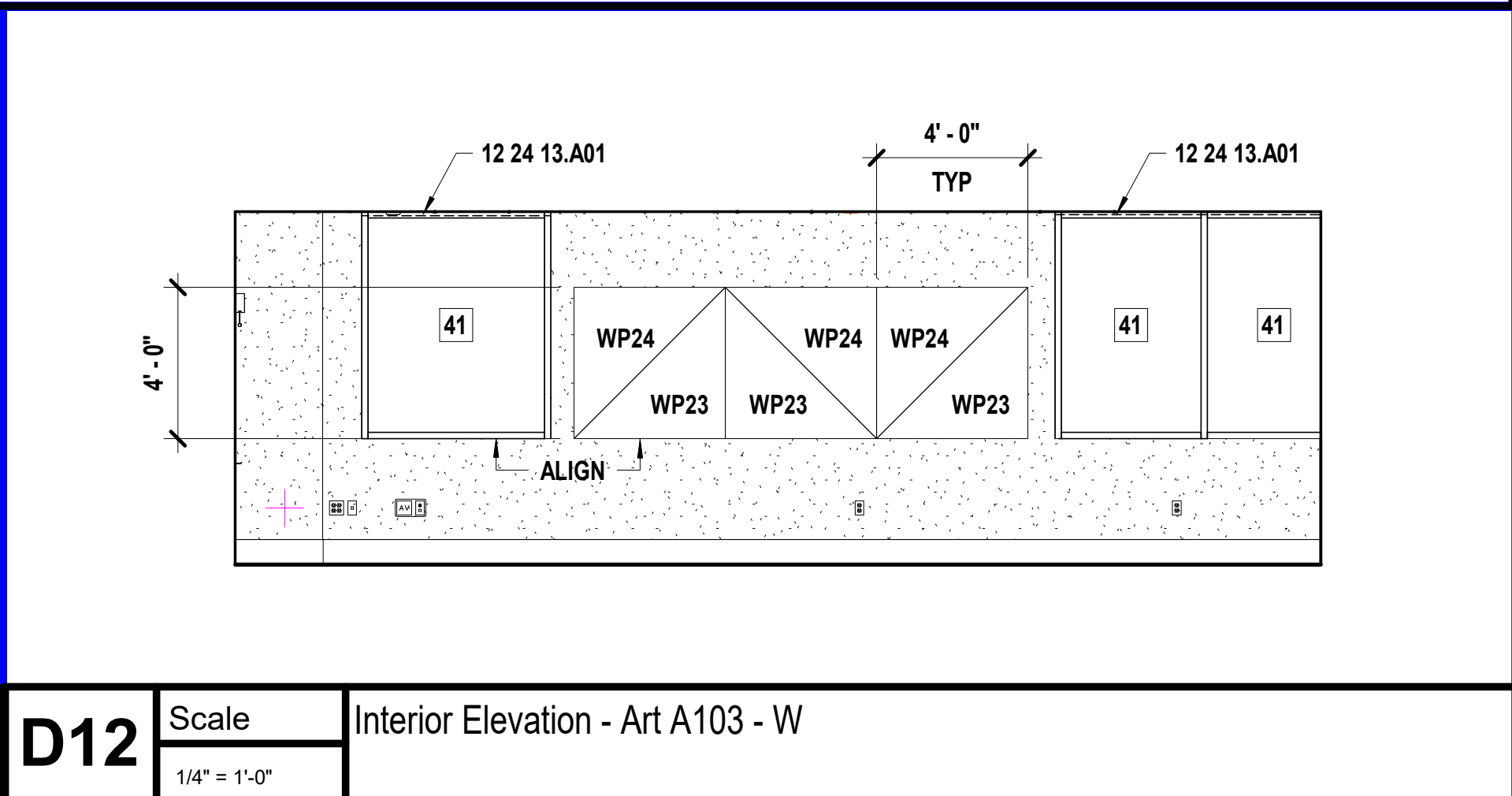
**H9** Scale Interior Elevation - Link A102 - S  
1/4" = 1'-0"



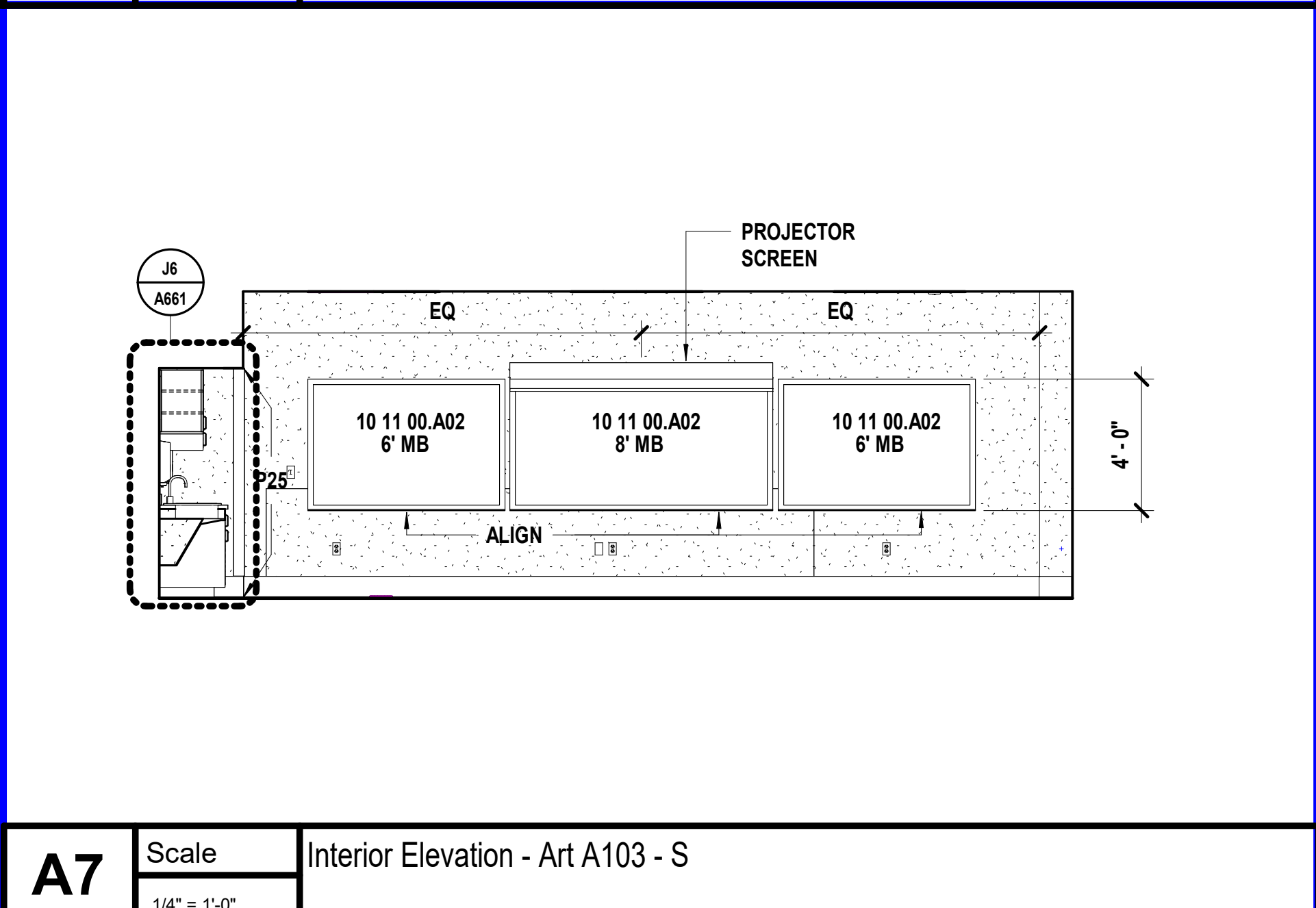
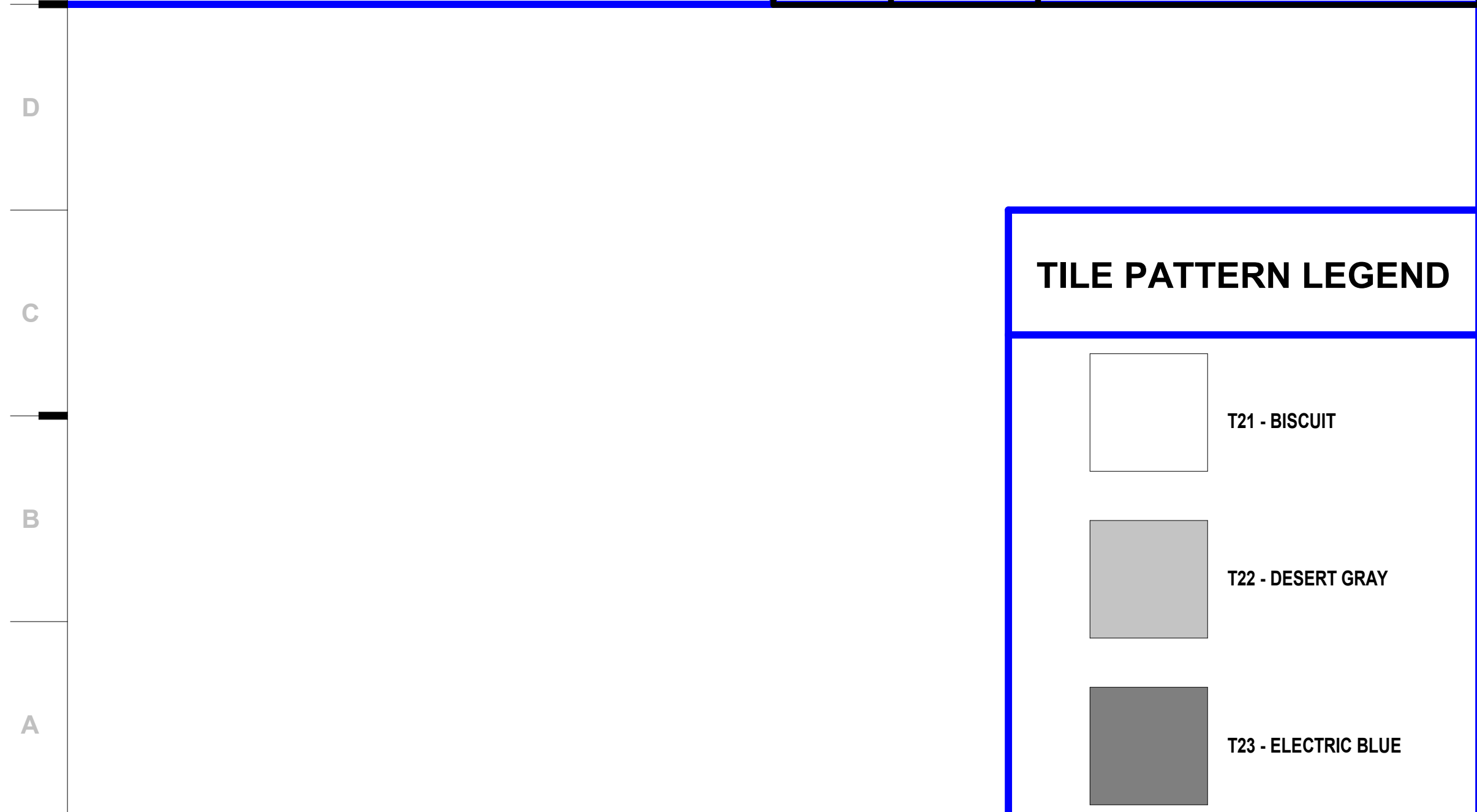
**E4** Scale Interior Elevation - Link A102 - W  
1/4" = 1'-0"



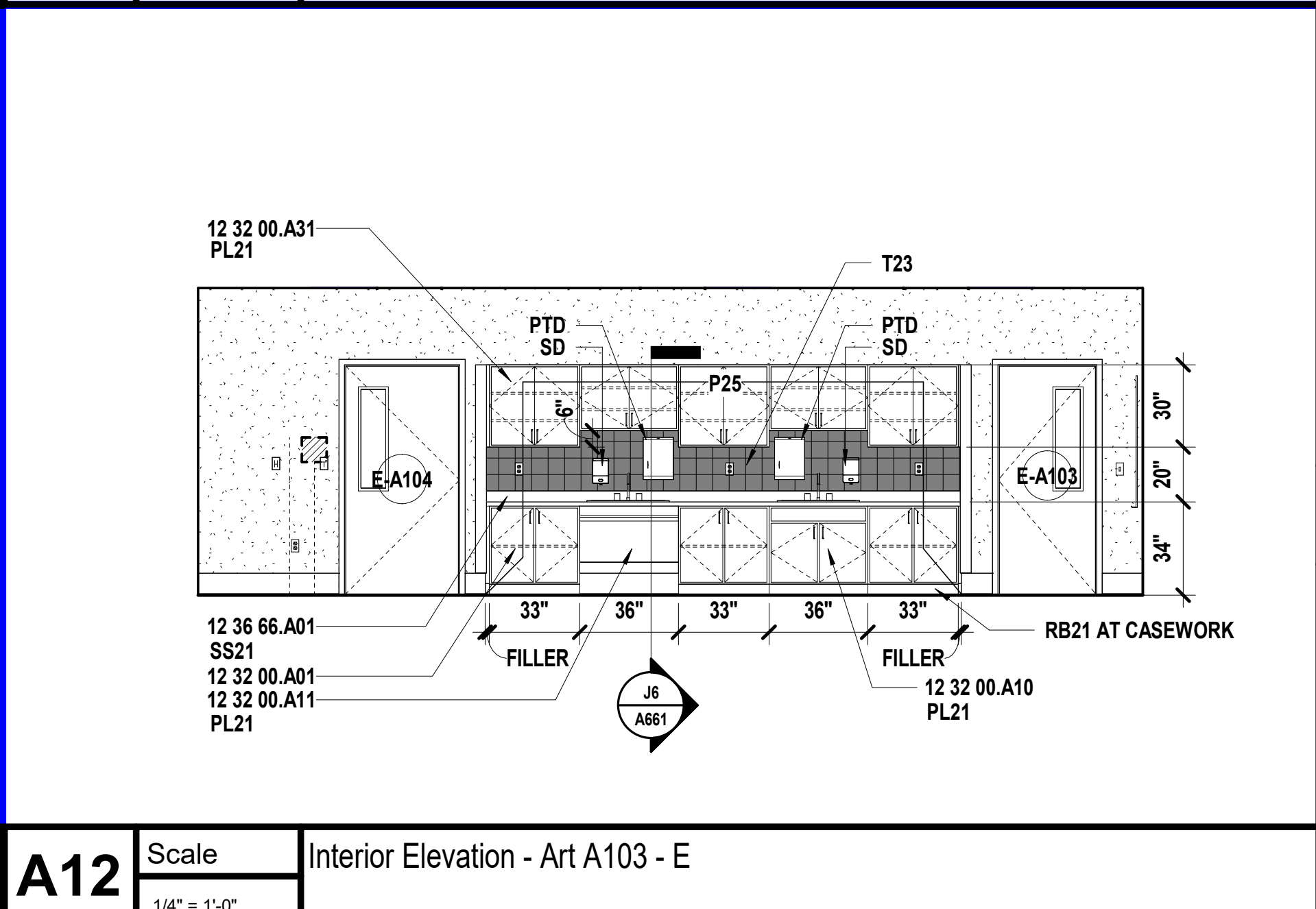
**D7** Scale Interior Elevation - Art A103 - N  
1/4" = 1'-0"



**D12** Scale Interior Elevation - Art A103 - W  
1/4" = 1'-0"



**A7** Scale Interior Elevation - Art A103 - S  
1/4" = 1'-0"



**A12** Scale Interior Elevation - Art A103 - E  
1/4" = 1'-0"

## SHEET KEYNOTE LEGEND

06 40 23.A26	SLIDING DISPLAY CASE DOOR SYSTEM
09 29 00.A13	REVEAL TRIM
09 77 23.A01	FABRIC-WRAPPED PANELS
10 11 00.A02	MARKERBOARDS
10 26 00.A03	CORNER GUARDS
10 44 13.A02	SEMI-RECESSED STEEL CABINET
11 66 23.A07	WALL SAFETY PADS
12 24 13.A01	ROLLER SHADES (MANUAL)
12 32 00.A01	BASE CABINET
12 32 00.A10	SINK BASE
12 32 00.A11	ADA SINK BASE
12 32 00.A31	WALL CABINET
12 36 66.A01	SOLID SURFACE COUNTERTOP

## ACOUSTICAL PANEL LEGEND

AP1 - TECTUM FINALE PANELS - 2" THICKNESS - PAINTED P21	
AP1 - TECTUM FINALE PANELS - 2" THICKNESS - PAINTED P23	
AP21 - TECTUM FINALE PANELS - 3" THICKNESS ; REFER TO ELEVATION FOR PAINT DESIGNATION	

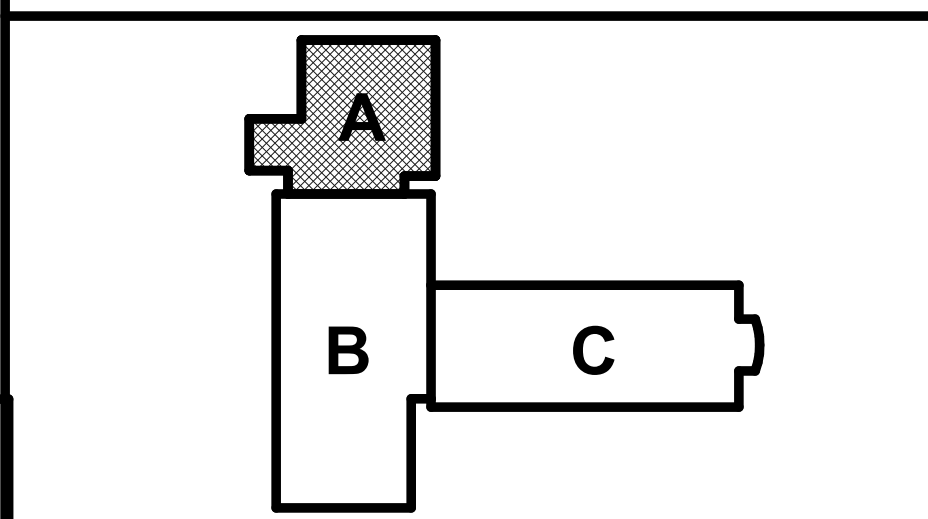
## SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CLG2	Ceiling	White
CLG3	Ceiling	White
CLG5	Ceiling	White
CLG21	Ceiling	White
F21	Fabric	Bermuda
HP21	High Performance Coating	Natural Choice
HP22	High Performance Coating	Silver Grey
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P24	Paint	Freshwater
P25	Paint	Gentle Aquamarine
P26	Paint	Grasshopper
P27	Paint	Organic Green
P28	Paint	Harvester
P29	Paint	Serape
P30	Paint	Iron Ore
P31	Paint	Virtual Green

## SHEET NOTES

- REFER TO SHEET G000 FOR SHEET INDEX
- COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, AND TECHNOLOGY
- COLOR/MATERIAL TRANSITIONS ARE NOTED WHEN THEY DO NOT OCCUR AT INSIDE CORNERS
- REFER TO MEP SHEETS FOR LOCATION DIAGRAM OF SWITCHES, THERMOSTATS, FIRE ALARM STROBES TO BE MOUNTED ADJACENT TO ENTRY DOORS OR AT OUTSIDE CORNERS WITHIN ROOMS
- COORDINATE WITH ELECTRICAL SHEETS FOR HEIGHT OF OUTLETS A.F.F. AND/OR ABOVE COUNTERTOPS
- COORDINATE WITH MECHANICAL SHEETS FOR LOCATIONS OF WALL MOUNTED GRILLES AND REGISTERS
- ALL BACKSPLASH MATERIAL TO MATCH COUNTERTOP MATERIAL, UNO
- PROVIDE 4" BACKSPLASH, UNO
- PROVIDE 1" OVERHANG AT ALL COUNTERTOPS, UNO
- REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF SINKS AND OTHER PLUMBING FIXTURES LOCATED WITHIN CASEWORK
- ALL BASE CABINETS ARE TO BE 24" DEEP, UNO
- ALL UPPER CABINETS ARE TO BE 16" DEEP, UNO
- ALL TALL STORAGE AND WARDROBE CABINETS ARE TO BE 24" DEEP, UNO
- ALL CLASSROOM CASEWORK TO HAVE LOCKS
- PROVIDE WOOD CLEAT AT BACK AND SIDE WALLS OF ALL COUNTERTOPS WITH NO BASE CABINET BELOW
- CONFIRM TACKBOARD AND MARKERBOARD MOUNTING HEIGHTS WITH WORKER PRIOR TO FINAL INSTALL.

## KEY PLAN



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1.816.442.7700

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Castle Rock, CO 80104  
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Missouri State Certificate of Authority  
Architecture # 00001051  
Structure # 200001333

**MKEC Engineering, Inc.**  
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State Certificate of Authority  
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Landscaping #20006027139  
Surveying #20006027139  
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913.317.9590 phone  
913.345.2127 phone

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913.345.2127 phone

**Bob D. Campbell & Co.**  
Structural Engineers  
State Certificate of Authority #000442  
4338 Bellevue Avenue  
Kansas City, MO 64111  
816.531.4144 phone  
816.531.8572 fax

**EpIC Elementary Storm Shelter Addition**  
Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

**REVISIONS:**

#	Description	Date
1	Addendum 5a	09/29/2023

**KEVIN E. NELSON**  
A-2019015618  
ARCHITECT

**KEVIN E. NELSON**  
A-2019015618  
ARCHITECT

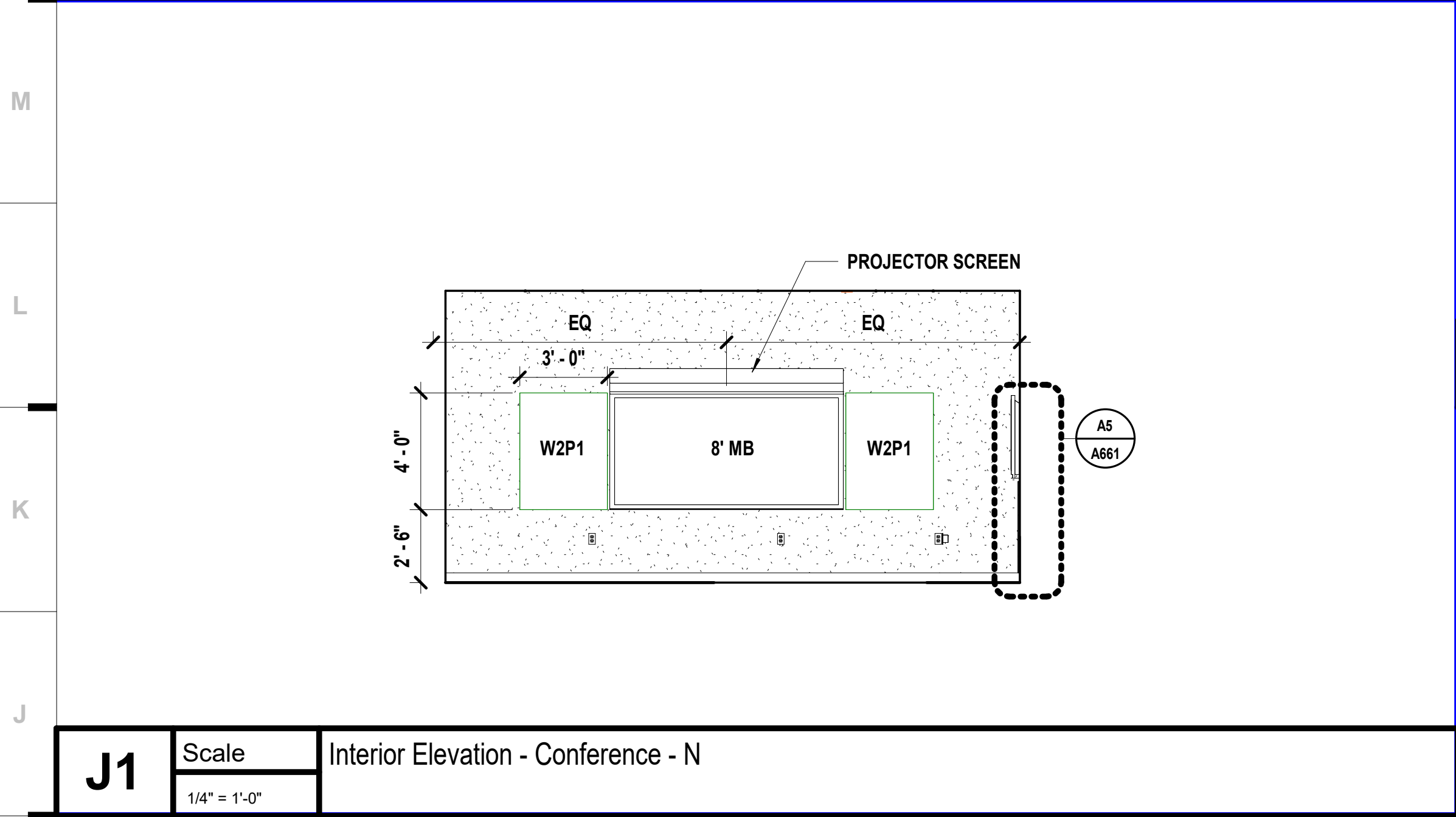
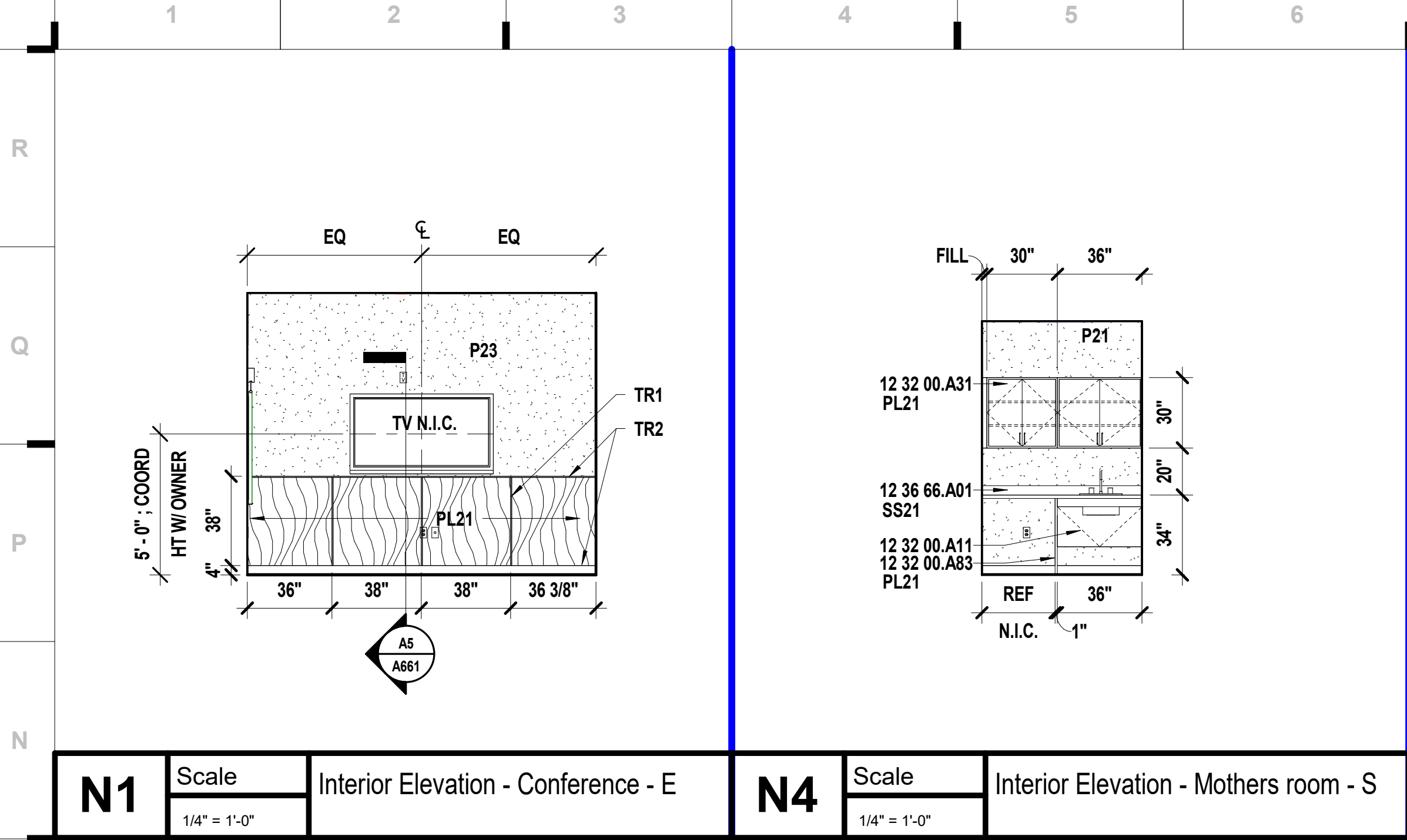
**KEVIN E. NELSON**  
A-2019015618  
ARCHITECT

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CHECKED BY: JB  
DATE: 10/11/2023

**A621**

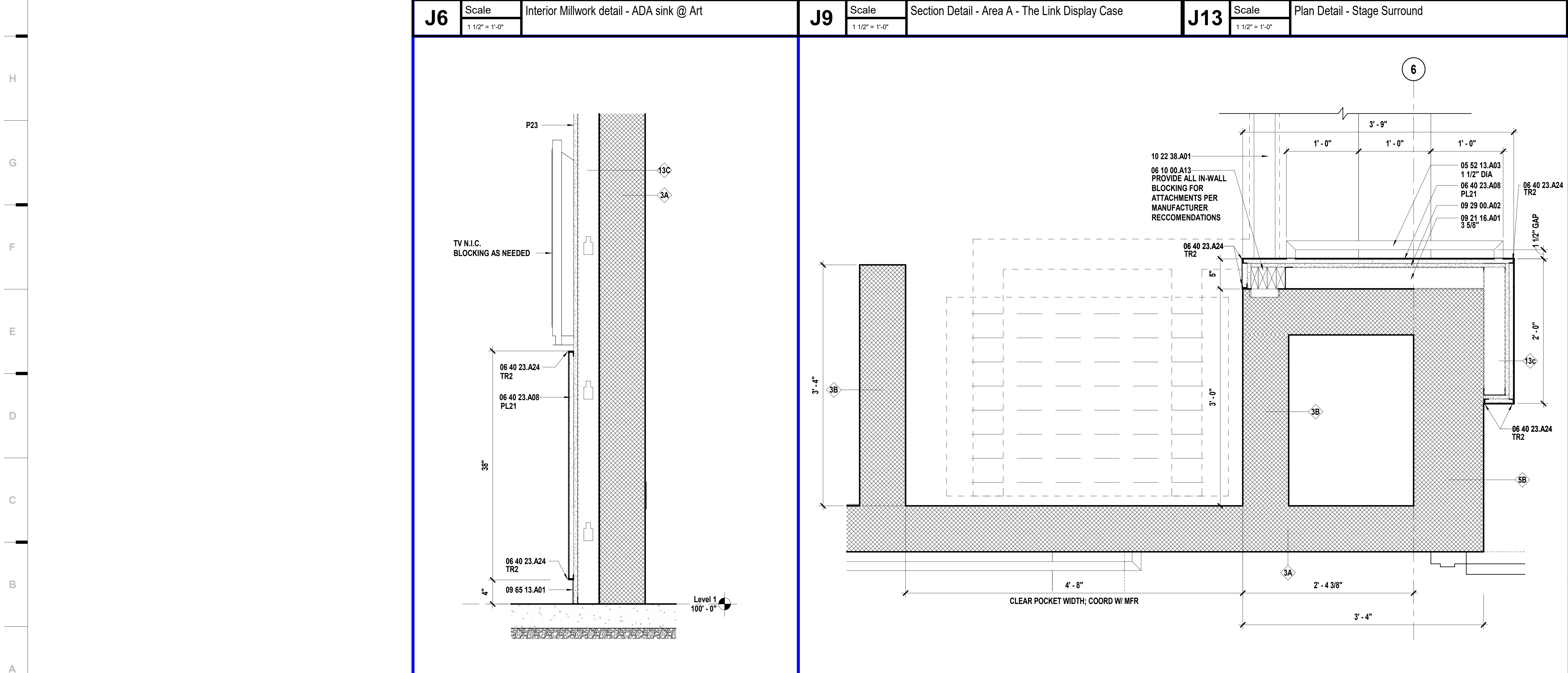
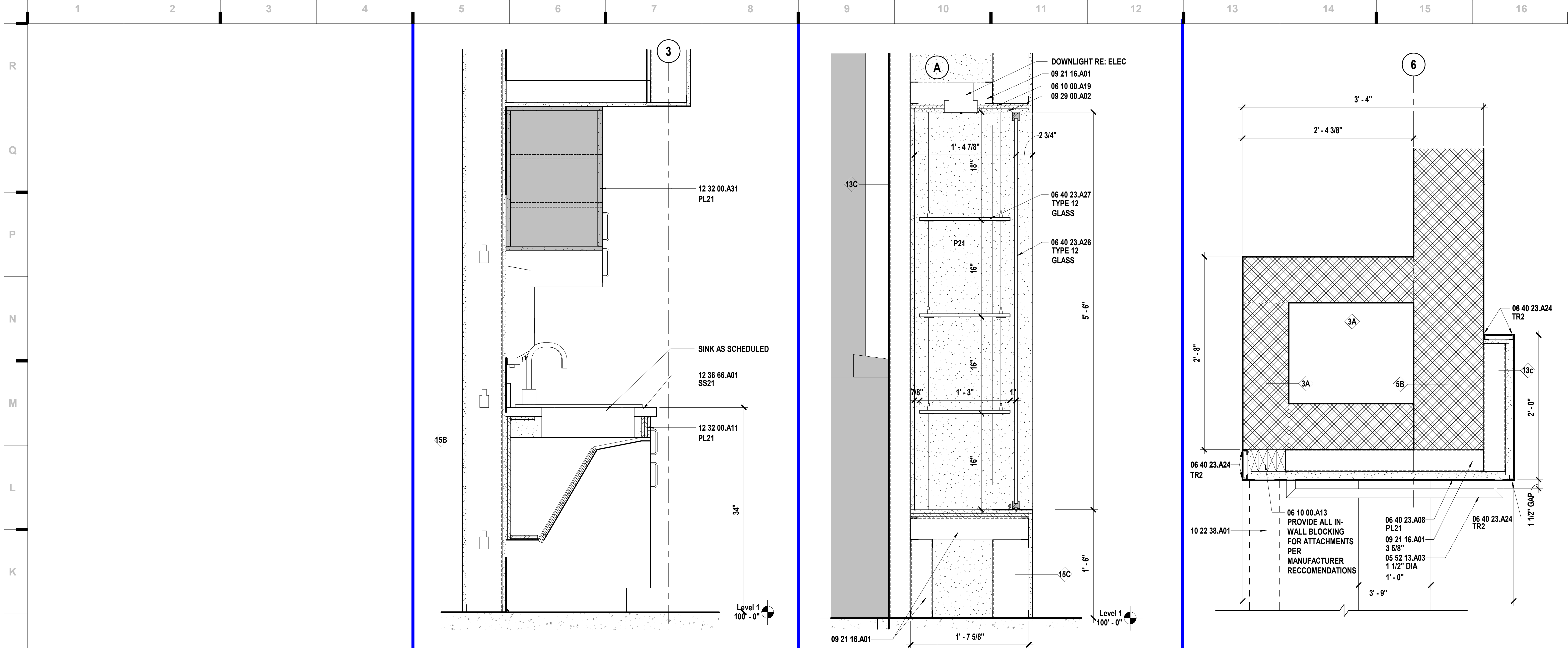
**INTERIOR ELEVATIONS**







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### SHEET KEYNOTE LEGEND

05 52 13.A03	STAINLESS STEEL PIPE AND TUBE RAILINGS
06 10 00.A13	WOOD BLOCKING/NAILERS
06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
06 40 23.A08	PLASTIC LAMINATE-CLAD PANELS
06 40 23.A24	METAL EDGE TRIM
06 40 23.A26	SLIDING DISPLAY CASE DOOR SYSTEM
06 40 23.A27	DISPLAY CASE SHELVEING SYSTEM
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
09 65 13.A01	RESILIENT BASE
10 22 38.A01	OPERABLE PANEL PARTITION (SINGLE PANEL)
12 32 00.A11	ADA SINK BASE
12 32 00.A31	WALL CABINET
12 36 66.A01	SOLID SURFACE COUNTERTOP

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Structure # 2006031333

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### KEY PLAN

KEY PLAN

### REVISIONS:

#	Description	Date
1	Addendum 5a	09/28/2023

**EPiC Elementary Storm Shelter Addition**  
Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

**Kevin E. Nelson**  
A-2019015618  
ARCHITECT

JOB NO: 23020.00  
DRAWN BY: EW  
CHECKED BY: JB  
DATE: 10/11/2023

# A661

INTERIOR DETAILS

hollis + miller architects

Conformed Construction Documents

Please consider the environment before printing this.



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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
R									MATERIAL FINISH LEGEND											
									MATERIAL	ID	KEYNOTE	MANUFACTURER	STYLE/MODEL NO	COLOR/FINISH	COMMENTS					
									Athletic Flooring	AF21	09 65 66.A01	Gerflor	Tarafflex Sport M Plus Flooring	5742 Oak	7.5 MM					
									Athletic Flooring	AF22	09 65 66.A01	Gerflor	Tarafflex Sport M Plus Flooring	6430 Blue	7.5 MM					
									Acoustical Panels	AP1	09 84 33.A04	Armstrong	TECTUM FINALE Wall Panels	RE:ELEV	2" Thickness					
									Acoustical Panels	AP2	09 84 36.A01	Armstrong Ceilings	TECTUM FINALE Ceiling Panels	RE:RCP	2" Thickness					
									Acoustical Panels	AP21	09 84 33.A04	Armstrong	TECTUM FINALE Wall Panels	RE:ELEV	3" Thickness					
									Acoustical Panels	AP22	09 84 33.A01	Golterman & Sabo Acoustics	Acousti-Panels	Designtex Rocket - Linen						
									Acoustical Panels	AP23	09 84 33.A01	Golterman & Sabo Acoustics	Acousti-Panels	Designtex Rocket - Citrine						
									Acoustical Panels	AP24	09 84 33.A01	Golterman & Sabo Acoustics	Acousti-Panels	Designtex Rocket - Marine						
									Acoustical Panels	AP25	09 84 33.A01	Golterman & Sabo Acoustics	Acousti-Panels	Designtex Rocket - Carribean						
									Carpet	C1	09 68 13.A01	Patcraft	Walk Right In I	Charcoal 00590	24x24 Tile; Non-Directional Installation					
									Carpet	C21	09 68 13.A01	Tarkett	Street Life	Street Corner 36104	24x24 Tile ; Brick Installation					
									Ceiling	CLG2	09 51 13.A01	Armstrong Ceilings	Fine Fissured High NRC, #1754	White	24x24x3/4"					
									Ceiling	CLG3	09 51 13.A01	Armstrong Ceilings	ULTIMA Square Lay-in	White	24x24x3/4"					
									Ceiling	CLG5	09 51 13.A01	Armstrong Ceilings	Kitchen Zone	White	24x24x3/4"					
									Ceiling	CLG21	09 84 36.A02	Golterman & Sabo Acoustics	Ceiling Sound Diffusers	White	48 x 48					
									Concrete Finish	CON1	03 30 00.A01	RE:spec								
									Fabric	F21	11 61 43.A01	Rosebrand	22oz. Encore Velour, Re: Spec	Bermuda						
									Floor (Poured) Topping	FT21	09 67 23.A01	Desco	Quartz Cremona TG	Whitewater						
									Floor (Poured) Topping	FTB21	09 67 23.A02	Desco	Quartz Cremona TG	Whitewater	8" Integral Cove Base					
									High Performance Coating	HP21	09 96 00.A01	Sherwin Williams	SW7011	Natural Choice						
									High Performance Coating	HP22	09 96 00.A01	Sherwin Williams	SW0049	Silver Grey						
									High Performance Coating	HP23	09 96 00.A01	Sherwin Williams	SW6790	Adriatic Sea						
									High Performance Coating	HP24	09 96 00.A01	Sherwin Williams	SW6774	Freshwater						
									High Performance Coating	HP25	09 96 00.A01	Sherwin Williams	SW9046	Gentle Aquamarine						
									High Performance Coating	HP26	09 96 00.A01	Sherwin Williams	SW6733	Grasshopper						
									High Performance Coating	HP27	09 96 00.A01	Sherwin Williams	SW6732	Organic Green						
									High Performance Coating	HP28	09 96 00.A01	Sherwin Williams	SW6373	Harvester						
									High Performance Coating	HP29	09 96 00.A01	Sherwin Williams	SW6656	Serape						
									Paint	P21	09 91 23.A02	Sherwin Williams	SW7011	Natural Choice						
									Paint	P22	09 91 23.A02	Sherwin Williams	SW0049	Silver Grey						
									Paint	P23	09 91 23.A02	Sherwin Williams	SW6790	Adriatic Sea						
									Paint	P24	09 91 23.A02	Sherwin Williams	SW6774	Freshwater						
									Paint	P25	09 91 23.A02	Sherwin Williams	SW9046	Gentle Aquamarine						
									Paint	P26	09 91 23.A02	Sherwin Williams	SW6733	Grasshopper						
									Paint	P27	09 91 23.A02	Sherwin Williams	SW6732	Organic Green						
									Paint	P28	09 91 23.A02	Sherwin Williams	SW6373	Harvester						
									Paint	P29	09 91 23.A02	Sherwin Williams	SW6656	Serape						
									Paint	P30	09 91 23.A02	Sherwin Williams	SW7069	Iron Ore						
									Paint	P31	09 91 23.A02	Pro Cyc	Chroma Key Paint & Primer	Virtual Green						
									Plastic Laminate	PL21		Wilsonart		Fusion Maple						
									Resilient Base & Accessories	RB21	09 65 13.A01	ROPPE	Pinnacle Rubber Base	123 Charcoal	4" cove					
									Trim	RB22	09 65 13.A06	Tarkett	Rubber Stair Nosing VIVCD w/Grit Tape	Moon Rock						
									Simulated Stone	SS21	12 36 66.A01	Corian	Solid Surface Countertops	Linen						
									Tile	T21	09 30 00.A01	Daltile	Color Wheel Classic	Biscuit K175	6x6" ; RE:ELEV for layout					
									Tile	T22	09 30 00.A01	Daltile	Color Wheel Classic	Desert gray X114	6x6" ; RE:ELEV for layout					
									Tile	T23	09 30 00.A01	Daltile	Color Wheel Classic	Electric Blue 0166	6x6" ; RE:ELEV for layout					
									Trim	TR1	06 40 23.A24	Fry Roget	Millwork Channel W / Return Keys	Buffed Satin Stainless Steel						
									Trim	TR2	06 40 23.A24	Fry Roget	Millwork Reveal L Angle W/ Return Keys	Buffed Satin Stainless Steel						
									Trim	TR22	09 68 13.A02	Gradus	RT42/AFT28	Black						
									Tile	TR23	09 30 00.A04	Schluter	Quadeq	Brushed Stainless Steel						
									Wall Paneling	WP21	09 77 23.A01	Guilford of Maine	Balley	Allagash Mist						
									Wall Paneling	WP22	09 77 23.A01	Designtex	Rocket	Marine						
									Wall Paneling	WP23	09 77 23.A01	Designtex	Rocket	Carribean						
									GENERAL FINISH NOTES											
									1. REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.											
									2. DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.											
									3. DO NOT PAINT ALUMINUM OR OTHER NON-FERROUS METALS THAT ARE PREFINISHED.											
									4. MATCH VERTICAL FINISH OF ALL INTERIOR GYPSUM BOARD SOFFITS TO HORIZONTAL FINISH AS NOTED ON RCP OR ROOM FINISH SCHEDULE, UNO.											
									5. PAINT ALL EXPOSED CEILINGS DESIGNATED AS 'OTS' AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.											
									6. PAINT ALL EXPOSED STEEL, UNO.											
									7. PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES COLOR < P30 >, UNO.											
									8. PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:											
									a. ELECTRICAL PANELS IN FINISHED ROOMS											
									b. GRILLES, LOUVERS ETC. PRIMED OR SPECIFIED TO BE PAINTED, UNO.											
									c. UNFINISHED SPEAKER OUTLET GRILLES											
									d. VISIBLE PORTIONS OF DUCTWORK AND MECH EQUIPMENT BEHIND VENTS, GRILLES AND DIFFUSERS											
									</											

GENERAL FINISH NOTES

1.

REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.
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DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.
3.

DO NOT PAINT ALUMINUM OR OTHER NON-FERROUS METALS THAT ARE PREFINISHED.
4.

MATCH VERTICAL FINISH OF ALL INTERIOR GYPSUM BOARD SOFFITS TO HORIZONTAL FINISH AS NOTED ON RCP OR ROOM FINISH SCHEDULE, UNO.
5.

PAINT ALL EXPOSED CEILINGS DESIGNATED AS 'OTS' AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.
6.

PAINT ALL EXPOSED STEEL, UNO.
7.

PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES COLOR < P30 >, UNO.
8.

PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:

a.

ELECTRICAL PANELS IN FINISHED ROOMS

b.

GRILLES, LOUVERS ETC. PRIMED OR SPECIFIED TO BE PAINTED, UNO.

c.

UNFINISHED SPEAKER OUTLET GRILLES

d.

VISIBLE PORTIONS OF DUCTWORK AND MECH EQUIPMENT BEHIND VENTS, GRILLES AND DIFFUSERS

EPiC Elementary Storm Shelter Addition

Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

REVISIONS:		
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1	Addendum 5a	09/28/2023

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Documents

STATE OF MISSOURI  
KEVIN E. NELSON  
A-2019015618  
ARCHITECT

OCT 16 2023  
Kevin E. Nelson  
A-2019015618

This Professional Architectural seal shall be used only by the registered architect shown in the seal. All drawings, specifications and all documents prepared by the seal holder for execution pursuant to the seal, and this without express consent any and all other party for such plans, drawings, or documents are hereby waived.



ROOM FINISH SCHEDULE

ROOM FINISH SCHEDULE

ROOM		FLOOR		WALLS				CEILING	Finish Remarks
NO	Name	Finish	Base	North	East	South	West	Finish	
A101	Vest.	C1	RB21	P21	P21	P21	P21	P21	
A102	Link	C1/C21	RB21	P21/P25/P26	P21	P21	P21	CLG3	RE: INT ELEV
A103	Art	FT21	FTB21	P21	P21/P25	P21	P21	CLG2/AP2	RE: RCP
A104	Kiln	FT21	FTB21	P21	P21	P21	P21	OTS	
A105	Electrical	CON1	RB21	P21	P21	P21	P21	OTS	
A106	Shelter Vest.	C21	RB21	P21	P21	P21	P21	CLG2	
A107	Restroom	FT21	FTB21	HP21	HP21	HP21	HP21/HP22	CLG5	
A108	Restroom	FT21	FTB21	HP21	HP21	HP21	HP21/HP22	CLG5	
A109	Janitor	CON1	RB21	HP21	HP21	HP21	HP21	CLG5	
A110	Conference	C21	RB21	P21	P23/PL21	P21	P21	CLG3	RE: INT ELEV
A111	Gym	AF21/AF22	RB21	HP22/P21	HP22/P21	HP22/P21	HP22/P21	P21/AP2	RE: INT ELEV
A112	Office / Stor.	CON1	RB21	P21	P21	P21	P21	CLG2	
A113	Ramp	C21	RB21	P21	P21	P21	P21	CLG2	
A114	Music	C21	RB21	P21	P21	P21	P21	CLG2/CLG21	RE: RCP
A114A	Music Vest.	C21	RB21	P21	P21	P21	P21	CLG2	
A115	Data / Electrical	CON1	RB21	P21	P21	P21	P21	OTS	
A116	Music Storage	C21	RB21	P21	P21	P21	P21	CLG2	
B120	Activity	--	--	--	--	--	--	CLG2	
B124A	Mech	--	--	--	--	--	--	CLG2	
B124C	Storage	--	--	--	--	--	--	CLG2	
B126	SPED	--	--	--	--	--	--	CLG2	
B127	SPED	--	--	--	--	--	--	CLG2	
B128	SPED	--	--	--	--	--	--	CLG2	
B130	Break Out	--	--	--	--	--	--	CLG2	
B132	Tinker Room	--	--	--	--	--	--	CLG2	
B133A	Learning Lab	--	--	--	--	--	--	CLG2	
B133B	Learning Lab	--	--	--	--	--	--	CLG2	
B134A	Learning Lab	--	--	--	--	--	--	CLG2	
B134B	Learning Lab	--	--	--	--	--	--	CLG2	
B135	Toilet	--	--	--	--	--	--	CLG2	
B136	Toilet	--	--	--	--	--	--	CLG2	
B137A	Learning Lab	--	--	--	--	--	--	CLG2	
B137B	Learning Lab	--	--	--	--	--	--	CLG2	
B138	Toilet	--	--	--	--	--	--	CLG2	
B139	Toilet	--	--	--	--	--	--	CLG2	
B140A	Learning Lab	--	--	--	--	--	--	CLG2	
B140B	Learning Lab	--	--	--	--	--	--	CLG2	
B141	Toilet	--	--	--	--	--	--	CLG2	
B142	Toilet	--	--	--	--	--	--	CLG2	
B144	Corridor	--	--	--	--	--	--	CLG2	
B145	Corridor	C21	RB21	P21	P21	P21	--	CLG2	
B146	Electrical	--	--	P21	P21	P21	P21	OTS	
B147	Cooler/Freezer	--	--	--	--	--	--	OTS	
B148	Restroom	FT21	FTB21	HP21	HP21/T21/T22/T23	HP21	HP21	CLG2	RE: INT ELEV
B149	Restroom	FT21	FTB21	HP21	HP21	HP21	HP21/T21/T22/T23	CLG5	RE: INT ELEV
B150	Mother's Room	C21	RB21	P21	P21	P21	P21	CLG2	
BX	Storage	--	--	--	--	--	--	CLG2	
BX	Storage	--	--	--	--	--	--	CLG2	
BX	Custodial	--	--	--	--	--	--	CLG2	
BX	Toilet	--	--	--	--	--	--	CLG2	
BX	Toilet	--	--	--	--	--	--	CLG2	
BX	Quiet Room	--	--	--	--	--	--	CLG2	
BX	Elec	--	--	--	--	--	--	CLG2	
C100	Vestibule	--	--	--	--	--	--	CLG2	
C101	Reception	--	--	--	--	--	--	CLG2	
C102	Staff Work	--	--	--	--	--	--	CLG2	
C103	Office	--	--	--	--	--	--	CLG2	
C104	Office	--	--	--	--	--	--	CLG2	
C105	Nurse	--	--	--	--	--	--	CLG2	
C106	Toilet	--	--	--	--	--	--	CLG2	
C107	Toilet	--	--	--	--	--	--	CLG2	
C108A	Conference A	--	--	--	--	--	--	CLG2	
C108B	Conference B	--	--	--	--	--	--	CLG2	
C109	Huddle	--	--	--	--	--	--	CLG2	
C110	Collaboration	--	--	--	--	--	--	CLG2	
C111	Conference	--	--	--	--	--	--	CLG2	
C112	Learning Lab	--	--	--	--	--	--	CLG2	
C113	Tinker Room	--	--	--	--	--	--	CLG2	
C114	Conference	--	--	--	--	--	--	CLG2	
C115	Closet	--	--	--	--	--	--	CLG2	
C116	Learning Lab	--	--	--	--	--	--	CLG2	
C117	Tinker Room	--	--	--	--	--	--	CLG2	
C118	Project Area	--	--	--	--	--	--	CLG2	
C119	Project Room	--	--	--	--	--	--	CLG2	
C120	Corridor	--	--	--	--	--	--	CLG2	
C121	Corridor	--	--	--	--	--	--	CLG2	
C122	Corridor	--	--	--	--	--	--	CLG2	
C123	Corridor	--	--	--	--	--	--	CLG2	
C124	Multipurpose Room	--	--	--	--	--	--	CLG2	
C124b	Warming Kitchen	--	--	--	--	--	--	CLG2	
CX	Storage	--	--	--	--	--	--	CLG2	
CX	Data	--	--	--	--	--	--	CLG2	
CX	Electrical	--	--	--	--	--	--	CLG2	
CX	Stair	--	--	--	--	--	--	CLG2	
CX	Boys	--	--	--	--	--	--	CLG2	
CX	Girls	--	--	--	--	--	--	CLG2	
CX	Storage	--	--	--	--	--	--	CLG2	

ROOM SCHEDULE REMARKS

1. PROVIDE LEVEL 5 FINISH FOR GYPSUM BOARD SURFACE WHERE WGX IS DESIGNATED. RE: FINISH FLOOR PLANS AND INTERIOR ELEVATIONS FOR TRANSITION CLARIFICATION.

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conlister St  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



JOB NO: 23020.00  
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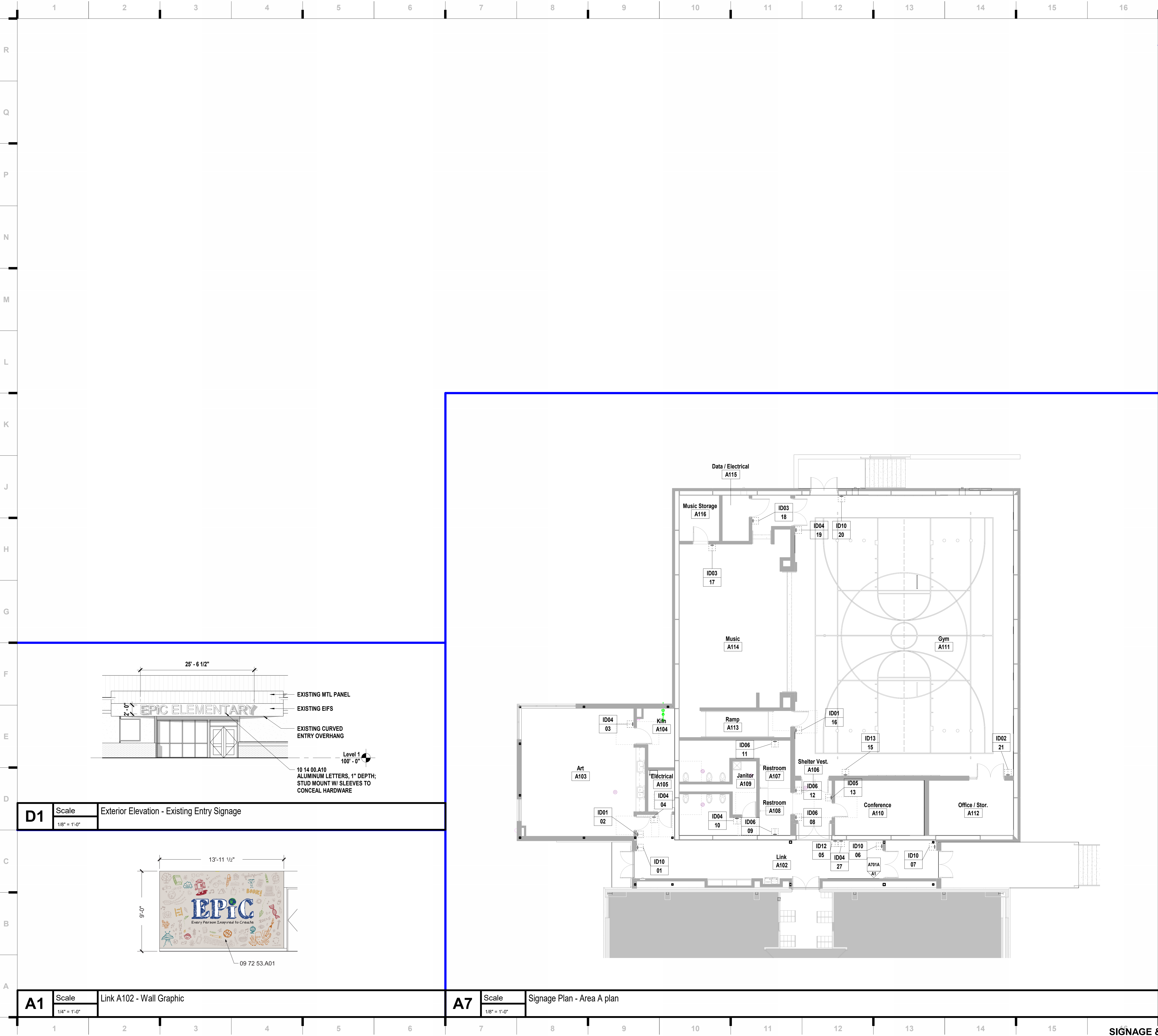
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EGD GENERAL NOTES

- THESE GENERAL NOTES ARE SUPPLEMENTAL TO THE PROJECT MANUAL.
- CONTRACTOR TO REVIEW THE DRAWINGS (INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, STRUCTURAL, SITE, AND ELECTRICAL DRAWINGS) AND FIELD VERIFY SITE CONDITIONS TO CONFIRM SIZES AND LOCATIONS OF SIGNAGE AND ANY SIGNAGE-RELATED ELEMENTS.
  - ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH FABRICATION OR ORDERING OF MATERIALS.
  - REFER TO FINAL ART FOR ADDITIONAL INSTRUCTIONS AND INFORMATION ON NON-PRINTING LAYERS.
  - PRE-INSTALL COORDINATION MEETING IS MANDATORY.
  - CONTRACTOR SHALL SUBMIT FULLY-DETAILED WORKING (SHOP) DRAWINGS OF ALL SIGNS AND GRAPHICS CONTAINED IN THIS PACKAGE TO THE ARCHITECT. DRAWINGS SHALL BE REVIEWED AND HAVE SIGNED APPROVAL PRIOR TO FABRICATION OR ORDERING OF MATERIALS. REFER TO PROJECT MANUAL.
  - ALL SIGNS ARE TO BE FABRICATED FROM MATERIALS SPECIFIED UNLESS OTHERWISE APPROVED IN WRITING BY CLIENT AND ARCHITECT.
  - CONTRACTOR IS RESPONSIBLE FOR DETERMINING PROPER MOUNTING, FASTENING AND ANCHORING METHODS FOR ALL SIGNS UNLESS NOTED OTHERWISE. DETERMINATION TO ACCOUNT FOR SURFACE MATERIAL SIGN IS BEING MOUNTED TO. SEE ALSO SECTION 10 14 00 OF THE SPECIFICATIONS.
  - DRAWINGS CONTAINED IN THIS PACKAGE ARE FOR AESTHETIC AND FUNCTIONAL DESIGN, ONLY. NO INSTRUCTIONS FOR STRUCTURAL APPROPRIATENESS HAVE BEEN MADE. IT IS THE RESPONSIBILITY OF THE FABRICATOR TO ENSURE THAT ALL ELEMENTS ARE FABRICATED FOR A STABLE AND DURABLE INSTALLATION WHILE ADHERING TO THE AESTHETIC DETAILS INDICATED.
  - ALL FASTENERS ARE TO BE CONCEALED UNLESS NOTED OTHERWISE. ANY VISIBLE FASTENERS TO BE COUNTER-SUNK AND PAINTED TO MATCH ADJACENT MATERIAL, UNLESS NOTED OTHERWISE.
  - ALL TEXT SHOWN IS FOR REFERENCE ONLY. UNLESS NOTED OTHERWISE, SIGNAGE CONTRACTOR TO CONFIRM MESSAGE SCHEDULE WITH ARCHITECT FOR EXACT TEXT ON EACH SIGN.
  - LAY OUT EACH SIGN MESSAGE FOR APPROVAL PER SPECIFICATION SECTION 10 14 23.
  - ALL GRAPHICS SHOWN ARE PLACEHOLDER IMAGES.
  - CONTRACTOR TO COORDINATE BLOCKING NEEDS WITH ARCHITECT AND CONSTRUCTION MANAGER.
  - PROVIDE ACCESSIBLE PANELS TO ALL TRANSFORMERS. FINAL LOCATION OF TRANSFORMERS TO BE APPROVED BY ARCHITECT.
  - FOR SIGNS WITH ILLUMINATION, ALLOW FOR 10 (TEN) FEET OF CABLE PER SIGN FOR CONNECTION TO ELECTRICAL JUNCTION BOX.
  - PROVIDE APPROPRIATE CHEMICAL BOND BREAK BETWEEN ALL DISSIMILAR METALS (INCLUDING BETWEEN SIGN PARTS OR BETWEEN SIGNS AND MOUNTING SUBSTRATE).
  - CONTRACTOR TO VERIFY ALL EXISTING FINISHES AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PERFORMING ANY WORK.

EPiC Elementary Storm Shelter Addition

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650 Conlister St  
Liberty, MO 64068

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OCT 10 2023  
Kevin E. Nelson  
A-2019015618

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JOB NO: 23020.00  
DRAWN BY: EW  
CHECKED BY: JB  
DATE: 10/11/2023

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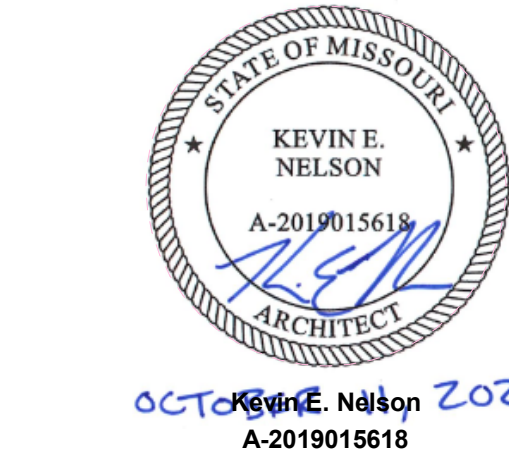
## EGD GENERAL NOTES

- THESE GENERAL NOTES ARE SUPPLEMENTAL TO THE PROJECT MANUAL.
- CONTRACTOR TO REVIEW THE DRAWINGS (INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, STRUCTURAL, SITE, AND ELECTRICAL DRAWINGS) AND FIELD VERIFY SITE CONDITIONS TO CONFIRM SIZES AND LOCATIONS OF SIGNAGE AND ANY SIGNAGE-RELATED ELEMENTS.
  - ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH FABRICATION OR ORDERING OF MATERIALS.
  - REFER TO FINAL ART FOR ADDITIONAL INSTRUCTIONS AND INFORMATION ON NON-PRINTING LAYERS.
  - PRE-INSTALL COORDINATION MEETING IS MANDATORY.
  - CONTRACTOR SHALL SUBMIT FULLY-DETAILED WORKING (SHOP) DRAWINGS OF ALL SIGNS AND GRAPHICS CONTAINED IN THIS PACKAGE TO THE ARCHITECT. DRAWINGS SHALL BE REVIEWED AND HAVE SIGNED APPROVAL PRIOR TO FABRICATION OR ORDERING OF MATERIALS. REFER TO PROJECT MANUAL.
  - ALL SIGNS ARE TO BE FABRICATED FROM MATERIALS SPECIFIED UNLESS OTHERWISE APPROVED IN WRITING BY CLIENT AND ARCHITECT.
  - CONTRACTOR IS RESPONSIBLE FOR DETERMINING PROPER MOUNTING, FASTENING AND ANCHORING METHODS FOR ALL SIGNS UNLESS NOTED OTHERWISE. DETERMINATION TO ACCOUNT FOR SURFACE MATERIAL SIGN IS BEING MOUNTED TO. SEE ALSO SECTION 10 14 00 OF THE SPECIFICATIONS.
  - DRAWINGS CONTAINED IN THIS PACKAGE ARE FOR AESTHETIC AND FUNCTIONAL DESIGN, ONLY. NO INSTRUCTIONS FOR STRUCTURAL APPROPRIATENESS HAVE BEEN MADE. IT IS THE RESPONSIBILITY OF THE FABRICATOR TO ENSURE THAT ALL ELEMENTS ARE FABRICATED FOR A STABLE AND DURABLE INSTALLATION WHILE ADHERING TO THE AESTHETIC DETAILS INDICATED.
  - ALL FASTENERS ARE TO BE CONCEALED UNLESS NOTED OTHERWISE. ANY VISIBLE FASTENERS TO BE COUNTER-SUNK AND PAINTED TO MATCH ADJACENT MATERIAL, UNLESS NOTED OTHERWISE.
  - ALL TEXT SHOWN IS FOR REFERENCE ONLY. UNLESS NOTED OTHERWISE, SIGNAGE CONTRACTOR TO CONFIRM MESSAGE SCHEDULE WITH ARCHITECT FOR EXACT TEXT ON EACH SIGN.
  - LAY OUT EACH SIGN MESSAGE FOR APPROVAL PER SPECIFICATION SECTION 10 14 23.
  - ALL GRAPHICS SHOWN ARE PLACEHOLDER IMAGES.
  - CONTRACTOR TO COORDINATE BLOCKING NEEDS WITH ARCHITECT AND CONSTRUCTION MANAGER.
  - PROVIDE ACCESSIBLE PANELS TO ALL TRANSFORMERS. FINAL LOCATION OF TRANSFORMERS TO BE APPROVED BY ARCHITECT.
  - FOR SIGNS WITH ILLUMINATION, ALLOW FOR 10 (TEN) FEET OF CABLE PER SIGN FOR CONNECTION TO ELECTRICAL JUNCTION BOX.
  - PROVIDE APPROPRIATE CHEMICAL BOND BREAK BETWEEN ALL DISSIMILAR METALS (INCLUDING BETWEEN SIGN PARTS OR BETWEEN SIGNS AND MOUNTING SUBSTRATE).
  - CONTRACTOR TO VERIFY ALL EXISTING FINISHES AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PERFORMING ANY WORK.

### EPiC Elementary Storm Shelter Addition

Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



JOB NO: 23020.00  
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Structure # 2000017333

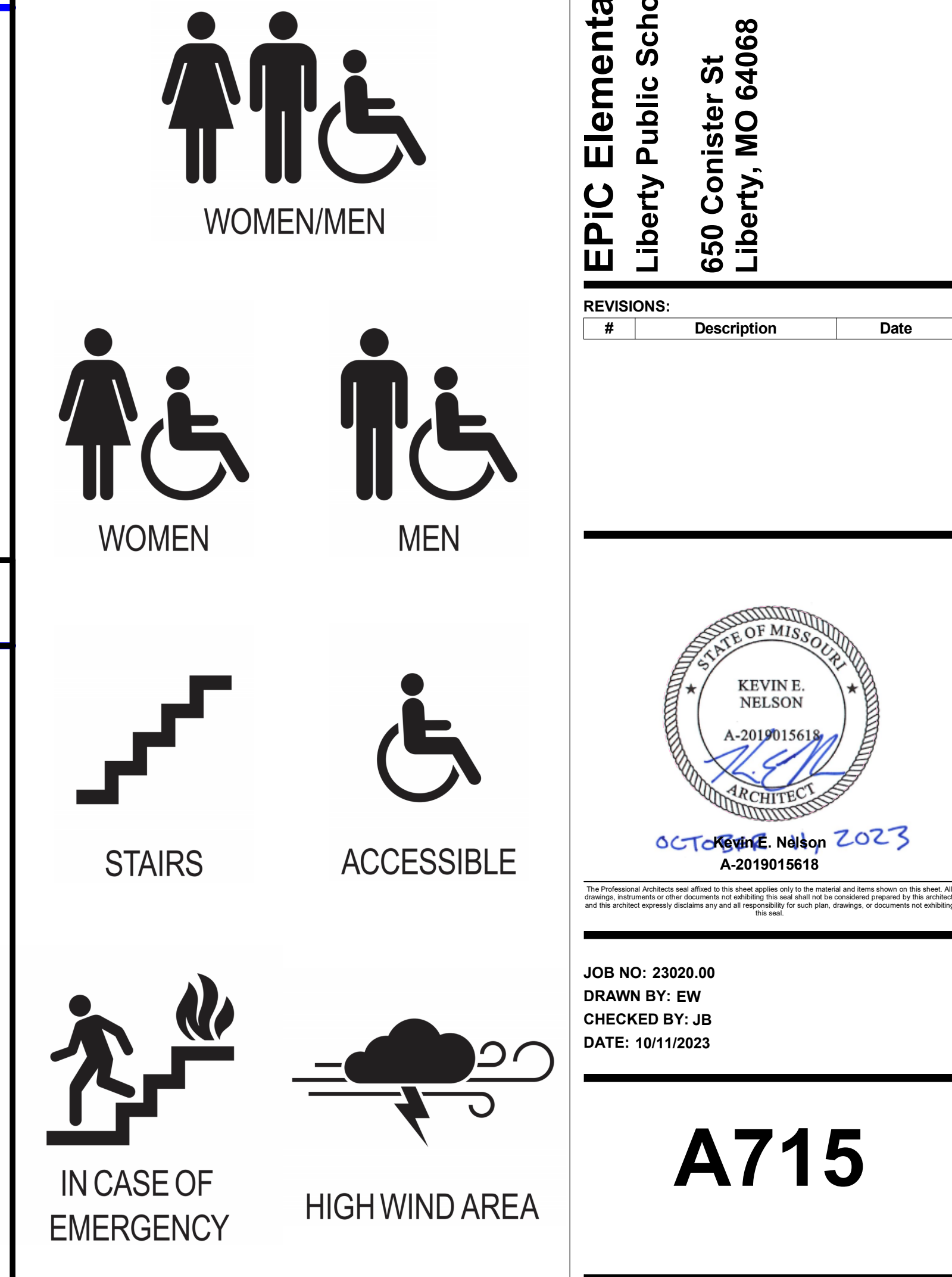
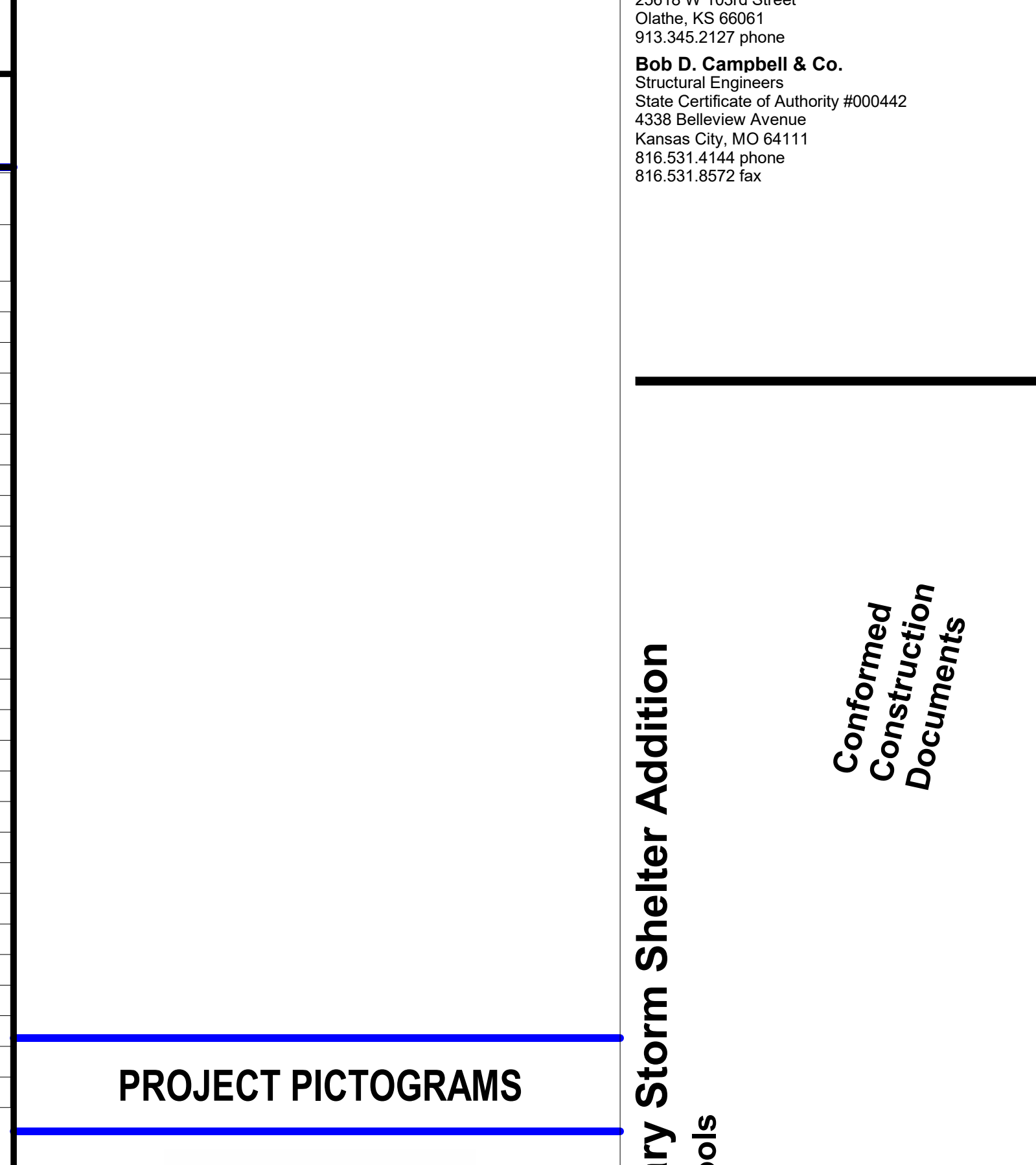
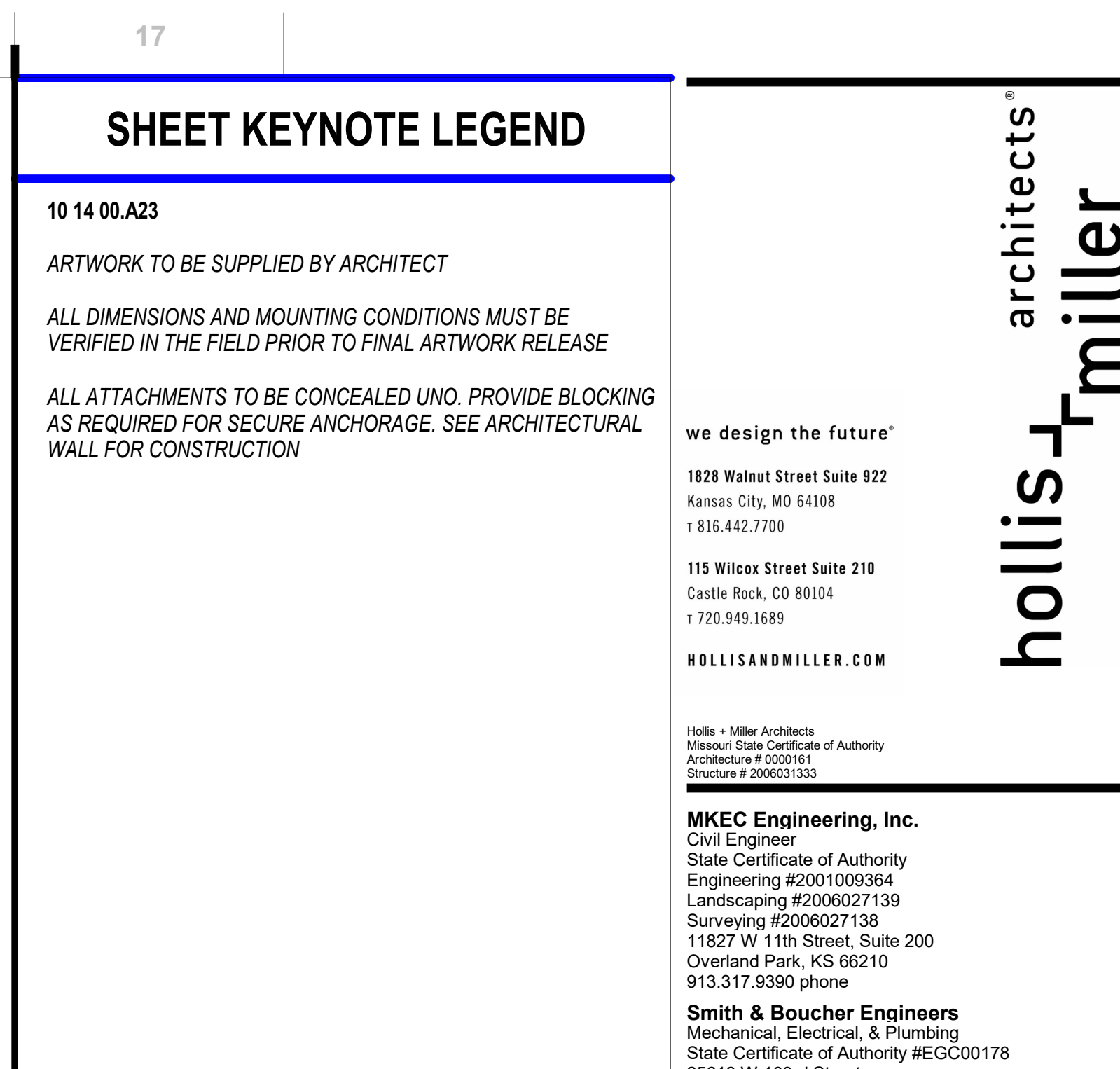
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Conformed  
Construction  
Documents







GENERAL NOTES - STRUCTURAL

1. General Information

- A. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work before proceeding.
- B. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on drawings or as called for on architectural, mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new construction using ground penetrating radar. The engineer of record is to be consulted for review prior to configuring. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction before proceeding.
- C. All design and construction work for this project shall conform to the requirements of the following governing design codes:
- International Building Code (IBC 2018) as amended by the city of Liberty, MO
  - Minimum Design Loads for Buildings and Other Structures (ASCE7-16)
  - Specification for Structural Steel Buildings (AISC 360-16)
  - Member Design Basis is Allowable Stress Design (ASD)
  - Connection Design Basis is Allowable Stress Design (ASD)
  - Structural Welding Code (AWS D1.4/D1.4M-17)
  - Building Code Requirements for Structural Concrete (ACI 318-14)
  - Building Code Requirements for Masonry Structures (TMS 402-16)
  - North American Specification for the Design of Cold-Formed Steel Structural Members (AISII S100-16)
  - National Design Specification (NDS) for Wood Construction with 2015 Supplements (ANSI/AWC NDS-2018)
  - Special Design Provisions for Wind and Seismic (AWC SDPWS-2015)
- D. These drawings are for this specific project and no other use is authorized.

2. Structural Load Design Criteria (Building)

- A. Floor Live = 100 psf  
Roof Live = 20 psf, Roof Collateral Dead = 10psf  
Snow: Pg = 20psf, Ff = 4psf, Is = 1.0, Ce = 1.0, Cl = 1.0, Drift per ASCE/SEI 7
- D. Lateral Loads:
- Wind: V = 120 mph, Exposure C  
Occupancy (Risk) Category III, I=1.0 GCpI=+0.18  
Design wind pressures to be used for the design of exterior component and cladding materials on the designated zones of wall and roof surfaces shall be per section 30.5 and Table 30.5-1 of ASCE/SEI 7. Tabulated pressures shall be multiplied by effective area reduction factors, exposure adjustment factors, and topographic factors where applicable
  - Seismic: Ss = 0.094, Si = 0.069  
Occupancy (Risk) Category III, I=1.25  
Site Classification C, Sds = 0.082; Sd1 = 0.069  
Seismic Design Category B  
Basic Seismic Force-resisting System:  
Reinforced concrete not detailed for seismic resistance  
Equivalent Lateral Force Procedure  
R = 3.0; V = 0.034W; Omega = 3.0, Cd = 3.0
- E. This project is designed to resist the most critical effects resulting from the load combinations of section 1603.3 of the International Building Code.

3. Concrete

- A. All concrete for foundations (walls, grade beams, footings and piers) shall develop minimum ultimate compressive design strength of 3500 psi in 28 days, but not less than 500 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 6 gallons of water per 100 pounds of cement and not over 4 inches of slump.
- B. All concrete for interior flatwork (without floor covering) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 525 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.75 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method).
- C. All concrete for exterior flatwork (with floor covering) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 540 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.40 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- D. All concrete for exterior flatwork shall have a minimum design compressive strength of 4500 psi in 28 days, not less than 560 pounds of cement per cubic yard of concrete, not over 5 gallons of water per 100 pounds of cement, with 6% +/- 1% air entrainment, and a maximum of 4 inches of slump.
- E. The preceding minimum mix requirements may have value-reducing admixtures conforming to ASTM C494 added to the mix at manufacturer's dosage rates for improved workability.
- F. The preceding minimum mix requirements may have up to 15% maximum of the cement content replaced with an approved ASTM C618 Class C fly ash, provided the total minimum cementitious content is not reduced.
- G. Combined aggregate (coarse plus fine) for all concrete shall be well graded from coarsest to finest with no more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 and finer sieves. Submit this gradation report with the concrete mix design shop drawings.
- H. All interior concrete slabs on grade shall be placed over 15 mil, Class A Vapor Barrier per ASTM E1745 with less than 0.1 perms, tested after mandatory conditioning. All joints shall be lapped and sealed per manufacturer's recommendations. All penetrations, as well as damaged vapor barrier material shall also be sealed per manufacturer's recommendation prior to concrete placement. Install barrier per manufacturer recommended details at all discontinuous edges (at interior columns, exterior edge of slab, etc.) to ensure terms of warranty are followed. The vapor barrier shall be placed over free draining granular material as prescribed by the project soils report.
- I. Basement foundation walls shall be braced at the base and top of wall by the contractor until the slab on grade at the base and the floor framing/slab at the top of wall is complete and the concrete has achieved 75% of the wall bracing, if required.
- J. All concrete is reinforced concrete unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections or areas. Any details not shown shall be detailed per ACI 315 and meet requirements of ACI 318, current editions.
- K. Control joints in dirt formed slab to be as shown on plans. Where not shown, limit controlled areas to not more than 144 square feet, or 12 feet on any side. Slab panel side ratio shall not exceed 1 1/2 to 1.
- L. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and properly secured prior to concrete placement.
- M. Construction joints in beams, slabs, and grade beams shall occur at midspan (middle third) unless noted otherwise. Provide 2 x 4 horizontal keys at construction joints for shear transfer.
- N. No aluminum items shall be embedded in any concrete.

4. Reinforcing Steel

- A. All reinforcing steel shall conform to the requirements of ASTM A615 or A706 grade 60 steel. Welded plain wire fabric shall be supplied in sheets and conform to the requirements of ASTM A185.
- B. Clear coverage of concrete over reinforcing steel shall be as follows:
- Concrete placed against earth: 3"
  - Formed concrete against earth: 2"
  - Slabs: 1"
  - Beams or Columns: 1-1/2"
  - Other: All coverage shall be nominal bar diameter minimum.
- C. All dowels shall be the same size and spacing as adjoining main bars (splice lap 48 bar diameters or 24" minimum unless noted otherwise).
- D. All corners of all walls, beams, and grade beams supply corner bars (minimum 2-# in each direction or 48 bar diameters) in outside face of wall, matching size and spacing of horizontal bars. Where there are no vertical bars in outside face of wall, supply 3-#4 vertical support bars for corner bars.
- E. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters (2-# minimum) at splices and embeddings, unless shown otherwise. Splice top bars near midspan and splice bottom bars over supports, unless noted otherwise.
- F. All holes in concrete walls and slabs, add 2-#5 bars (opening dimension plus 96 diameters long) at each of four sides and add 2-#5 x 5-0" diagonally at each of four corners of hole. Openings in 6" thick walls are reinforced similar, but with 1-# 5 instead of 2-#5, respectively.
- G. Unless otherwise covered on architectural plans or specifications, vertical control joints in concrete wall shall be spaced at a maximum of 20'-0" on center and coordinated with the architect. Every other horizontal wall reinforcing bar shall be discontinuous at control joints except heavy top and bottom bars unless noted otherwise. Provide base seal waterstop style number 772 by Greentek Inc. or approved equal) on dirt face side of wall at all walls below grade.
- H. Accessories shall be as specified in latest edition of the ACI Detailing Handbook and the concrete Reinforcing Steel Institute Design Handbook. Maximum accessory spacing shall be 4'-0" on center, and all accessories on exposed surfaces are to have plastic coated feet.
- I. All slabs and stairs not shown otherwise shall be 6" thick with #4 bars at 12" on center each way. All exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with #4 bars at 12" on center each way minimum. Porches shall be dowelled to adjacent walls or grade beams with #4 bars at 12" on center, hooked or embedded 48 diameters into both members. Slope porches 1/8" per foot for drainage unless noted otherwise.
- J. Allow 1.0 ton of reinforcing bars #4 or larger to be used as directed in the field for special conditions by the engineer of record (labor for placing same to be included).

5. Structural Steel

- A. All structural steel beams and columns shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A36 grade steel (except at moment connections where plates shall be ASTM A572, grade 50). Hollow Structural Sections (HSS) shall be ASTM A500, grade C. Fabrication and erection shall be in accordance with AISC 360-16 "Code of Standard Practice for Steel Buildings and Bridges" in the 15th Edition of the AISC Steel Construction Manual.
- B. All welding shall conform to the recommendations of the AWS.
- C. All steel plate and connections shall be hot-dip galvanized.
- D. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions or at least a 0.4 beam total shear capacity, Vn/Omega, shown in the maximum total uniform load tables, whichever is greater; and, shall account for eccentricity when the bolt line is more than 2" from the center of the support. All connections must be two bolt minimum. Additional connection elements may not be specifically shown in the conceptual details in this set but may be required by the final connection design, such as stiffener plates, doubler plates, supplemental reinforcing plates or other connection material. Connection design and shop drawing preparation shall be completed under the direct supervision of a professional engineer licensed in the state the project is located and shop drawings and connection calculations shall bear his/her seal.
- E. All anchor bolts shall be 3/4" diameter, ASTM F1554, Grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt. All braced frames washers shall be welded all around to the column base plate with 3/16" fillet weld.
- F. Design, fabrication and erection of all open-web bar joists shall comply with the recommendations of the Steel Joist Institute (SJI). Joists shall be designed to support loads given in the standard load tables of SJI Specs and Tables plus an additional point load of 200 lbs. on the top or bottom chord at any location without additional web reinforcing.
- G. All K-series joists shall bear 2-1/2" minimum on structural steel beams and be welded to the beams with 1 1/2" of fillet weld each side (minimum).
- H. All K-series joists bearing on masonry walls shall have 6" x 3/8" x 6" bearing plates set in bond beams. Bearing plates shall be located not more than 1/2" from the face of the wall on the bearing side. Joists shall bear 4" minimum on bearing plates and be welded to beams or bearing plates with 3/16" of fillet weld each side (minimum).
- I. All steel joists shall have horizontal bar or angle bridging per Steel Joist Institute Specifications. Provide rigid x-briding in addition to and matching horizontal bridging where joists are discontinuous unless horizontal bridging is anchored to wall top and bottom. Joist sweep allowance shall comply with AISC Standard Practice.
- J. Steel joists shall be designed for 20psf net uplift resulting from wind loading as measured 12ft. from a building corner, 15psf net uplift as measured 8ft. from the building edge, and 10psf otherwise.
- K. All openings in steel joist roof to have 3x3x1/4 angle frame set between joists. Support mechanical equipment with 4x4x5/16 angles laid between joists framed to 4x4x5/16 angles (length equals mechanical unit dimension plus distance each end to next panel joint) laid parallel to and welded to top and/or bottom chord of joists to distribute load to joist panel points.
- L. All steel joists shall have a midspan camber approximately equal to that recommended by the Steel Joist Institute Specifications.
- M. Design and installation of steel decking shall comply with the recommendations of the Steel Deck Institute (SDI). All decking shall be galvanized unless noted otherwise.
- N. Allow 2.0 tons structural steel to be used as directed in field for special conditions by the engineer of record. Cost for shop drawings, fabrication, delivery, detailing, and erection to be included. 50% of structural steel allowance shall be bid as miscellaneous galvanized angle and plate.

6. Post Installed Anchors

- A. Post-installed anchors shall be used only where specified on the drawings unless approved in writing by the engineer of record. See drawings for anchor diameter, spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and/or standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post installed anchors. The contractor shall coordinate an on-site meeting with the post installed anchor manufacturer field representative to educate the construction team on the anchor installation guidelines and requirements.
- B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 308.2 and ICC-ES AC108. All anchors shall be installed per the anchor manufacturer's written instructions.
- C. Adhesive anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ICC-ES AC308. All anchors shall be installed per the anchor manufacturer's written instructions.
- D. Mechanical anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC01. All anchors shall be installed per the anchor manufacturer's written instructions.
- E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC08. All anchors shall be installed per the anchor manufacturer's written instructions.
- F. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC106 or ICC-ES AC08 as appropriate. All anchors shall be installed per the anchor manufacturer's written instructions with appropriate screen tubes used for adhesives.

7. Foundations

- A. The soil investigation was prepared by Kruger Technologies, Inc., the report number is 2231180 and the telephone number is 913-498-1114.
- B. Spread footings, grade beams, and retaining walls are designed to bear on engineered fill or undisturbed soil capable of safely sustaining 2,000 psf.
- C. Retaining walls are designed for an active lateral load of 45 psf equivalent fluid pressure.
- D. Basement walls are designed for an at rest lateral load of 60 psf equivalent fluid pressure. See General Note 3.J for wall bracing requirements.
- E. Contractor shall provide for dewatering and excavations from either surface water or seepage.
- F. All foundation excavations shall be inspected by a qualified soil engineer, approved by the architect and/or structural engineer, prior to placement of steel or concrete. This inspection shall be at the owner's expense.
- G. All concrete in the structural portion retaining the backfill shall have attained its design strength prior to being backfilled.
- H. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs or grade are completed. If subgrade materials become desiccated or softened by water or other conditions, recompact materials to the density and water content specified for engineered fill. Do not place concrete on frozen ground.

8. Concrete Masonry Units

- A. Concrete block used in exterior walls or load bearing walls shall meet the requirements of ASTM C90 and have a minimum net compressive strength of 2650 psi and laid up using type N mortar such that fm equals 2000 psi. Mortar shall be volume proportion based cement lime mortar. Proportioning shall be completed by box measure. Any block in contact with earth shall be nominal weight units, laid using type "S" mortar and grouted solid.
- B. The contractor shall provide adequate temporary bracing for all masonry walls during construction.
- C. All concrete block shall have 9 gage (or larger) horizontal joint reinforcing (ladder or truss) per architectural drawings and specifications (10" maximum vertical spacing).
- D. Cavity wall construction shall be reinforced as designed for specific concrete block used. The horizontal joint reinforcing shall be of the ladder or truss style per specification and continuous between brick and block, as prescribed by the architectural drawings.
- E. Concrete block shall be reinforced as follows in 6", 8", 10", and 12" walls:
- Vertical reinforcing shall be a minimum of 1-#4 bar in 6" and 8" walls and 2-#4 bars in 10" and 12" walls at 4'-0" on center, at each corner, at each door and window jamb, each side of control joints and in the end void of each length of wall. Lap splices for masonry vertical reinforcing shall be 48 bar diameters, 24" minimum.
  - Horizontal reinforcing:
    - Horizontal joint reinforcing as noted above.
    - Continuous horizontal bars shall be included per section or detail in bond beam or optional running bond beam where noted. Where bond beams are continuous at corners of walls, supply corner bars matching size of horizontal bars (minimum 2-#4 or 40 bar diameters in each direction).
- F. Grout, where noted above, shall have a minimum design ultimate compressive strength of 2500 psi at 28 day test and 3/8" maximum aggregate size.
- G. Non-load bearing concrete block walls shall be isolated from adjacent structural elements with vertical 3/8" control joints and at the top of the wall with "A" air space or compressible material support per architectural detail.
- H. Unless otherwise covered on architectural plans or specifications, vertical control joints in masonry construction shall be 3/8" wide, full height of wall. Joists shall be spaced at a maximum of 24'-0" on center and coordinated with the architect. All horizontal joint reinforcing shall be discontinuous at control joints in masonry. All bond beam horizontal reinforcing shall be continuous through control joints.
- I. Unless over all openings up to 8'-0" wide in new and existing masonry walls not otherwise covered shall be one 6x3 1/2x5/16 angle for each 4' width of masonry. All exterior lintels to be galvanized.
- J. Walls shall be anchored top and bottom by dowels matching wall vertical reinforcing (unless noted otherwise) from floor slab bottom and bracing angles at the top, per details on the drawings.

9. Light Gage Metal Structural Framing

- A. All load bearing, light gage structural studs, track, and bridging shall be of the type, size, gage, and spacing as shown on the plans, minimum.
- B. All materials shall be 33,000 psi minimum yield, except studs of 16 gage or heavier shall have a minimum yield of 50,000 psi.
- C. All properties, fabrication, and erection shall be in accordance with latest editions of AISC 16 "Code of Standard Practice for Design of Cold-Formed Structural Members."
- D. All framing components shall be cut squarely or at an angle to fit squarely against abutting members. Splicing of axially loaded members is not permitted.
- E. All end framing and connections, and brack relief angles shall be hot-dip galvanized.
- F. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions or at least a 0.4 beam total shear capacity, Vn/Omega, shown in the maximum total uniform load tables, whichever is greater; and, shall account for eccentricity when the bolt line is more than 2" from the center of the support. All connections must be two bolt minimum. Additional connection elements may not be specifically shown in the conceptual details in this set but may be required by the final connection design, such as stiffener plates, doubler plates, supplemental reinforcing plates or other connection material. Connection design and shop drawing preparation shall be completed under the direct supervision of a professional engineer licensed in the state the project is located and shop drawings and connection calculations shall bear his/her seal.
- E. All anchor bolts shall be 3/4" diameter, ASTM F1554, Grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt. All braced frames washers shall be welded all around to the column base plate with 3/16" fillet weld.
- F. Design, fabrication and erection of all open-web bar joists shall comply with the recommendations of the Steel Joist Institute (SJI). Joists shall be designed to support loads given in the standard load tables of SJI Specs and Tables plus an additional point load of 200 lbs. on the top or bottom chord at any location without additional web reinforcing.
- G. All K-series joists shall bear 2-1/2" minimum on structural steel beams and be welded to the beams with 1 1/2" of fillet weld each side (minimum).
- H. All K-series joists bearing on masonry walls shall have 6" x 3/8" x 6" bearing plates set in bond beams. Bearing plates shall be located not more than 1/2" from the face of the wall on the bearing side. Joists shall bear 4" minimum on bearing plates and be welded to beams or bearing plates with 3/16" of fillet weld each side (minimum).
- I. All steel joists shall have horizontal bar or angle bridging per Steel Joist Institute Specifications. Provide rigid x-briding in addition to and matching horizontal bridging where joists are discontinuous unless horizontal bridging is anchored to wall top and bottom. Joist sweep allowance shall comply with AISC Standard Practice.
- J. Steel joists shall be designed for 20psf net uplift resulting from wind loading as measured 12ft. from a building corner, 15psf net uplift as measured 8ft. from the building edge, and 10psf otherwise.
- K. All openings in steel joist roof to have 3x3x1/4 angle frame set between joists. Support mechanical equipment with 4x4x5/16 angles laid between joists framed to 4x4x5/16 angles (length equals mechanical unit dimension plus distance each end to next panel joint) laid parallel to and welded to top and/or bottom chord of joists to distribute load to joist panel points.
- L. All steel joists shall have a midspan camber approximately equal to that recommended by the Steel Joist Institute Specifications.
- M. Design and installation of steel decking shall comply with the recommendations of the Steel Deck Institute (SDI). All decking shall be galvanized unless noted otherwise.
- N. Allow 2.0 tons structural steel to be used as directed in field for special conditions by the engineer of record. Cost for shop drawings, fabrication, delivery, detailing, and erection to be included. 50% of structural steel allowance shall be bid as miscellaneous galvanized angle and plate.

10. Precast Concrete Members

- A. The contractor/supplier is responsible for the design of all the precast members and connection between them and other structural members. Submit design calculations, sealed by an engineer licensed in the state of the project location, for review by the architect/engineer of record.
- B. All precast members are to be designed in accordance with ACI 318-11, 2014 IBC and other applicable codes, standards (see specs) and design criteria shown on design documents.
- C. Precast concrete members shall conform to the 2018 IBC for the required fire ratings (refer to architects drawings and materials for fire ratings).
- D. All wall panels should be designed for building wind loads, seismic loads, gravity loads, and transmit these loads to the foundation through properly designed connections.
- E. Provide bio-block mechanical unit dimension plus distance each end to next panel joint laid parallel to and welded to top and/or bottom chord of joists to distribute load to joist panel points.
- F. Steel joists shall be designed for 20psf net uplift resulting from wind loading as measured 12ft. from a building corner, 15psf net uplift as measured 8ft. from the building edge, and 10psf otherwise.
- G. Precast supplier shall design all components to meet the requirements of the ICC500-2014 code.

11. Deferred Submittal and Shop Drawing

- A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell and Company, Inc.
- B. Deferred submittals shall be submitted to the architect of record for review who shall forward to the building official for review and approval. Design calculations for deferred submittals shall be submitted at the same time as the shop drawings for review. Design calculations shall be prepared and sealed by a Professional Engineer licensed in the state of the project. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.
- C. Prior to submittal of a shop drawing or any related material to Bob D. Campbell and Company, Inc., the GC shall:
- Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
  - Review and approve each submission as approved.
  - Stamp each submission as approved.
- D. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
- E. Bob D. Campbell and Company, Inc. shall review shop drawings and related materials with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unreviewed material or submissions without GC approval stamp.
- F. Mechanical drawings and related material (if any) required are indicated below. Should Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify the GC.
- Concrete and related materials including admixtures and compounds applied to the concrete after placement.
  - Reinforcing steel shop drawings including erection drawings and bending details Bar in solid grouted masonry shall be as indicated below.
  - Elevations of all reinforced concrete masonry walls at a scale no smaller than 3/8" = 1'-0" showing all required reinforcing.
  - Grout mix designs and related materials in solid grouted masonry shall be as indicated below.
  - Construction and control joint plans and/or elevations.
  - Structural steel shop drawings including erection drawings and piece details.
  - Details Bar in hollow concrete masonry shall be as indicated below.
  - Deferred Submittal: Structural steel connections (including braced frames)
  - Deferred Submittal: Structural steel joints
  - Deferred Submittal: Railings and guardrails
  - Deferred Submittal: Exterior cold-formed metal framing
  - Miscellaneous anchors shown on the structural drawings.
  - Standard details and bridging information for light gage metal framing.
  - Erection plans and details for light gage metal joists and lintels spanning more than 6'-0" shall be submitted. Standard wall framing need not be submitted.
  - Deferred Submittal: Precast concrete shop drawings including erection drawings and connection details.
  - Deferred Submittal: Precast concrete design calculations.

12. Statement of Structural Special Inspections

- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the International Building Code. The owner shall employ one or more qualified special inspectors to provide the required special inspections.
- B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.
- C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
- D. The special inspector shall submit a final signed report stating that the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code.
- E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.
- Shop Fabrication - structural steel and steel bar joist per Section 1704.2.5 unless AISC certified shop.
  - Shop Fabrication - precast concrete per Section 1704.2.5 unless PC certified shop.
  - Steel Construction per Section 1705.2 and the quality assurance requirements of AISC 341 Chapter 1, (as referenced by AISC 360).
  - Cold-Formed Steel Deck per Section 1705.2.2 and the quality assurance requirements of SDI QAQC.
  - Concrete Construction per Section 1705.3 and Table 1705.3
    - Reinforcing Steel Placement
    - Reinforcing Steel Welding
    - Cast in Place Anchors
    - Post Installed Anchors
    - Design Mix Verification
    - Concrete Sampling and Testing
    - Concrete Placement
    - Concrete Curing
    - Prestressed Concrete Stressing and Grouting
    - Erection of Precast
    - Formwork Shape, Location and Dimensions
  - Masonry Construction per Section 1705.4 and the quality assurance requirements of TMS 402/ACI308/ASCE5 and TMS602/AS30, 1/ASCE6 (Level 2)
  - Verification of Soils per Table 1705.6

13. Copyright and Disclaimer

- A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and Company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner.
- B. I. Ryan M. Hagedorn, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of S-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.

COLUMN BASE PLATE SCHEDULE

TYPE	COLUMN	BASE PLATE (bXN)	SHAPE	ANCHOR RODS	EMBEDMENT
1	HSS4x4	1/2"x10"x10"	A	4- 1/2" DIA.	12"
2	HSS4x4	1"x10"x10"	A	4- 1/2" DIA.	20"
3	HSS4x4	1"x (SEE DETAIL)	B	4- 1/2" DIA.	12"
4	HSS4x4	1"x20"x10"	C	6- 1" DIA.	20"
5	HSS6x6	1 1/2"x15"x15"	D	8- 1" DIA.	20"

NOTES:

- SEE PLAN FOR ORIENTATION OF COLUMNS.
- PROVIDE PLATE WASHER & EMBEDDED PLATE PER SCHEDULE @ ALL ANCHOR BOLTS.
- UNO A ALL THREADED ROD A'S SHALL BE F1554 (36ksi) MATERIAL.

COLUMN BASE PLATE AND ANCHOR-ROD CRITERIA

ANCHOR-ROD DIAMETER.	MAX. BASE PLATE HOLE DIAMETER.	MIN. PLATE WASHER SIZE.	MIN. PLATE WASHER THICKNESS	EMBEDDED ANCHOR PLATE SIZE
3/4"	1 5/16"	2"	1/4"	1/2"x2 1/2"x2 1/2"
7/8"	1 9/16"	2 1/2"	5/16"	1/2"x2 1/2"x2 1/2"
1"	1 7/8"	3"	3/8"	5/8"x3"x3"
1 1/4"	2 1/8"	3 1/2"	1/2"	5/8"x3 1/2"x3 1/2"
1 1/2"	2 3/8"	4"	1/2"	5/8"x3 1/2"x3 1/2"
1 3/4"	2 7/8"	4 1/2"	5/8"	3/4"x3 1/2"x3 1/2"
2"	3 1/4"	5"	3/4"	3/4"x3 1/2"x3 1/2"
2 1/2"	3 3/4"	5 1/2"	7/8"	3/4"x3 1/2"x3 1/2"

NOTES:

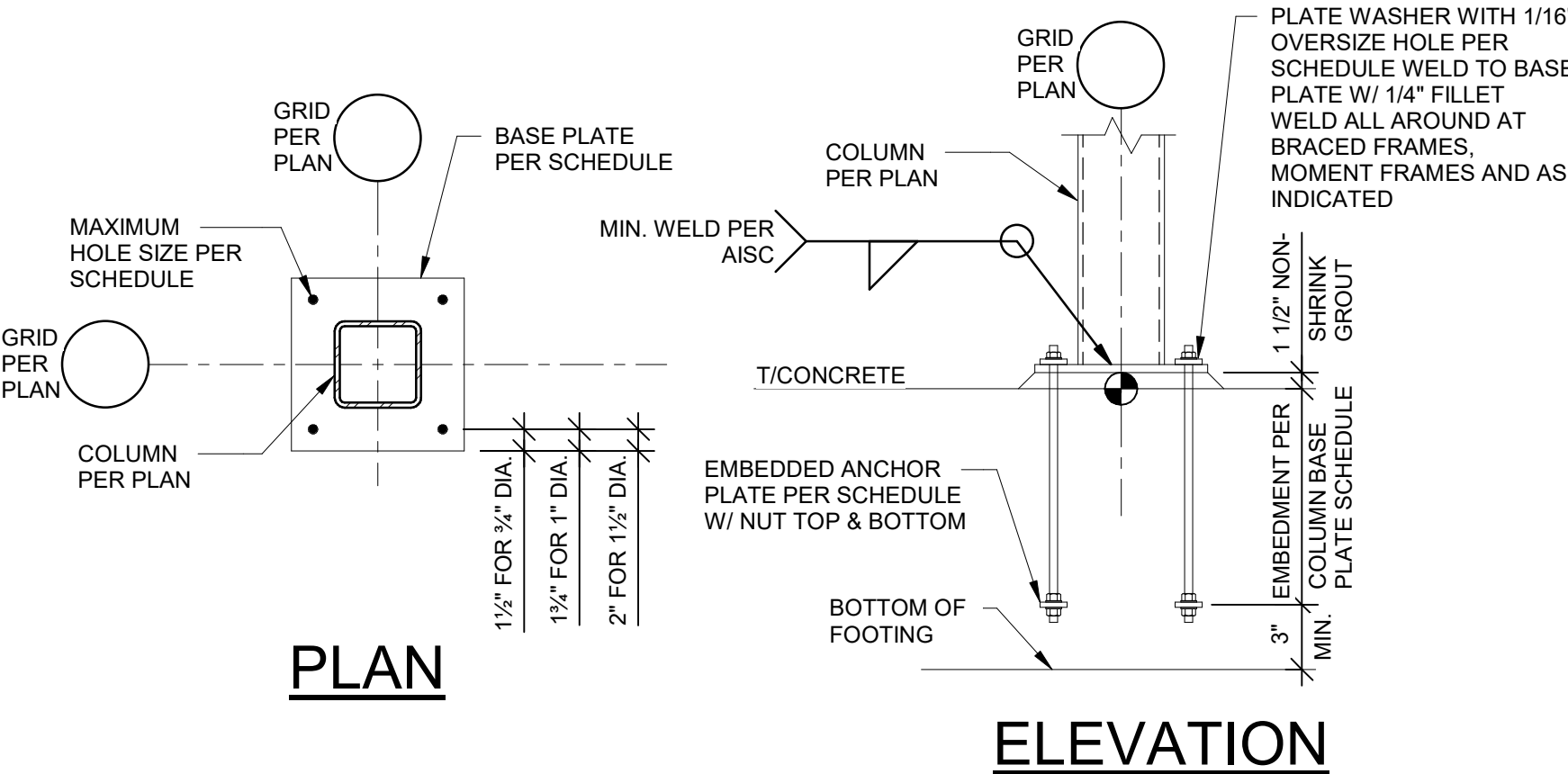
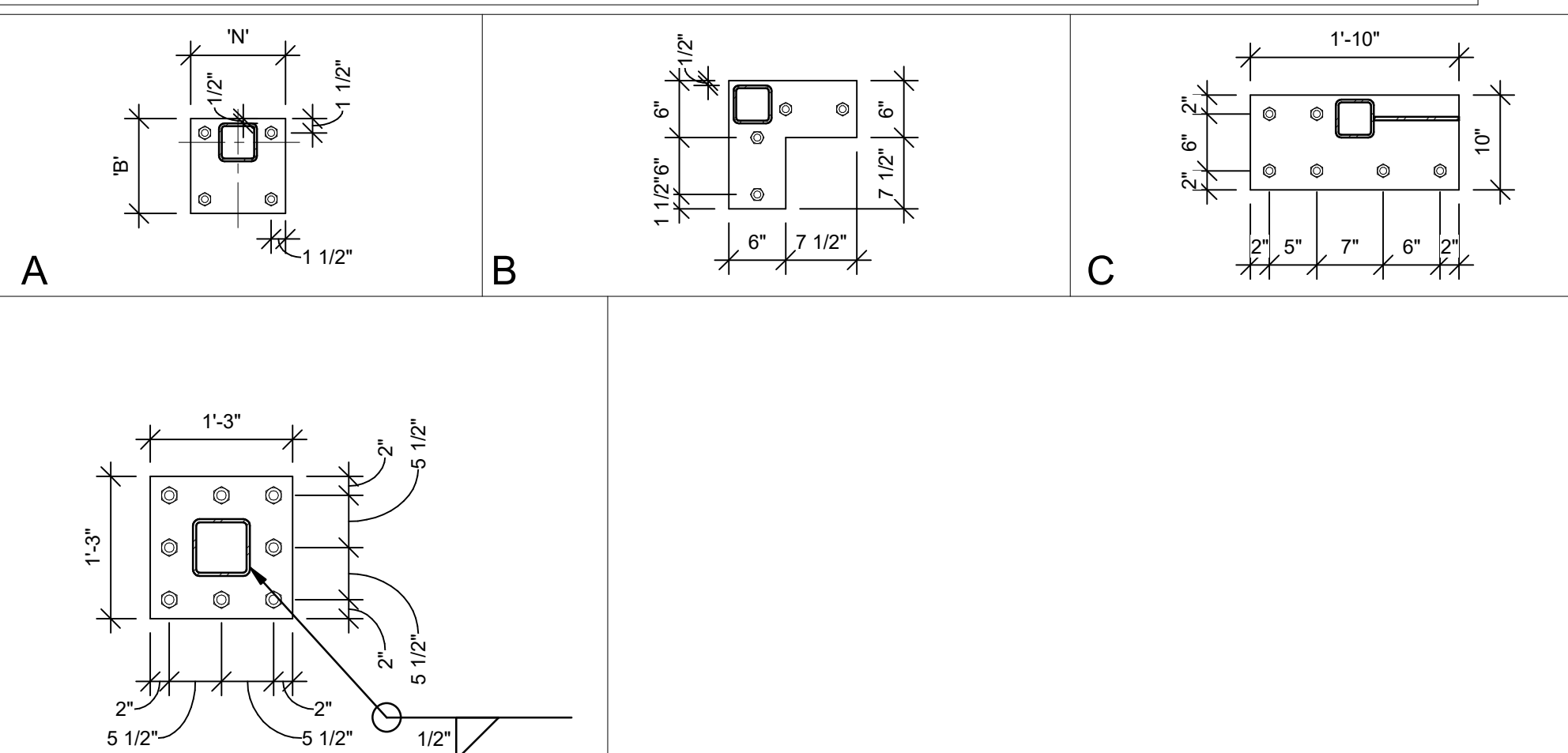
- HOLE SIZES PROVIDED ARE BASED ON ANCHOR ROD SIZE AND CORRELATE WITH ACI 117 (ACI 2010)
- CIRCULAR OR SQUARE WASHERS MEETING THE WASHER SIZE ARE ACCEPTABLE.
- HOLE IN PLATE WASHER SHALL BE 1/16" LARGER THAN ANCHOR DIAMETER.

Structural Foundation Schedule

NOTE:  
1) EXTERIOR FOOTINGS OR FOOTING AT GRADE BEAM SHALL MATCH GRADE BEAM DEPTH AND BE PLACED WITH GRADE BEAM. PROVIDE SPECIFIED REBAR TOP AND BOTTOM WITH 4 STANDAEEES TO SUPPORT MATS.  
2) PROVIDE REINFORCING PER SCHEDULE EACH WAY IN TOP OF FTG. AT ALL MOMENT FRAME AND BRACED BAY COLUMNS.  
3) CENTER FOOTINGS ON COLUMNS AND/OR WALL CENTER LINES PER PLAN UNLESS NOTED OTHERWISE (UNO.).

Type Mark	Length	Width	Footing Thickness	Rebar Size	Quantity (Ea way, Top & Bott)
4.0	4'-0"	4'-0"	2'-8"	Rebar : # 5	8
5.0	5'-0"	5'-0"	2'-8"	Rebar : # 5	10
5.0A	5'-0"	5'-0"	2'-0"	Rebar : # 5	10

BASE PLATE SHAPE (NOT TO SCALE)



ELEVATION

PLAN

LEGEND:

SPAN DIRECTION OF DECK

RO-1

3.0

HSS 8"x8"x5/16" . . . COLUMN SIZE

BASE PLATE MARK - SEE SCHEDULE ON SHEET S001

LEVEL BEAM DESIGNATION

W14x22 . . . STEEL BEAM SIZE

T 117'-6" . . . TOP OF BEAM ELEVATION

SLOPING BEAM DESIGNATION

W14x22 . . . STEEL BEAM SIZE

T 133'-0" . . . TOP OF BEAM ELEVATION

T 132'-5" . . . EACH END

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EPIC Elementary Storm Shelter Addition  
Liberty Public Schools  
650 Conister St  
Liberty, MO 64058

REVISIONS:

#	Description	Date
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GENERAL NOTES - STRUCTURAL  
- ICC 500-2014 STORM SHELTER

1. Design Information

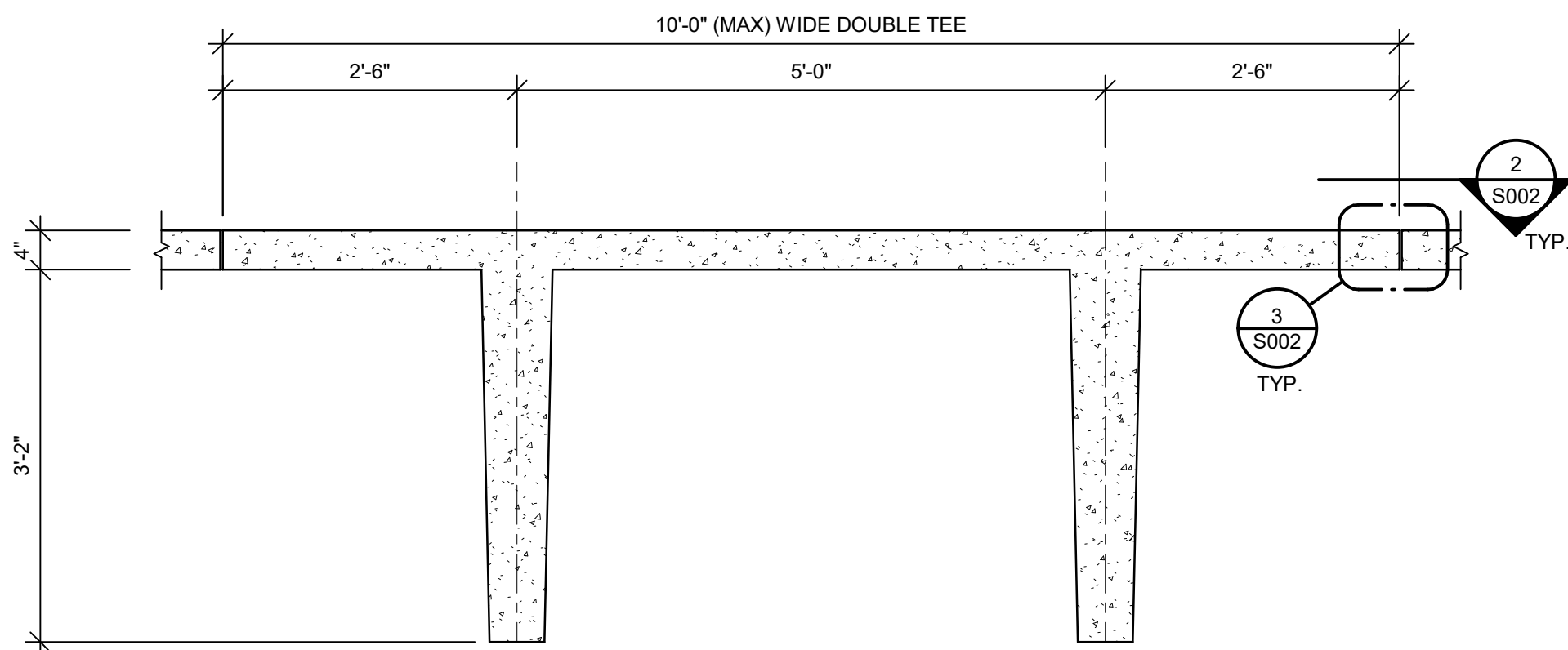
- A. Type of Shelter: Community Tornado  
B. Design and construction for all components of the storm shelter areas of this project shall conform to the provision of the ICC/ANSI Standard for the Design and Construction of Storm Shelters, ICC 500-2014 as referenced by the 2018 IRC, and the governing design codes listed in the main structural general notes.  
a. Floor Live = 100 psf  
b. Roof Live = 100 psf  
c. Show Refer to main structural general notes  
d. Wind:  
• Design Wind Speed, V = 250 mph  
• Missile Impact Speed Requirement:  
A. Vertical Surfaces: 100 mph  
B. Horizontal Surfaces: 67 mph  
• Risk Category: II  
• Importance Factor, I<sub>w</sub> = 1.0  
• Exposure Category: C  
• Internal Pressure Coefficient, GCp1 = +/- 0.55  
• Topographic Factor, Kzt = 1.0  
• Directionality Factor, Kd = 1.0  
• Design wind pressures to be used for the design of exterior component and cladding material on the designated zones of wall and roof surfaces shall be per ASCE 7-16. Tabulated pressures shall be multiplied by effective area reduction factors, exposure adjustment factors, and topographic factors where applicable.  
e. Seismic:  
• S<sub>s</sub> = 0.094g; S<sub>1</sub> = 0.069g  
• Occupancy (Risk) Category III  
• Importance Factor, I<sub>e</sub> = 1.25  
• Site Classification C  
• S<sub>MS</sub> = 0.082g; S<sub>01</sub> = 0.069g  
• Seismic Design Category B  
• Basic Seismic Force-resisting System: Ordinary Precast Concrete Shear Walls  
• Equivalent Lateral Force Procedure  
• R = 3.0; Omega = 3.0; C<sub>u</sub> = 3.0  
f. Rainfall Intensity: I = 3.6 in/hr  
Design rainfall intensity is based on the 100-year hourly rainfall rate indicated in IBC-2018 Figure 1611.1.  
g. Soil bearing: Refer to main structural general notes  
This project is designed to resist the most critical effects resulting from the load combinations of ASCE 7-16  
D. The shelter has not been constructed within an area susceptible to flooding.  
E. Duct, pipe and conduit openings in walls and roofs shall be protected with Cyclone Strouds by RPH Advanced Building Solutions or equal or FEMA rated louvers.  
Re: Mechanical Specification  
F. Shielding by adjacent building has not been considered.  
G. Structure has been designed to withstand missile impact.  
H. Lay down, rollover and collapse hazards have been considered.  
I. Roof/wall assemblies have been designed to withstand missile impact loads and wind pressure criteria.  
J. Storm shelter has been designed to transfer all forces from loading outlined in Chapter 3 of ICC 500-2014 to the foundations.  
K. Storm shelter has been designed to resist all design wind pressures in accordance with section 304 of ICC 500-2014.

2. Statement of Structural Special Inspections

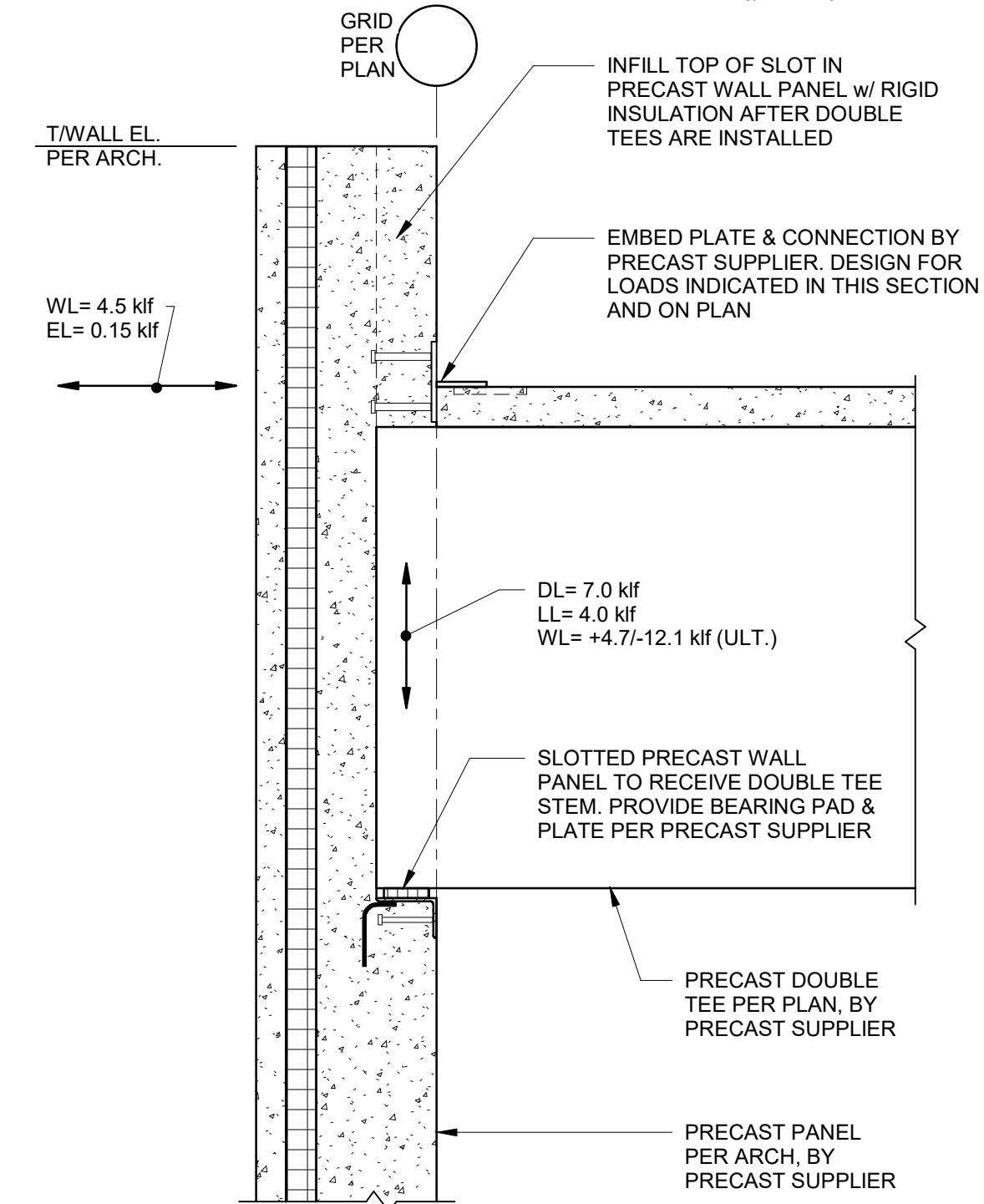
- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the International Building Code and section 106 of ICC-500 2014. The owner shall employ one or more qualified special inspectors to provide the required special inspections.  
B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.  
C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.  
D. The special inspector shall submit a final signed report stating that the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code.  
E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.  
1. Shop Fabrication – precast concrete per Section 1704.2.5 and ICC-500 section 106.2.1 unless FCI certified shop  
2. Concrete Construction per Section 1705.3 and Table 1705.3  
a. Reinforcing Steel Placement [Periodic]  
b. Reinforcing Steel Welding [Periodic]  
c. Cast in Place Anchors [Periodic]  
d. Post Installed Anchors  
• Adhesive Anchors [Continuous]  
• Mechanical Anchors [Periodic]  
e. Design Mix Verification [Periodic]  
f. Concrete Sampling and Testing [Periodic]  
g. Concrete Placement [Periodic]  
h. Concrete Curing [Continuous]  
i. Prestressed Concrete Stressing and Grouting [Periodic]  
j. Erection of Precast [Periodic]  
k. Verification of In-situ Concrete Strength Prior to Stressing Post-Tensioned Concrete [Periodic]  
l. Formwork Shape, Location and Dimensions [Periodic]  
3. Verification of Soils per Table 1705.6  
A. Verify use of proper material, densities, and lift thicknesses during placement and compaction of compacted fill [Continuous]  
B. All other required soil inspections [Periodic]  
4. Inspections and Tests of Cast-In-Place Deep Foundation per Table 1705.8 [Continuous]  
5. Verification of wind-resisting components:  
A. Verify roof covering, roof deck, and roof framing connections are in accordance with the construction documents [Periodic]  
B. Verify exterior wall coverings and wall connections to roof and floor diaphragms and framing are in accordance with the construction documents [Periodic]  
6. Steel Construction per Section 1705.2 and the quality assurance requirements of AISC 341 Chapter J, as referenced by AISC 360, [Random Daily]  
7. Cold-Formed Steel Deck per Section 1705.2.2 and the quality assurance requirements of SDI QAQC, [Periodic]  
8. Masonry Construction per Section 1705.4 and the quality assurance requirements of TMS 602 Level 2 [Periodic]  
F. Structural Observations  
A. Owner shall employ a registered design professional to conduct visual observations of the construction of the structural system for general conformance to the approved construction documents at significant construction stages and at completion of the construction of the structural system. Structural observation does not relieve any other inspection requirements.

3. ICC 500 Contractor Responsibility

- A. Per ICC 500-2014, section 107.3, each contractor responsible for the construction fabrication, or installation of any component listed in ICC 500 section 107.3.1 shall submit a written statement of responsibility to the authority having jurisdiction, the responsible design professional, and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain:  
a. Acknowledgement of awareness of the special requirements contained in the quality assurance plan.  
b. Acknowledgement that control will be exercised to obtain compliance with the construction documents.  
c. Procedures for exercising control within the contractor's organization, the method and frequency, and the distribution of reports.  
d. Identification and qualifications of the person exercising such control and their position in the organization.  
EXCEPTION: A written statement of responsibility shall not be required for the fabrication of storm shelter components that have been inspected and labeled by an approved agency as meeting the requirements of the applicable code and the ICC 500-2014 standards.



1 SECTION  
3/4\"/>

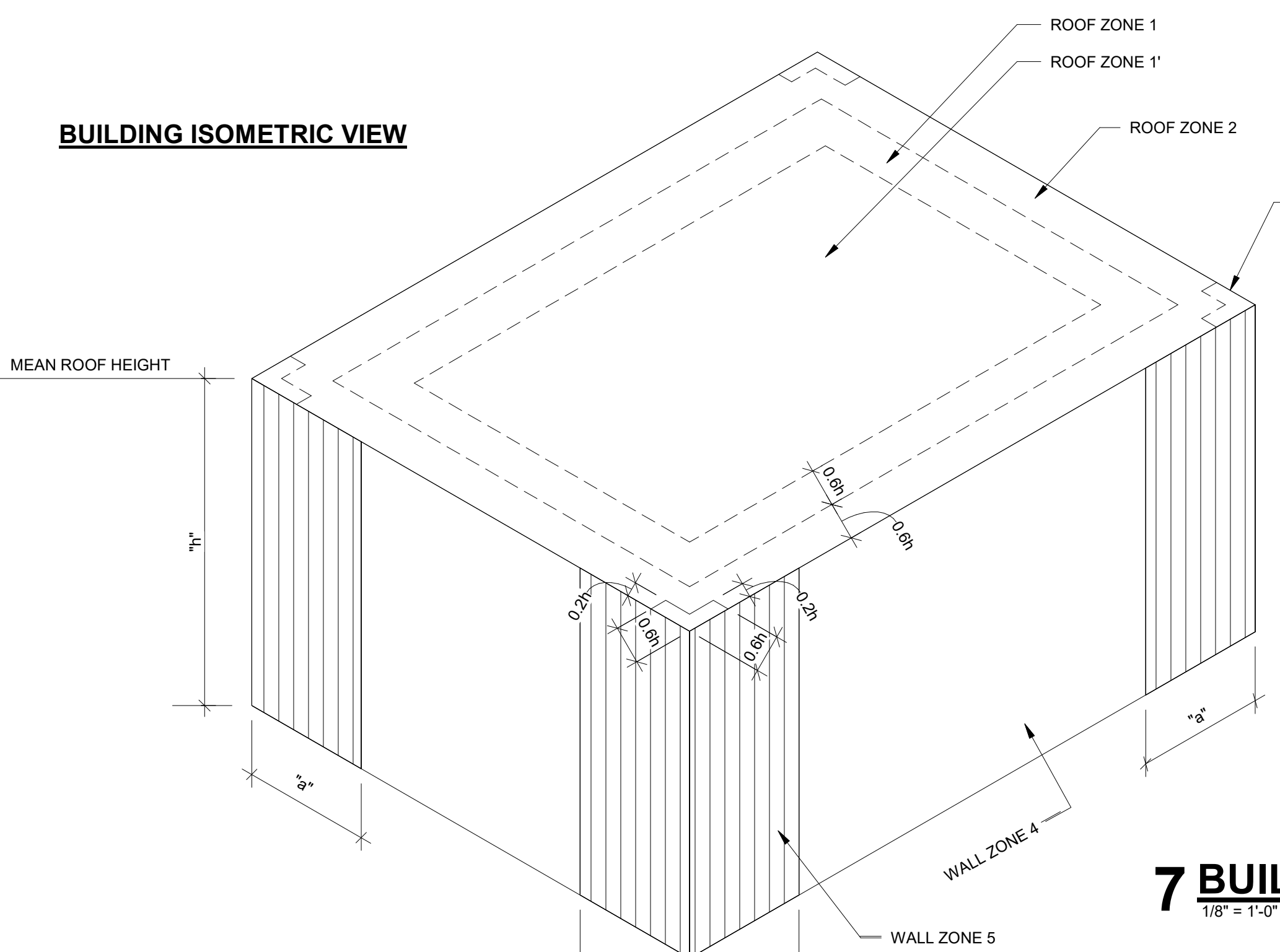


4 SECTION  
3/4\"/>

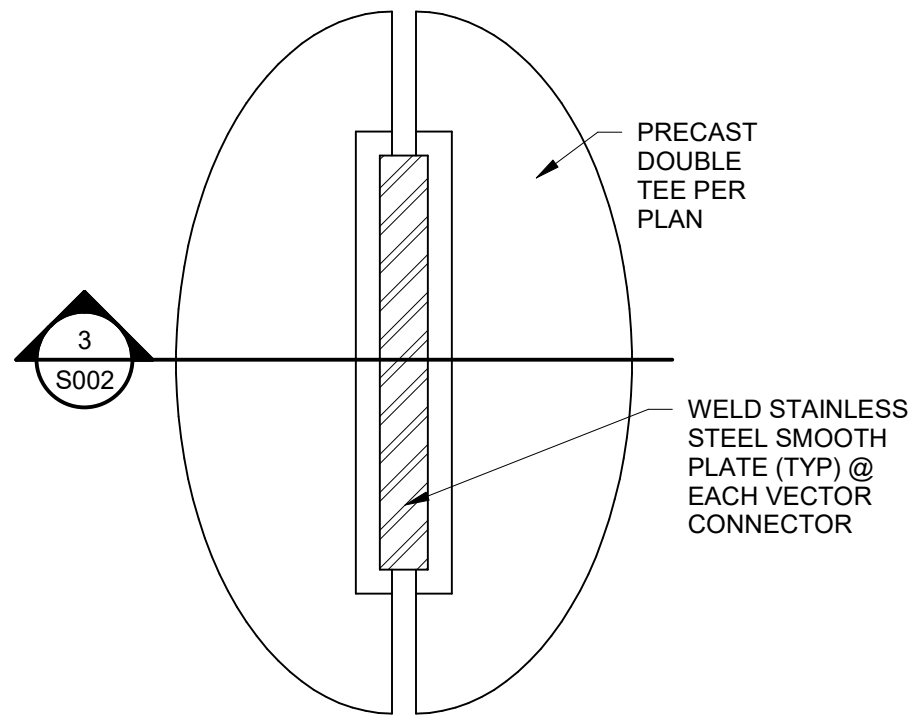
ASCE 7-16 BASIC LOAD CASE 1.0W COMPONENT AND CLADDING WIND PRESSURE DIAGRAM NOTES:

- REFER TO GENERAL NOTES FOR WIND LOAD DESIGN CRITERIA.
- POSITIVE LOADS ACT IN A PERPENDICULAR DIRECTION TOWARDS THE SURFACE. NEGATIVE LOADS ACT IN PERPENDICULAR DIRECTION AWAY FROM THE SURFACE.
- WIND LOADS CALCULATED ARE BASED ON THE PROVISIONS OF ASCE 7. VALUES SHOWN ARE DETERMINED ASSUMING AS ENCLOSED BUILDING WITH AN INTERNAL PRESSURE COEFFICIENT = +/- 0.18 AND A Kd FACTOR = 0.85. LOADS SHOWN ARE FROM UNFACTORED BASIC LOAD CASE 1.0W.  
a. FOR STORM SHELTER, INTERNAL PRESSURE COEFFICIENT = +/- 0.55 AND Kd FACTOR=1.0
- LINEAR INTERPOLATION IS PERMITTED FOR TRIBUTARY AREAS BETWEEN VALUES GIVEN.
- "a" SHALL BE THE LESSER OF 10 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 0.4x"t", BUT NOT LESS THAN 4 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 3 FT.
- FIGURES SHOWN ARE ILLUSTRATIVE ONLY AND ARE NOT INTENDED TO DEPICT THE ACTUAL STRUCTURE DIMENSIONS.
- ALL DESIGNERS USING THIS WIND LOAD DIAGRAM MUST INDEPENDENTLY VERIFY THE DESIGN PRESSURES BASED ON THE APPLICABLE BUILDING CODE.
- ROOF PRESSURES ARE FOR FLAT ROOF ONLY. WIND LOADS FOR THE DESIGN OF SLOPED ROOFS (WITH ANGLES GREATER THAN 10 DEGREES) SHALL BE OBTAINED USING THE PROVISIONS OF ASCE 7-16.
- PARAPETS SHALL BE DESIGNED FOR COMPONENTS AND CLADDING LOADS PER ASCE 7 SECTION 6.5.12.4.4. IF A PARAPET 3'-0\"/>

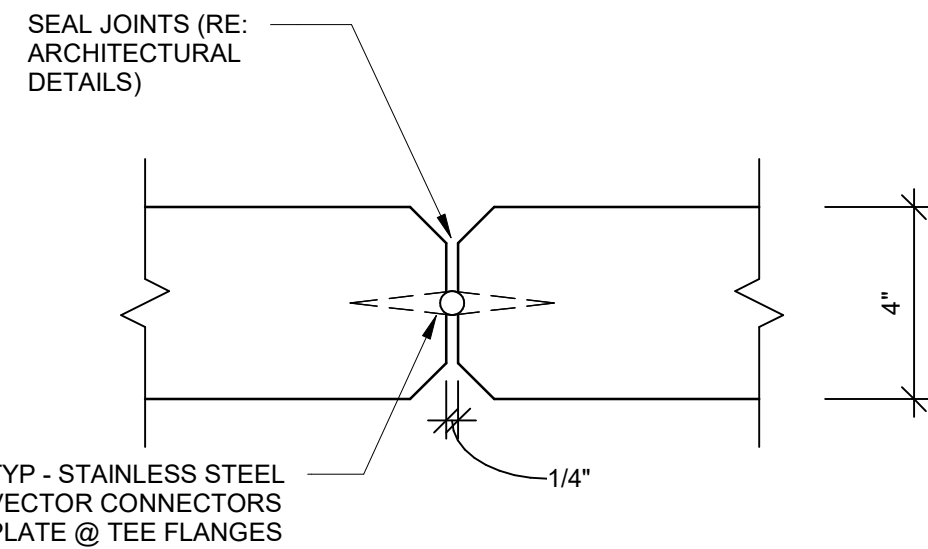
BUILDING ISOMETRIC VIEW



7 BUILDING COMPONENTS & CLADDING WIND LOADS DIAGRAM  
1/8\"/>



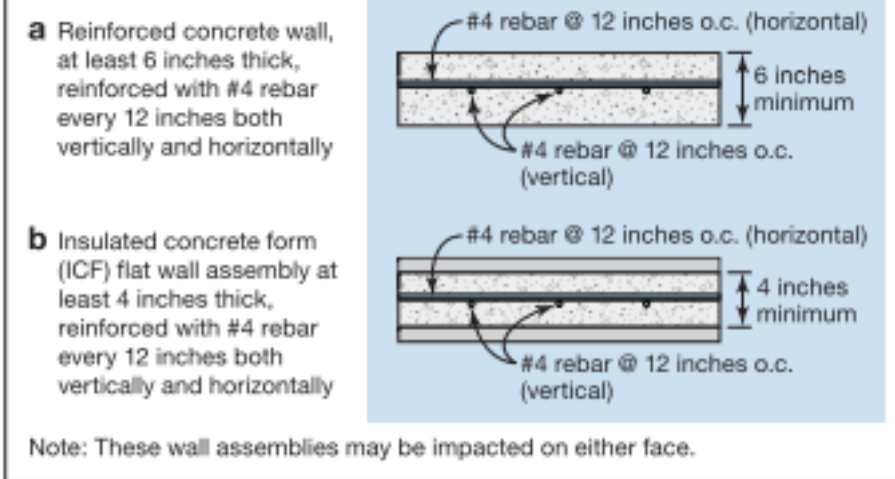
2 DETAIL  
1 1/2\"/>



3 SECTION  
3\"/>

IMPACT RESISTANCE OF CONCRETE WALL ASSEMBLIES

Test results from a number of investigations (Twissdale and Dunn, 1981) suggest that 6-inch-thick reinforced concrete walls are needed to stop a 15-pound wood 2x4 test missile impacting at 100 mph without threshold spalling. TTU research indicates that a 6-inch reinforced concrete wall (Figure B8-16, illustrations [a] and [b]) can resist this test missile). Reinforced concrete walls constructed with insulating concrete forms (ICFs) with a uniform concrete section at least 4 inches thick (Figure B8-21, illustration [b]) can also provide sufficient protection.



IMPACT RESISTANCE OF CONCRETE ROOF ASSEMBLIES

The TTU research also shows that a 4-inch-thick reinforced concrete roof slab on removable forms or on steel decking is able to resist a 15-pound wood 2x4 test missile impacting at 67 mph (the free-falling missile impact speed given in Tables B3-3 through B3-5). For more detail on wall and roof assemblies that have passed the tornado missile impact test, see \"Wall Sections that Passed Previous Missile Impact Tests\" on the safe room website at <https://www.fema.gov/emergency-managers/risk-management/safe-rooms/resources>.

MAIN BUILDING (1.0W)		FLAT ROOF (SLOPE LESS THAN 3 DEGREES) BUILDING COMPONENT AND CLADDING DESIGN WIND PRESSURES (+) AND SUCTION (-) (PSF)											
EFFECTIVE AREA (SQ. FT.)	10	20	50	100	200	500	1000						
ZONE 1	-58.9	15.0	-55.8	13.5	-49.5	12.5	-46.4	11.9	-43.2	11.9	-37.0	11.9	-37.0
ZONE 1'	-33.8	15.0	-33.8	13.5	-33.8	12.5	-33.8	11.9	-29.1	11.9	-22.9	11.9	-18.2
ZONE 2	-77.7	15.0	-73.0	13.5	-66.7	12.5	-62.0	11.9	-55.8	11.9	-49.5	11.9	-49.5
ZONE 3	-105.9	15.0	-96.5	13.5	-82.4	12.5	-73.0	11.9	-62.0	11.9	-49.5	11.9	-49.5
ZONE 4	-36.7	33.8	-35.3	32.4	-33.6	30.2	-31.0	28.8	-30.5	27.6	-28.2	25.4	-28.2
ZONE 5	-45.1	33.8	-42.3	32.4	-38.1	30.2	-35.3	28.8	-32.4	27.6	-28.2	25.4	-28.2

STORM SHELTER (1.0W)		FLAT ROOF (SLOPE LESS THAN 3 DEGREES) BUILDING COMPONENT AND CLADDING DESIGN WIND PRESSURES (+) AND SUCTION (-) (PSF)											
EFFECTIVE AREA (SQ. FT.)	10	20	50	100	200	500	1000						
ZONE 1	-360.0	136.0	-344.0	128.0	-312.0	123.2	-296.0	120.0	-280.0	120.0	-248.0	120.0	-248.0
ZONE 1'	-232.0	136.0	-232.0	128.0	-232.0	123.2	-232.0	120.0	-208.0	120.0	-176.0	120.0	-152.0
ZONE 2	-456.0	136.0	-432.0	128.0	-400.0	123.2	-376.0	120.0	-344.0	120.0	-312.0	120.0	-312.0
ZONE 3	-600.0	136.0	-552.0	128.0	-480.0	123.2	-432.0	120.0	-376.0	120.0	-312.0	120.0	-312.0
ZONE 4	-246.4	232.0	-239.2	224.8	-230.6	213.3	-217.6	206.1	-214.7	200.3	-203.2	188.8	-203.2
ZONE 5	-289.6	232.0	-275.2	224.8	-253.6	213.3	-239.2	206.1	-224.8	200.3	-203.2	188.8	-203.2

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EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conister St  
Liberty, MO 64068

REVISIONS:

#	Description	Date
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JOB NO: 23020.00  
DRAWN BY: RWO  
CHECKED BY: RMH  
DATE: 10.11.2023

S002





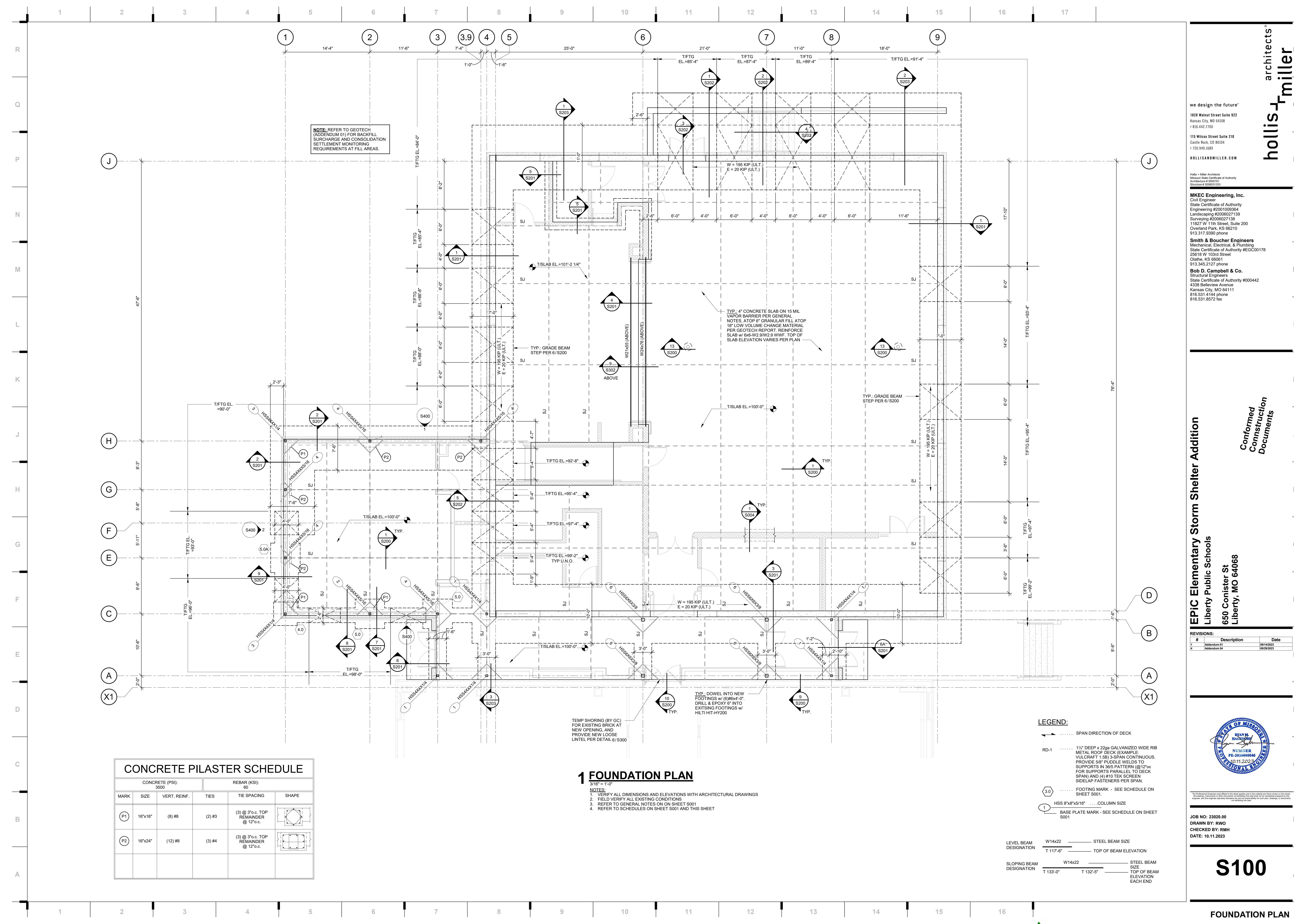
## 2 SECTION



## CMU TYPICAL DETAILS

**Conformed  
Construction  
Documents**





CONCRETE PILASTER SCHEDULE				
CONCRETE (PSI): 3500			REBAR (KSI): 60	
MARK	SIZE	VERT. REINF.	TIES	TIE SPACING
(P1)	16"x16"	(8) #8	(2) #3	(3) @ 3"o.c. TOP REMAINDER @ 12"o.c.
(P2)	16"x24"	(12) #8	(3) #4	(3) @ 3"o.c. TOP REMAINDER @ 12"o.c.

# 1 FOUNDATION PLAN

- NOTES:
1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS
  2. FIELD VERIFY ALL EXISTING CONDITIONS
  3. REFER TO GENERAL NOTES ON ON SHEET S001
  4. REFER TO SCHEDULES ON SHEET S001 AND THIS SHEET

REVISIONS:		
#	Description	Date
1	Addendum 01	09/14/2023
4	Addendum 04	09/29/2023

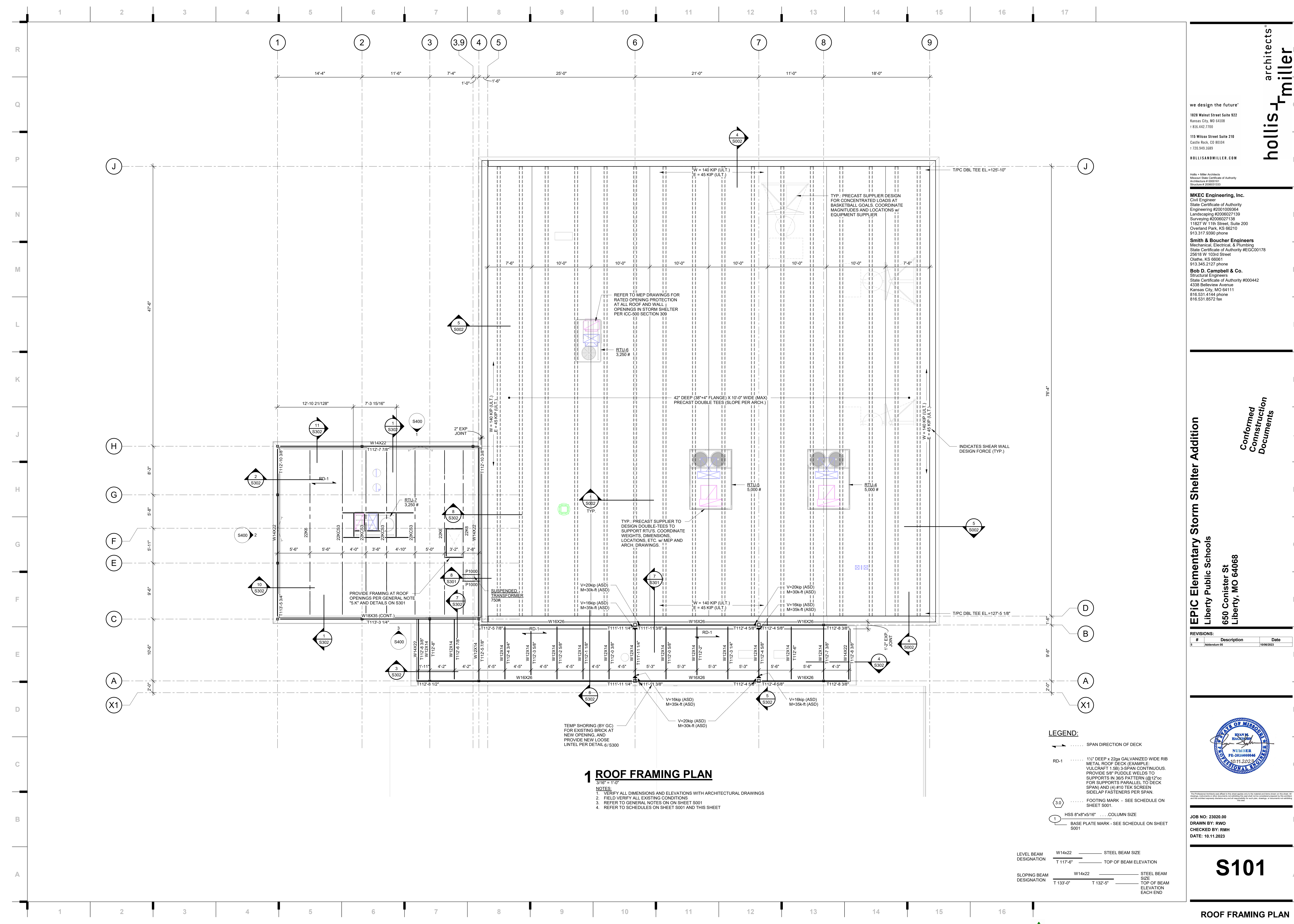


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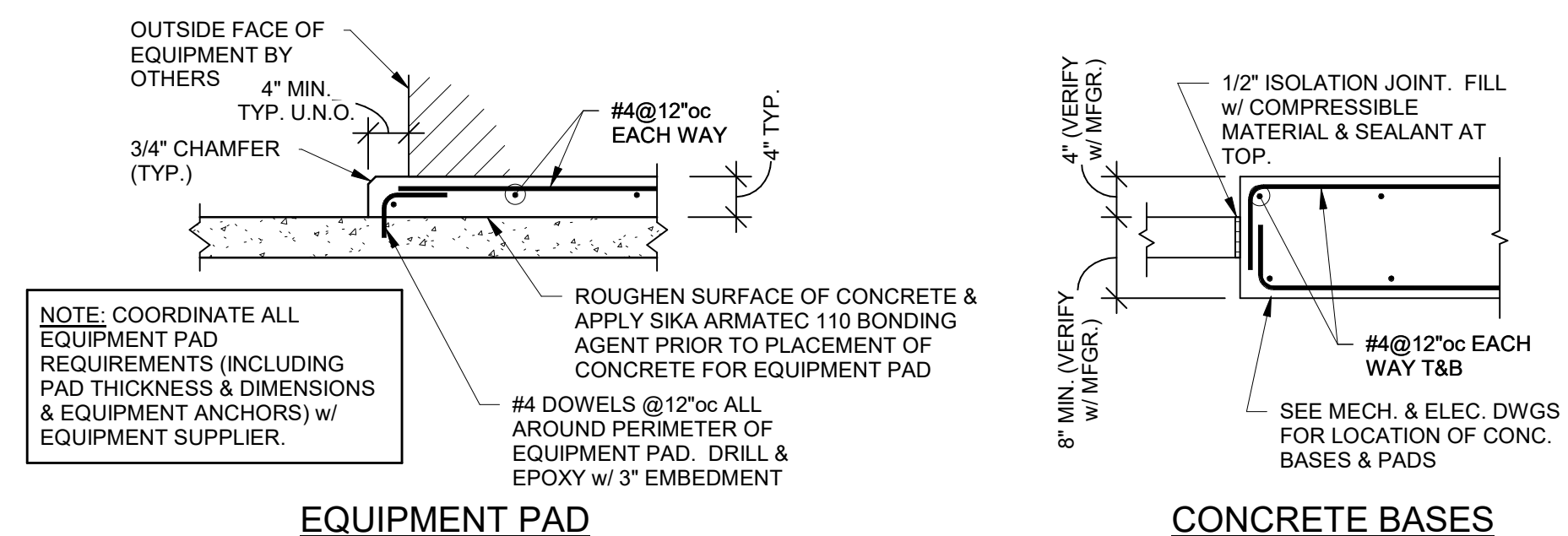
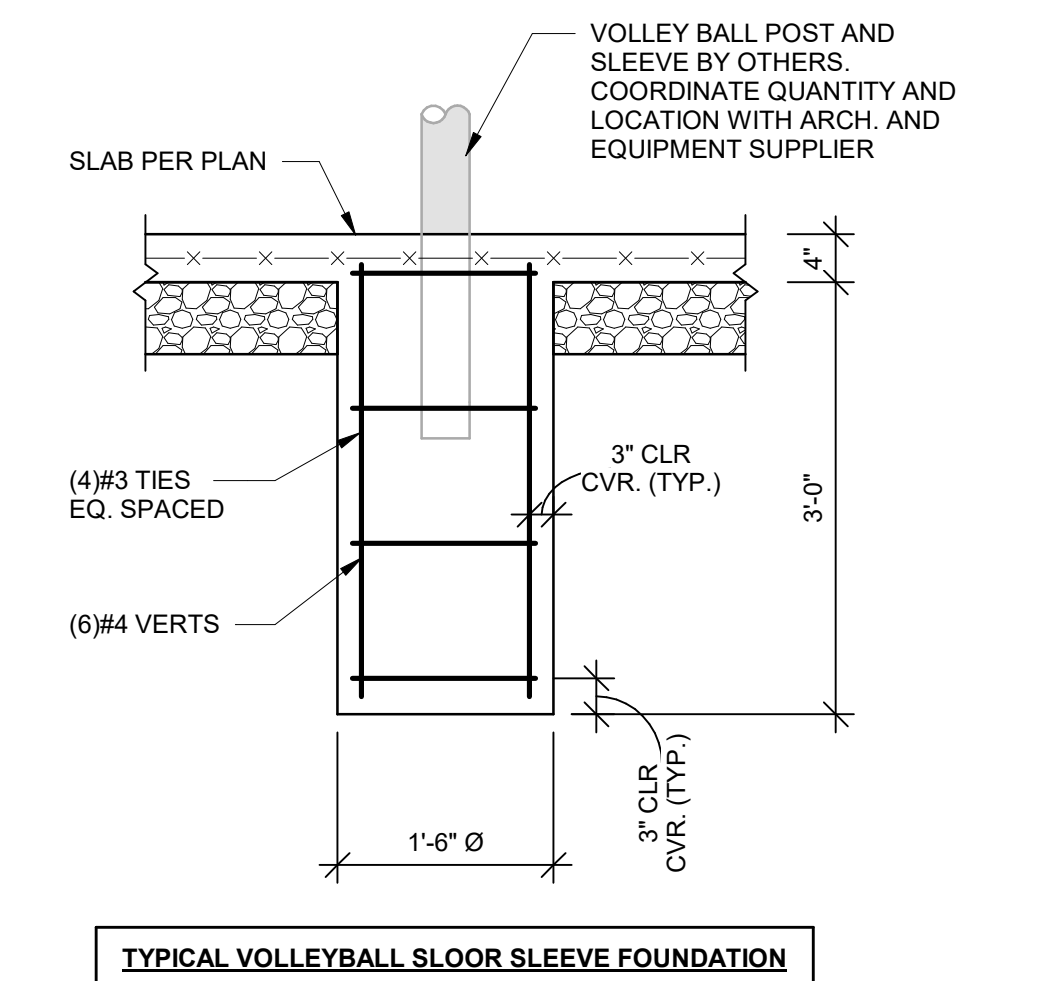
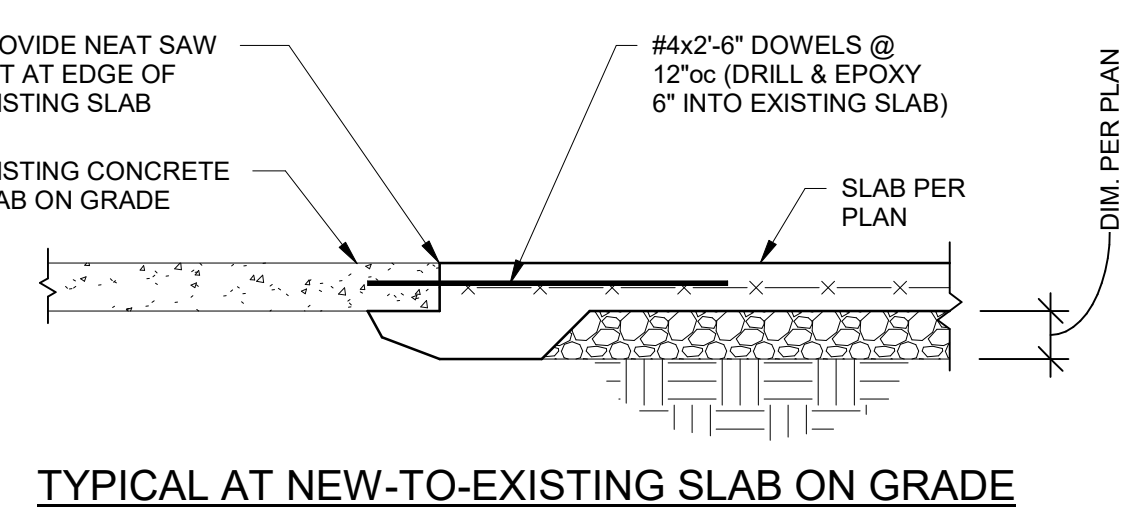
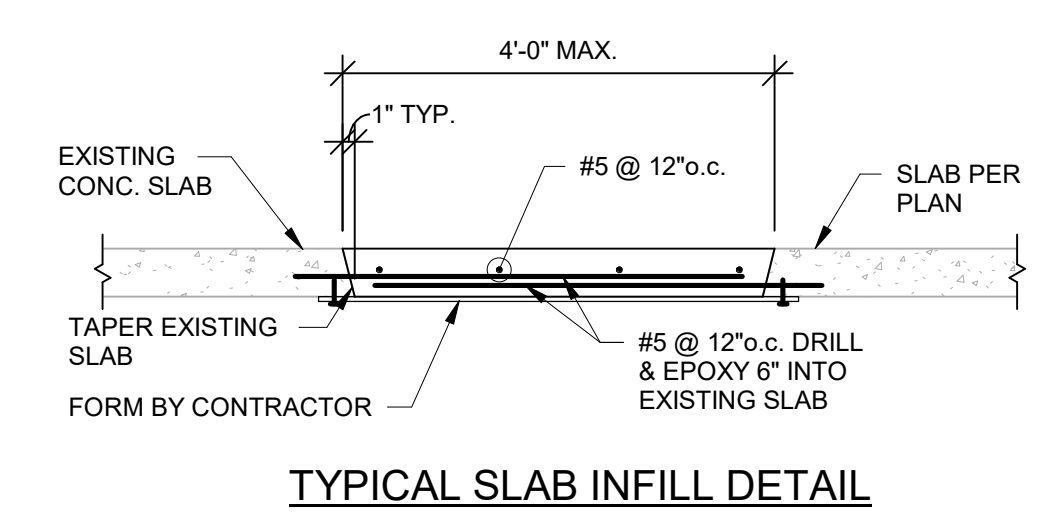
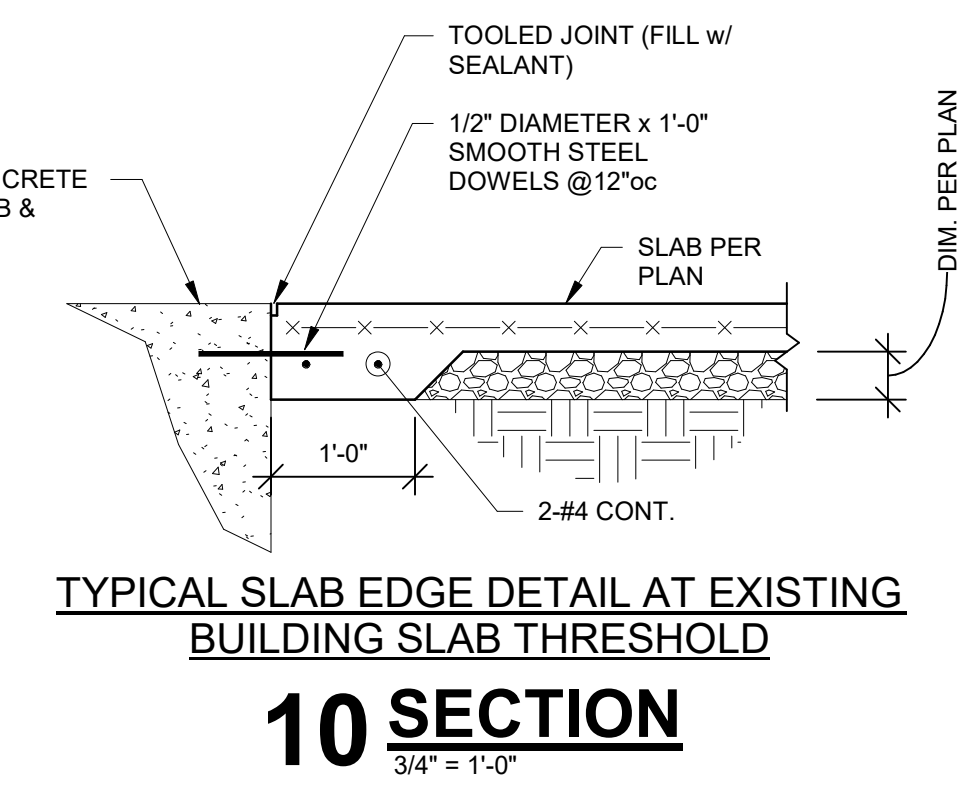
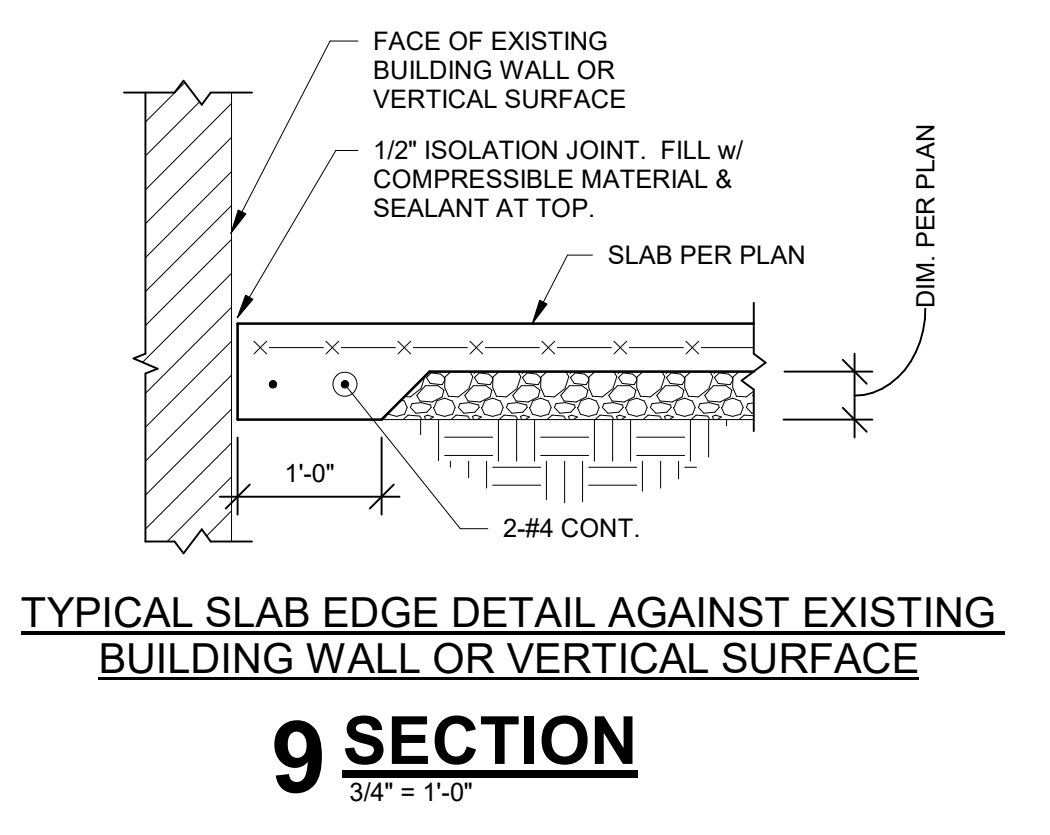
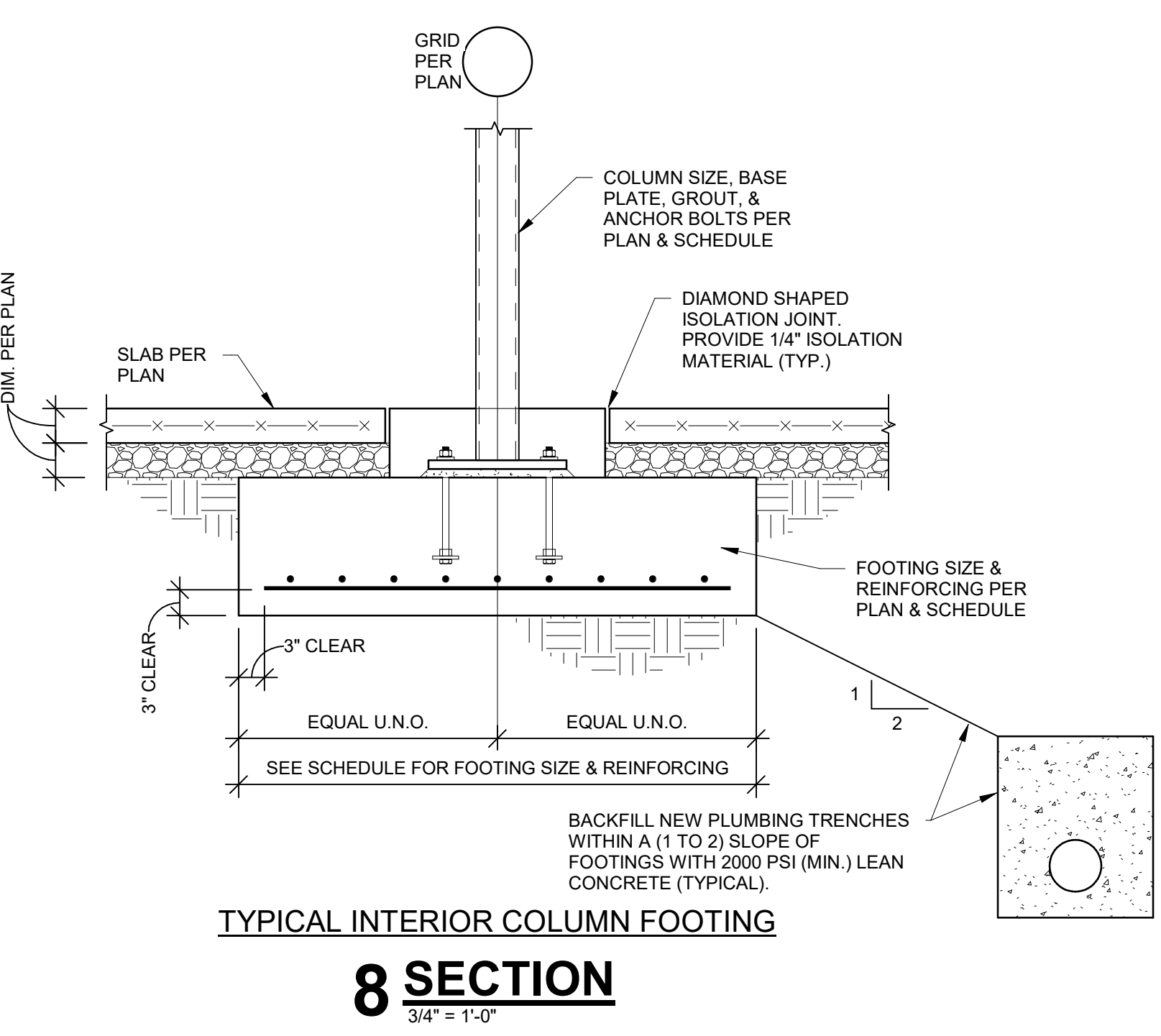
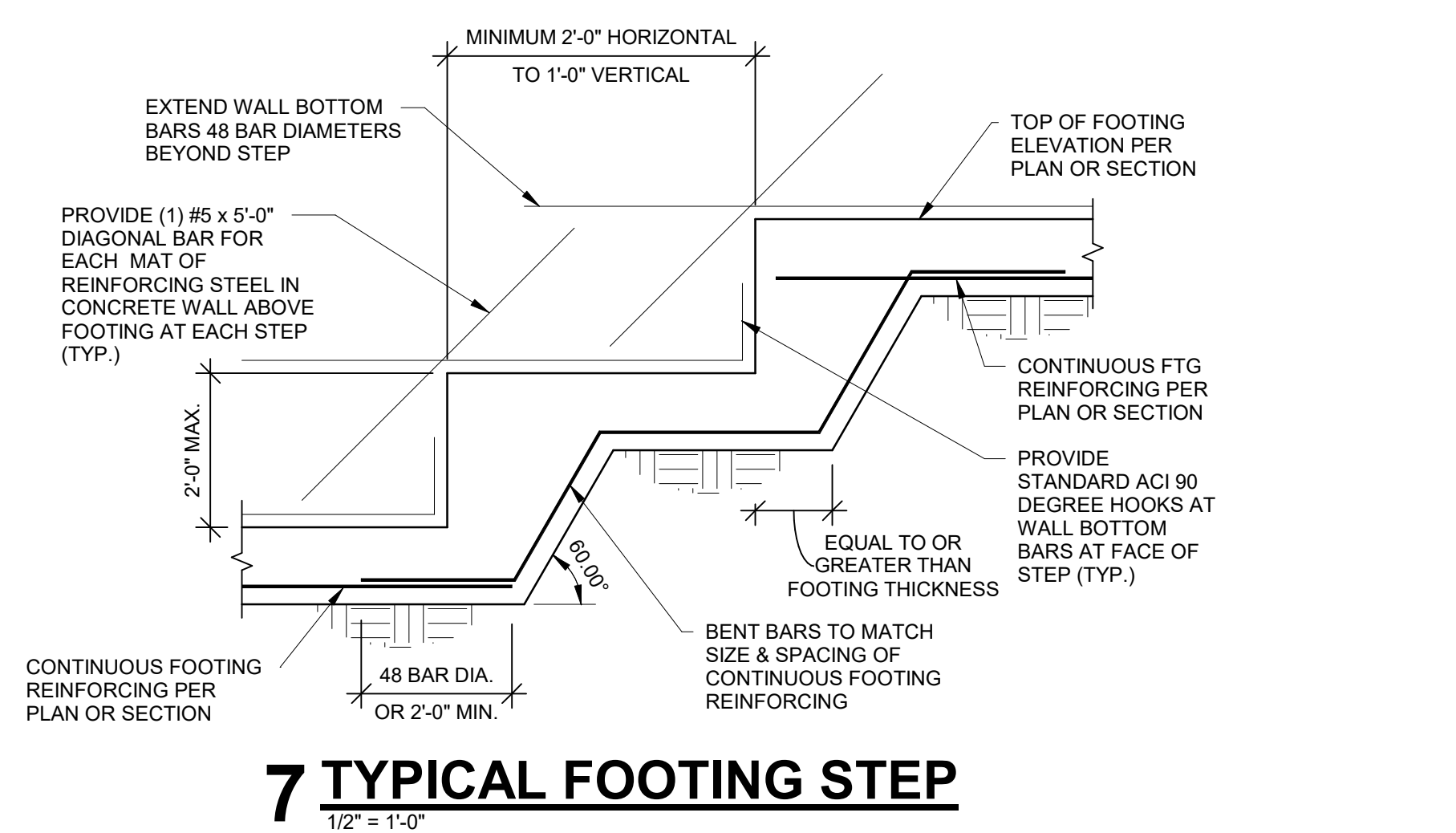
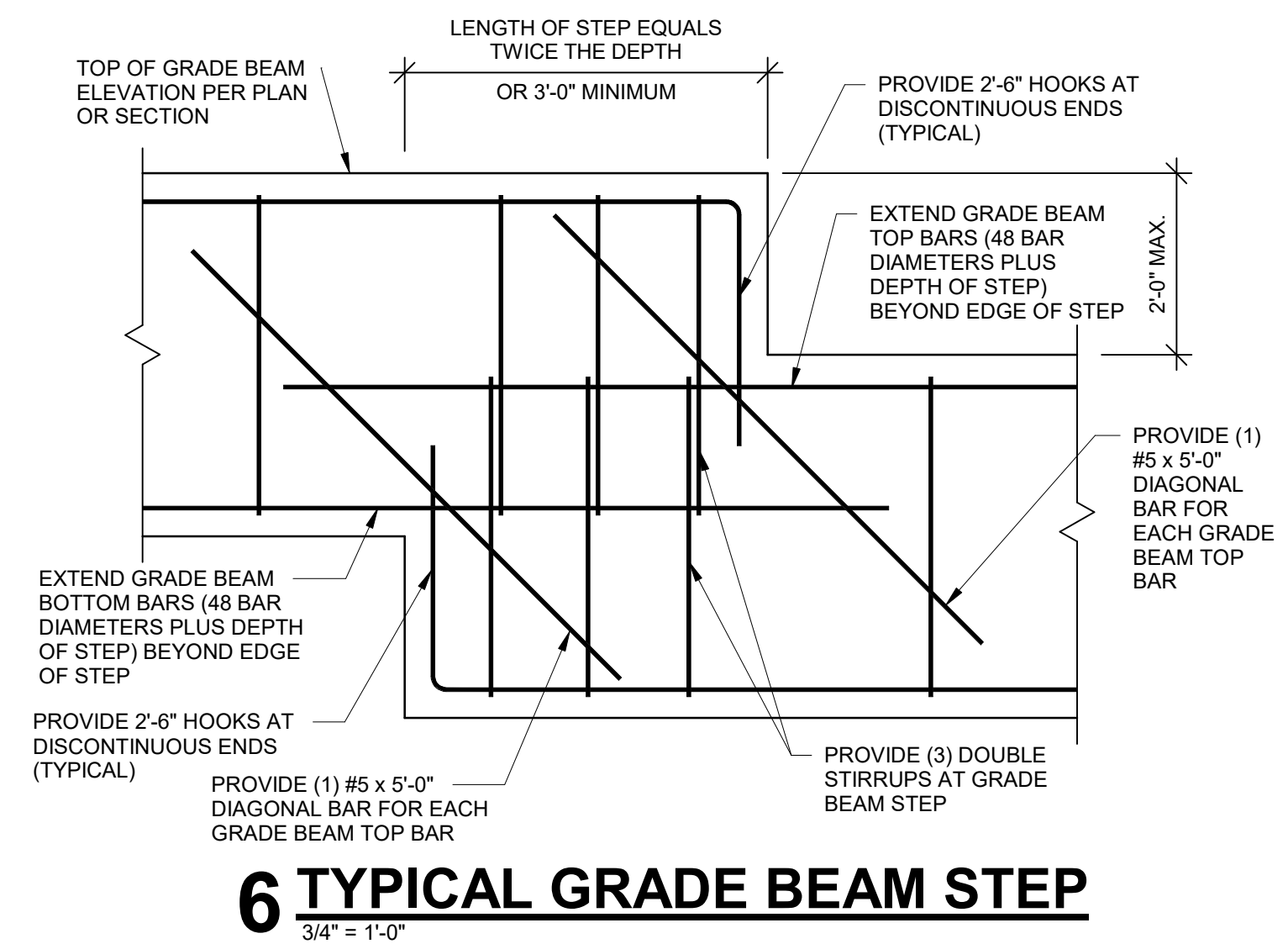
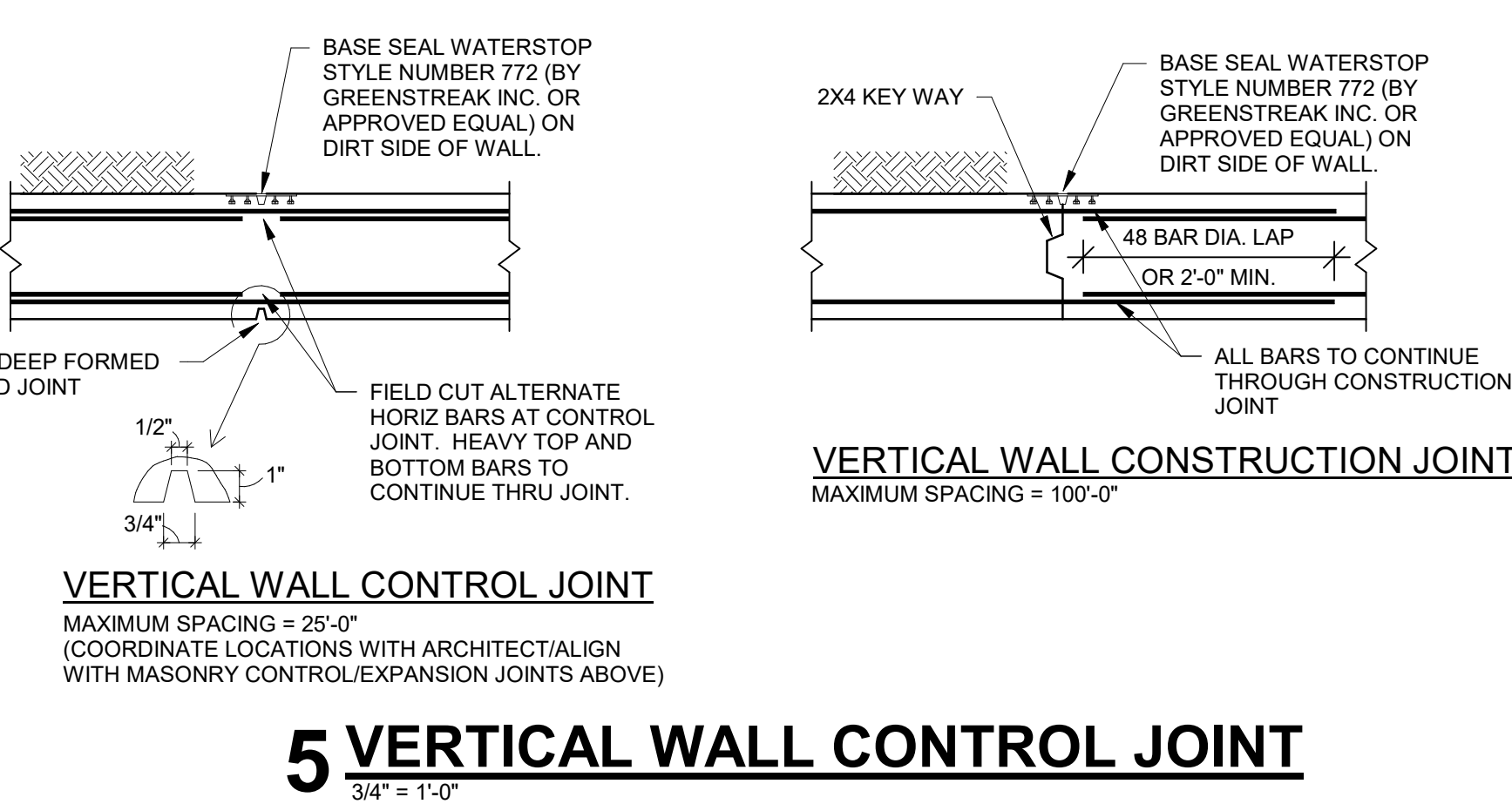
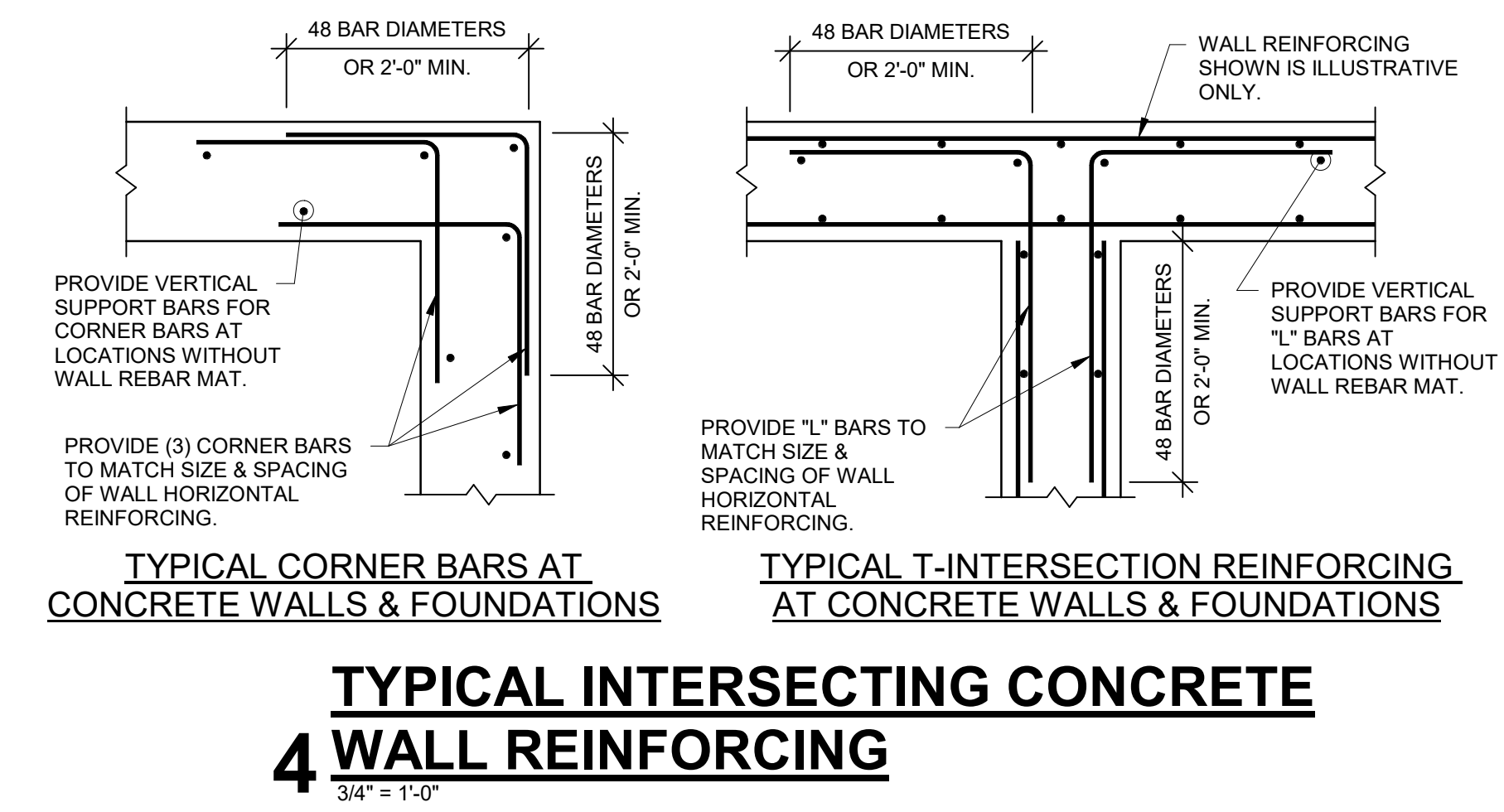
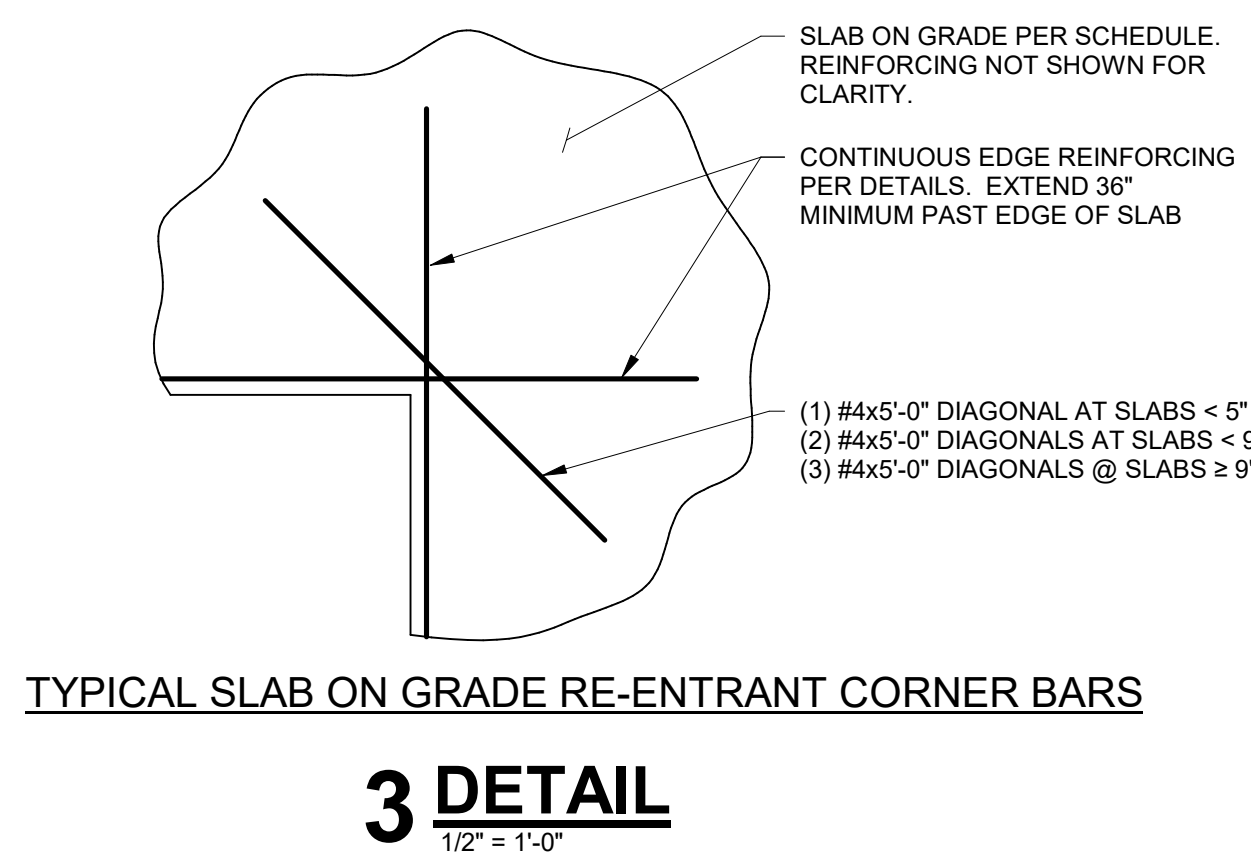
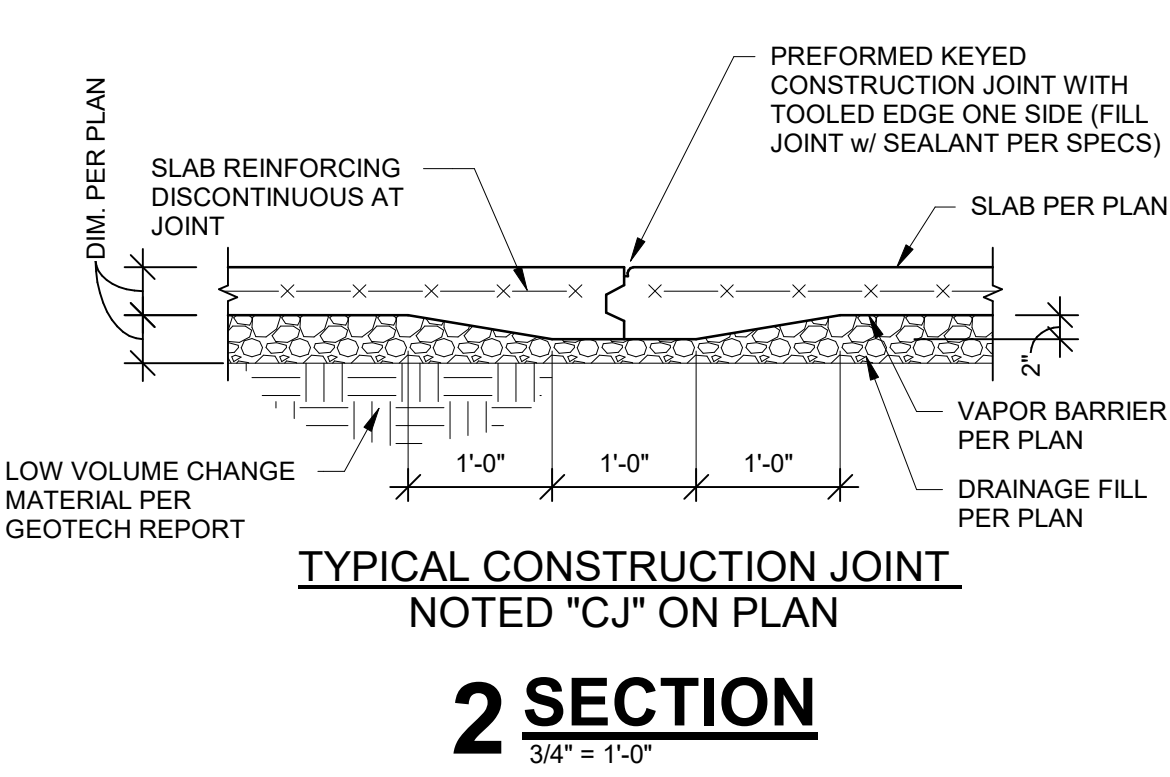
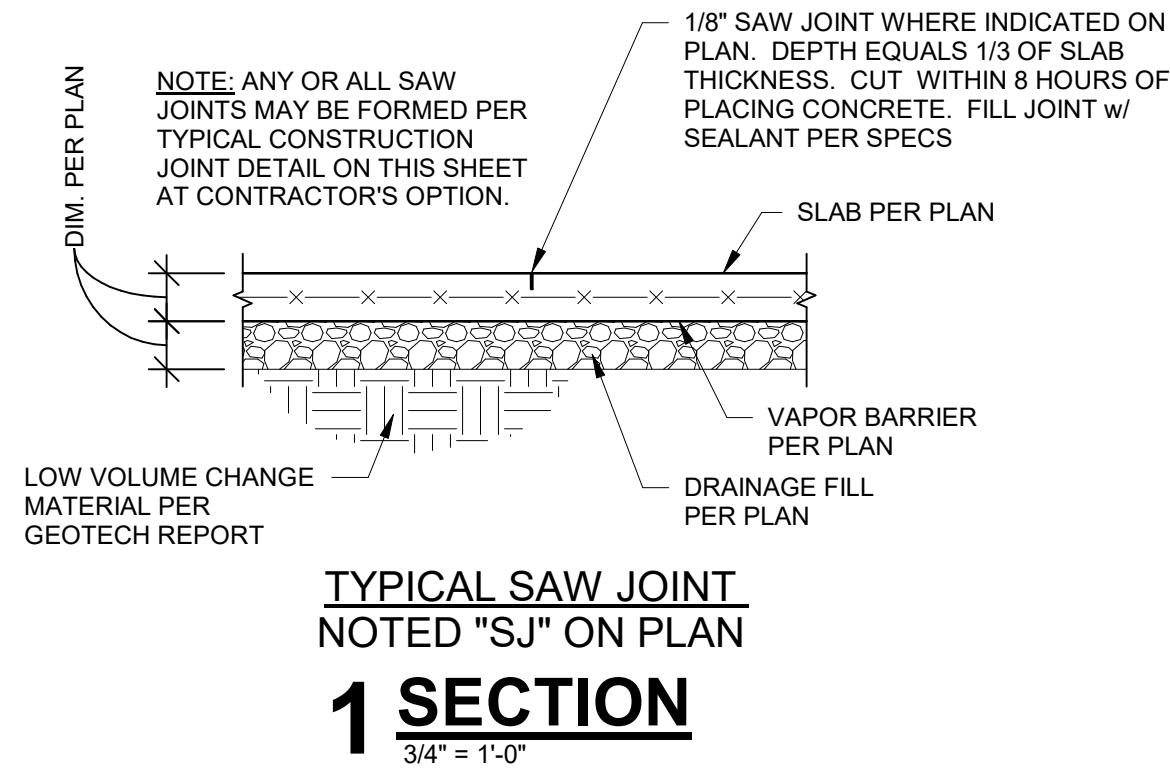
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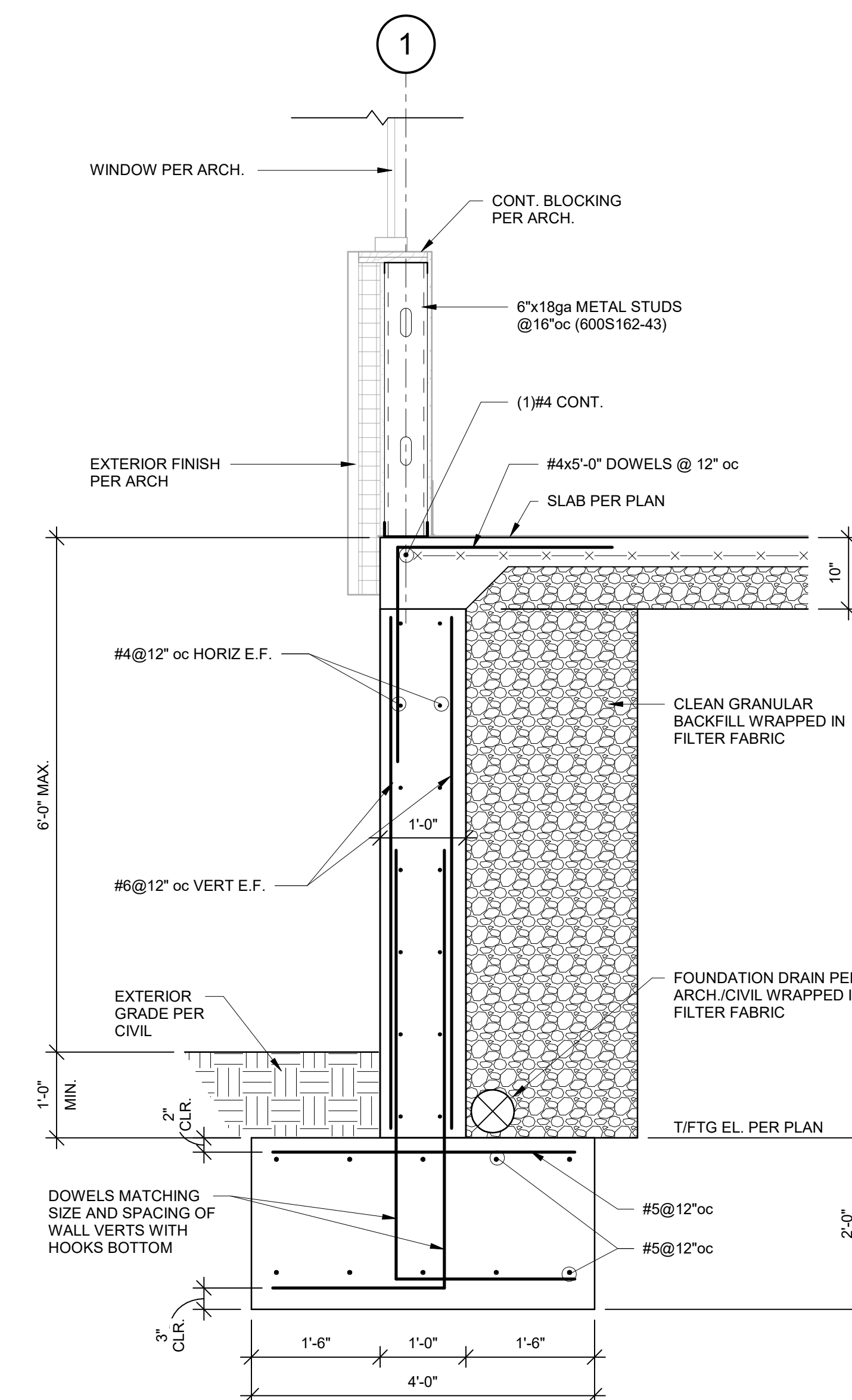
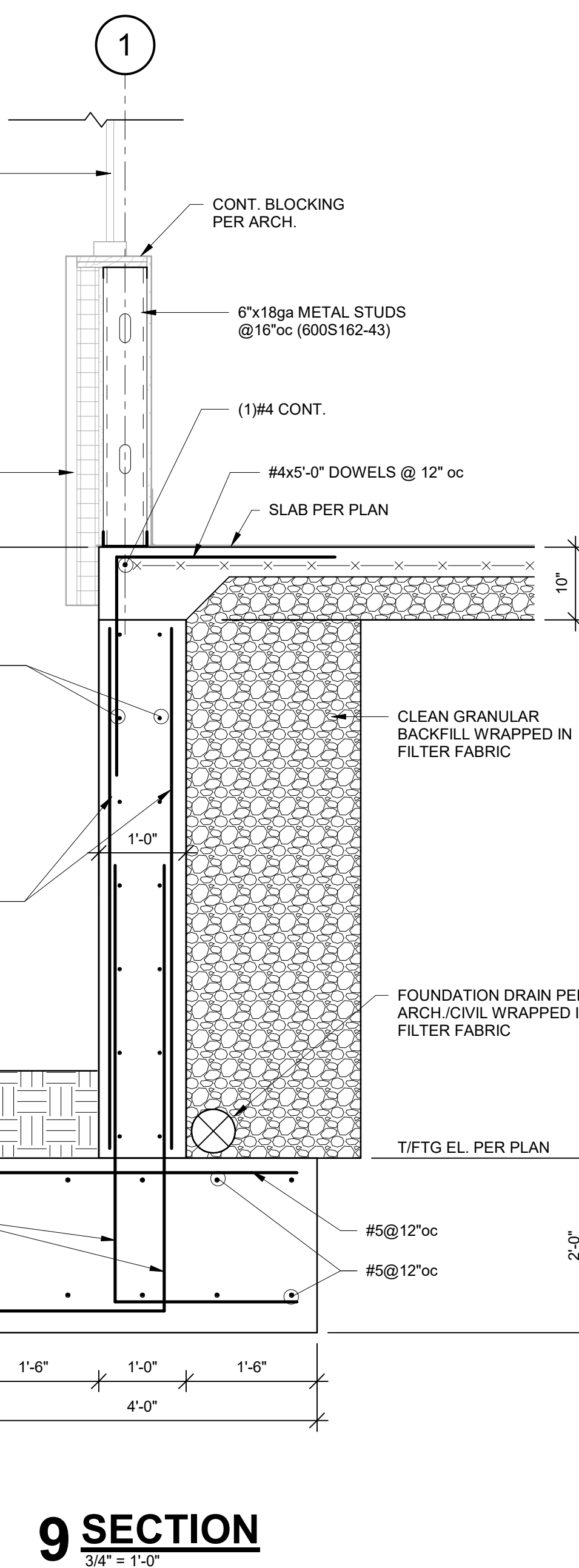
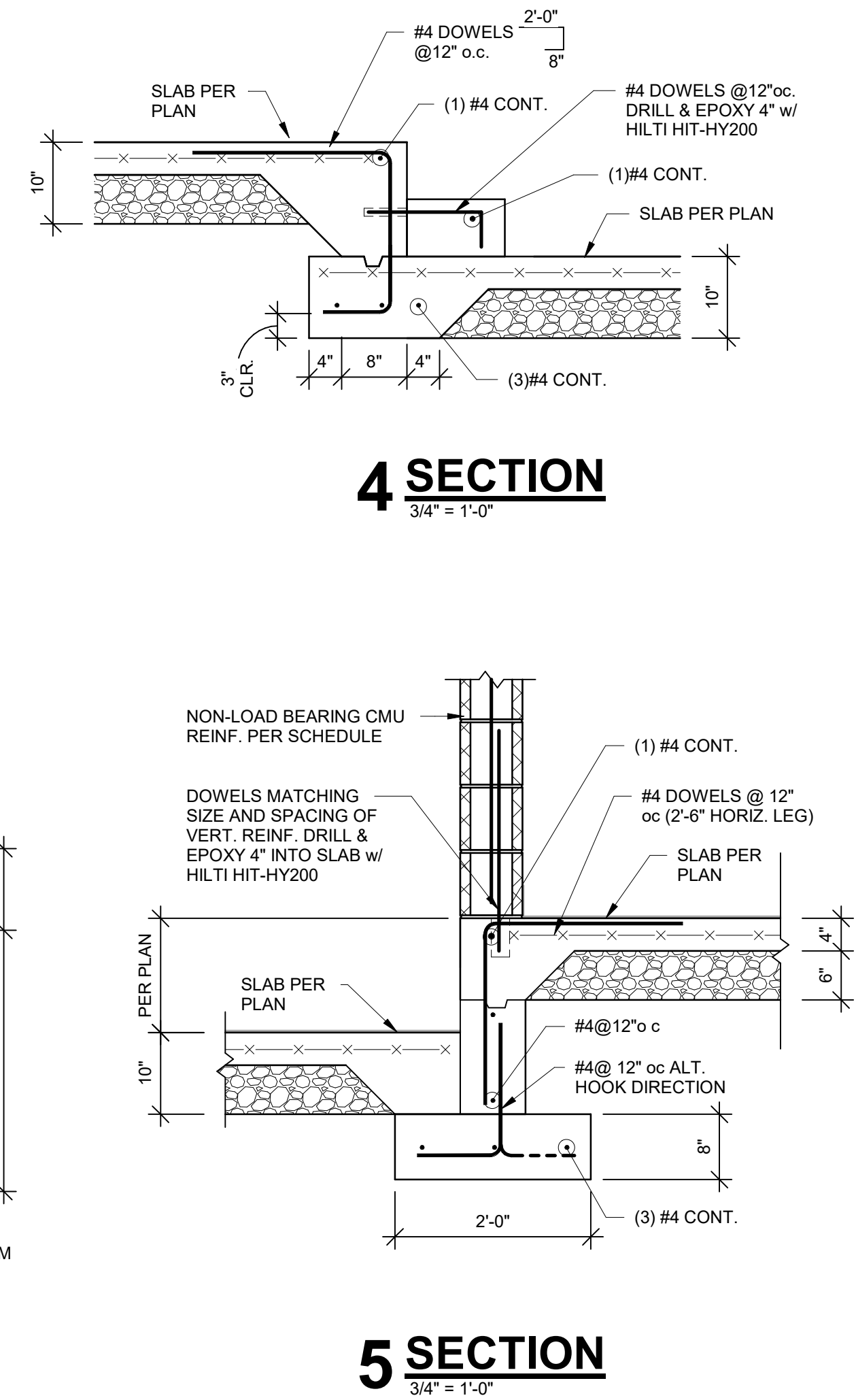
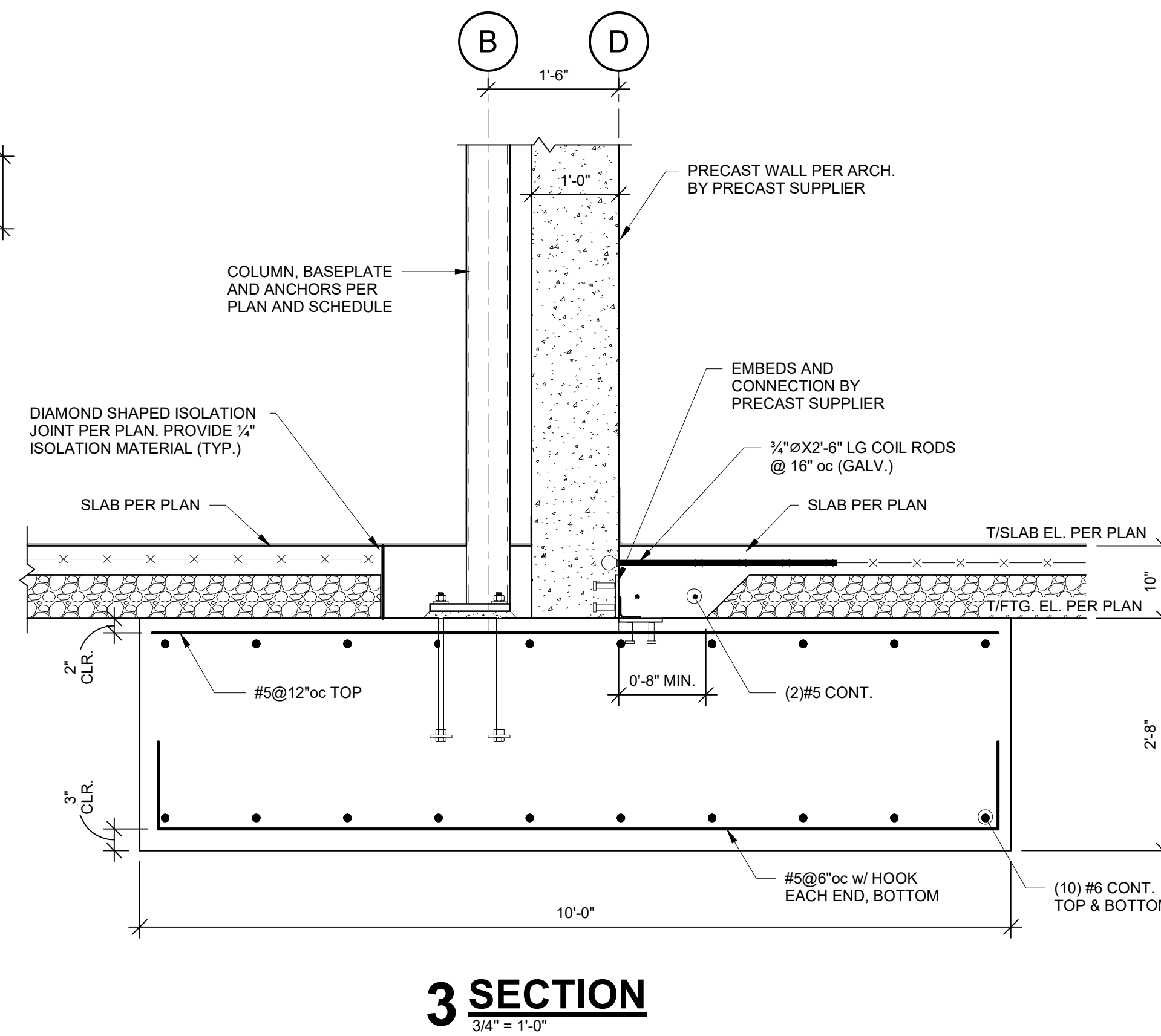
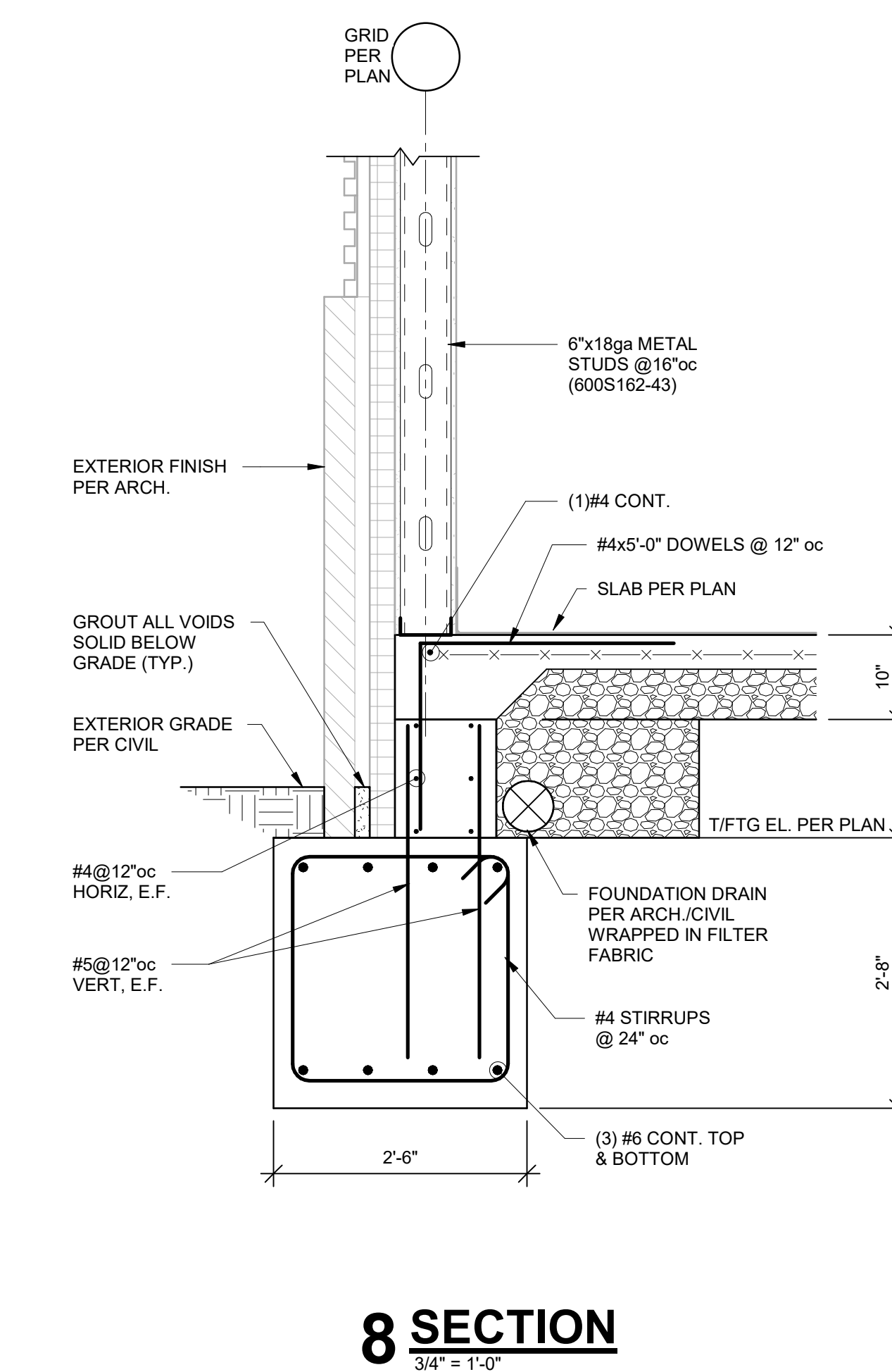
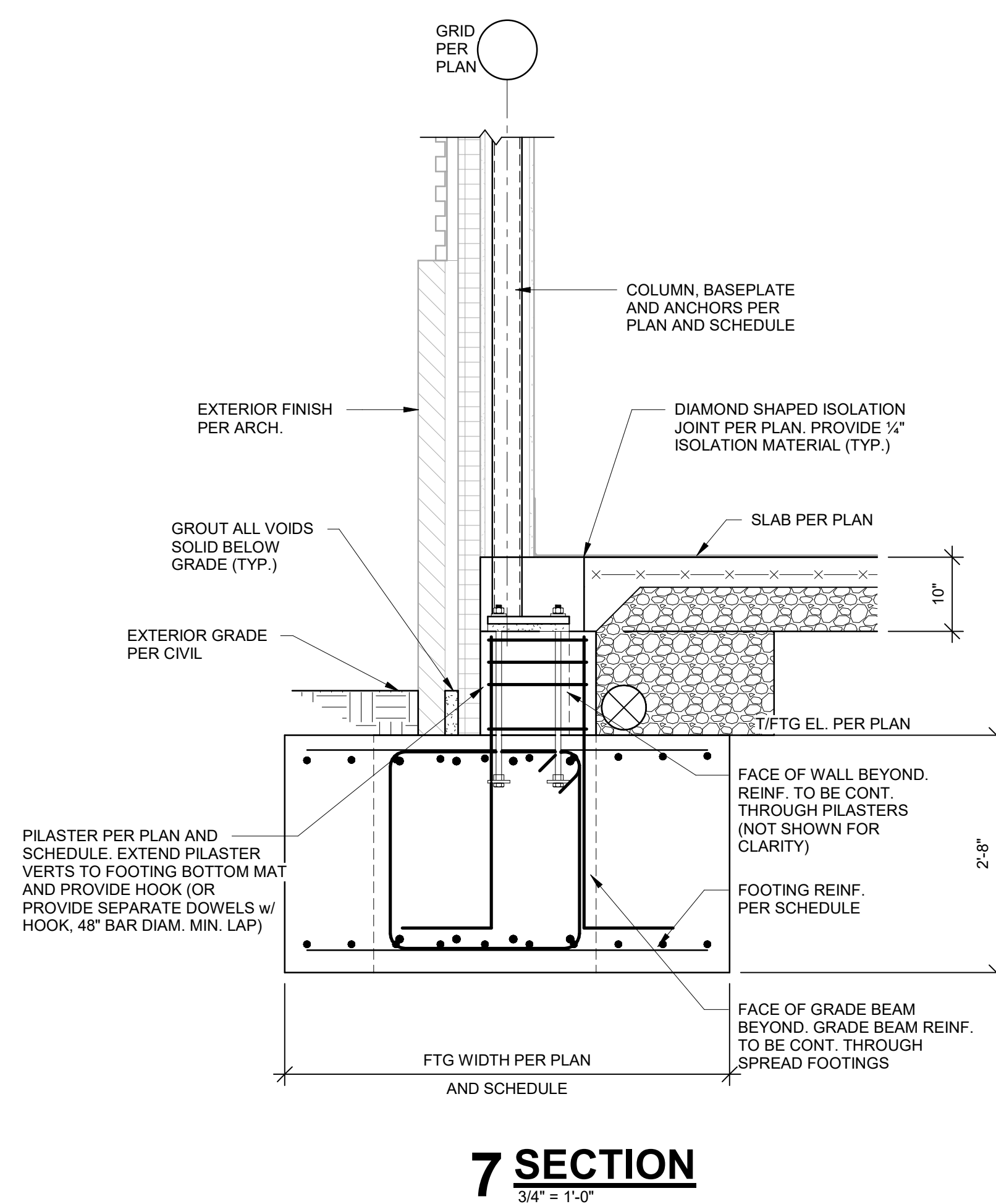
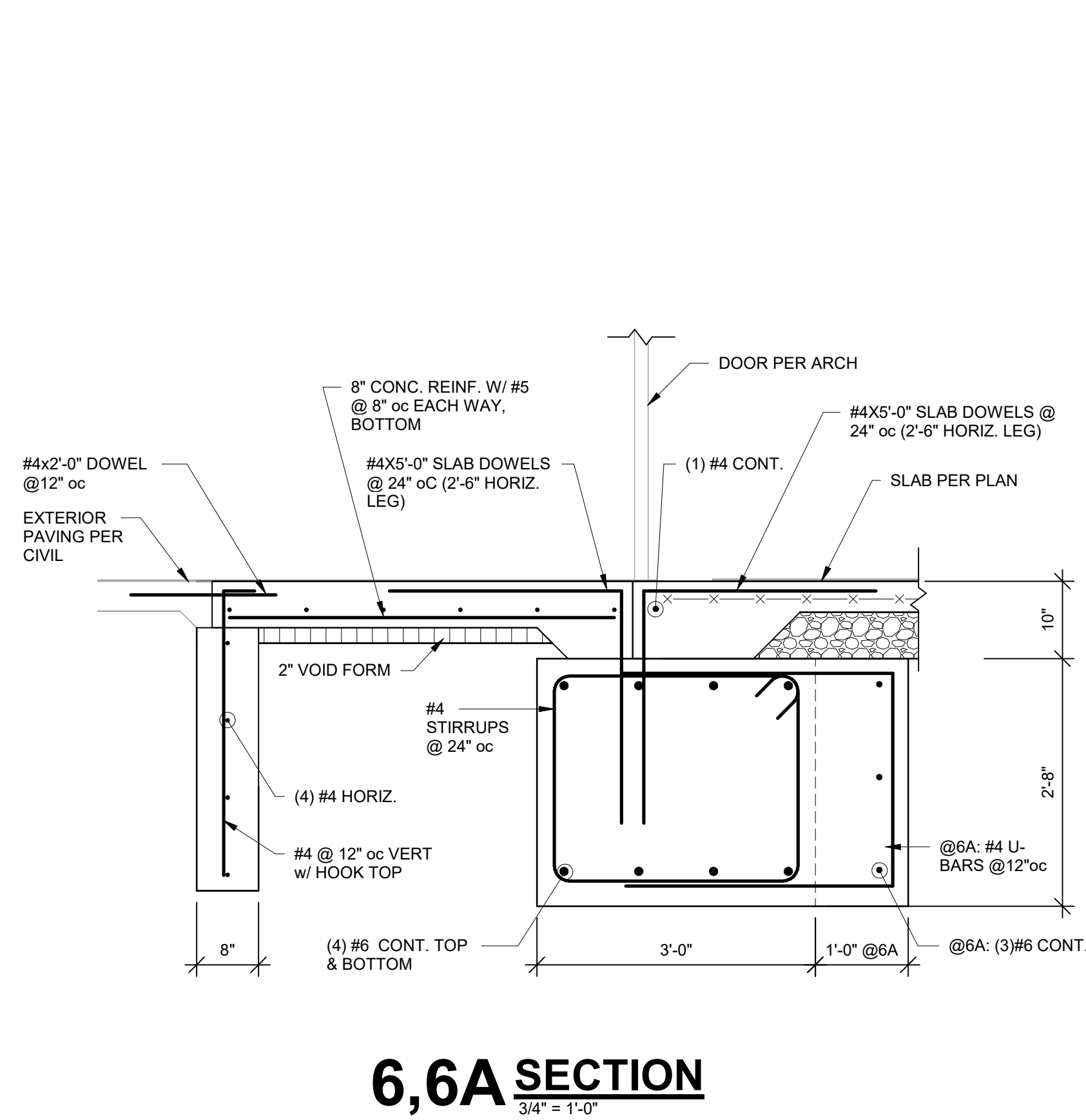
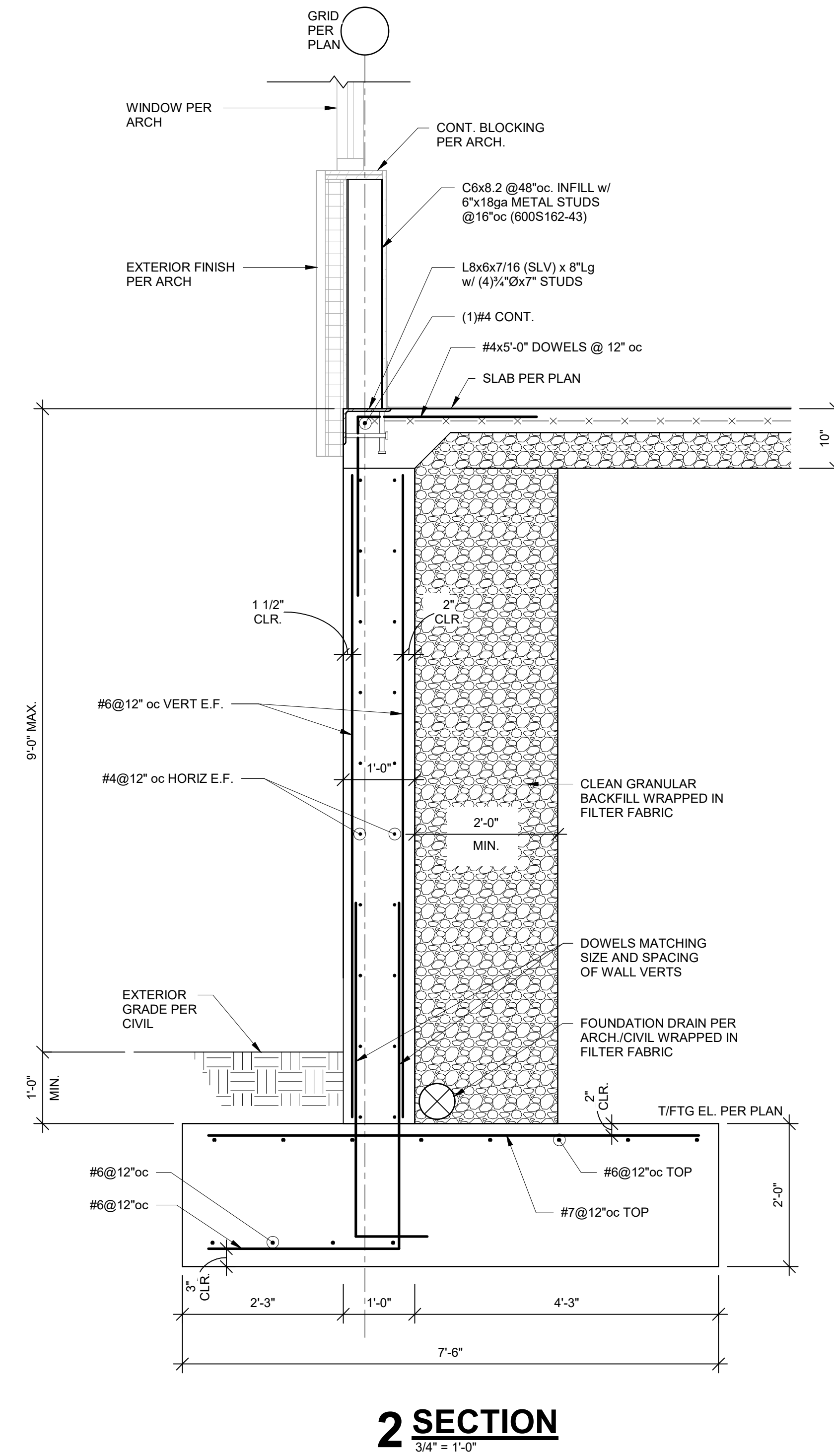
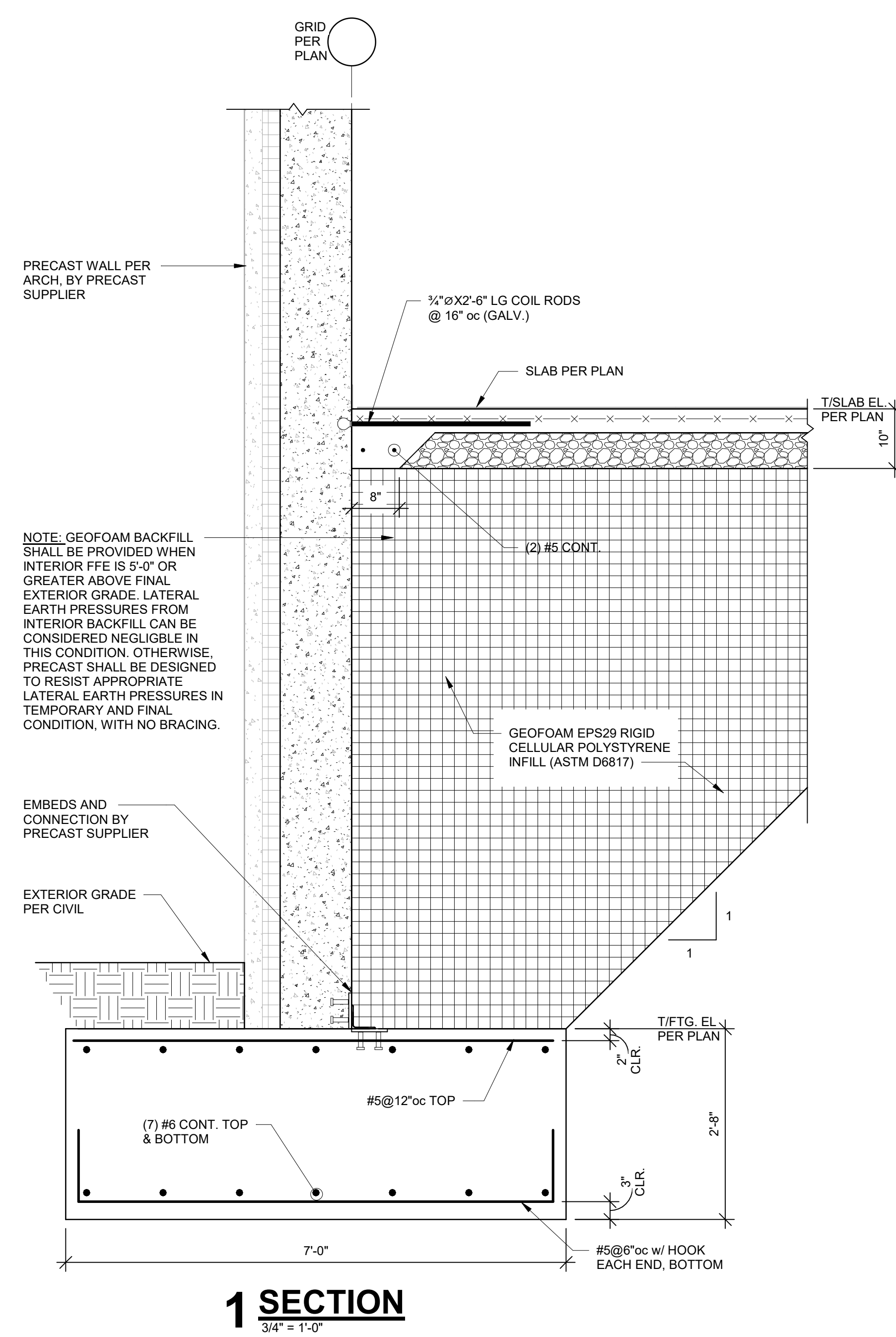
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#	Description	Date
1	Added new data	06/20/2023



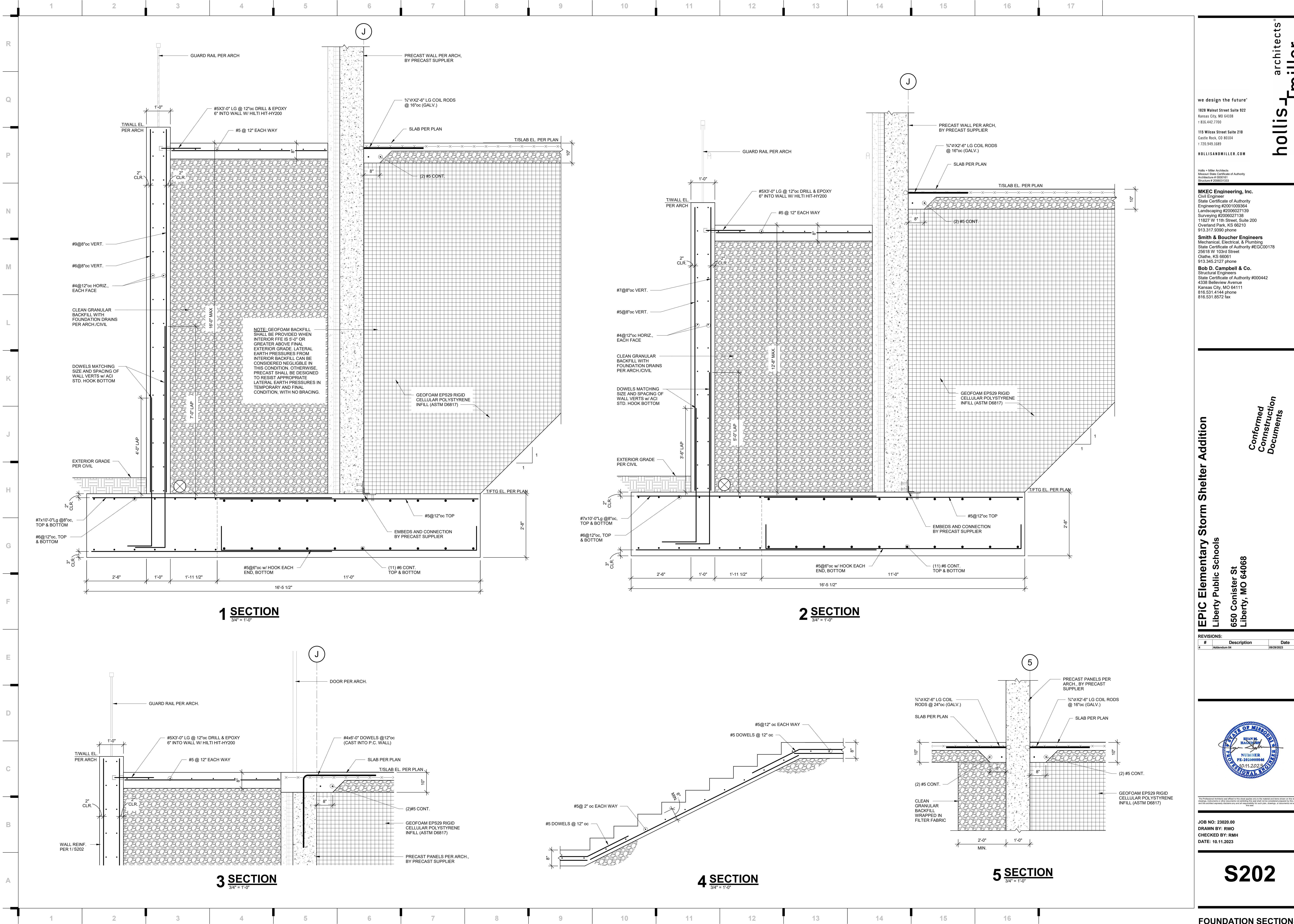
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## FOUNDATION SECTIONS

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REVISIONS:

#	Description	Date
1	As Shown	09/29/2023

4

Addendum 04

09/29/2023

09/29/2023

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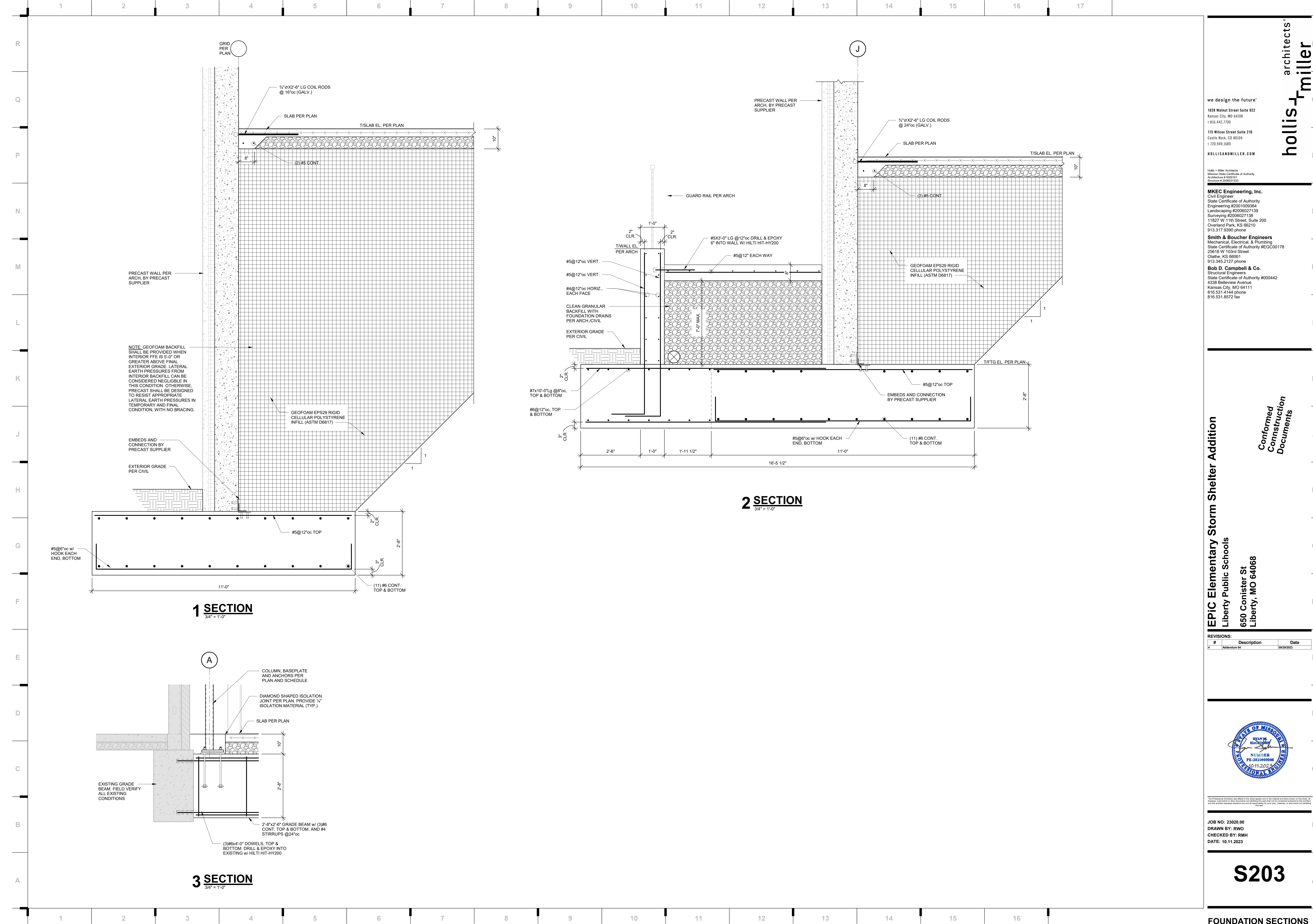
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#	Description	Date
1	Addendum 01	09/29/2023

**STATE OF MISSOURI**

**Professional Engineer**

**JOHN M. HANCOCK**

**NUMBER**

**10.11.2023**

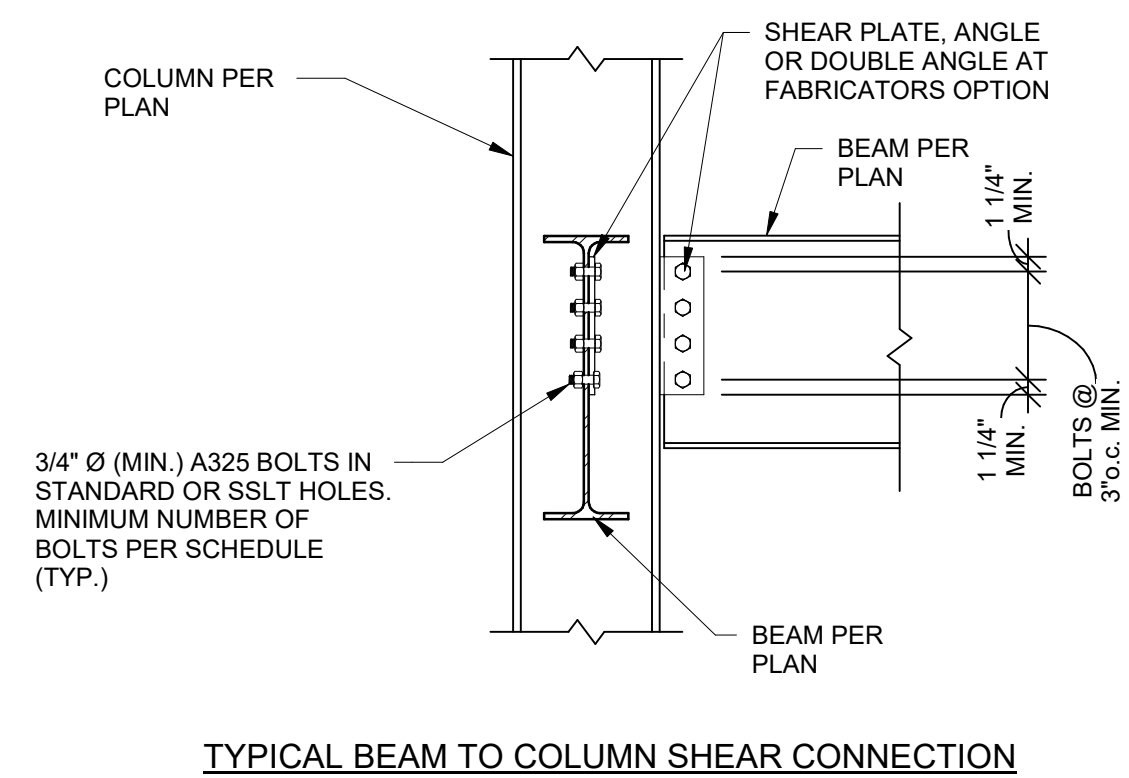
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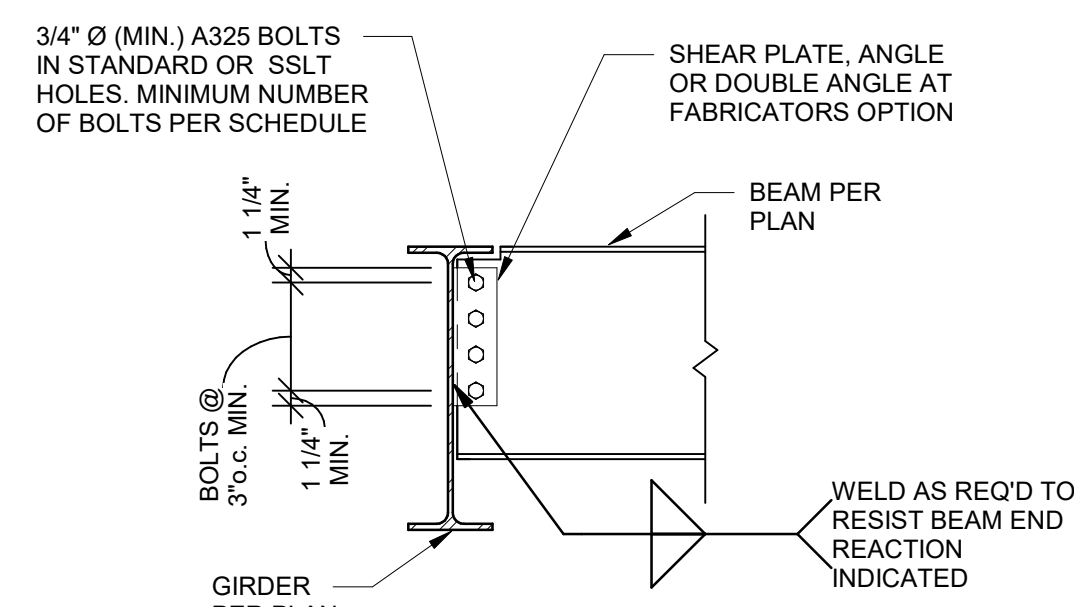
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**FOUNDATION SECTIONS**

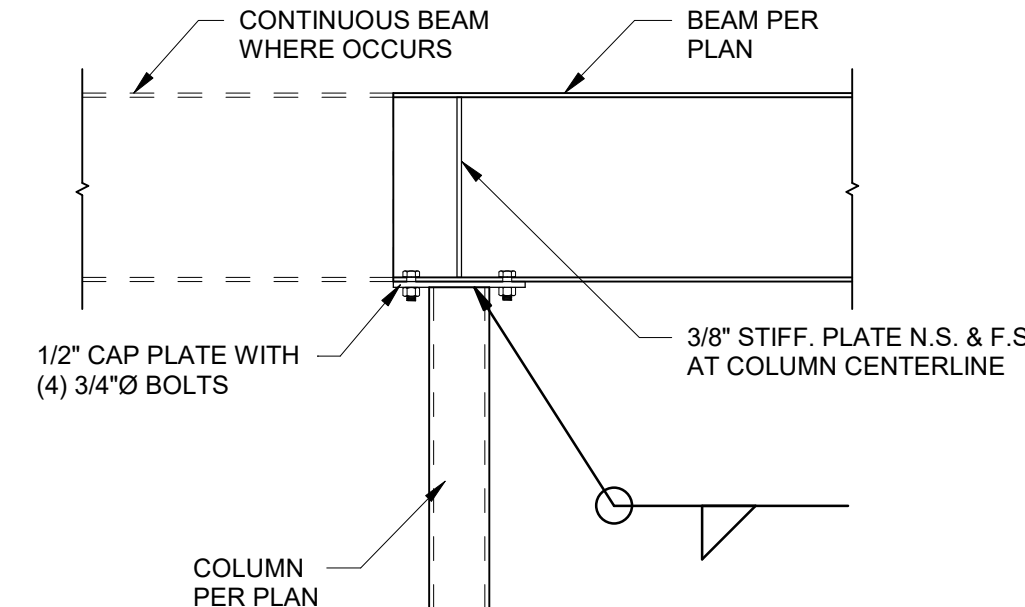




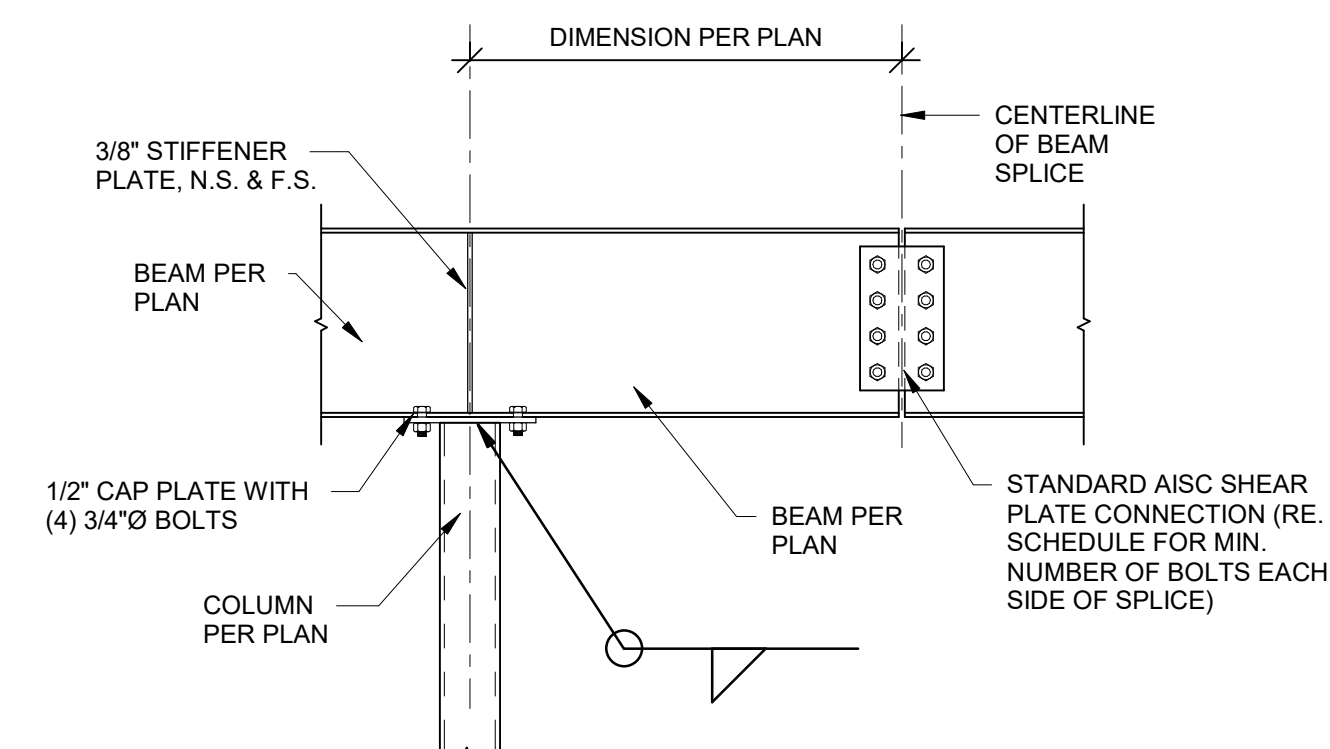
# 1 DETAIL



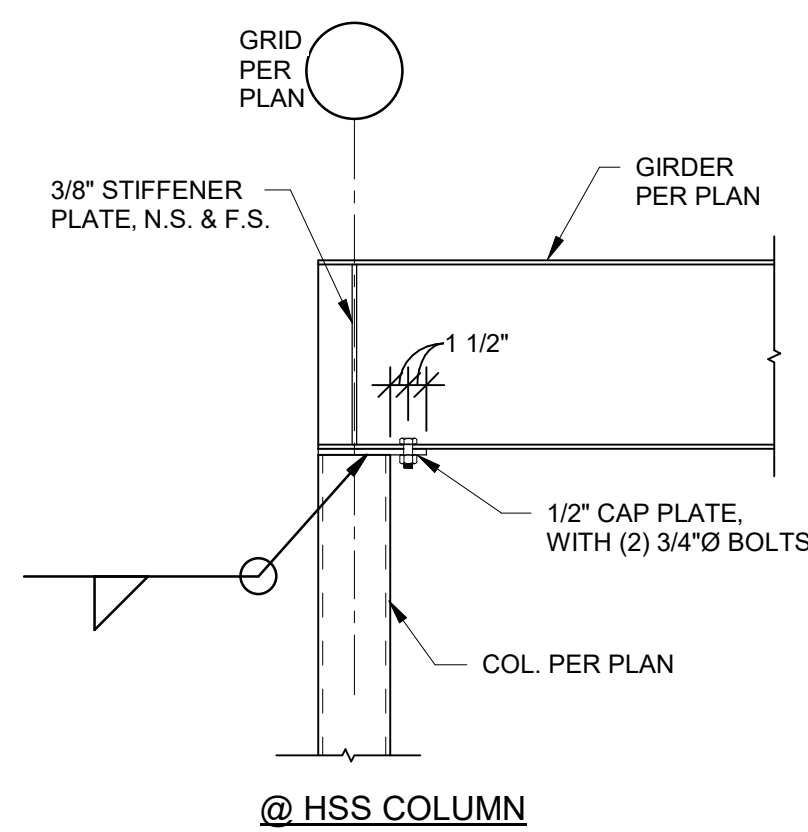
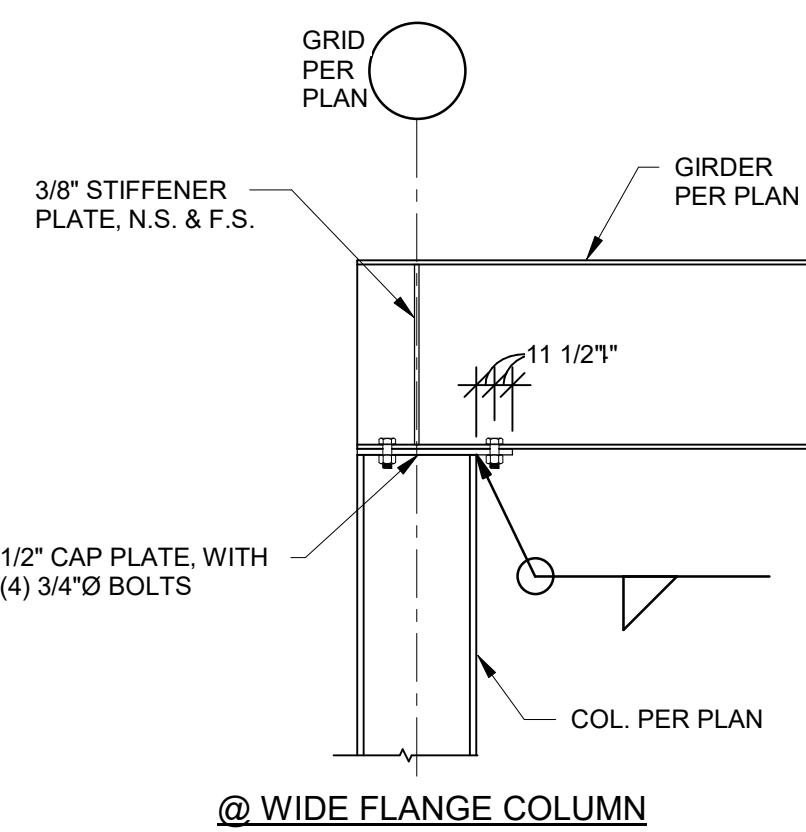
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### 3 DETAIL

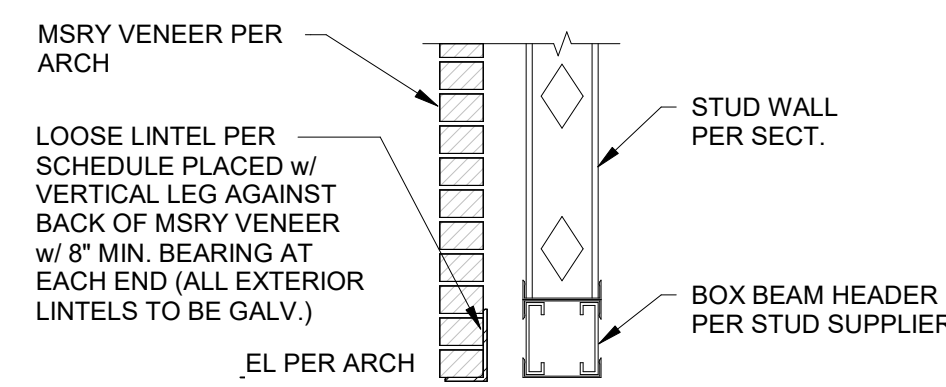


**4** DETAIL  
3/4" = 1'-0"



TYPICAL ROOF BEAM TO COLUMN CONNECTION AT EXTERIOR WALL

## 5 SECTION

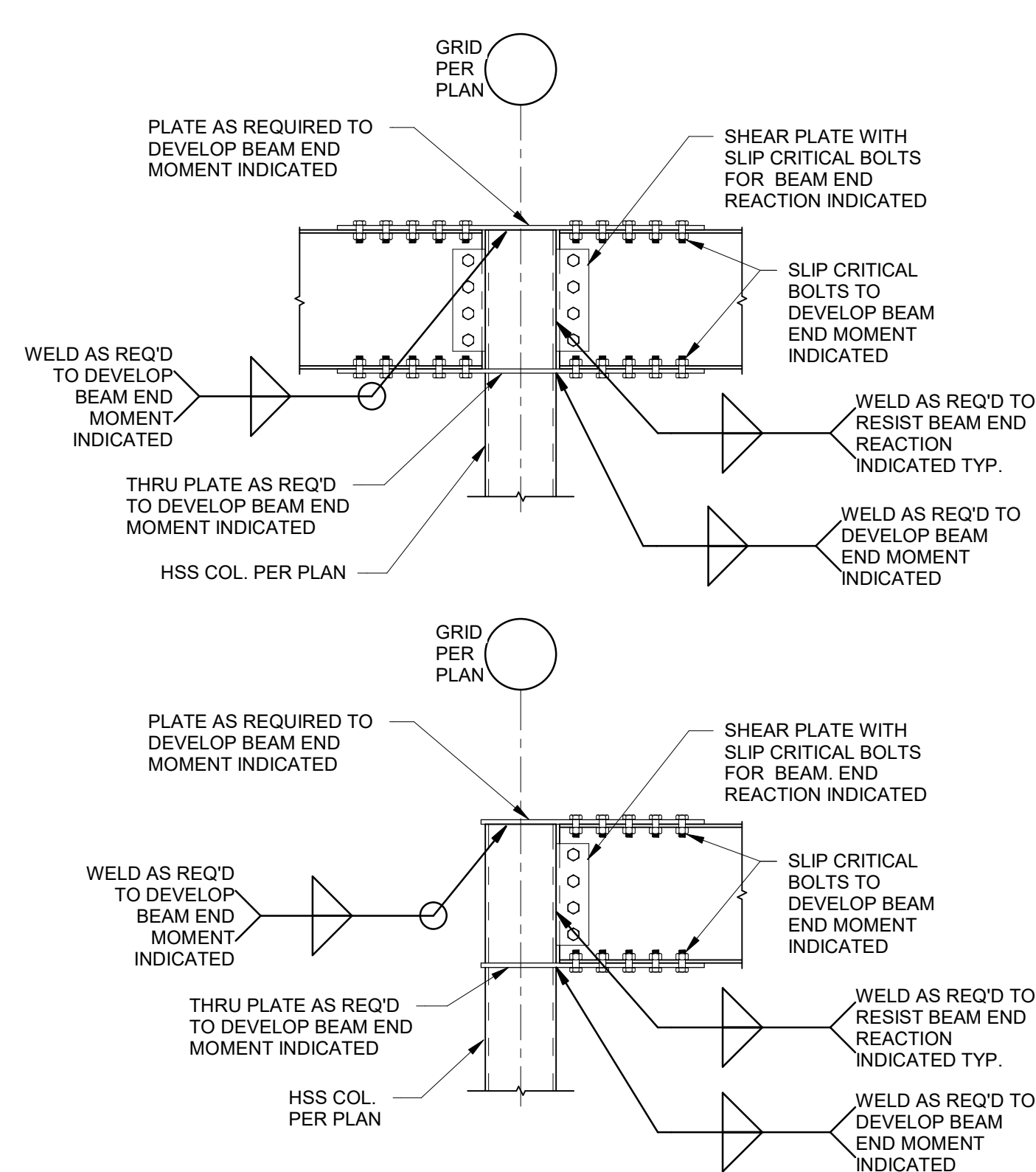


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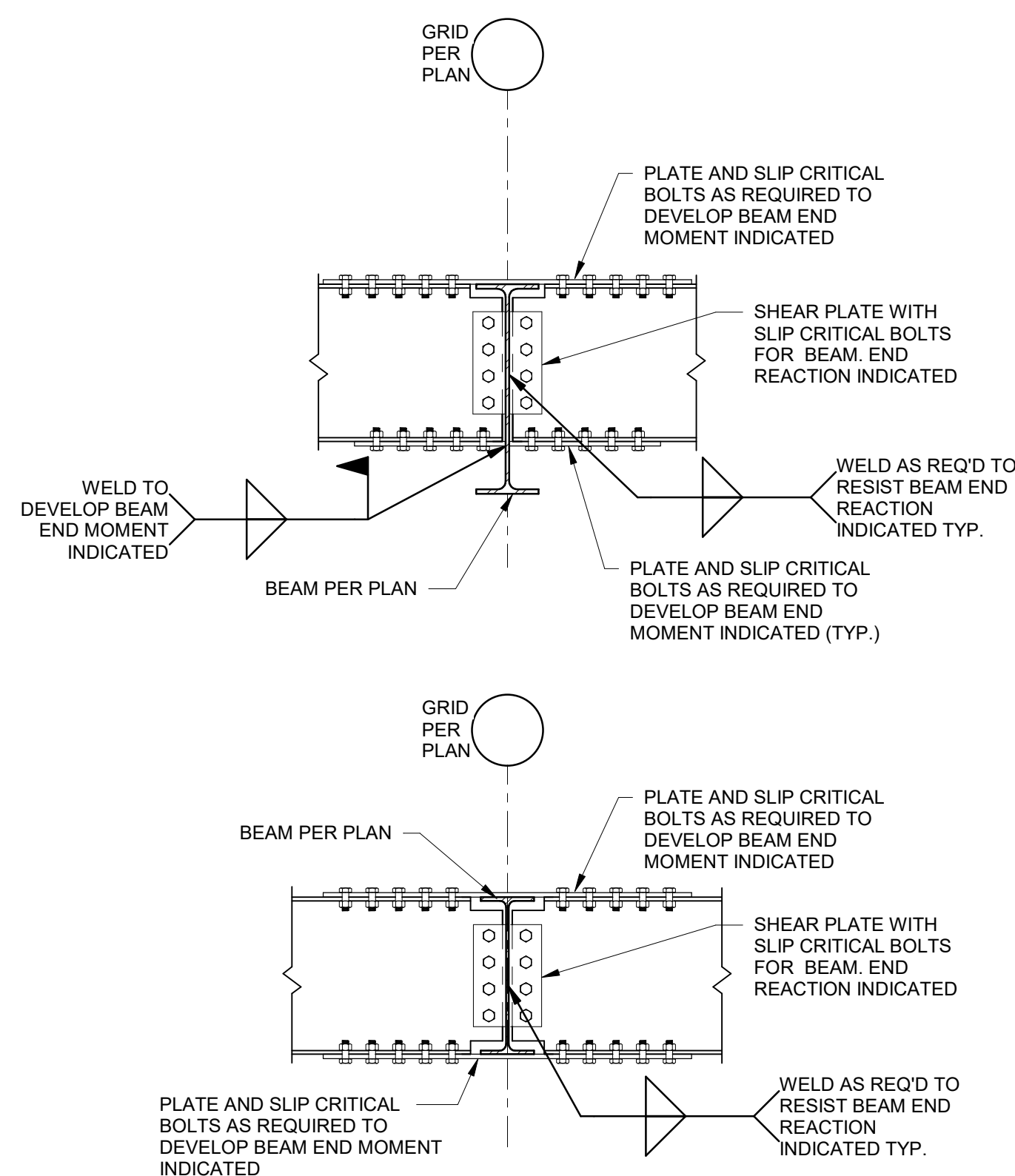
LOOSE LINTEL SCHEDULE	
FOR OPENINGS:	GALV. ANGLE
LESS THAN 6'-0"	5"x3 1/2"x5/16" (LLV)
6'-0" < OPENING < 9'-0"	6"x3 1/2"x5/16" (LLV)

BEAM SHEAR CONNECTION SCHEDULE		
BEAM SIZE	MINIMUM ROWS OF BOLTS	END REACTION (kips)(U.N.O.)
W8.C8	2	16
W10.C10	2	16
W12.C12	2	16
W14	3	24
W16. C15	3	32
W18	4	60
W21	5	65
W24	6	70
W27	7	80
W30	8	95
W33	9	115
W36	9	125
W40	10	130

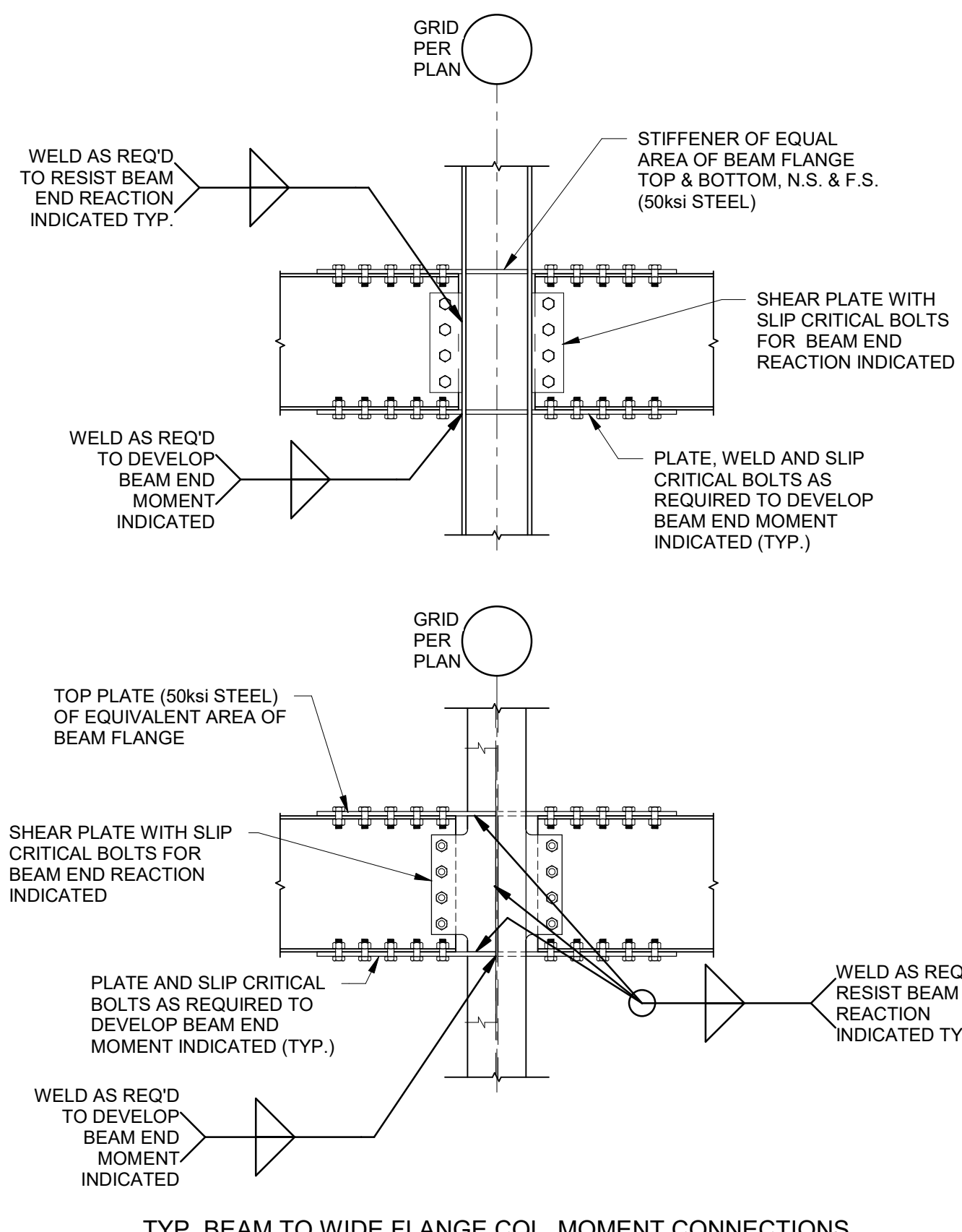
- ## STEEL CONNECTION NOTES:
1. REFER TO GENERAL NOTES ON SHEET 3001.
  2. CONNECTIONS SHOWN IN THESE DETAILS ARE MINIMUM REQUIREMENTS.
  3. FABRICATOR SHALL BE RESPONSIBLE FOR THE ENGINEERING, DESIGNING, AND DETAILING OF EACH CONNECTION FOR LOADS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND THE STRUCTURAL GENERAL NOTES.
  4. SUGGESTED CONNECTIONS TO BE USED TO MEET THE STANDARD CONNECTION CONFIGURATION AND DESIGN SHALL BE COMPLETED BY THE CONNECTION ENGINEER. CONNECTION DESIGN SHALL BE FOR MINIMUM OR EXCEED MINIMUM WELD PLATE, WEB STIFFENERS, AND/OR DOUBLER PLATES AS REQUIRED FOR THE FORCES INDICATED.
  5. FABRICATOR MAY CHOOSE TO USE OTHER AISI APPROVED CONNECTIONS IN LIEU OF THOSE SHOWN HEREIN TO MEET END REACTION REQUIREMENTS (I.e. DOUBLE ANGLE CONNECTION).
  6. THE FOLLOWING DETAILING INSTRUCTIONS TO MEET THE STANDARD DETAILS SHOWN IN THE LATEST EDITION OF THE AISI MANUAL OF STEEL CONSTRUCTION.
  7. BOLTS SHALL BE ASTM A325 3/4" MINIMUM.
  8. ALL BOLTS SHALL BE SPACED AT 3x23" MINIMUM.
  9. ALL BOLTS SHALL HAVE HEAVY HEX NUTS.
  10. ALL BOLTS SHALL BE PRELUBRICATED.
  11. BOLT SPACING AND EDGE DISTANCES SHALL BE ADJUSTED PER AISI MANUAL FOR BOLTS LARGER THAN 3/4" DIAMETER.
  12. END DISTANCES MAY BE ADJUSTED TO MEET THE AISI MANUAL PER AISI.
  13. FOR BEAMS WITH AXIAL LOADS PER DRAWINGS, BOLTS AND CONNECTIONS SHALL BE SLIP-CRITICAL PER AISI GUIDELINES.
  14. FOR BEAMS WITH SHEAR, BOLTS AND CONNECTIONS SHALL BE DESIGNED FOR SHEAR. EXTENDED SHEAR PLATE CONNECTION W/ AN ADDITIONAL COLUMN OF BOLTS TO ACCOMMODATE COMBINED FORCES.
  15. FOR BEAMS WITH AXIAL BOLTS IS REQUIRED TO MEET END REACTION LOAD REQUIREMENTS.
  16. REFER TO BRACING ELEVATIONS FOR BRACE FORCES. REFER TO BRACING ADDITIONAL NOTES FOR BRACE FORCES, BRACE AND BRACE FORCES INDICATED ARE UNFACTORED (AS) LOADS AND SHALL BE CONSIDERED CONCURRENT W/ BEAM SHEAR DESIGN FORCES.
  17. BRACE BEAM SHEAR DESIGN FORCES SHALL BE CONSIDERED CONCURRENT BRACE FRAME CONNECTION W/ ARCHITECTURAL WALLS AS REQUIRED TO AVOID CONFLICT OR EXPOSURE OUTSIDE OF THE FINISH.
  18. ALL END REACTIONS INDICATED ARE UNFACTORED (AS) LOADS.



## 7 SECTION



## 8 SECTION

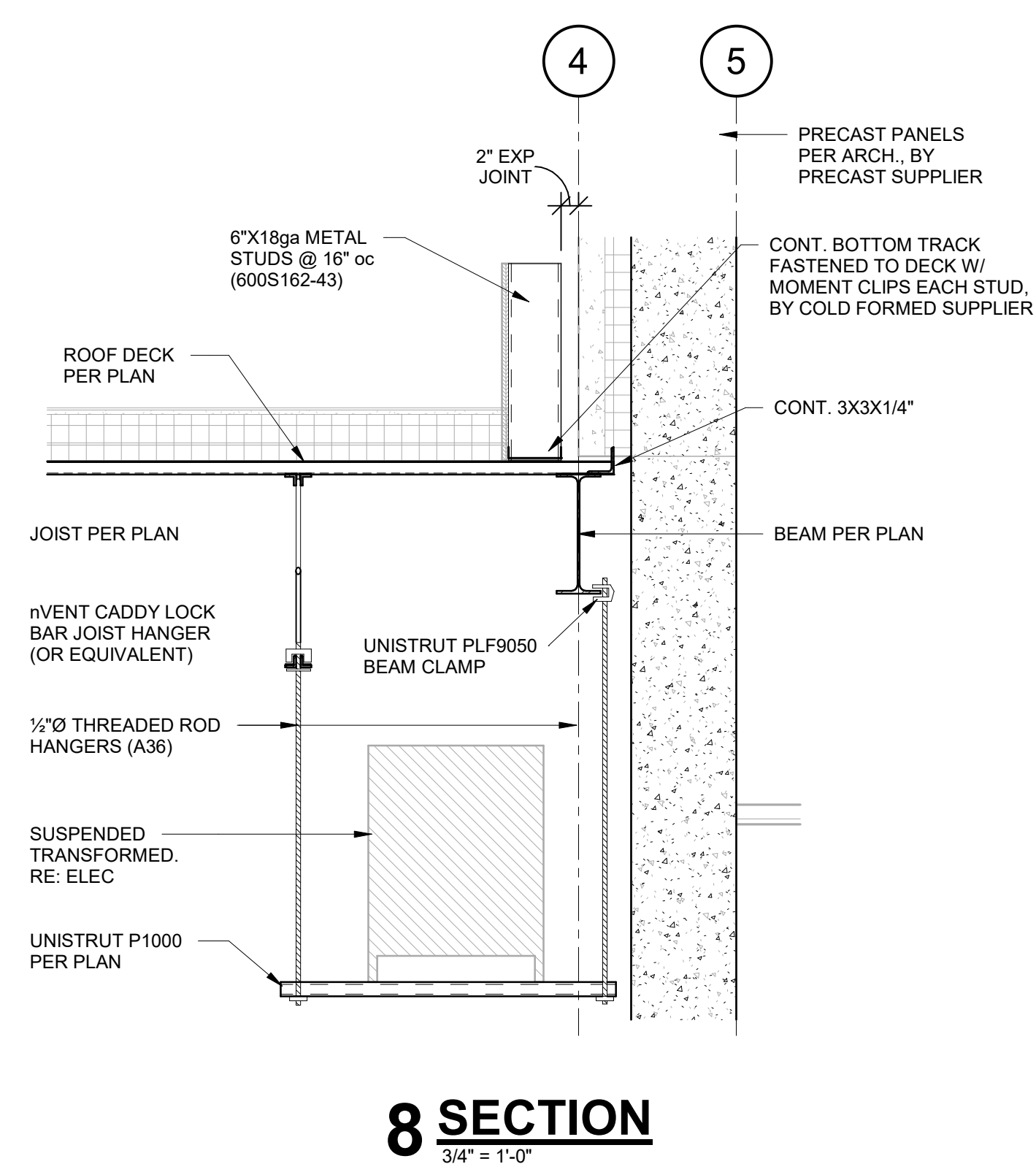
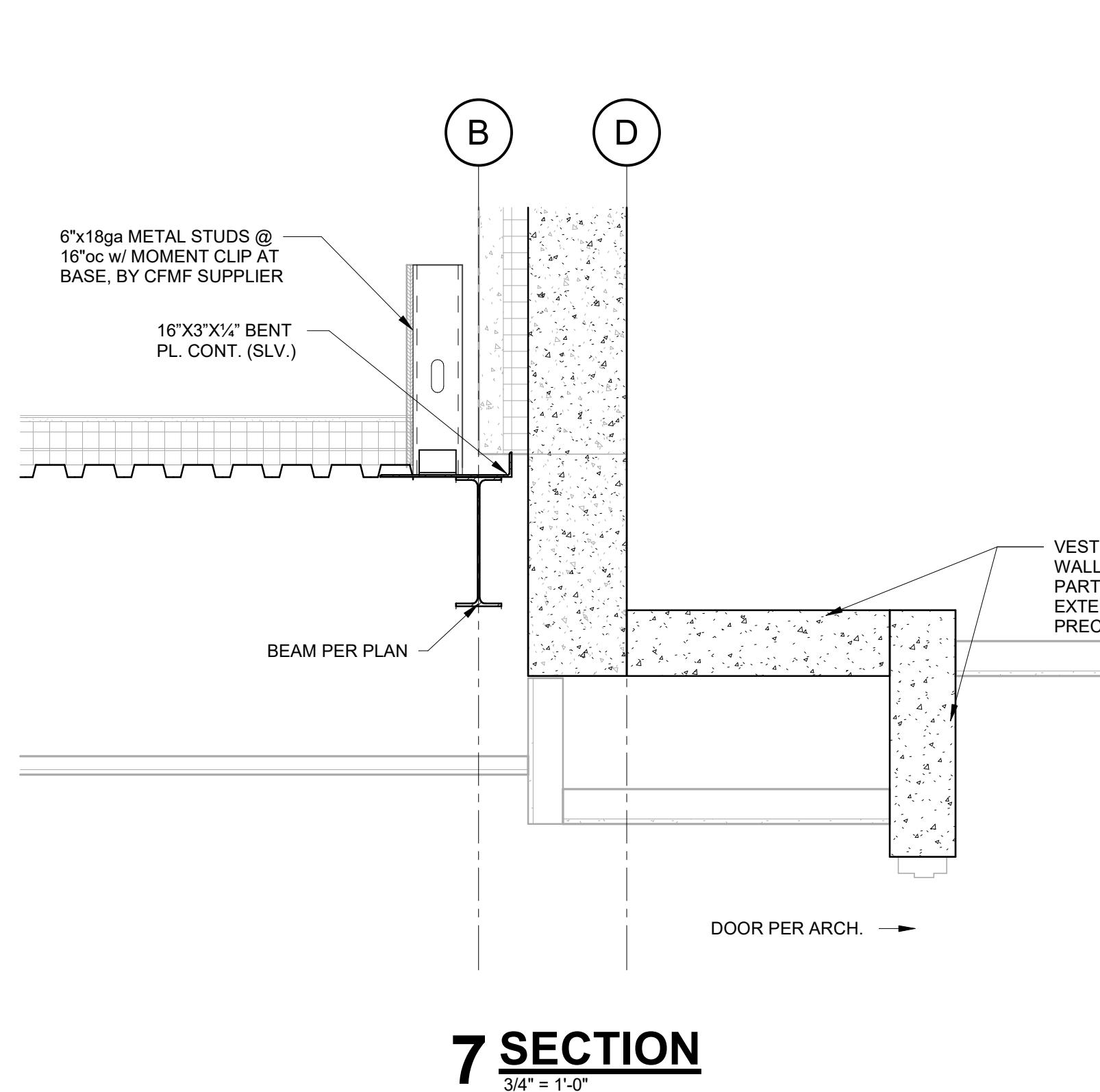
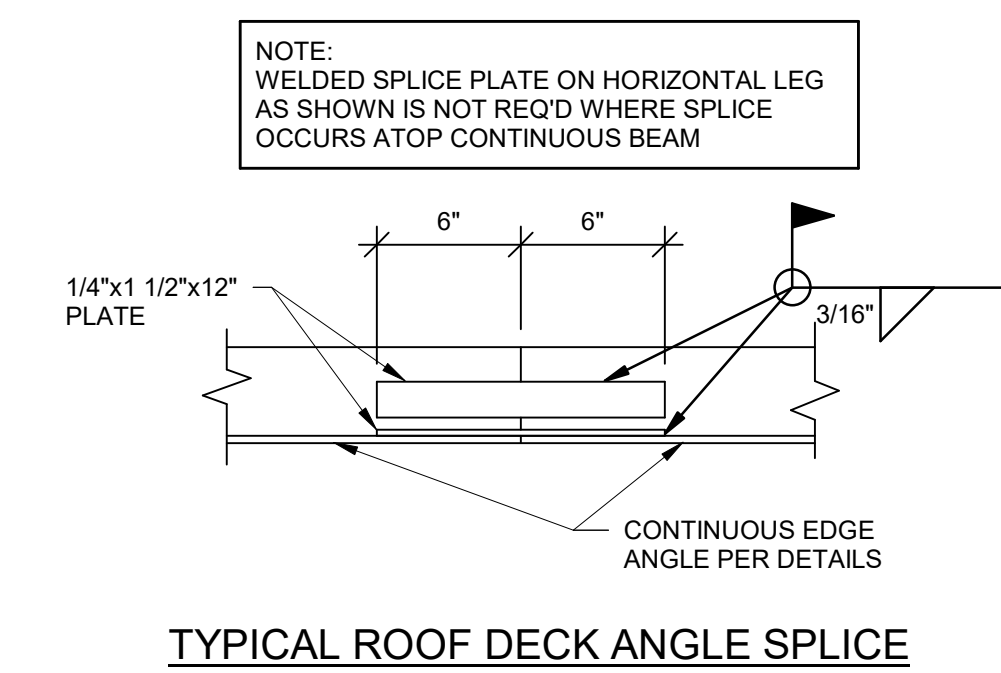
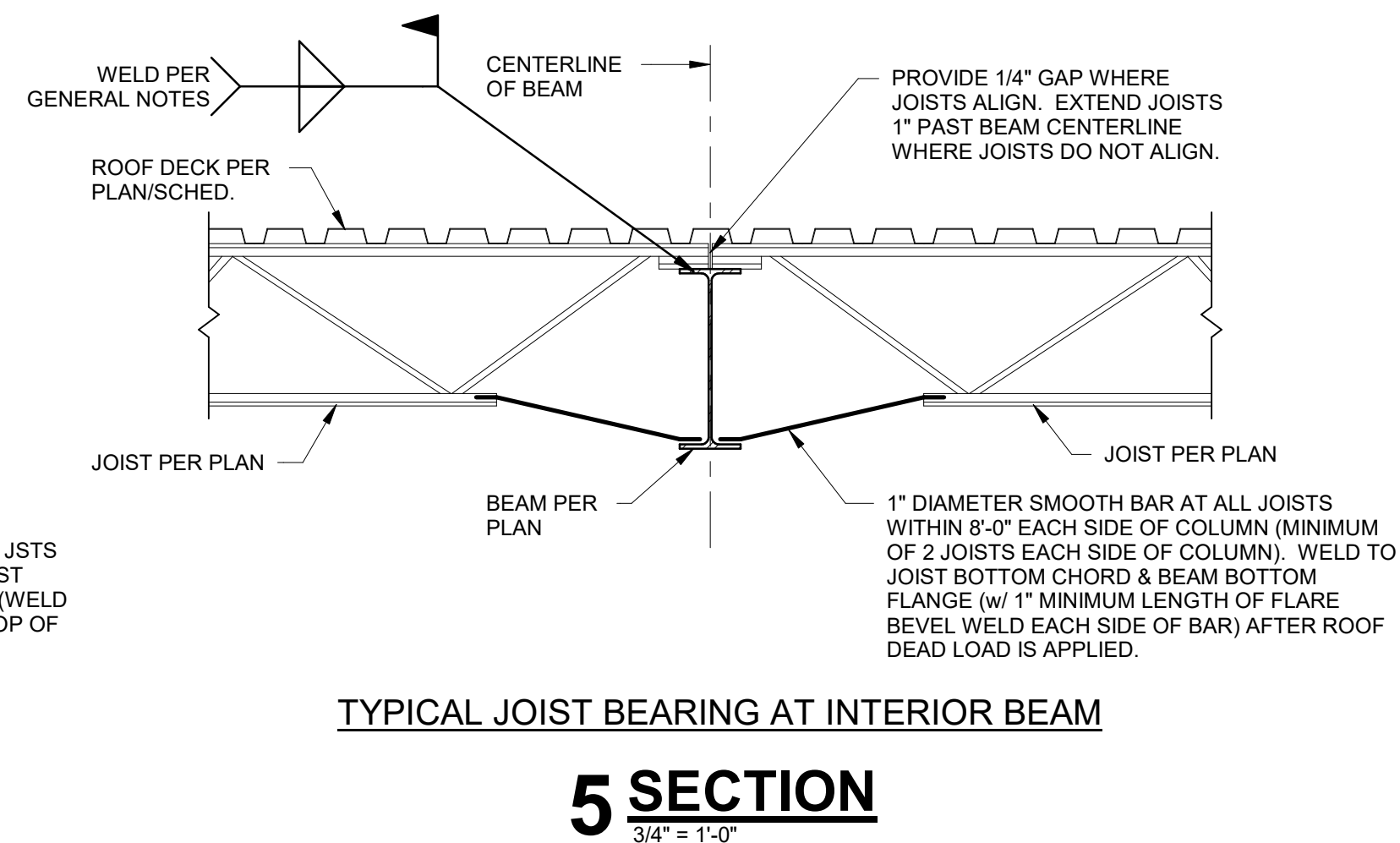
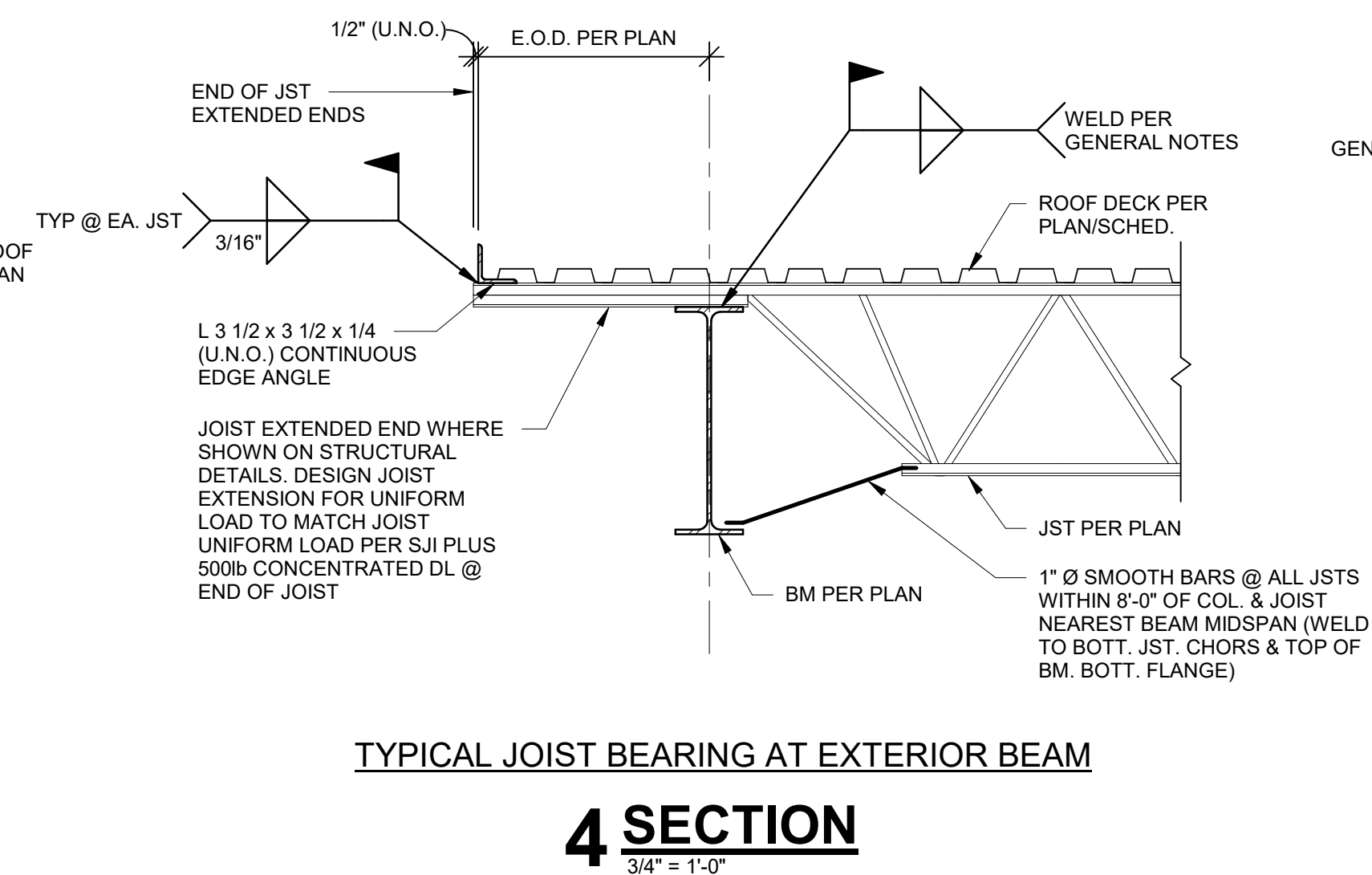
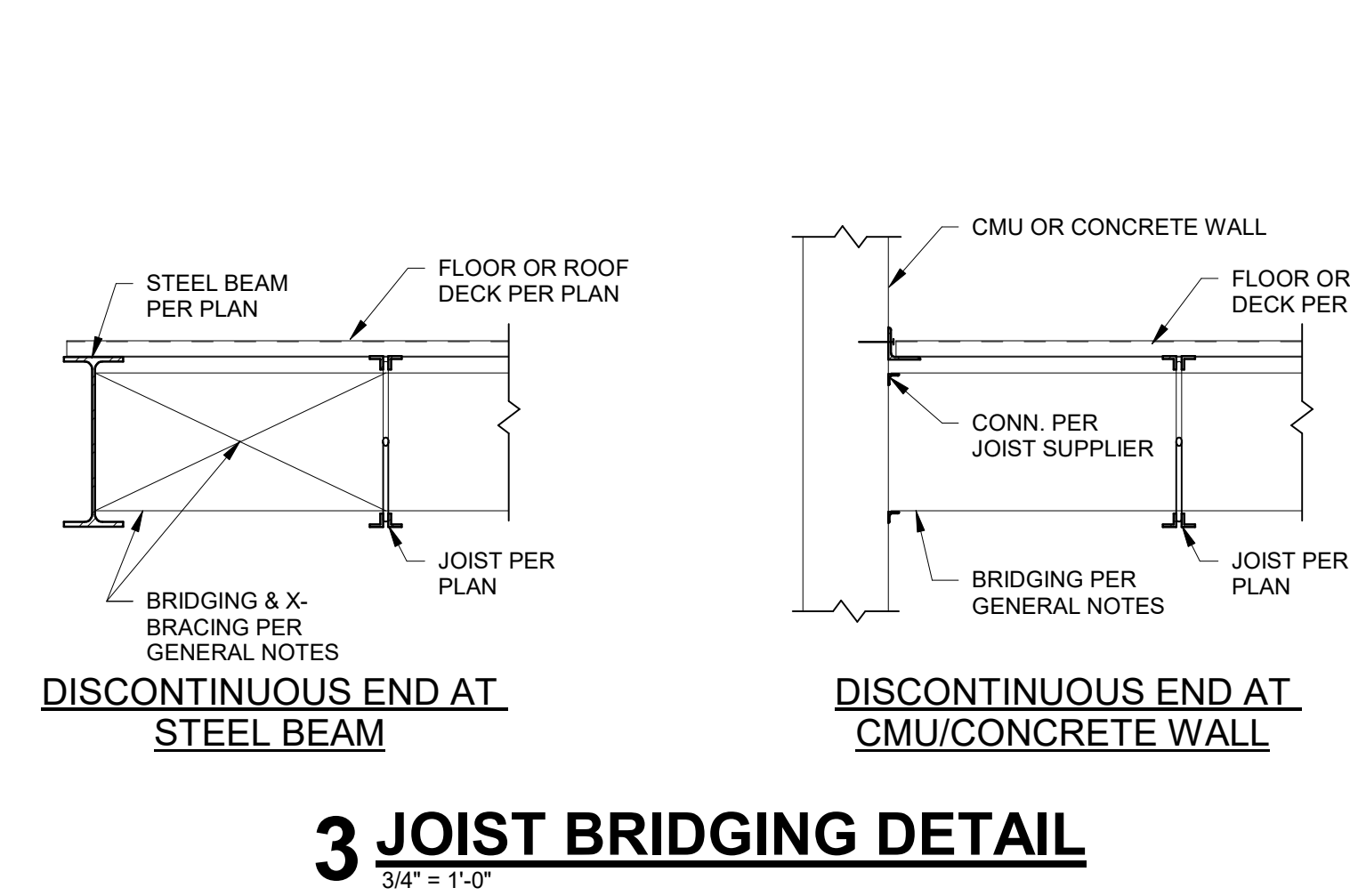
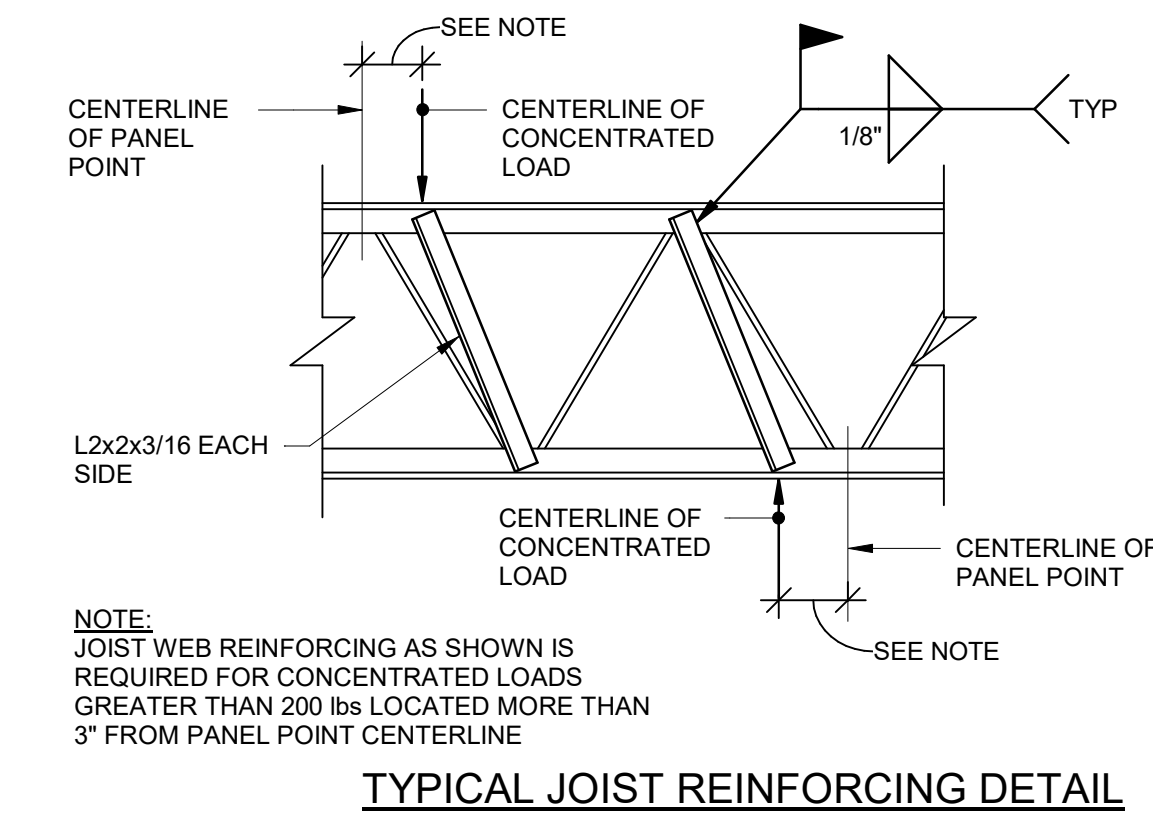
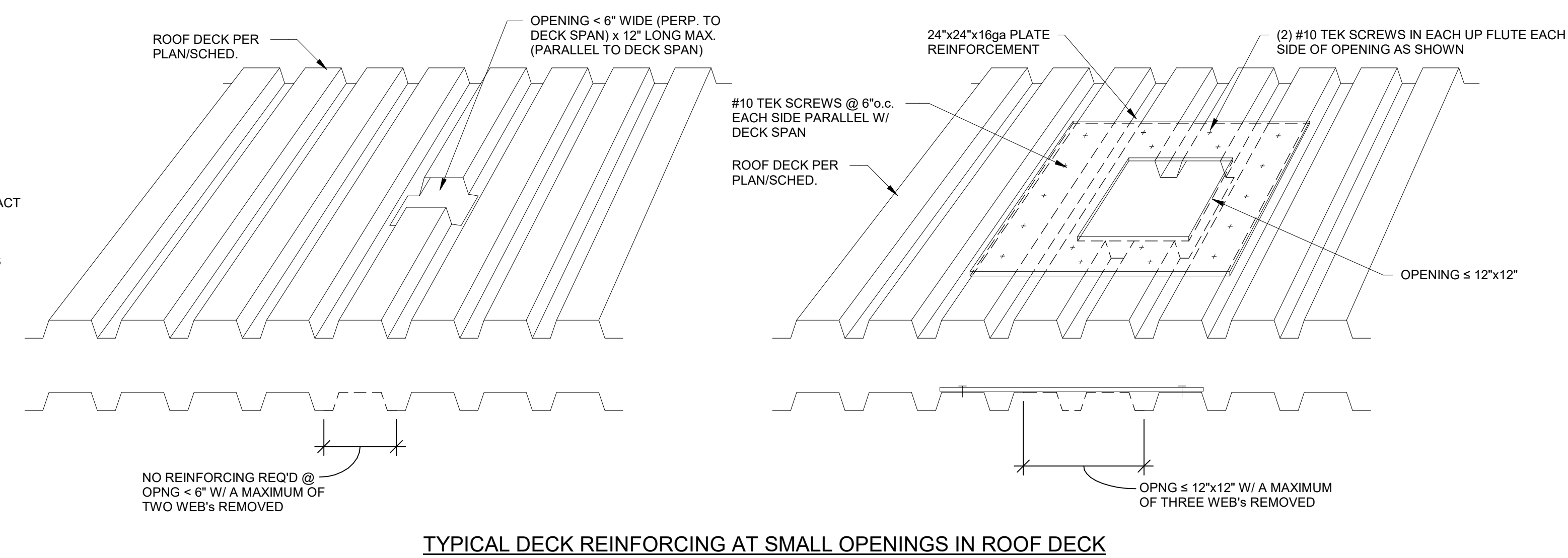
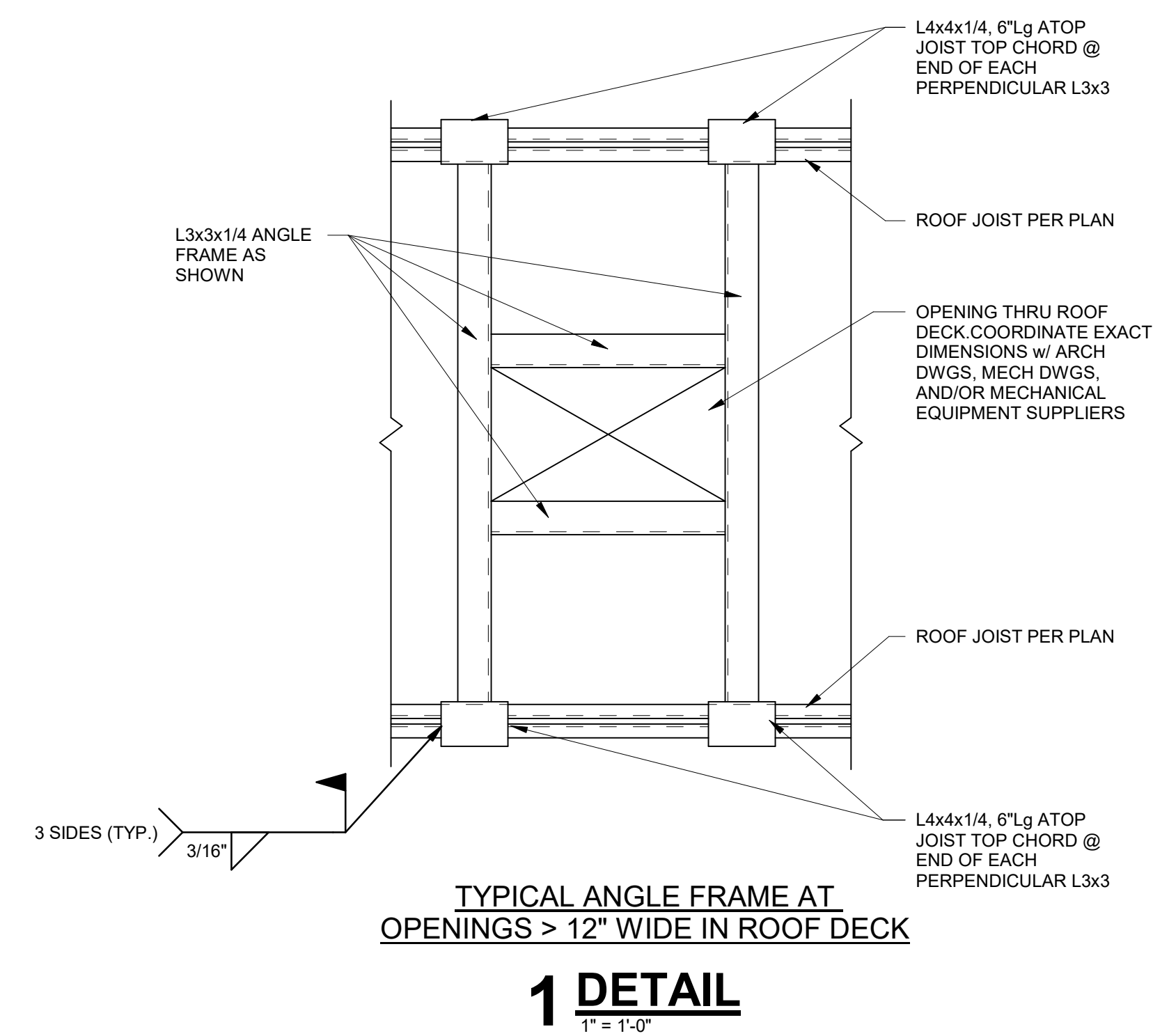


**TYP. BEAM TO WIDE FLANGE COL. MOMENT CONNECTIONS**

NOTE: FLANGE PLATES MAY BE FULL PENETRATION  
WELDED TO COLUMN AT CONTRACTORS OPTION

**9 SECTION**  
3/4" = 1'-0"





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**Liberty Public Schools**

Liberty Public Schools

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**Conformed  
Construction  
Documents**

REVISIONS:		
#	Description	Date



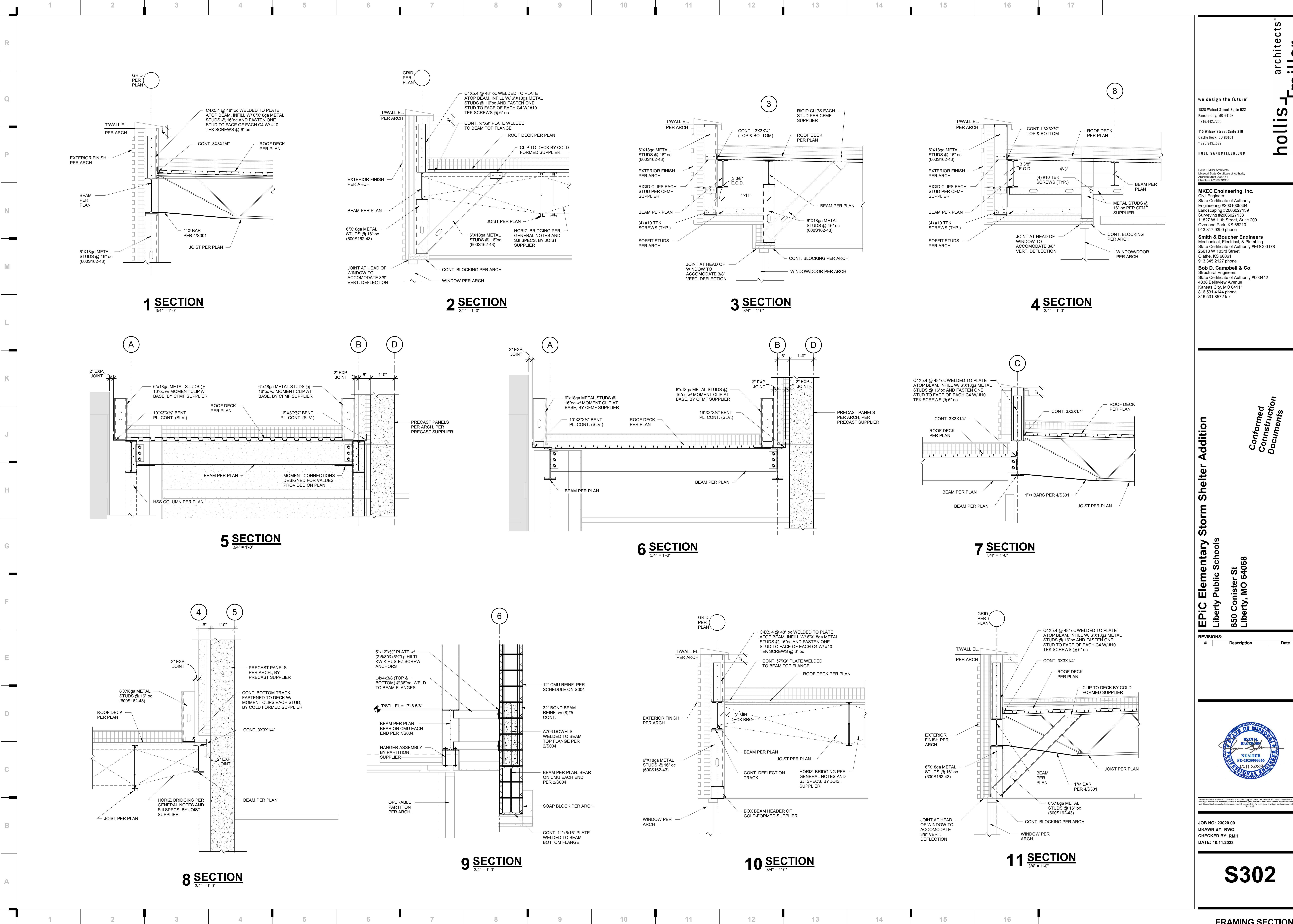
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## FRAMING SECTIONS





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EpIC Elementary Storm Shelter Addition  
Liberty Public Schools  
650 Conister St  
Liberty, MO 64068

REVISIONS:

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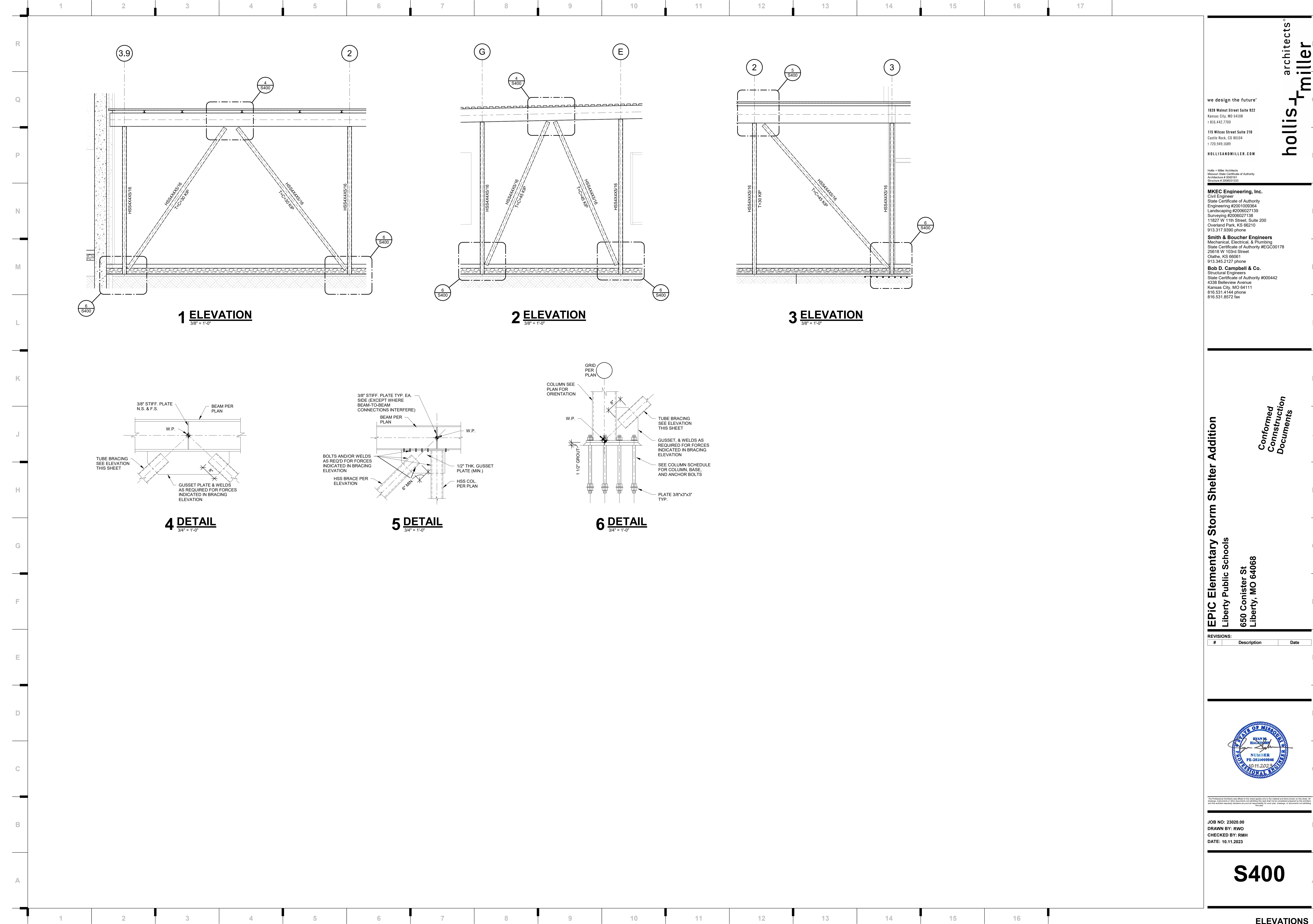
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**EPIC Elementary Storm Shelter Addition**  
Liberty Public Schools



**GENERAL NOTES:**

1. INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE STRUCTURE INSTALLATION SHALL BE COORDINATED WITH STRUCTURE AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
2. CAREFULLY COORDINATE ROUTING OF SERVICES WITH STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES.
3. COORDINATE INSTALLATION AND PENETRATIONS OF ALL NEW SERVICES WITH STRUCTURAL PRIOR TO CUTTING.
4. EXTEND ALL CONDENSATE DRAINS TO NEAREST ROOF DRAIN.
5. PAINT ALL PVC PIPING ON ROOF TO PROVIDE FOR UV PROTECTION. PAINT HORIZONTAL PIPING WHITE. PAINT VERTICAL PIPING COLOR AS DIRECTED BY ARCHITECT.
6. ALL SERVICES SHOWN HALF TONE ARE EXISTING.

**MECHANICAL PLAN NOTES:**

- 1 PROVIDE REFRIGERATION LINESETS THROUGH THE ROOF BETWEEN THE INDOOR UNIT AND OUTDOOR CONDENSING UNIT. REFER TO THE MANUFACTURER'S REQUIREMENTS FOR PIPE SIZES AND QUANTITY.
- 2 MAINTAIN 10'-0" SEPARATION FROM ALL OUTSIDE AIR INTAKES.
- 3 8"x8" OUTSIDE AIR DUCT THROUGH THE ROOF. TERMINATE VIA GOOSENECK WITH BIRD SCREEN OVER DUCT OPENING.
- 4 PROVIDE CURB-MOUNTED ROOFTOP UNIT SCREEN.
- 5 3/4" COLD WATER DOWN THROUGH ROOF.

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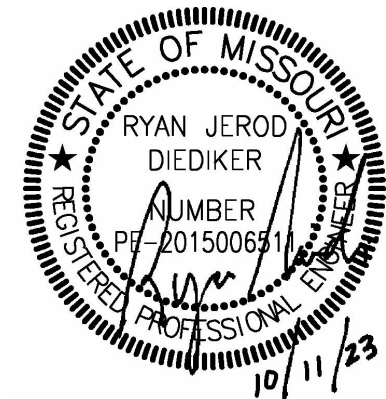
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PLOTTER BY: DATE: 10/11/23  
Bobbly, Charles

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PLOTTER BY: DATE: 10/11/23  
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AIR CONDITIONING UNIT SCHEDULE				
INDOOR UNIT				
DESIGNATION	AC-1	AC-2	AC-3	
UNIT DATA	MANUFACTURER	DAIKIN	DAIKIN	DAIKIN
	TYPE	DUCTED	CEILING	WALL
	MODEL	PEAD-A18AA7	PLA-A12EA7	PKA-A18LA
	CFM	600	490	455
	OSA CFM	80	15	-
	TOTAL COOLING CAP (MBH) @ 95 DEG	18	12	18
	SEER/VEER AT AHRI	19.9 / 10.8	27.0 / 16.4	19.8 / 10.7
ELEC DATA	TOTAL HEATING CAP (MBH) @ 47 DEG	19	12.0	-
	TOTAL HEATING CAP (MBH) @ 17 DEG	11	10.0	-
	HSPF AT AHRI	10.2	4.9	-
	MCA	NOTE 1	1	1
	VOLTAGE/PHASE	208/1	208/1	208/1
	PANEL AND CIRCUIT	NOTE 1	NOTE 1	NOTE 1
	WIRE AND CONDUIT	(2)#12,#12G, 1/2" C	(2)#12,#12G, 1/2" C	(2)#12,#12G, 1/2" C
ELECTRICAL CONTROL	OVERCURRENT DEVICE	NOTE 1	NOTE 1	NOTE 1
	DISCONNECT	20-2P MOTOR TOGGLE	20-2P MOTOR TOGGLE	20-2P MOTOR TOGGLE
	REFERENCE DRAWING/DETAIL	M101A	M101A	M101A
REMARKS				
OUTDOOR UNIT				
DESIGNATION	CU-1	CU-2	CU-3	
UNIT DATA	MANUFACTURER	DAIKIN	DAIKIN	DAIKIN
	MODEL NO.	PUZA-18NKA7	PUZA-12NKA7	PUY-A18NKA7
	AMBIENT AIR TEMP (DEG F.)	95	95	95
	MCA	11	11	11
	MOCP	28	28	28
	VOLTAGE/PHASE	208/1	208/1	208/1
	PANEL AND CIRCUIT	LP4-54,56	LP4-58,60	LP4-62,64
ELEC DATA	WIRE AND CONDUIT	(2)#12,#12G, 1/2" C	(2)#12,#12G, 1/2" C	(2)#12,#12G, 1/2" C
	OVERCURRENT DEVICE	20A-2P CB	20A-2P CB	20A-2P CB
	DISCONNECT	20-2P MOTOR TOGGLE	20-2P MOTOR TOGGLE	20-2P MOTOR TOGGLE
	REFERENCE DRAWING/DETAIL	ME231	ME231	ME231
REMARKS				
NOTES:				
1. INDOOR UNIT CIRCUITED THROUGH OUTDOOR UNIT.				
2. PROVIDE WIND BAFFLE FOR LOW AMBIENT OPERATION.				
3. PROVIDE PROGRAMMABLE, WALL-MOUNTED CONTROLLER.				
4. PROVIDE CONDENSATE PUMP.				
5. PROVIDE UNIT WITH INTEGRAL OUTSIDE AIR CONNECTION.				

FAN SCHEDULE			
DESIGNATION	EF-4	EF-5	
FAN TYPE	INLINE	ROOF DOWNBLAST	
SERVICE	STORM SHELTER	RESTROOMS	
MANUFACTURER	GREENHECK	GREENHECK	
MODEL	SQ-20-M2	G-090-VG	
UNIT DATA	CFM	5300	550
	STATIC PRESSURE	1.0	0.4
	FAN RPM	1160	1576
	BRAKE HORSEPOWER	1.53	0.07
	MOTOR HORSEPOWER	2	0.1
	VOLTAGE/PHASE	460/3	115/1
	DRIVE	DIRECT	DIRECT
ELECTRICAL CONTROL	PANEL & CIRCUIT	INV-1,3,5	LP4-29
	WIRE & CONDUIT	(3)#12,#12G, 1/2" C	(2)#12,#12G, 1/2" C
	OVERCURRENT DEVICE	20-3P CB	15A-1P
	DISCONNECT	30A-3P NS	20A-1P NF
	COMBINATION STARTER	VFD STARTER	-
	CONTROL	M301	M301
	REFERENCE DRAWING/DETAIL	M101A	ME231
REMARKS			
NOTES:			
1. PROVIDE 18" ROOF CURB.			
2. PROVIDE BIRD SCREEN AND BACKDRAFT DAMPER.			
3. PROVIDE VARIABLE FREQUENCY DRIVE (VFD).			

UNIT HEATER SCHEDULE - ELEC		
DESIGNATION		ECUH-1
HEATER TYPE		HORIZONTAL
LOCATION		VESTIBULE
MOUNTING		SEMI-RECESSED
MANUFACTURER		RAYWALL
MODEL		T33D05
UNIT DATA	CFM	250
	FAN DRIVE	DIRECT
	HEATER KW	5.0
	AMPS	19
	VOLTAGE/PHASE	277/1
ELEC/CTRL DATA	PANEL & CIRCUIT	HP4-6
	WIRE & CONDUIT	(2)#10,#10G, 1/2" C
	OVERCURRENT DEVICE	25A-1P CB
	DISCONNECT	30A-2P NF
	CONTROL	NOTE 1
REFERENCE DRAWING/DETAIL		M101A
REMARKS		NOTE 1

DUCTWORK SCHEDULE					
SERVICE	DUCT SHAPE	SMACNA REQUIREMENTS			OTHER REQUIREMENTS
		CLASSIFICATION	SEAL CLASS	LEAKAGE CLASS	
SUPPLY AIR DUCTS (LOW PRESSURE)	RECTANGULAR	2" WG POSITIVE	B	12	1", 3LB DENSITY LINER
	(EXPOSED AND CONCEALED)				PAINTABLE WHERE EXPOSED
	ROUND	2" WG POSITIVE	B	3	INSULATED - SEE SCHEDULE
	(CONCEALED)				
	ROUND	4" WG POSITIVE	B	3	PAINTABLE WHERE EXPOSED
RETURN AIR DUCTS	RECTANGULAR	2" WG NEGATIVE	B	12	1", 3LB DENSITY LINER
	(EXPOSED AND CONCEALED)				PAINTABLE WHERE EXPOSED
TRANSFER AIR DUCTS	RECTANGULAR	2" WG NEGATIVE	B	12	12", 3LB DENSITY LINER
	(EXPOSED AND CONCEALED)				PAINTABLE WHERE EXPOSED
GENERAL EXHAUST DUCTS TO THE INLET OF THE FAN	RECTANGULAR	2" WG NEGATIVE	B	12	
	(EXPOSED AND CONCEALED)				PAINTABLE WHERE EXPOSED
	ROUND	4" WG NEGATIVE	A	3	
	(EXPOSED)	SPIRAL SEAM			PAINTABLE WHERE EXPOSED
NOTES:					
1. SEE DUCTWORK INSULATION SCHEDULE FOR REQUIREMENTS ON DUCT INSULATION					

DUCTWORK INSULATION SCHEDULE	
SERVICE	INSULATION
CONCEALED DUCTWORK AS FOLLOWS:	1-1/2" 1.5 LB. RIGID FIBERGLASS BLANKET, VAPOR BARRIER FACED,
ALL ROUND SUPPLY AIR AND UNLINED BRANCH TAKE-OFFS FOR ROUND DUCTS	WITH HEAVY DUTY FOIL-SCRM-KRAFT FACING.
AND IN-LINE TRANSITIONS.	
EXHAUST AIR BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR	
NOTES:	
1. SEE DUCTWORK SCHEDULE FOR ITEMS THAT ARE TO BE LINED.	
2. EXPOSED, LOW PRESSURE, ROUND AND FLAT OVAL SUPPLY AIR DUCTWORK IS NOT INSULATED.	

HVAC PIPE INSULATION SCHEDULE			
SERVICE	PIPE SIZE	INSULATION	NOTES
CONDENSATE DRAIN	1/2" - 2"	1/2" FIBERGLASS, ASJ	1,2,3,4
REFRIGERANT SUCTION	2-1/2" AND LARGER	1" FIBERGLASS, ASJ	
REFRIGERANT HOT GAS	ALL	1/2" FLEXIBLE CLOSED CELL ELASTOMERIC, UV PAINT OUTDOORS	2,3
NOTES:			
1. FOR ALL PIPING 2-1/2" AND LARGER, PROVIDE CALCIUM SILICATE OR CELLULAR GLASS INSERTS AT ALL HANGERS AND SUPPORT LOCATIONS.			
2. ALL INSULATION SHALL HAVE A MAXIMUM OF 25 FLAME SPREAD/50 SMOKE DEVELOPMENT RATING.			
3. ELBOW AND FITTING INSULATION SHALL BE OF SAME THICKNESS AS ADJACENT STRAIGHT PIPE INSULATION.			
4. FITTING INSULATION TO HAVE ASJ OR SUPPLEMENTAL VAPOR BARRIER SEALED TO ADJACENT PIPE INSULATION.			

LOUVER SCHEDULE													
PLAN MARK	SERVICE	TYPE	MANUFACTURER	MODEL NUMBER	MATERIAL	AIRFLOW (CFM)	MAX VELOCITY (FPM)	MAX PRESSURE DROP (W.G.)	MINIMUM FREE AREA (SF)	FREE AREA PERCENTAGE	LOUVER HEIGHT (FT)	LOUVER WIDTH (FT)	REMARKS
L-1	SHELTER	OA	RUSKIN	XP-500-WD	ALUMINUM	5300	1000	0.1	6.1	25%	4.5	5	1, 2, 3, 4, 5
L-2	SHELTER	EA	RUSKIN	XP-500-WD	ALUMINUM	5300	1000	0.1	6.1	25%	5.5	4	1, 2, 3, 4, 5
L-3	RTU-4	SA	RUSKIN	XP500	ALUMINUM	5000	1100	0.3	4.6	50%	3.5	2.67	3, 6
L-4	RTU-4	RA	RUSKIN	XP500	ALUMINUM	5000	1100	0.3	4.6	50%	3.5	2.67	3, 6
L-5	RTU-5	SA	RUSKIN	XP500	ALUMINUM	5000	1100	0.3	4.6	50%	3.5	2.67	3, 6
L-6	RTU-5	RA	RUSKIN	XP500	ALUMINUM	5000	1100	0.3	4.6	50%	3.5	2.67	3, 6
L-7	RTU-6	SA	RUSKIN	XP500	ALUMINUM	2000	1100	0.3	1.8	50%	2	2	3, 6
L-8	RTU-6	RA	RUSKIN	XP500	ALUMINUM	2000	1100	0.3	1.8	50%	2	2	3, 6

- NOTES:
- 1100 FPM BEGINNING POINT OF WATER PENETRATION.
  - PROVIDE WITH BIRD AND INSECT SCREEN.
  - PROVIDE MOTORIZED DAMPER AND ACTUATOR WITH TRANSFORMER.
  - ICC500 RATING AND WIND-DRIVEN RAIN RATING WITH OUT OF WALL MOUNTING. COORDINATE EXACT MOUNTING DETAIL TO BE FLUSH WITH EXTERIOR SURFACE.
  - FINISH COLOR SHALL BE SELECTED BY ARCHITECT.
  - ICC500 RATING WITH OUT OF WALL MOUNTING. COORDINATE EXACT MOUNTING DETAIL TO BE FLUSH WITH EXTERIOR SURFACE.

ROOFTOP UNIT - HEAT PUMP W/ ELEC HEAT		
DESIGNATION	RTU-4	RTU-5
MANUFACTURER	TRANE	TRANE
MODEL NUMBER	WHJ180A4S0P	WHJ180A4S0P
NOMINAL TONS	15	15
UNIT WEIGHT (LBS.)	4555	4555
AREA SERVED	GYM	GYM
SUPPLY AIRFLOW (CFM)	5,000	5,000
OUTSIDE AIRFLOW (CFM)	1,375	1,375
MINIMUM CO2 OUTSIDE AIRFLOW (CFM)	375	375
EXTERNAL STATIC PRESSURE (IN.W.C.)	1.0	1.0
BRAKE HORSEPOWER	2 @ 1.93	2 @ 1.93
MOTOR HORSEPOWER	2 @ 3.0	2 @ 3.0
VFD	-	-
SUPPLY FAN	AMBIENT AIR (DB)	105
	ENT. AIR (DBWB)	81.13 / 66.24
	LVG. AIR (DBWB)	55.85 / 55.0
	TOTAL COOLING CAPACITY (MBH)	164.1
	SENSIBLE COOLING CAPACITY (MBH)	131.3
	MINIMUM E.E.R. @ ARI	12.0
	REFRIGERANT	R410A
DX COOLING COIL	NUMBER OF COMPRESSORS	2
	STAGES OF COOLING	2
	CAPACITY (MBH)	174.0
	ENT. AIR (DB)	50.8
	LVG. AIR (DB)	88.3
	COP @ 47 F	3.9
	COP @ 17 F	2.1
HEAT PUMP	ENT. AIR (DB)	56.5
	LVG. AIR (DB)	90
	KW	54
	HEATING STAGES	2
	TYPE	2" PLEATED
	MERV RATING	MERV 13
	MAX FACE VELOCITY (FPM)	500
ELEC. HEAT	VOLTAGE/PHASE	460 / 3
	SCCR (KAIC)	35
	MCA	106
	MOCP	110
	PANEL & CIRCUIT	HP-13,15,17
	WIRE & CONDUIT	(3)#1,#6G, 1-1/4" C
	OVERCURRENT DEVICE	110A-3P CB
FILTERS	DISCONNECT	INTEGRAL
	CONTROL	NOTE 1
	ECONOMIZER	ENTHALPY
	SMOKE DETECTOR	NOTE 2
	RECEPTACLE	NOTE 3
	ROOF CURB	NOTE 4
	RELIEF	NOTE 6
ELECT./CONT.	HOT GAS REHEAT	NOTE 7
	REFERENCE DRAWING/DETAIL	ME231
	REMARKS	NOTE 5, 8
	NOTES:	
	1. PROVIDE MANUFACTURER CONTROLLER WITH COMMUNICATION CARD SUITABLE FOR CONNECTION TO THE EXISTING BAS - JOHNSON CONTROLS METASYS.	
	2. SYSTEM DUCT MOUNTED SMOKE DETECTOR IN RETURN DUCT, PROVIDED BY FIRE ALARM CONTRACTOR. CONNECT TO RTU FOR SHUTDOWN AS REQUIRED.	
	3. FURNISH WITH MANUFACTURER PROVIDED NON-POWERED RECEPTACLE.	
	4. PROVIDE 24" TALL, VIBRATION ISOLATION ROOF CURB TO ALLOW FOR DUCT TRANSITIONS WITHIN THE CURB AND ABOVE THE ROOF. PROVIDE CURB-MOUNTED EQUIPMENT SCREEN BY CURBS-PLUS OR EQUAL. COORDINATE SCREEN FINISH COLOR WITH ARCHITECT.	
	5. PROVIDE HAIL GUARDS ON CONDENSER COILS.	
	6. PROVIDE BAROMETRIC RELIEF.	
	7. PROVIDE MODULATING HOT GAS REHEAT FOR DEHUMIDIFICATION.	
	8. UNIT NUMBERING SHALL CONTINUE FROM EXISTING BUILDING RTU DESIGNATIONS. THE DESIGNATIONS SHOWN ON THESE CONSTRUCTION DRAWINGS ARE FOR COORDINATION PURPOSES ONLY. COORDINATE WITH THE SCHOOL DISTRICT FOR EXACT RTU DESIGNATIONS.	

GRILLE, REGISTER & DIFFUSER SCHEDULE							
PLAN MARK	MANUFACTURER MODEL NUMBER	SERVICE	MOUNT TYPE	VOLUME DAMPER	MATERIAL	COLOR	REMARKS
SD-1	TITUS TMS	SUPPLY	LAY-IN	NO	STEEL	WHITE	NOTE 1
SD-2	TITUS 300RL	SUPPLY	DUCT	YES	STEEL	NOTE 2	NOTE 1, 3
SD-3	TITUS US-DL	SUPPLY	SPIRAL DUCT	YES	STEEL	NOTE 2	NOTE 1
RG-1	TITUS 350RL	RETURN	LAY-IN	NO	STEEL	WHITE	NOTE 1, 4
RG-2	TITUS 350RL	RETURN	DUCT/WALL	NO	STEEL	NOTE 2	NOTE 1, 4
EG-1	TITUS 350RL	EXHAUST	LAY-IN	YES	STEEL	WHITE	NOTE 1, 4
EG-2	TITUS 350RL	EXHAUST	DUCT/WALL	YES	STEEL	NOTE 2	NOTE 1, 4
NOTES:							
1. REFER TO THE PLANS FOR FACE SIZE AND DUCT CONNECTION SIZE.							
2. FINISH COLOR SHALL BE SELECTED BY ARCHITECT.							
3. PROVIDE ADJUSTIBLE DOUBLE DEFLECTION BLADES WITH FRONT BLADES PARALLEL TO LONG DIMENSION AND NO SCREW HOLES.							
4. PROVIDE SINGLE DEFLECTION BLADES PARALLEL TO THE LONG DIMENSION AND NO SCREW HOLES.							

ROOFTOP UNIT SCHEDULE - DX COOLING / ELEC HEAT		
DESIGNATION	RTU-6	RTU-7
MANUFACTURER	TRANE	TRANE
MODEL NUMBER	TSJ072A4S0K	TSJ090A4S0N
NOMINAL TONS	6	7.5
UNIT WEIGHT (LBS.)	2650	2650
AREA SERVED	MUSIC	ART
SUPPLY AIRFLOW (CFM)	2,000	2,400
OUTSIDE AIRFLOW (CFM)	550	650
MINIMUM CO2 OUTSIDE AIRFLOW (CFM)	200	250
EXTERNAL STATIC PRESSURE (IN.W.C.)	1.0	1.0
BRAKE HORSEPOWER	1.78	1.95
MOTOR HORSEPOWER	3.0	3.0
VFD	-	-
SUPPLY FAN	AMBIENT AIR (DB)	105
	ENT. AIR (DBWB)	81.1 / 66.2
	LVG. AIR (DBWB)	55.0 / 54.6
	TOTAL COOLING CAPACITY (MBH)	67.9
	SENSIBLE COOLING CAPACITY (MBH)	54.4
	MINIMUM E.E.R. @ ARI	11.2
	REFRIGERANT	R410A
DX COOLING COIL	NUMBER OF COMPRESSORS	2
	STAGES OF COOLING	2
	ENT. AIR (DB)	52.3
	LVG. AIR (DB)	90
	KW	27
	HEATING STAGES	2
	TYPE	2" PLEATED
HEAT PUMP	MERV RATING	MERV 13
	MAX FACE VELOCITY (FPM)	500
	VOLTAGE/PHASE	460 / 3
	SCCR (KAIC)	35
	MCA	48
	MOCP	50
	PANEL & CIRCUIT	HP3-25,27,29
FILTERS	WIRE & CONDUIT	(3)#6,#10G, 1" C
	OVERCURRENT DEVICE	50A-3P CB



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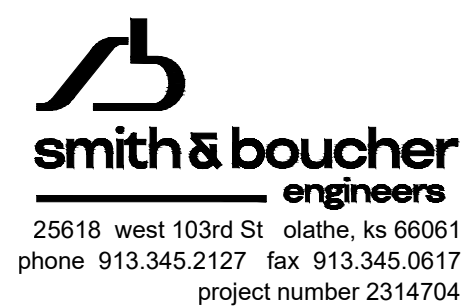
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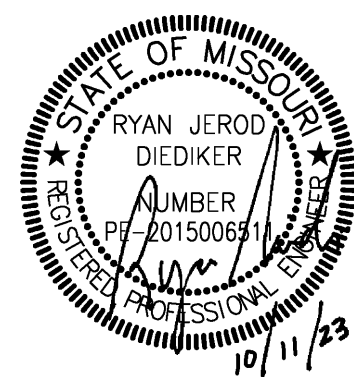
**MKEC Engineering, Inc.**  
Civil Engineer  
State Certificate of Authority #  
Engineering: #2001009364  
Landscaping: #2006027139  
Surveying: #2006027138  
1827 W 28<sup>th</sup> Street, Suite 200  
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**Smith & Boucher Inc.**  
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**Bob D Campbell**  
Structural Engineer  
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816.531.4144 phone  
816.531.8572 fax

Liberty Public Schools  
650 Conistor St.  
Liberty, MO 64068

REVISIONS:		
#	Description	Date



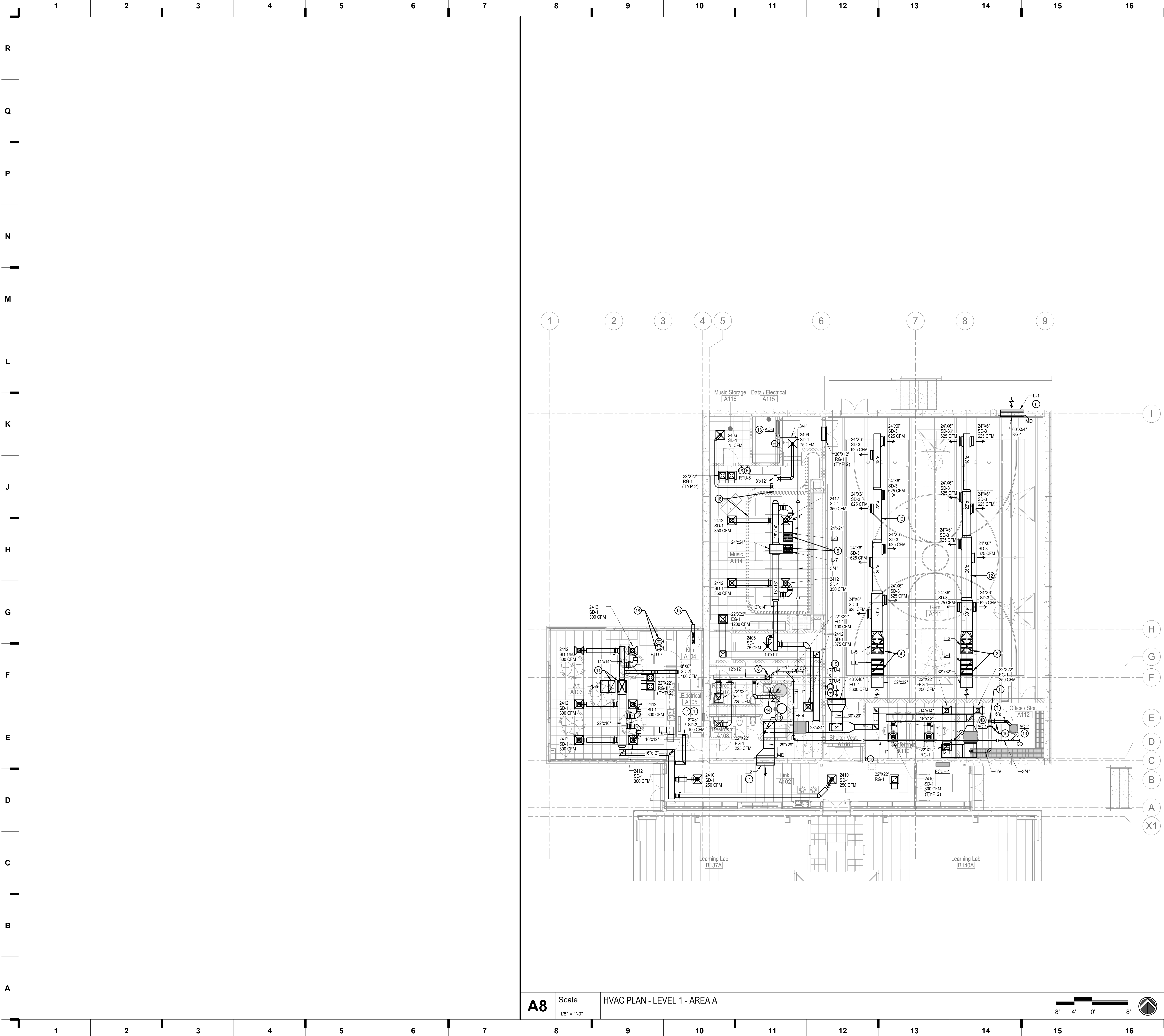
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CHECKED BY: RJD  
DATE: 10.11.2023

# ME402









SHEET KEYNOTE LEGEND

GENERAL NOTES:

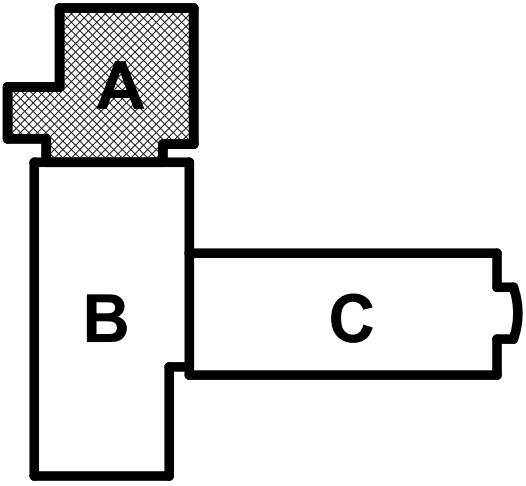
- 1. INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
- 2. ALL DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT INCLUDE ALL OFFSETS, DROPS, AND RISES. CAREFULLY COORDINATE DUCT AND PIPE ROUTING WITH STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES, EQUIPMENT ACCESSIBILITY, DESIRED CEILING HEIGHTS, AND AESTHETICS. THE CONTRACTOR SHALL INCLUDE ANY NEEDED OFFSETS AND CHANGES OF DIRECTION IN THE BID PRICING.
- 3. COORDINATE ALL DUCT PENETRATIONS WITH STRUCTURAL PRIOR TO CUTTING FLOORS OR BEARING WALLS.
- 4. WALL MOUNTED DEVICES SUCH AS THERMOSTATS, TEMPERATURE SENSORS, HUMIDITY SENSORS, AND PRESSURE SENSORS ARE SHOWN ON PLANS FOR CLAIRTY AND GENERAL REFERENCE OF LOCATIONS. LOCATIONS SHOW ARE NOT TO BE CONSIDERED THE EXACT MOUNTING LOCATION. COORDINATE THE INSTALLATION OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL ELEVATIONS AND OTHER TRADES WALL MOUNTED DEVICES. GROUP THE INSTALLATION OF ALL THE DEVICES TO THE EXTENT POSSIBLE AND LOCATED DEVICES SUCH THAT THEY DO NOT CONFLICT WITH MILL WORK, TELEVISIONS, FURNITURE, TEACHING BOARDS, AND OTHER SIMILAR OBSTRUCTIONS.
- 5. PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
- 6. FURNISH ALL EXPOSED DUCTWORK IN FINISHED SPACES WITH PAINTABLE FINISH - PROVIDE A TRIM FLANGE AT WALL PENETRATIONS OF EXPOSED DUCTWORK, FINISH BY ARCHITECT.
- 7. DUCT SIZES SHOWN ARE SHEET METAL DIMENSIONS. WHERE DUCT LINER IS REQUIRED, DUCT SIZES ARE NOT REQUIRED TO BE INCREASED TO ACCOUNT FOR LINER.
- 8. ALL SERVICES SHOWN WITH HALF TONE LINE WEIGHT ARE EXISTING.

PLAN NOTES:

- 1 DO NOT ROUTE DUCTWORK OR PIPING OVER ELECTRICAL PANELS AND EQUIPMENT.
- 2 DO NOT ROUTE DUCTWORK OR PIPING UNDER THE ROOF HATCH OR THROUGH THE ROOF ACCESS LADDER.
- 3 PROVIDE 42"x32" SUPPLY AND RETURN DUCTS THROUGH ROOF TO RTU-4. PROVIDE ICC 500 RATED LOUVER AT EACH ROOF PENETRATION. PROVIDE TRANSITION TO FULL-SIZE UNIT CONNECTIONS WITHIN THE CURB.
- 4 PROVIDE 42"x32" SUPPLY AND RETURN DUCTS THROUGH ROOF TO RTU-5. PROVIDE ICC 500 RATED LOUVER AT EACH ROOF PENETRATION. PROVIDE TRANSITION TO FULL-SIZE UNIT CONNECTIONS WITHIN THE CURB.
- 5 PROVIDE 24"x24" SUPPLY AND RETURN DUCTS THROUGH ROOF TO RTU-4. PROVIDE ICC 500 RATED LOUVER AT EACH ROOF PENETRATION. PROVIDE TRANSITION TO FULL-SIZE UNIT CONNECTIONS WITHIN THE CURB.
- 6 ICC 500 AND WIND-DRIVEN RAIN INTAKE LOUVER ASSEMBLY. REFER TO SCHEDULE AND DETAIL. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION.
- 7 ICC 500 AND WIND-DRIVEN RAIN EXHAUST LOUVER ASSEMBLY. REFER TO SCHEDULE AND DETAIL. DISCHARGE HIGH IN SPACE, OVER LOWER ROOF, REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION.
- 8 12"x12" EXHAUST DUCT THROUGH ROOF TO EF-5. PROVIDE TRANSITION TO FULL SIZE FAN CONNECTION. PROVIDE ICC 500 RATED SHROUD AT DUCT PENETRATION THROUGH THE ROOF.
- 9 8"x8" OUTSIDE AIR DUCT UP THROUGH ROOF. PROVIDE ICC 500 RATED SHROUD AT DUCT PENETRATION THROUGH THE ROOF.
- 10 PROVIDE MANUAL BALANCING DAMPER AND SET TO OUTSIDE AIRFLOW INDICATED IN THE SCHEDULES.
- 11 33"x20" SUPPLY DUCT AND 32"x17" RETURN DUCT THROUGH ROOF TO RTU-7. PROVIDE TRANSITION TO FULL-SIZE UNIT CONNECTIONS.
- 12 SLOPE DUCT WITH STRUCTURE.
- 13 PROVIDE REFRIGERATION LINESETS THROUGH THE ROOF BETWEEN THE INDOOR UNIT AND OUTDOOR CONDENSING UNIT. REFER TO THE MANUFACTURER'S REQUIREMENTS FOR PIPE SIZES AND QUANTITY.
- 14 ROUTE 1" CONDENSATE DRAIN DOWN ALONG THE FACE OF THE WALL AND DISCHARGE OVER THE MOP SINK WITH AIR GAP.
- 15 RELOCATE EXISTING WALL-MOUNTED EXHAUST FAN AND ASSOCIATED DUCTWORK WITH THE KILN, MAINTAIN THE U.L. LISTING OF THE KILN AND EXHAUST SYSTEM.
- 16 COORDINATE DUCT ROUTING WITH CURTAIN SUPPORT SYSTEM, TYPICAL.
- 17 NOT USED.
- 18 PROVIDE INSULATED BACKING AT SENSOR.
- 19 PROVIDE GYM-RATED, LOCKABLE COVER/CAGE OVER SENSORS.
- 20 PROVIDE STORM SHELTER VENTILATION SWITCH AND SIGNAGE THAT INDICATES SWITCH WILL ACTIVATE SYSTEM TO PROVIDE EMERGENCY VENTILATION IN THE EVENT OF A TORNADO. REFER TO M301.

smith & boucher  
engineers  
25618 west 103rd St. olathe, ks 66061  
phone 913.345.2127 fax 913.345.0617  
project number 2314704

KEY PLAN



we design the future<sup>®</sup>  
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Holla + Miller Architects  
Missouri State Certificate of Authority  
Architecture # 02001051  
Structure # 2006011333

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Engineering #2001009364  
Landscaping #2006027139  
Surveying #2006027138  
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Mechanical, Electrical, & Plumbing  
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Olathe, KS 66061  
913.345.2127 phone

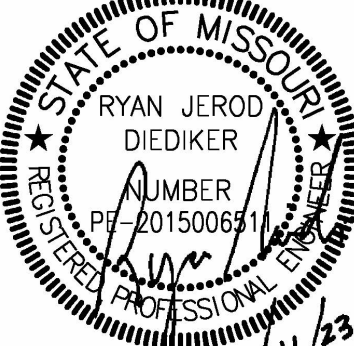
Bob D. Campbell & Co.  
Structural Engineers  
State Certificate of Authority #000442  
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Kansas City, MO 64111  
816.531.4144 phone  
816.531.8572 fax

EPiC Elementary Storm Shelter Addition  
Liberty Public Schools  
650 Conlister St  
Liberty, MO 64068

REVISIONS:

#	Description	Date
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1	ADDENDUM 05	10-04-2023
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The Professional Engineer and Architect are affected by the design and construction of this work. All drawings, specifications and other documents are submitted for and shall be the property of the architect, and shall remain the property of the architect and shall not be used for any other purpose without the written consent of the architect.

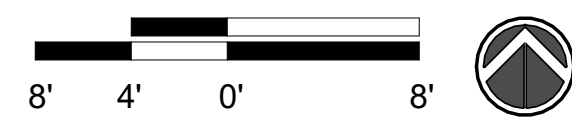
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DRAWN BY: SBI  
CHECKED BY: RJD  
DATE: 10/11/2023

M101A

HVAC PLAN - LEVEL 1 - AREA A



Scale	HVAC PLAN - LEVEL 1 - AREA B
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## SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER TO M101A FOR GENERAL NOTES

**PLAN NOTES:**

1. CLEAN AND INSTALL EXISTING AIR DEVICE AND CONNECT TO EXISTING SUPPLY DUCT.
2. CLEAN AND INSTALL EXISTING AIR DEVICE AND CONNECT TO EXISTING EXHAUST DUCT.
3. CLEAN AND INSTALL EXISTING AIR DEVICE AND PROVIDE NEW TRANSFER DUCT.
4. REBALANCE EXISTING FAN-POWERED BOX MAXIMUM AIRFLOW TO 730 CFM.

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**HOLLISANDMILLER.COM**

Hollis + Miller Architects  
Missouri State Certificate of Authority  
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Structure # 2006031333

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Civil Engineer  
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Landscaping #2006027139  
Surveying #2006027138  
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Overland Park, KS 66210  
913.317.9390 phone

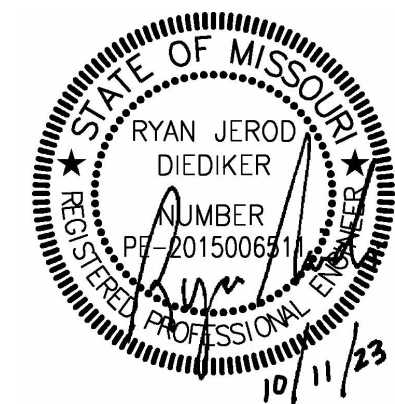
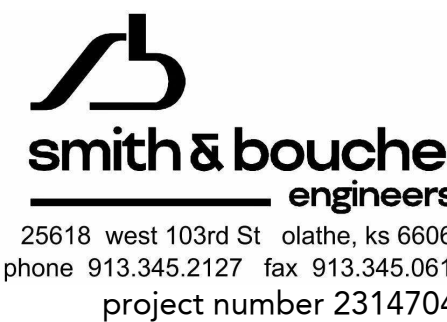
**Smith & Boucher Engineers**  
Mechanical, Electrical, & Plumbing  
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**Bob D. Campbell & Co.**  
Structural Engineers  
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4338 Belleview Avenue  
Kansas City, MO 64111  
816.531.4144 phone  
816.531.8572 fax

**EPiC Elementary Storm Shelter Addition**  
Liberty Public Schools  
650 Conister St  
Liberty, MO 64068

6550 Conister St  
Liberty, MO 64068

#	Description	Date
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CHECKED BY: RJ  
DATE: 10/11/2023

# M101B

## HVAC PLAN - LEVEL 1 - AREA B

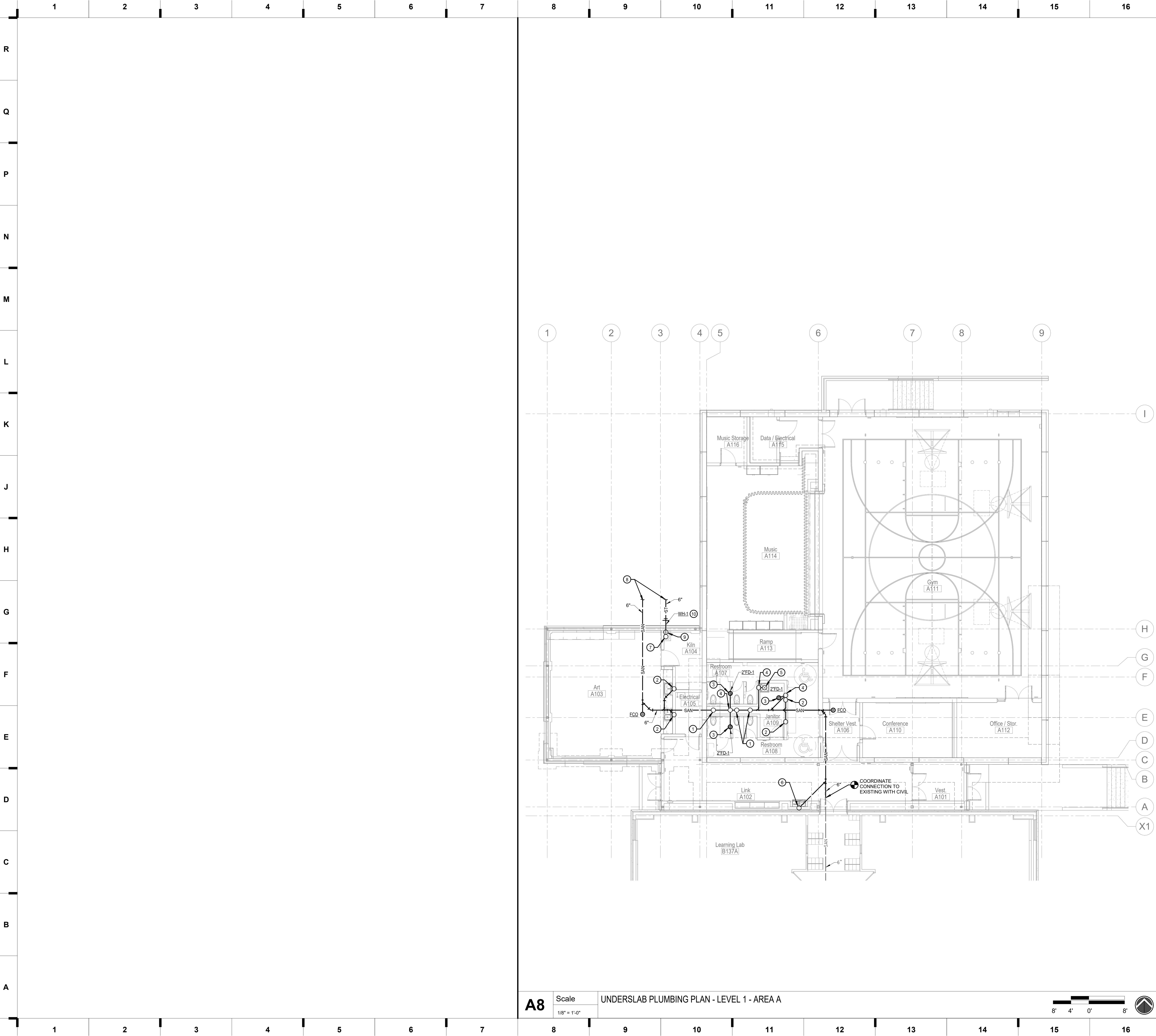
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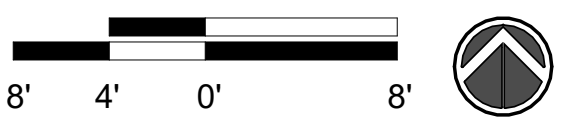




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**A8** Scale  
1/8" = 1'-0"  
UNDERSLAB PLUMBING PLAN - LEVEL 1 - AREA A



## SHEET KEYNOTE LEGEND

### GENERAL NOTES:

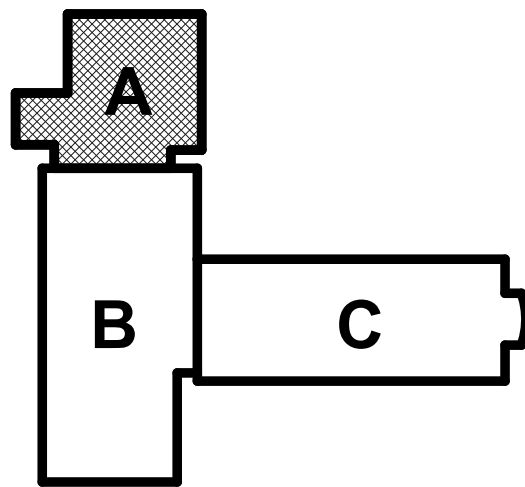
1. INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
2. CAREFULLY COORDINATE PIPE ROUTING WITH NEW AND EXISTING STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES AND DESIRED CEILING HEIGHTS.
3. COORDINATE ALL PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO CORE DRILLING.
4. WASTE PIPING SHALL BE SLOPED AT 1/8" PER FOOT FOR 3" AND LARGER PIPING AND 1/4" PER FOOT FOR 2" AND SMALLER PIPING.
5. STORM PIPING SHALL BE SLOPED AT 1/8" PER FOOT.
6. PROVIDE WASTE AND STORM CLEANOUTS AS REQUIRED PER CODE AND SPECIFICATIONS. MORE CLEANOUTS MAY BE REQUIRED THAN AS SHOWN ON PLANS.
7. PROVIDE SHUT OFF VALVES ABOVE ACCESSIBLE CEILING OR OTHER ACCESSIBLE LOCATION FOR ALL BRANCH PIPING AND INDIVIDUAL CONNECTIONS TO PLUMBING FIXTURES. WHERE STOPS ARE PROVIDED FOR INDIVIDUAL FIXTURES SHUT OFF VALVES ARE ALSO REQUIRED AT THE BRANCH CONNECTION. PLUMBING STOPS ARE NOT CONSIDERED A SUBSTITUTE FOR SHUT OFF VALVES.
8. AVOID ROUTING ANY PIPING THROUGH IT ROOMS OR ELECTRIC ROOMS. IN THE EVENT IT IS ABSOLUTELY NECESSARY, COORDINATE THE EXACT LOCATION SUCH THAT IT IS NOT DIRECTLY ABOVE ANY PANELS OR EQUIPMENT.
9. REFER TO RISER DIAGRAM FOR ADDITIONAL PLUMBING INFORMATION.
10. PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
11. ALL HOT WATER RECIRC BALANCE DEVICES SHALL BE 1 GPM CIRCUIT SETTERS UNLESS OTHERWISE NOTED.
12. PROVIDE WATER HAMMER ARRESTORS PER THE REQUIREMENTS OF THE SPECIFICATIONS AND PD1-WH201 FOR ALL FAST ACTING VALVES (FLUSH VALVES, SOLENOID FAUCETS, ETC).
13. PROVIDE ICC 500 PIPING SHROUD FOR ALL PENETRATIONS OF SHELTER 3" AND LARGER.

### PLAN NOTES:

- ① 4" SANITARY UP TO WATER CLOSET.
- ② 2" SANITARY UP TO LAVATORY/SINK.
- ③ 2" SANITARY UP TO FLOOR DRAIN.
- ④ 2" SANITARY UP TO 1-1/2" VENT IN WALL/CHASE.
- ⑤ 2" SANITARY UP TO JANITOR SINK.
- ⑥ 2" SANITARY UP TO DRINKING FOUNTAIN.
- ⑦ 6" STORM UP IN CHASE.
- ⑧ 6" SANITARY SEWER EXIT LOCATION AND 6" STORM SEWER EXIT LOCATION. ROUTE EACH BELOW STRUCTURAL FOOTING. APPROXIMATE FLOWLINE 13'-6" BELOW FINISHED FLOOR. COORDINATE EXACT LOCATIONS AND DEPTHS WITH SITE UTILITIES CONTRACTOR PRIOR TO INSTALLATION. REFER TO CIVIL DRAWINGS FOR CONTINUATION.
- ⑨ 3/4" CW THROUGH FLOOR.
- ⑩ PROVIDE WALL HYDRANT ABOVE GRADE. COORDINATE MOUNTING HEIGHT WITH ARCHITECT, STRUCTURAL, AND CIVIL.

**smith & boucher**  
engineers  
25618 west 103rd St. olathe, ks 66061  
phone 913.345.2127 fax 913.345.0617  
project number 2314704

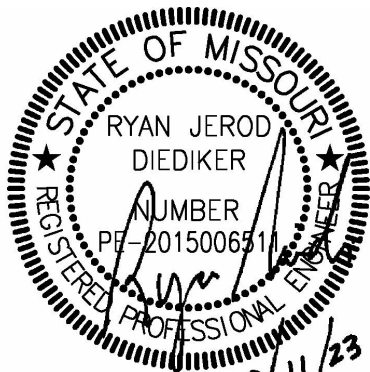
## KEY PLAN



## EPiC Elementary Storm Shelter Addition

Liberty Public Schools  
650 Conifer St  
Liberty, MO 64068

REVISIONS:		
#	Description	Date
1	ADDENDUM 04	09-29-2023



The Professional Engineer and Architect are affected by the above changes only to the extent and items shown on this sheet. All drawings, specifications and other documents are subject to the same and shall be the responsibility of the architect, engineer and contractor. The architect, engineer and contractor shall be responsible for all changes to the drawings and specifications.

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DATE: 10/11/2023

**P100A**

## UNDERSLAB PLUMBING PLAN - LEVEL 1 - AREA A

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Structure # 200601333

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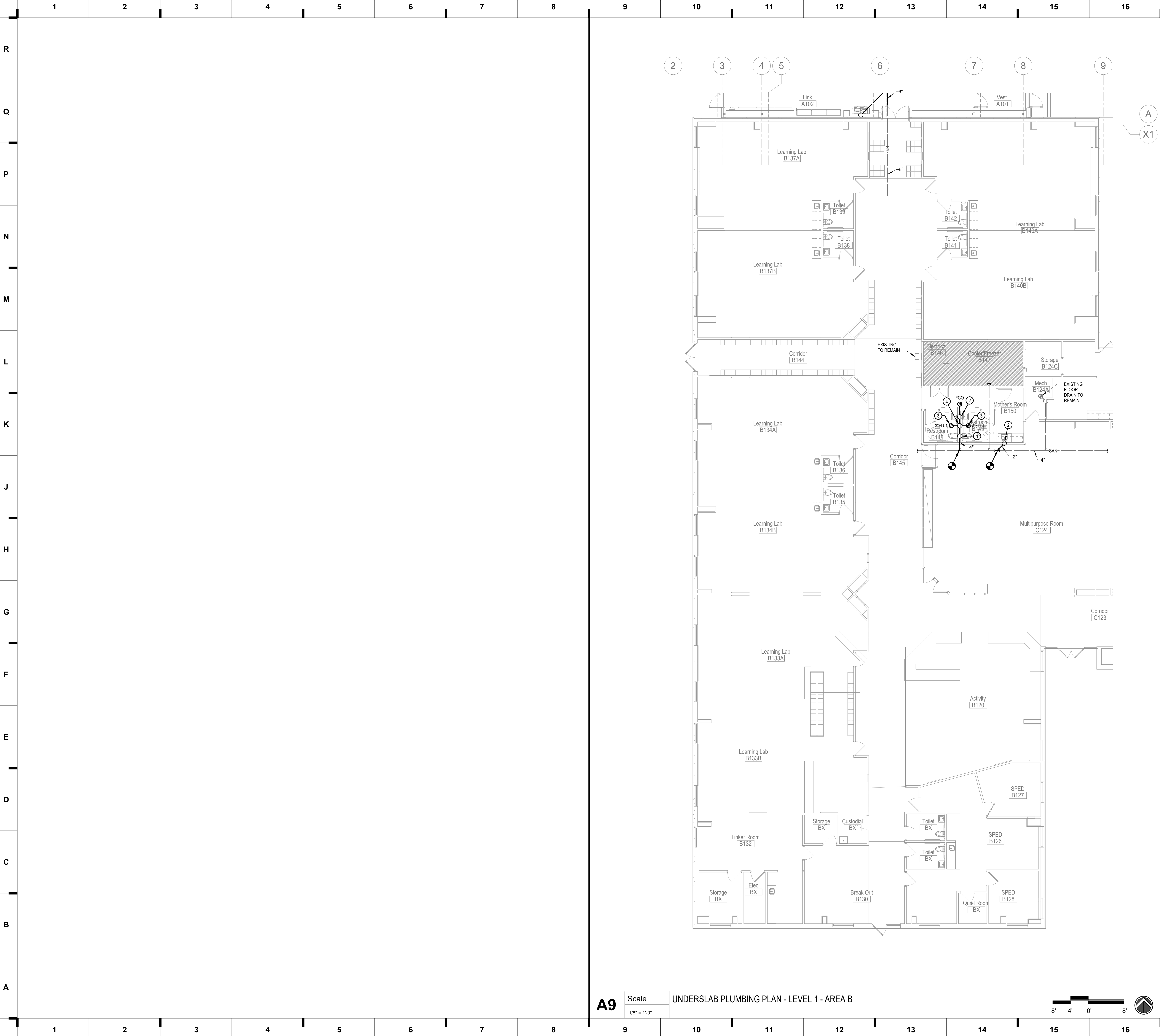
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State Certificate of Authority #000442  
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Kansas City, MO 64111  
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816.531.8572 fax

Conformed  
Construction  
Documents





SHEET KEYNOTE LEGEND

- GENERAL NOTES:
1. REFER TO P100A FOR GENERAL NOTES.
- PLAN NOTES:
- ① 4" SANITARY UP TO WATER CLOSET.  
② 2" SANITARY UP TO LAVATORY/SINK.  
③ 2" SANITARY UP TO FLOOR DRAIN.  
④ 2" SANITARY UP TO 1-1/2" VENT IN WALL/CHASE.

EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conlister St  
Liberty, MO 64068

REVISIONS:		
#	Description	Date

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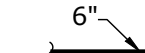












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SCALE: NONE

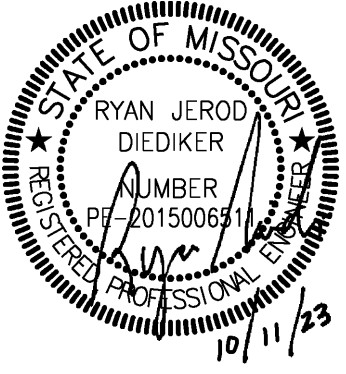
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## Liberty Public Schools

**650 Conistor St.  
Liberty, MO 64068**

**REVISIONS:**

#	Description	Date
4	ADDENDUM 04	09-29-2023



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CHECKED BY: BID

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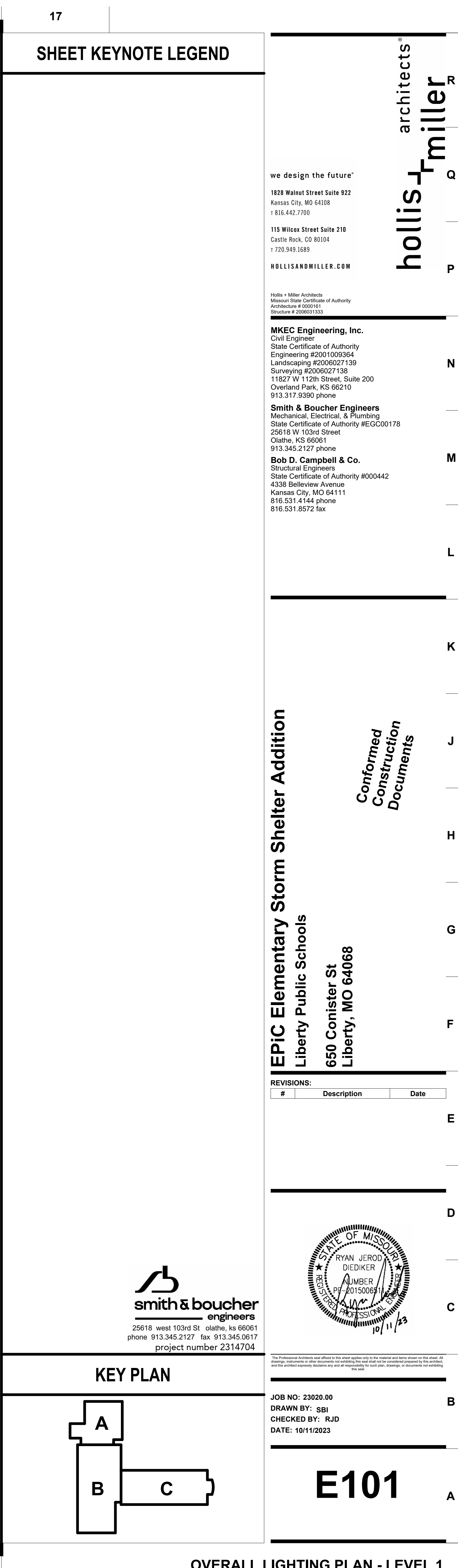
# P301

**A**

## PLUMBING RISER DIAGRAMS

 Please consider the environment before printing this.













RECEPTACLES - WIREMOLD 500 SERIES  
THERMOSTATS - WIREMOLD 500 SERIES  
FIRE ALARM - WIREMOLD 500 SERIES  
SECURITY DEVICES - WIREMOLD 500 SERIES  
TELECOM DEVICES - WIREMOLD 2000 SERIES

10. PROVIDE POWER TO ALL FIRE/SMOKE DAMPERS, PROVIDE A DUCT MOUNTED SMOKE DETECTOR AT EACH LOCATION.  
PROVIDE ALL NECESSARY RELAYS AND RELAYS AND COORDINATION REQUIRED FOR A FULLY WORKING SYSTEM.  
VERIFY LOCATIONS AND QUALITY REQUIRED WITH HVAC PLANS.

11. FURNISH AND INSTALL DUCT MOUNTED SMOKE DETECTORS AT EACH RTU RETURN AIR INLET AND FFVAV TERMINAL, 200 CFM AND ABOVE. PROVIDE ALL ASSOCIATED TRANSFORMERS, MODULES AND CONNECTIONS REQUIRED FOR CORRECT OPERATION. VERIFY LOCATIONS AND QUANTITIES WITH HVAC FLOOR PLANS AND EQUIPMENT SCHEDULES.

12. ALL RECEPTACLES WITH 'USB' TAG SHOWN ON PLANS TO BE A DUPLEX RECEPTACLE WITH (1) USB-A AND (1) USB-C TYPE PORTS. USB PORTS TO BE RATED AT MINIMUM OF 5A AT 50Vdc.

13. LABEL ALL RECEPTACLES WITH CIRCUIT NUMBER ON DEVICE COVER PLATE.

**TELECOMMUNICATIONS GENERAL NOTES:**

1. ALL CONDUIT SHALL BE INSTALLED WITH NYLON PULL STRING.

2. PROVIDE NYLON BUSHING FOR ALL TELECOMMUNICATIONS CONDUIT AND SLEEVES.

3. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR FULLY COORDINATING CONDUIT, SLEEVE, ETC. ROUTING WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

4. LABEL TERMINATIONS PER SPECIFICATIONS, AND ADDITIONALLY WITHIN 6' OF ENTERING TELECOMMUNICATIONS ROOMS.

5. SEAL ALL PENETRATIONS MADE FOR TELECOMMUNICATIONS CABLEING AND INFRASTRUCTURE USING APPROPRIATE METHOD AND MATERIAL TO MAINTAIN FIRE RATING OF PENETRATED STRUCTURE.

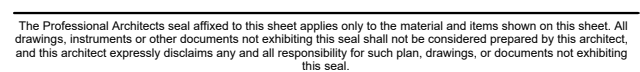
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**A**

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project number 2314704

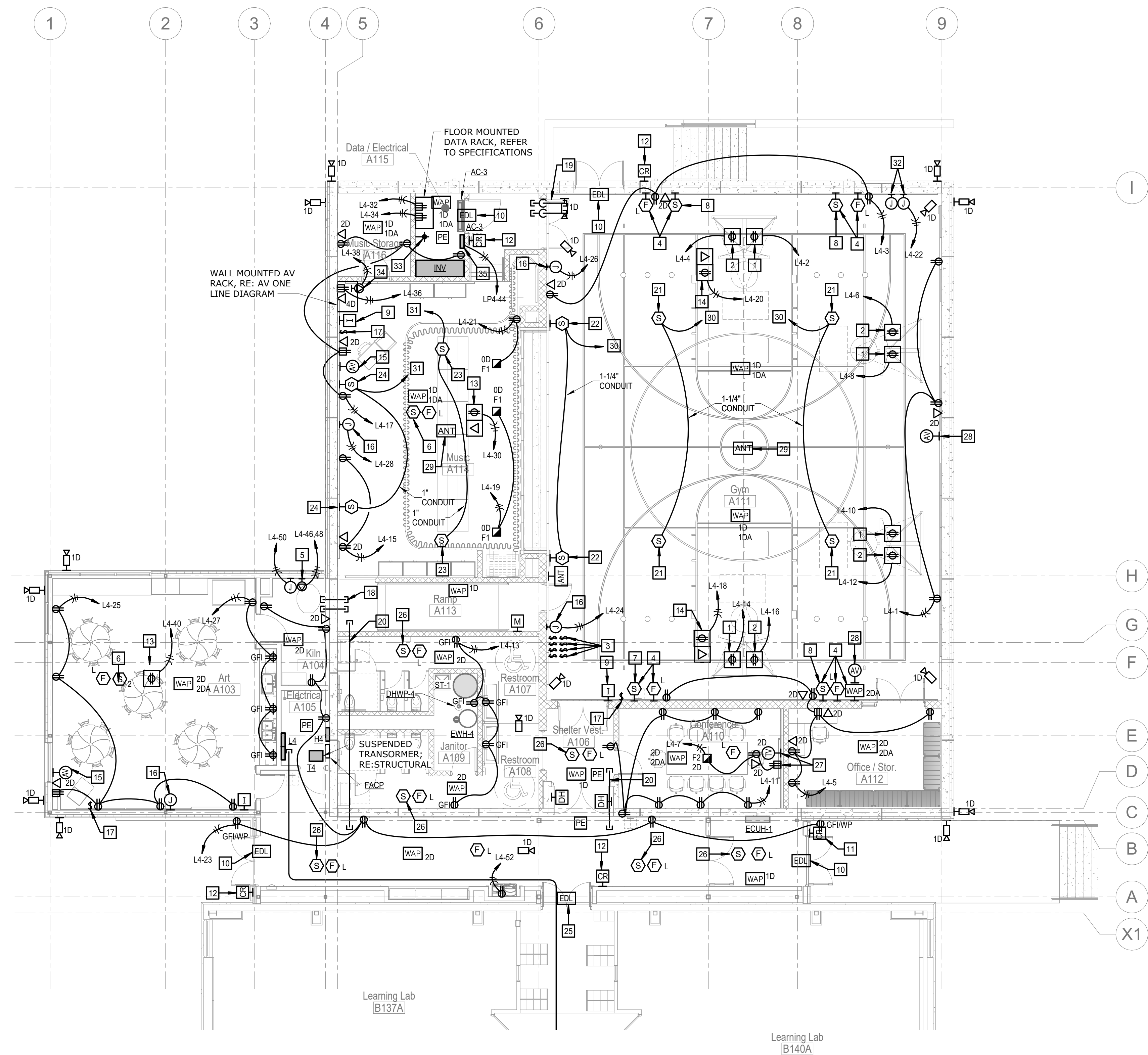


The diagram shows a composite shape formed by three rectangles. Rectangle A is at the top. Rectangle B is positioned directly below rectangle A, sharing its left edge. Rectangle C is positioned to the right of rectangle B, sharing its bottom edge with rectangle B. The overall shape is an L-shape with a horizontal extension on the right.

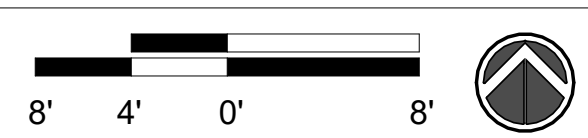
# E201

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<b>A8</b>	Scale	POWER PLAN - LEVEL 1 - AREA A
	1/8" = 1'-0"	



## SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER TO E201 FOR GENERAL NOTES

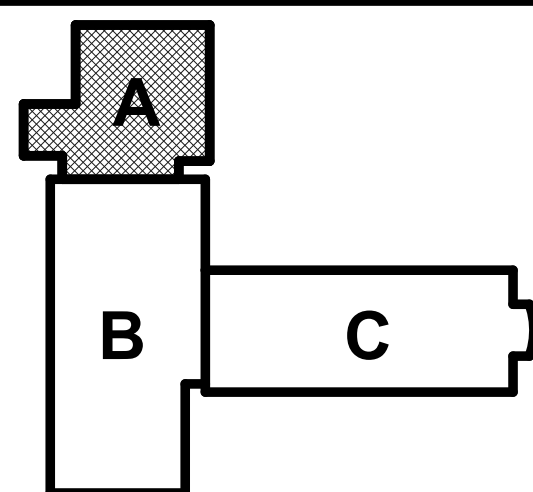
PLAN NOTES:

- 1 RECEPTACLE AND POWER FOR RETRACTABLE GOLF WINCH. CIRCUIT THROUGH KEYS LIMIT SWITCH ON WALL. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH GYM EQUIPMENT SHOP DRAWINGS PRIOR TO INSTALLATION.
- 2 RECEPTACLE AND POWER FOR RETRACTABLE ELECTRIC GOLF BAGS. CIRCUIT THROUGH KEYS LIMIT SWITCH ON WALL. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH GYM EQUIPMENT SHOP DRAWINGS PRIOR TO INSTALLATION.
- 3 KEYS LIMIT SWITCH FOR BASKETBALL GOLF MOTORS, COORDINATE WITH BASKETBALL SHOP DRAWINGS PRIOR TO INSTALLATION.
- 4 PROVIDE WIREGROUND OVER DEVICE.
- 5 KILN POWER; PROVIDE 1PH 50A 208V NEMA 6-50 RECEPTACLE, CIRCUIT WITH (3) #6, #10G, 3/4" C.
- 6 8" RECESSED TWO-WAY CEILING SPEAKER FOR INTERCOM/PUBLIC ADDRESS SYSTEM. ROUTE CABLING BACK TO MAIN HEAD END AND COORDINATE WITH EXISTING SYSTEM
- 7 WALL MOUNTED 5W TWO-WAY LOUD SPEAKER FOR INTERCOM/PUBLIC ADDRESS SYSTEM. ROUTE CABLING BACK TO MAIN HEAD END AND COORDINATE WITH EXISTING SYSTEM.
- 8 WALL MOUNTED 5W ONE-WAY SPEAKER FOR INTERCOM/PUBLIC ADDRESS SYSTEM. ROUTE CABLING BACK TO MAIN HEAD END AND COORDINATE WITH EXISTING SYSTEM
- 9 PROVIDE INTERCOM PUSHBUTTON AND ALL CABLING BACK TO MAIN HEAD END AND COORDINATE WITH EXISTING SYSTEM. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 10 ELECTRIC DOOR LOCK LOCATION. PROVIDE CONTROL CABLING PER SPECIFICATIONS, ROUTE BACK TO DOOR CONTROL HEAD END PANEL. COORDINATE EXACT REQUIREMENTS WITH OWNER AND ARCHITECT.
- 11 CARD READER MOUNTED IN MULLION AT 48" AFF. COORDINATE PATHWAY WITH DOOR HARDWARE PROVIDER.
- 12 CARD READER MOUNTED AT 48" AFF. COORDINATE PATHWAY WITH DOOR HARDWARE PROVIDER.
- 13 FLUSH MOUNT CEILING RECEPTACLE FOR PROJECTOR. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 10FT 1/2" MC CABLING COILED IN CEILING TO ALLOW RELOCATING RECEPTACLE WITHIN 8 FT RADIUS FROM CENTER OF ROOM.
- 14 DECK MOUNTED CEILING RECEPTACLE FOR PENDANT MOUNTED PROJECTOR IN GYM CEILING. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 15 AV STATION AT TEACHER'S DESK/CABINET. REFER TO AV ONE LINE DIAGRAM. REFER TO DETAILS AND SCHEDULES.
- 16 POWER FOR PROJECTION SCREEN. COORDINATE LOCATION AND ALL REQUIREMENTS WITH PROVIDED PROJECTOR SCREEN.
- 17 PROJECT SCREEN SWITCH, COORDINATE LOCATION WITH OWNER, AND ALL REQUIREMENTS WITH PROVIDED PROJECTOR SCREEN.
- 18 (2) 2" CONDUIT SLEEVES THRU THE WALL ABOVE THE CEILING FOR LOW VOLTAGE CABLING.
- 19 (2) 2" CONDUIT SLEEVES STUBBED IN IT CLOSET AND ROUTED IN THE WALL STUBBED UP TIGHT TO GYM ROOF DECK FOR LOW VOLTAGE CABLING.
- 20 (1) 2" CONDUIT SLEEVE THRU THE WALL ABOVE THE CEILING FOR LOW VOLTAGE CABLING.
- 21 LOUD SPEAKER SUSPENDED FROM DECK AND AIMED DOWN TO FLOOR AREA. REFER TO AV ONE-LINE DIAGRAM FOR DETAILS AND CABLING. ROUTE CONDUIT BACK TO AV RACK FOR SPEAKER CABLING.
- 22 LOUD SPEAKER MOUNTED HORIZONTALLY ON WALL HUNG FROM CEILING ABOVE AND AIMED TOWARDS AUDIENCE. REFER TO AV ONE-LINE DIAGRAM FOR DETAILS AND CABLING. ROUTE CONDUIT BACK TO AV RACK FOR SPEAKER CABLING.
- 23 STAGE MONITOR SURFACE MOUNTED TO CEILING WITH ADJUSTABLE BRACKET, SUPPORT STRUCTURALLY FROM CEILING DECK. REFER TO AV ONE-LINE DIAGRAM FOR DETAILS AND CABLING. ROUTE CONDUIT BACK TO AV RACK FOR SPEAKER CABLING.
- 24 STAGE MONITOR WALL MOUNTED WITH ADJUSTABLE BRACKET. REFER TO AV ONE-LINE DIAGRAM FOR DETAILS AND CABLING. ROUTE CONDUIT BACK TO AV RACK FOR SPEAKER CABLING.
- 25 REUSE SALVAGED DOOR ACCESS CONTROLS AND CONTROL CABLING FOR RECONNECTOR TO NEW DOORS. COORDINATE WITH DISTRICT STANDARDS AND DOOR HARDWARE PROVIDER.
- 26 8" RECESSED ONE-WAY CEILING SPEAKER FOR INTERCOM/PUBLIC ADDRESS SYSTEM. ROUTE CABLING BACK TO MAIN HEAD END AND COORDINATE WITH EXISTING SYSTEM.
- 27 POWER AND DATA FOR TV. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT AND LOCATION. PROVIDE 1-1/4" CONDUIT DOWN TO FLOOR BOX FOR HDMI CABLING.
- 28 HDMI AND BLUE TOOTH WALL INPUT, REFER TO AV/ONE LINE DIAGRAM. PROVIDE ALL COMPONENTS NECESSARY FOR HDMI AND ALL REQUIREMENTS. ROUTE CONDUIT TO EACH DEVICE. COORDINATE CONDUIT WITH AV SHOP DRAWINGS.
- 29 WIRELESS MC ANTENNA. REFER TO AV ONE-LINE DIAGRAM FOR MORE INFORMATION. ROUTE 3/4" CONDUIT BACK TO AV RACK.
- 30 ROUTE 1-1/2" CONDUIT BACK TO AV RACK FOR SPEAKER CABLING.



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project number 2314704

## KEY PLAN

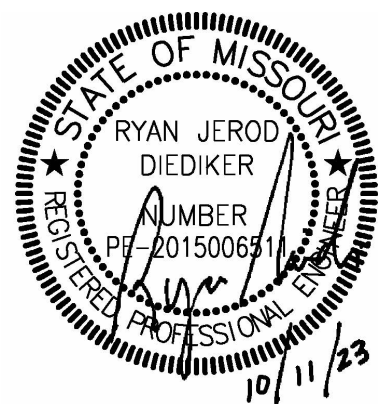


## EPiC Elementary Storm Shelter Addition

## Liberty Public Schools

**650 Conister St  
Liberty, MO 64068**

#	Description	Date
1	ADDENDUM #1	09-14-23




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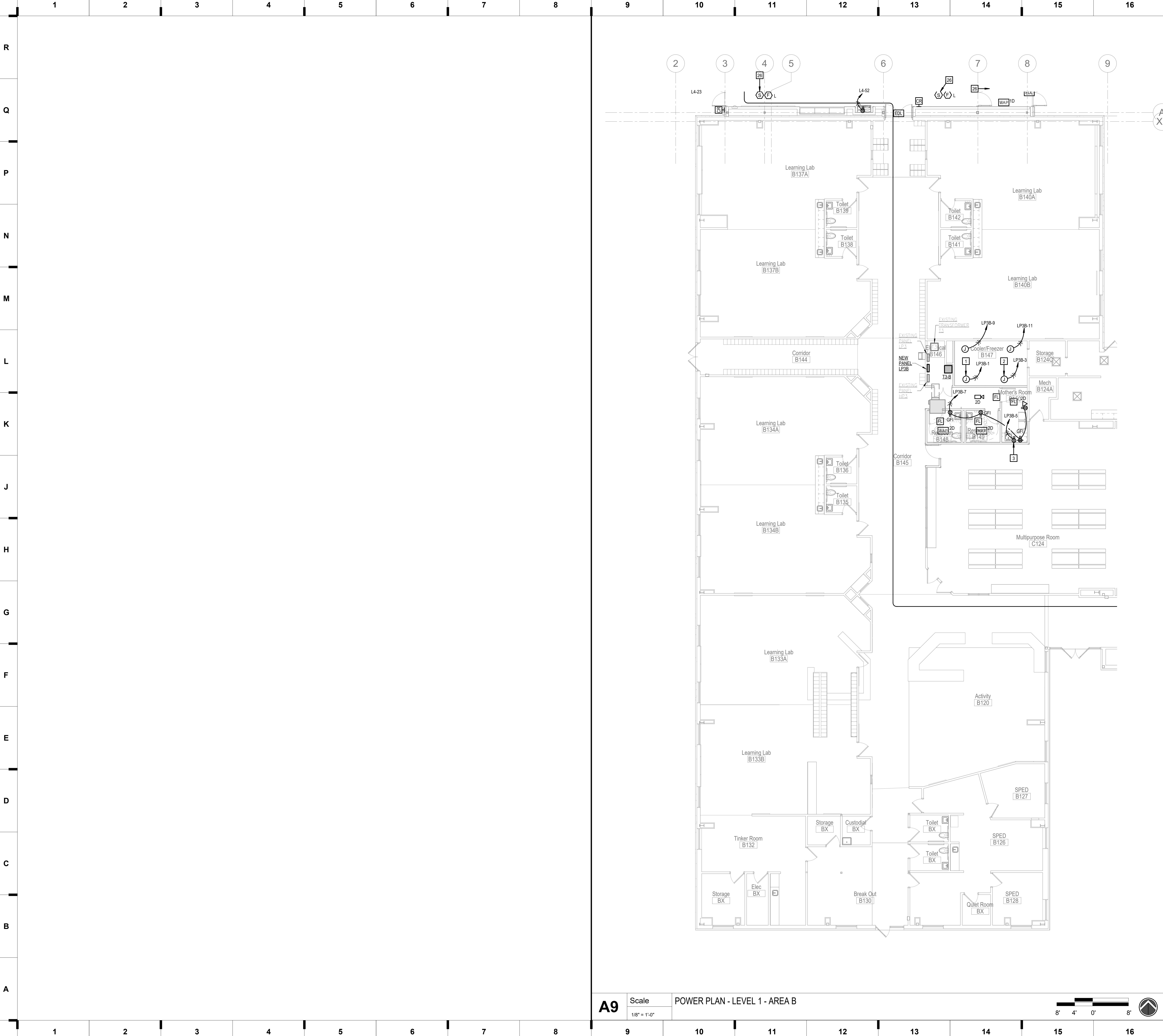
# E201A

## POWER PLAN - LEVEL 1 - AREA A

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## SHEET KEYNOTE LEGEND

### GENERAL NOTES:

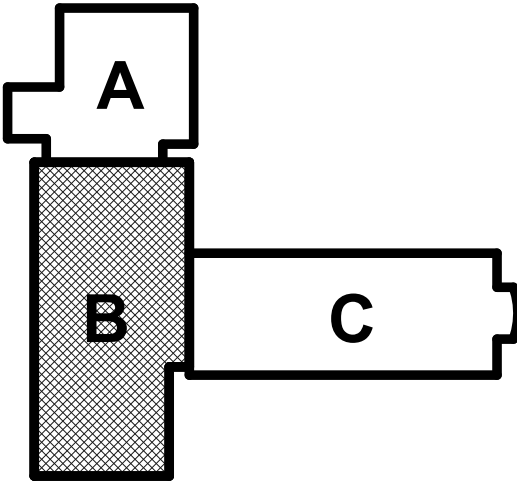
REFER TO E200 FOR GENERAL NOTES.

### PLAN NOTES

- ELECTRICAL CONNECTION TO WALK-IN FREEZER ACCESSORIES, COORDINATE WITH FOOD SERVICE PLANS.
- ELECTRICAL CONNECTION TO WALK-IN COOLER ACCESSORIES, COORDINATE WITH FOOD SERVICE PLANS.
- RECEPTACLE MOUNTED IN CASE WORK FOR UNDER COUNTER FRIDGE, COORDINATE WITH ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION.

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## KEY PLAN



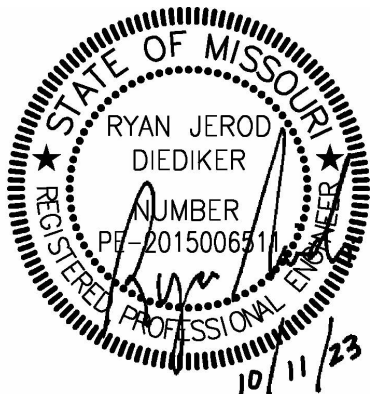
## EPiC Elementary Storm Shelter Addition

Liberty Public Schools

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Liberty, MO 64068

### REVISIONS:

#	Description	Date
1	ADDENDUM #1	09-14-23



### JOB NO: 23020.00

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# E201B

POWER PLAN - LEVEL 1 - AREA B

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Architecture # 00001051  
Structure # 2006011333

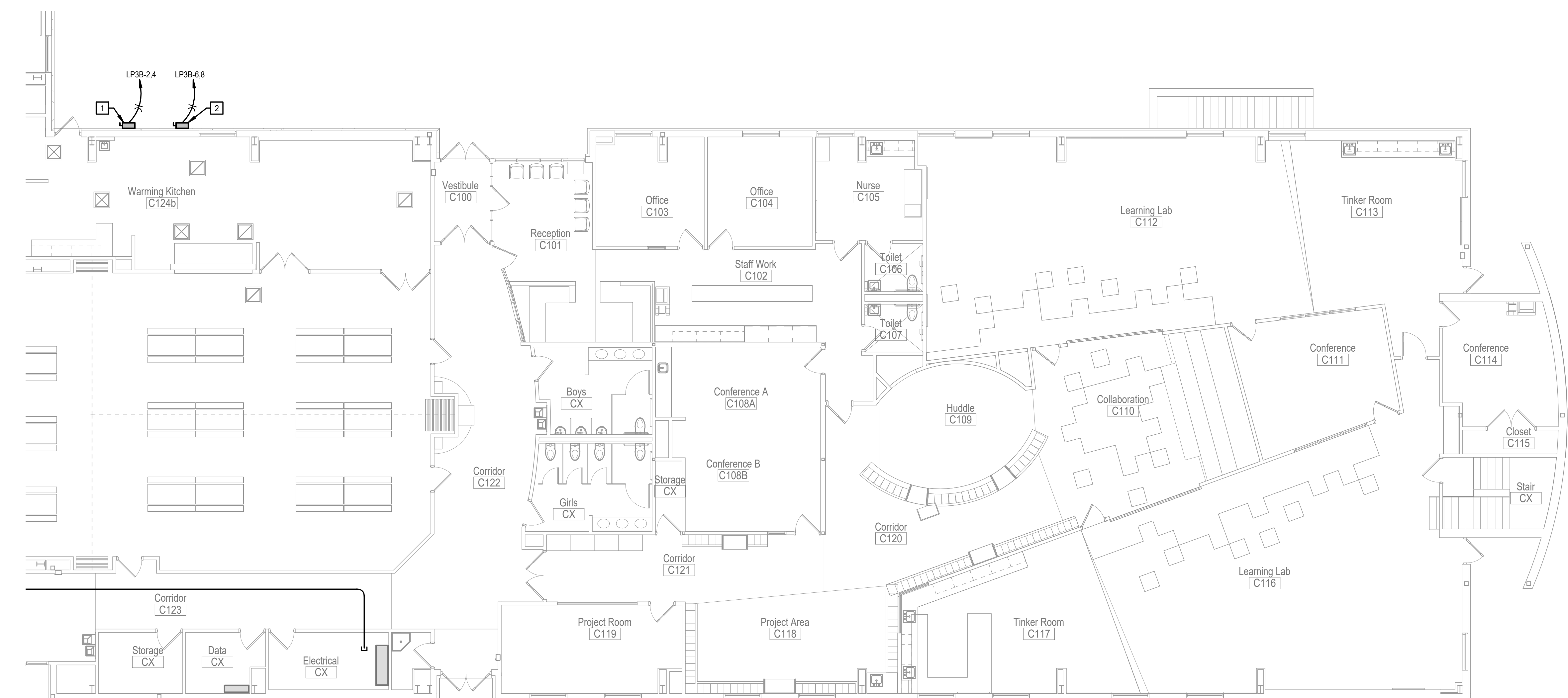
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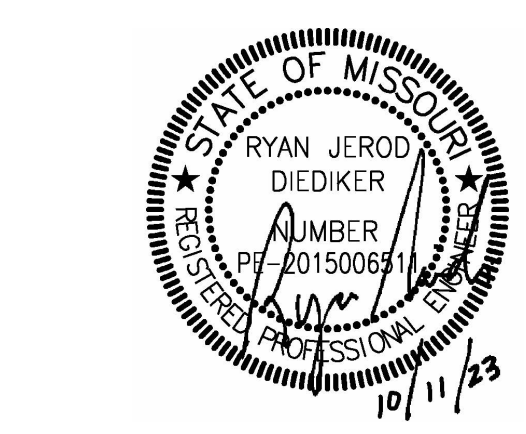
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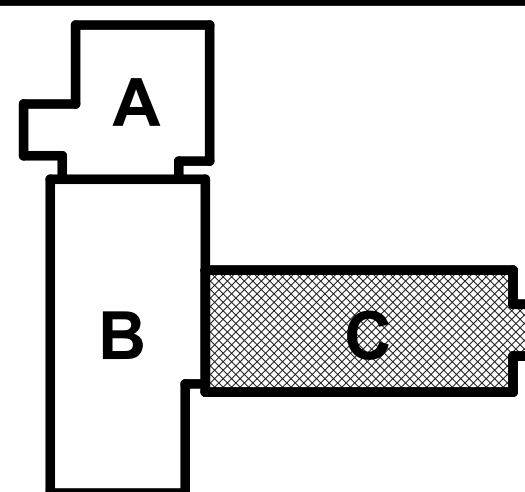


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DATE: 10/11/2023

**E201C**

KEY PLAN



SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER TO E200 FOR GENERAL NOTES.

PLAN NOTES:

- 1 POWER FOR FREEZER CONDENSING UNIT. PROVIDE 30A NEMA 3R NON-FUSED DISCONNECT. CIRCUIT WITH (4) #10, #10G, 1/2" C. COORDINATE WITH FOOD SERVICE PLANS.
- 2 POWER FOR COOLER CONDENSING UNIT. PROVIDE 30A NEMA 3R NON-FUSED DISCONNECT. CIRCUIT WITH (4) #12, #12G, 1/2" C. COORDINATE WITH FOOD SERVICE PLANS.

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Architecture # 0000101  
Structure # 200601133

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EPIC Elementary Storm Shelter Addition

Liberty Public Schools

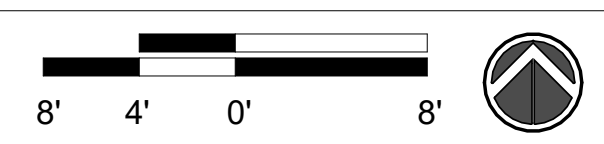
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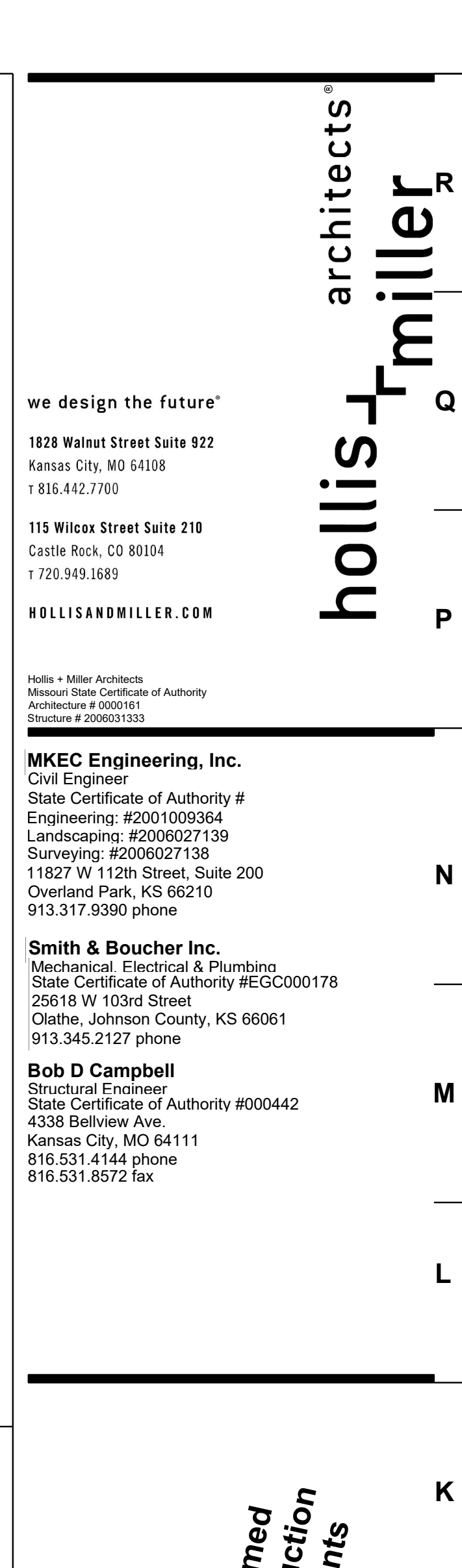
REVISIONS:		
#	Description	Date

**A1** Scale  
1/8" = 1'-0"

POWER PLAN - LEVEL 1 - AREA C







EXOTHERMIC WELD

\*NEAREST METAL FRAME OF BUILDING OR STRUCTURE IF STEEL COLUMN HOLD DOWN BOLTS ARE CONNECTED TO A CONCRETE ENCASED ELECTRODE.

\*SEE TABLE FOR SIZING

XFMR ENCLOSURE

PHASE A  
PHASE B  
PHASE C  
GROUND

PHASE A  
PHASE B  
NEUTRAL  
GROUND  
PHASE C

BOND TO ENCLOSURE


TRANSFORMER SIZE	(*)
15 KVA OR SMALLER	# 8 CU IN 1/2" C.
30, 45 KVA	# 6 CU IN 1/2" C.
75 KVA	# 2 CU IN 1/2" C.
112.5, 150 KVA	# 1/0 CU IN 3/4" C.
225 KVA	# 2/0 CU IN 3/4" C.
300, 500 KVA	# 3/0 CU IN 1" C.

**TYPICAL TRANSFORMER GROUNDING**

NOT TO SCALE

FLOOR BOX SCHEDULE							
TYPE	DESCRIPTION	POWER	DATA	AUDIO/VISUAL	ACCESSORIES	APPLICATION	BASIS OF DESIGN MANUFACTURER SERIES
FB1	3-GANG RECESSED FLOOR BOX, ROUND COVER, RECESSED CONNECTIVITY DESIGN ARCHITECT TO SELECT COVER FINISH AND EXACT LOCATION.	2 DUPLEX 3/4" C	NO	YES (FUTURE)	-	SLAB ON GRADE	HUBBELL - SYSTEM ONE CFB SERIES LEGRAND RFB SERIES
FB2	4-GANG RECESSED FLOOR BOX, ROUND COVER, RECESSED CONNECTIVITY DESIGN, ARCHITECT TO SELECT COVER FINISH AND EXACT LOCATION.	2 DUPLEX 3/4" C	YES (2) JACKS 1" C	YES HDMI JACK 1.5" C TO TV BOX	-	SLAB ON GRADE	HUBBELL - SYSTEM ONE CFB SERIES LEGRAND RFB SERIES

GENERAL NOTES:  
1. VERIFY FINISHES WITH ARCHITECT.

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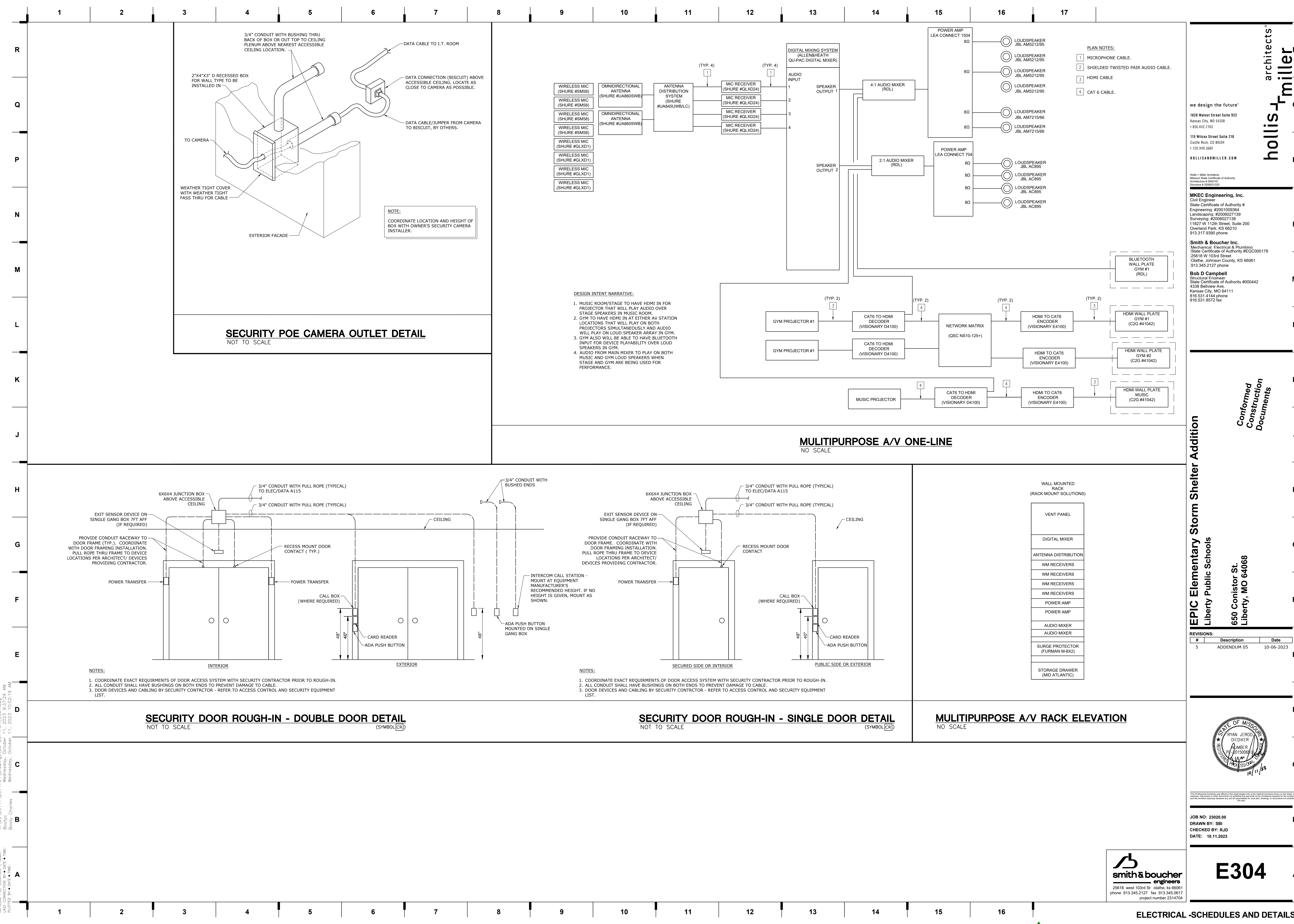












PROJECT NAME: 2314704 - Liberty Public Schools - Storm Shelter Addition  
LAST CORRECTION BY: SBI  
DATE: 10/11/23  
DRAWN BY: SBI  
CHECKED BY: RJD  
DATE: 10/11/23

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#	Description	Date
5	ADDENDUM 05	10-06-2023

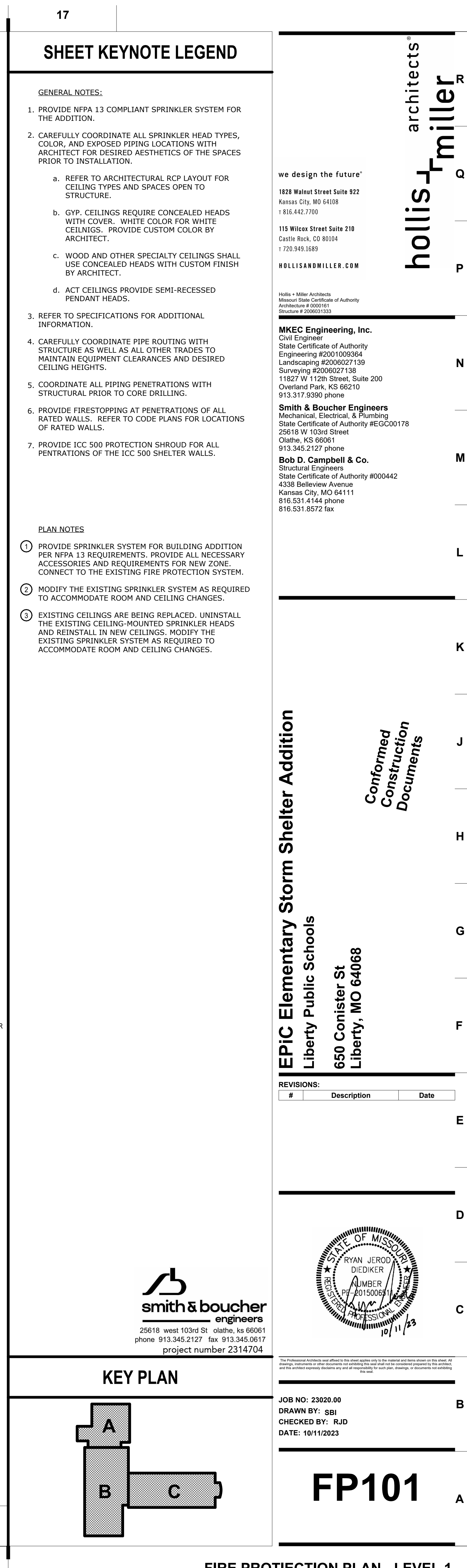
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project number 2314704

ELECTRICAL SCHEDULES AND DETAILS







ELECTRIC EQUIPMENT CONNECTION SCHEDULE

NOTES: \* REFER TO FOOD SERVICE CONNECTION PLAN FOR ADDITIONAL FOOD SERVICE EQUIPMENT REQUIREMENTS NOT SCHEDULED HERE-IN.  
+ SCHEDULE REFLECTS CONNECTION LOCATIONS / REQUIREMENTS, NOT ROOM-IN LOCATIONS / REQUIREMENTS.  
- SCHEDULED ELECTRICAL REQUIREMENTS ARE BASED UPON MANUFACTURER / MODEL INDICATED IN EQUIPMENT SCHEDULE.

ITEM	QTY.	DESCRIPTION (SEE EQUIPMENT SCHEDULE FOR MANUFACTURER / MODEL)	ELECTRICAL										ITEM
			EC	EP	V	PH	A	KV	HP	NEMA	ATF (N)	REMARKS	
A1	1	WALK-IN COOLER/FREEZER	X	-	120	1	6.0	-	-	-	-	EC1 COOLER, CONN TO ACCESSORIES REG'D (BY EC) - RE: DETAIL F6, THIS SHEET	A1
			X	-	120	1	0.0	-	-	-	-	EC1 FREEZER, CONN TO ACCESSORIES REG'D (BY EC) - RE: DETAIL F1, THIS SHEET	
A2	1	CONDENSING UNIT / EVAPORATOR, -10° FREEZER	X	-	120	1	18	-	-	-	-	EC2 J-BOX (HEAT TAPE), REG'D (BY EC) - RE: DETAIL F1, THIS SHEET	A2
			X	-	208-230	1	4.0	-	-	-	-	EC3 (EVAPORATOR), INTERCONNECTION TO CONDENSING UNIT REG'D (BY EC) - RE: DETAIL F1	
			X	-	208-230	1	19.1	-	2.0	-	-	EC4 (CONDENSING UNIT), CONN REG'D (BY EC) - RE: DETAIL F1, THIS SHEET	
A3	1	CONDENSING UNIT / EVAPORATOR, +35° COOLER	X	-	115	1	0.8	-	-	-	-	EC2 (EVAPORATOR), CONN REG'D (BY EC) - RE: DETAIL F6, THIS SHEET	A3
			X	-	208-230	1	9.7	-	1/2	-	-	EC3 (CONDENSING UNIT), CONN REG'D (BY EC) - RE: DETAIL F6, THIS SHEET	

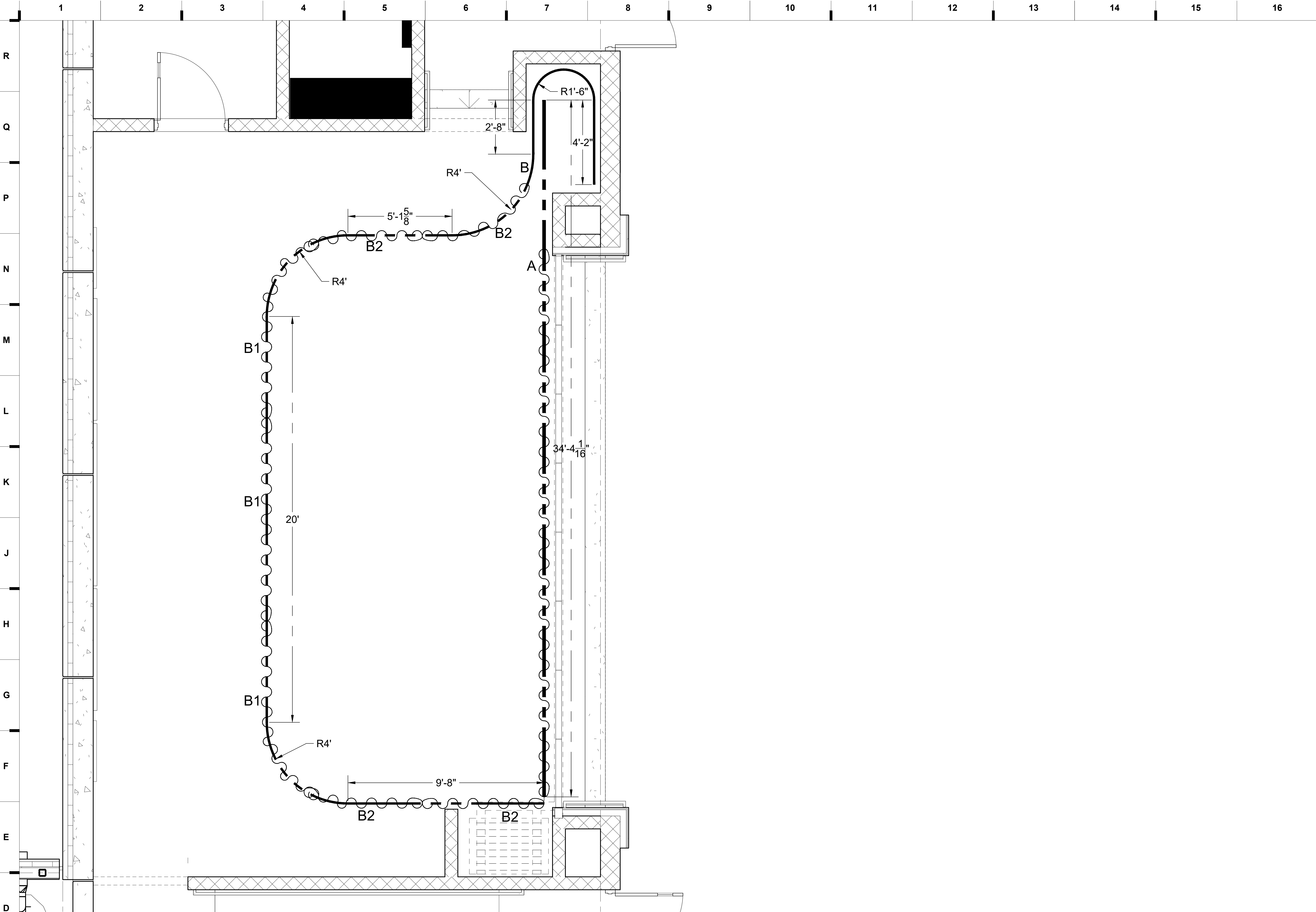
ELECTRICAL SYMBOLS

A (BY EC)  
BYP  
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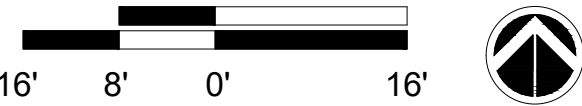


**D1** Scale 1/2" = 1'-0" RIGGING PLAN

IDEN #	DIST. FROM DATUM	LINE SET DESCRIPTION	CURTAIN WIDTH	CURTAIN HEIGHT	CURTAIN FULLNESS	CURTAIN FABRIC	CURTAIN COLOR	LDW TRIM AFF*	TRACK # OR BATTEN LENGTH	DIST FROM CENTER LINE	TRACK OPERATION	STACKING	NOTES	HANGING	ESTIMATED LOAD
A	12"	GRAND DRAPE	27'0"	14'4"	50%	22 OZ ENCORE	TBD	3/4"	34'4" ADC #114	-	ENDLESS LINE STAGE LEFT	ONE WAY DRAW STAGE LEFT	BOTTOM OF TRACK TO BE ABOVE TRACK FOR AIR WALL	DEAD HUNG	300#
B	VARIES	MASKING TRACK	-	-	-	-	-	14'6"	65'3" ADC #114	VARIES	WALK ALONG	-	(3) 90 DEGREE 48" R (1) 180 DEGREE 18" R	DEAD HUNG	200#
B1	-	MASKING CURTAIN TYPE 1	(3)10'0"	14'4"	25%	15 OZ ENCORE	BLACK	3/4"	MOUNT TO TRACK B	-	-	-	-	TRACK B	100#
B2	-	MASKING CURTAIN TYPE 2	(4)6'0"	14'4"	25%	15 OZ ENCORE	BLACK	3/4"	MOUNT TO TRACK B	-	-	-	-	TRACK B	100#

\*ABOVE STAGE FLOOR, TO CENTERLINE OF ELECTRIC LOWER BATTEN, BOTTOM OF CURTAIN, OR BOTTOM OF TRACK.  
ALL DIMENSIONS ARE APPROXIMATE. ACTUAL SIZES AND ELEVATIONS SHALL BE DETERMINED BY SITE CONDITIONS AND FIELD MEASUREMENTS.

**A1** Scale NO SCALE RIGGING SCHEDULE



SHEET KEYNOTE LEGEND

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EPiC Elementary Storm Shelter Addition

Liberty Public Schools

650 Conister St

Liberty, MO 64088

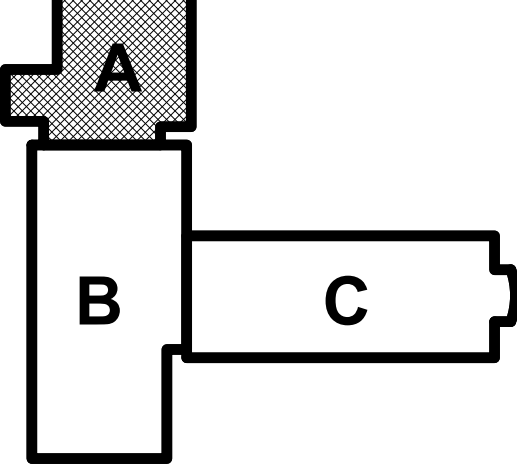
REVISIONS:

#	Description	Date
1	ADDENDUM #4	09/28/2023

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KEY PLAN



JOB NO: 23020.00  
DRAWN BY: CSH  
CHECKED BY: CSH  
DATE: 10/11/2023

TH100