NORTH CENTRAL HIGH SCHOOL, PHASE 2

Addendum 4

GENERAL

1. Sheet G0.02 was replaced on the SharePoint site to match those posted at Abadan and other sites where plans are available for viewing.

BID PACKAGE 07 – CONCRETE

1. Add the following to scope of work, Item 4: Also included is all core drilling required to complete this scope of work.

BID PACKAGE 08 – MASONRY

1. Add the following to scope of work, Item 5: Also included is weather barrier complete at masonry as outlined per specification section 061000 and as indicated per the plans. Mason is responsible for taking the weather barrier through flashing to be completed by others where masonry meets other exterior finish materials. Coordinate installation with framing subcontractor as required.

BID PACKAGE 09 – PLUMBING

1. For clarification: Cleaning and flushing of the domestic water system as outlined per 220000, 3.7a and the hydronic system as outlined per 232500, 3.1 will be completed by the GC/CM. Valves required to complete this process are the responsibility of this subcontractor. Also included are as-builts of valve locations.

BID PACKAGE 11 – ELECTRICAL

1. Add the following item to scope of work, Item 2: Electrical relocations and modifications at the existing buildings as indicated in the architectural floor plans and elevations. (Example: 2B/A7.02).

BID PACKAGE 14 – ROOFING AND SIDING

1. Add the following to scope of work, Item 9: Also included are column flashing boots per 17/A5.01.

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

ARCHITECTURAL

Specifications:

Pre-Bid Meeting attendance list attached.

TABLE OF CONTENTS, Between lines 13 and 14, ADD: "08 33 26 OVERHEAD COILING GRILLES" (and include entire specification section, attached hereto).

SECTION 01 23 00, ALTERNATES:

Page 2, lines 29-35: CHANGE TO READ:

ALTERNATE NO. 6B, COMMONS FLOORING: Under the Base Bid provide a bare concrete floor, ~~seeded with aggregate as specified in Section 03 30 00 and smooth troweled for polishing under Section 03 35 10, Polished Concrete Floors. Provide no finished concrete polishing except for a 12' x 12' test area.~~ Under this Alternate, ~~after rejection of the test area by the Owner,~~ provide resilient tile flooring (i.e. Altro Quartz tile) as specified in Section 09 65 00 in the Commons and in surrounding areas and as scheduled on the Room Finish Schedule. NOTE: The bid price of this Alternate must he held for 16 months from bid date due to the construction schedule for the Base Bid slab.

Page 3, lines 27-31: CHANGE TO READ:

ALTERNATE NO. 12, ILLUMINATED SIGNAGE: Under the Base Bid provide no illuminated signage. Under this Alternate provide exterior illuminated signage on the west façade (above entry Door N101AAA) ~~and on~~ ***Provide electrical rough-in only at*** the east façade (on diagonal southest exterior brick wall of Room N217). See Section 10 14 33, Illuminated Signage. NOTE: At the west entry position, the signage will be installed in lieu of transom spandrel glazing and integrated in the aluminum storefront framing.

SECTION 06 40 00, ARCHITECTURAL CASEWORK, p. 7, line 15, ADD:

Gate Latch: Ives No. 825, or KV No. 989.
Gate Hinges: Piano hinge.

SECTION 07 76 00, PLAZA PAVERS, p. 5, line 27, ADD:

"4. Install salvaged brick pavers loose-laid on membrane (with protection sheet). Install in running bond pattern, with all pavers nested tightly together and securely abutting bottom curb condition."

SECTION 08 33 23, OVERHEAD DOORS, p. 1:

Line 50: CHANGE TO READ: "Type H" (not Type J).

Line 52: CHANGE TO READ: CS3000-M-**SS**. (This is a global change to stainless steel or "SS", and not powder-coated steel or "PC" for all exposed-to-view components.)

SECTION 08 41 00, ALUMINUM STOREFRONT:

p. 2, Lines 26-31, CHANGE TO READ: "Kawneer Trifab VG 451T **and Trifab 601T**.... Aluminum framing shall have a 2" face width and a depth of 4-1/2" **or 6"** and provide..."

p. 2, between lines 32 and 33: ADD:

CURTAIN WALL SYSTEM:
Kawneer 1600 System 1, thermally improved frames or equivalent products of U.S. Aluminum, Marlin, EFCO, or Amarlite. System shall have a 2-1/2" face width and a depth of 7-3/8" or 5-3/4" as shown on the Drawings. Provide for 1" glazing. Provide all accessories as needed for a complete water-tight installation. Provide all reinforcement needed for applicable wind loads and door support.

SECTION 08 91 19, LOUVERS AND VENTS, p. 4, lines 18, 19: CHANGE TO READ:
Louvers: Model ELF445DX by Ruskin (for Louver L-C2); and Model ELF445DXH, heavy duty (for Louver LC-1) by Ruskin. Include ½" bird mesh screen.

SECTION 10 14 00, SIGNAGE, p. 3, line 19; CHANGE TO READ: "**CONCESSIONS**" (in lieu of TO BE DETERMINED).

SECTION 10 27 00, SPECIALTY MODULES, p. 2, line 20, ADD:

BALLET BARRE AT BLACK BOX:

Adjustable wall brackets, with accessory 1-3/4" wood rail (any hardwood species, clear finish). Equal to products of Tumbl Trak or Dance Equipment International, 1-408-267-1446 (www.danceequipmentintl.com). Bracket to be installed in gaps between mirrors.

SECTION 31 63 29, MICROPILES:

p. 1, line 34, 19: Change to Read: "...and Addendum No. 1 dated February 4, 2016...."

p. 5, lines 4-5, Add: b. "Micropile Design and Construction, FHWA NHI-05-039."

p. 5, lines 13-14: Change to Read: "...and Addendum 1 dated February 2, 2016."

p. 5, line 27, Change to Read: "...vertical, uplift, lateral loads, and horizontal loads designated..."

p. 6, after line 17, Add: "c. For horizontally installed micropiles on sheet S3.02 and detail 12/S4.03, the no load zone is 8'-0" minimum beyond the inside face of the existing wall."

p. 6, line 24, Change to Read: "...to 0.75 inches at 1 x design ASD loads."

p. 6, line 25, Change to Read: "...to 0.50 inches at 1 x design ASD loads."

p. 6, after line 25, Add: "6. For horizontally installed micropiles, after testing, lock off the anchor to a snug tight condition after taking up any slack in the anchor. Lock off load shall not exceed ½ x design ASD load and limit the maximum lateral deflection as noted above."

p. 7, lines 35-36, Change to Read: "...or coupon test results for permanent casing without mill certification."

p. 9, line 36: Change to Read: "...Types I, II, III or V."

p. 14, lines 17, 18: Change Item E to Read: "Conduct compression load tests in accordance with ASTM D1143 and tension load tests in accordance with ASTM D3689 and as specified."

p. 14, lines 19-21, Change Item F to Read: "Proof load tests shall be conducted on 20 percent of production vertical micropiles. The Contractor, DCI and GeoEngineers shall agree on the test locations. Proof load test each horizontally installed anchor to the required design load and lock off. If micropiles are designed to resist axial loads only in skin friction, then either tension or compression proof load tests can be used. If micropiles are designed to resist axial loads in end bearing, then compression proof load test methods should be used."

p. 14, lines 33-38, Change Item I to Read: "Load the proof test micropiles in intervals specified herein until the required proof load is reached, or until the micropile exhibits continuous movement at constant load. Proportion any associated steel testing apparatus such that the maximum stress does not exceed 80% of the guaranteed ultimate tensile strength of the steel (GUTS). Position the jack at the beginning of the test such that unloading and repositioning of the jack during the test will not be required."

p. 18, Delete: lines 17-20. (These lines refer to a payment method not used in this contract.)

Drawings:

SHEET G1.01, GRID PLAN
ADD: New attached sheet G1.01

SHEET G1.06, LEVEL 1&2 CODE PLAN:
CHANGE: Per the attached clarification CA-08 clarifying 1-hour construction around elevator machine room.

SHEET A1.01, SITE DEMOLITION PLAN:
DELETE: Coded Note 20

SHEET A1.02, SITE PLAN:
ADD: A note at the "NEW CHILLER" note in the north area "CONC HOUSEKEEPING SLAB – SEE MECH"

SHEET A3.03, COMMONS LEVEL FLOOR PLAN:
CHANGE: Per the attached clarification drawings CA-09 & CA-10

SHEET A3.04, LEVEL 3 FLOOR PLAN – AREA B:
CHANGE: Per the attached clarification drawing CA-17.

SHEET A3.10, DOOR SCHEDULE:
ADD: Door N318C, 3'-0" x 7'-0", DOOR TYPE: A, DOOR MATERIAL: STL, DOOR FINISH: PT, FRAME TYPE: F-1, FRAME MATERIAL: STL, FINISH: PT, HEAD&JAMB DETAILS: 1-A5.21

SHEET A4.01, EXTERIOR ELEVATIONS:
CHANGE: Elevation 3 with the attached clarification drawing CA-11.

SHEET A4.02, EXTERIOR ELEVATIONS:
CHANGE: On Elevation 3, add a text note pointing to the spandrel glass to read, "SEE ELEV 12/A4.02 FOR ALTERNATE WORK"
ADD: Add Elevation 12 with the attached clarification drawing CA-12.
CHANGE: Elevation 10 with the attached clarification drawing CA-13.
CHANGE: Elevation 11 with the attached clarification drawing CA-14.

SHEET A4.06, BUILDING SECTIONS:
CHANGE: Section D with the attached clarification drawing CA-15.

SHEET A5.10, EXTERIOR DETAILS:
CHANGE: Detail 17, Callout for "CURT WALL MOUNTING CLIP…" should point to clip at roof level.
CHANGE: Detail 19, revise text from "1 ½" RIGID INUL, TYP" to read, "2" RIGID INSUL TYP".
CHANGE: Detail 23, revise dimension from "10 3/8"" to read, "11" +/-".
CHANGE: Detail 23, revise text to read, "5 3/4" ALUM CW SYSTEM, ALIGN FACE W/ EXIST ADJT".

SHEET A5.11, EXTERIOR DETAILS:
CHANGE: Detail 8, revise text from "1 ½" RIGID INUL" to read, "2" RIGID INSUL".
CHANGE: Detail 14, revise text from "1 ½" RIGID INUL, TYP" to read, "2" RIGID INSUL TYP".

SHEET A5.12, EXTERIOR DETAILS:
REPLACE: Sheet in its entirety with attached drawing sheet A5.12.
ADD: Add Detail 20 to sheet.

SHEET A5.13, EXTERIOR DETAILS:
REPLACE: Sheet in its entirety with attached drawing sheet A5.13.
ADD: Add Details 17 and 18 to sheet.

SHEET A6.10, STAIR DETAILS:
ADD: NEW detail 20 per the attached clarification CA-18.

SHEET A9.01-A9.04, REFLECTED CEILING PLANS:
CHANGE: For clarity, revise the legend with the attached clarification drawing CA-19.

SHEET A9.01, LEVEL 1 REFLECTED CEILING PLAN AREA B:
ADD: At exterior soffit area over the bench on the east side, add a ceiling type callout to read, "10'-2"/C-10".

SHEET A9.04, LEVEL 3 REFLECTED CEILING PLAN AREA B:
CHANGE: At corridor soffit area along Grid E2 and near Grid EF, revise ceiling type callout along glass to read, "11'-8"/C-2"
CHANGE: Revise ceiling at West Entry with the attached clarification drawing CA-16.

Prior Approvals:

The following products are approved for bidding subject to review and approval of Submittals and provided the Manufacturer meets all the requirements of the originally specified product. It shall be the initiator's responsibility to ensure that the proposed substitution is equal in every respect to the originally specified product, including but not limited to finish, size, weight, clearances, durability, maintenance, ease of operation, performance criteria, etc.

No Items

END OF ARCHITECTURAL ADDENDUM NO. 4

GRAHAM

NORTH CENTRAL HIGH SCHOOL, PHASE 2

Graham Construction & Management, Inc.
331 N. Fancher Road
Spokane, Washington 99212

PRE-BID MEETING FOR BID PACKAGES 1, 5, 7-15

DATE: February 25, 2016

NAME	COMPANY	EMAIL ADDRESS	PHONE NUMBER
BRENT NEWBRY	GREEN HAT PLUMBING	GREENHAT@THEOFFICENET.COM	509 936-0473
Scott Lee	Peterson Electric	scott@petersonelectric.com	509 981-5754
KEN PRIDDY	PICK ELECTRIC	KEN@PICKELECTRIC.com	509 532-1975
JASON SPIETZ	Thyssen Krupp Elevator	jason.spietz@thyssenkrupp.com	509-309-1530
WADE FRIESEN	VERTICAL OPTIONS ELEVATOR	WADE@VOELEVATOR.COM	509-951-6416
Natalie Budde	Fire Control	Natalie@Fcontrol.com	489-1444
JAY HORTON	ENERGIZED ELECTRIC	jay@energizedelectric.com	483-6447
BUDDY REAGAN	TYCO	Buddy6T4@MECHANICAL	208 772-3911
BEN ENNS	CUTTING EDGE PLUMBING	bene@cepm.biz	208-659-7438
Reggie Bruce II	Graham	reggieb@grahamus.com	509 534 1030
Parker Vogel	Graham	parkerv@grahamus.com	
John Johnson	Graham		
BOB CROSS	Graham		
Katie Prugh	Graham	KatieP@grahamus.com	

GRAHAM

NORTH CENTRAL HIGH SCHOOL, PHASE 2

Graham Construction & Management, Inc.
331 N. Fancher Road
Spokane, Washington 99212

PRE-BID MEETING FOR BID PACKAGES 1, 5, 7-15

DATE: February 25, 2016

NAME	COMPANY	EMAIL ADDRESS	PHONE NUMBER
Damen Hess	Mountain States Co.	Damen@MtnSt.com	710-4573
TERRY RIZZUTO	" "	terry@MTNST.com	532-0110
KEITH YADEN	AGEE ELECTRIC INC.	KEITH@AGEEELECTRIC.COM	951-1016
NATHAN PALADICHUK	McKINSTRY	nathanp@mckinstry.com	509.999.3827
Jeremy Gennett	Mckinstry	jeremyg@mckinstry.com	509-993-6575
RAY SOMERDAY	POWER CITY ELECTRIC	r.somerday@powercityelectric.com	(509)535-8500
David Johnson	Icon Roofing	david@iconroofing.com	509-532-1761
BOB STARKEY	Krueger sheet Metal	bseksmetal.net	509-439-0221
TERRY CRUNDER	ARMO MECH	TERRY.CRUNDER@ARMOMECH.COM	
HAROLD ELOFSON	GN MASONRY	helofson@greatnorthernmasonry.com	879-1927
Matt Howell	Madsen & Little Mech	MattH@madsenlittle.com	879 6506
Brian Chapman	Arctic Lighting	brianchapman2@	370-3623
	SPS.	CRAIG@SPOKANECONCRETE.COM	

SECTION 08 33 26 - OVERHEAD COILING GRILLES

PART 1 - GENERAL

DESCRIPTION:

Extent of the work is shown on the drawings.

Sustainability: Conform to Section 01 81 13 WSSP requirements for use of recycled content, waste management, regional materials, and indoor air quality. Tabulate all materials cost of work of this Section. In addition, separately tabulate premium costs of materials (if any) related to fulfillment of WSSP requirements.

Work Included: Provide all materials, labor, equipment and services necessary to furnish and install the following security grilles as specified herein:

Overhead Coiling Grilles

WARRANTY:

Provide one-year warranty against defects in manufacture and installation, with such defects repaired at no cost to owner.

SUBMITTALS:

Furnish descriptive literature and shop drawings for all materials specified herein in accordance with Section 01300.

PART 2 - PRODUCTS

GENERAL REQUIREMENT FOR ALL MOTORIZED DOORS:

Under this specification section, furnish all necessary devices, accessories, conduit and wiring for a complete installation, with all specified systems fully operational. A single point power connection and (if applicable) fire alarm connection will be brought to motorized grilles. It is this contractor's responsibility to provide all other necessary wiring, conduit, J-boxes, systems wiring, key switches and other accessories needed for a complete installation, fully functional in every respect and interfaced with building power and fire alarm systems. All work shall meet standards specified in Division 16, Electrical. Coordinate switch box location and conduit placement with concrete formwork, masonry and steel framing. See architectural floor plans for motorized switch locations. Provide 3-position key switches. Key switches to accommodate a Schlage 6-pin cylinder similar to 20-001.

OVERHEAD COILING SECURITY GRILLES

Doors Included: Type J doors per Door Schedule.

Motorized coiling grilles equal to Overhead Door Corporation 670 Series Security Grille, aluminum curtain (clear anodized), standard lattice at 2" centers, with key-operated switch as noted above, no hoods required. Include standard guides, brackets, counterbalance, and other features as needed for complete installation. Locking: via operating gearing.

PART 3 - EXECUTION

INSTALLATION:

Install grilles and operating equipment complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports in accordance with final shop drawings, manufacturer's instructions, and as specified herein.

Install wiring in accordance with applicable local codes and the National Electrical Code Standard. Materials shall be UL listed.

Test door opening sequence when activated by the building's fire alarm system. Reset door after successful test.

Upon completion of installation including work by other trades, lubricate, test and adjust doors to operate easily, free from warp, twist or distortion and tight-fitting for entire perimeter. Provide training for the owner's maintenance and building staff on operation of doors, and reset of all fire-alarm-activated doors after alarm condition expires.

END OF SECTION 08 33 26

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

STRUCTURAL

Drawings:

See clouded items on each sheet referenced below.

SHEET S1.01, STRUCTURAL GENERAL NOTES:

CHANGE: Under INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS, under SOILS & FOUNDATION CONSTRUCTION, under Continuous Inspections change the Helical pier reference to "Micropile Foundations per IBC Section 1705.9.

ADD: Under INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS, under STRUCTURAL MASONRY, under Periodic Inspections add Infill of Openings at Existing Masonry Walls.

CHANGE: Under SOILS AND FOUNDATIONS, change the following:

GEOTECHNICAL REPORT: Recommendations contained in **"Geotechnical Engineering Services during Design, North Central High School Phase II Modernization",** report number **2562-020-04** by GeoEngineers dated September 4, 2015 and **"Geotechnical Engineering Services during Design, North Central High School Phase II Modernization, Black Box Classroom",** report number **2562-020-04** by GeoEngineers dated **February 2, 1016** were used for design.

DESIGN SOIL VALUES:

Allowable Foundation Bearing Pressure ..... at Addition	3000	PSF – Conventional Foundations
Allowable Foundation Bearing Pressure ..... at Black Box	6000	PSF – Conventional Foundations
Passive Lateral Pressure	250	PSF/FT
Active Lateral Pressure (unrestrained).....	30	PSF/FT
Coefficient of Sliding Friction.....	0.40	

Micropiles.....Bidder Designed, Reference Foundation plans for loading information

SHEET S1.02, STRUCTURAL GENERAL NOTES:

CHANGE: the REINFORCED UNIT MASONRY section in its entirety.

CHANGE: Under METAL ROOF AND FLOOR DECK, under CONCRETE FILL, change the WWF note to WWF 6x6-W2.9xW2.9.

ADD: Under COLD-FORMED STEEL FRAMING add the following section:

COLD FORMED STEEL CONNECTORS: Shall be "Strong Tie" by Simpson Company as specified in their latest catalog. Alternate connectors by other manufacturers may be substituted provided they have current ICC approval for equivalent or greater load capacities and are reviewed and approved by the SER prior to ordering. Connectors shall be installed per the manufacturer's instructions.

SHEET S3.00, FIELD LEVEL AREA B - EAST:

ADD: Detail reference 1/S4.04 along grid K between grids EF and 6.

REVISE: Location of footing step and graphical representation of the foundations at the west end of the building north of grid 6.

ADD: Pile cap, pier and pile tie at the east entry north of grid 6.

REVISE: The pile cap schedule.

REMOVE: Solid grout existing CMU wall full height note.

SHEET S3.01, LEVEL 1 FOUNDATION PLAN – AREA B:

REVISE: Grade beam callout at grid N between grids 7 and 8.

ADD: Stemwall and footing at the east entry between grids E and F, north of grid 6.

ADD: Pilaster size and reinforcing for the W14 column at grid 6, east of grid E.

REVISE: At the note between grids EF and 6 east of grid D, revise the note "#6 Vert @ 12" oc & #5 Horiz @ 12" oc (4) sides (2) Places at Piers."

REVISE: The pile cap schedule and footing schedule.

SHEET S3.02, LEVEL 1 FOUNDATION PLAN – AREA A:

ADD: Dimensions locating the vertical micropiles. Add the horizontal micropiles and the dimensions to locate them.

ADD: Foundation plan notes and add plan note 11 and change Typical Details to plan note 12.

REVISE: Revise note "22" conc pier …(sets of 3) 3 @ 3" oc…".

REVISE: At Grid 12, Revise T/Ftg = 96'-2 ½".

SHEET S3.03, COMMONS LEVEL FLOOR FRAMING & FOUNDATION PLAN:

ADD: Between grids D and E and 6 to 7, add section cut 19/S4.05, the note for the 12" wall and the top of wall elevations where the new slab is infilling an existing opening.

ADD: Dots at beam to column connections for field welding per 17/S5.02.

SHEET S3.04, LEVEL 3 FLOOR FRAING PLAN:

ADD: At the stair, add slab S1 callout at stair landing, revise detail callout 7/S5.07 to 2/S5.07 and cut detail 7/S5.07 looking south at the stringer and landing beam connection.

ADD: Dots at beam to column connections for field welding per 17/S5.02.

SHEET S3.05, ROOF LEVEL FRAMING PLAN:

DELETE: At the W14x26 callout and the 20k callout between grids EF, east of grid J, delete the note 6'-0" oc max.

REVISE: Revise note "Fall Restraint per 6/S5.06 sim" at the skybridge between grids 3 and 4, south of grid D.

ADD: Dots at beam to column connections for field welding per 17/S5.02.

SHEET S4.01, FOUNDATION DETAILS:

CHANGE: Detail 13. Change the anchor bolt note to "(4) ¾" diameter A36 AB's w/....."

REVISE: Detail 5. Revise detail 5 to be a detail for the Stemwall at Bench.

SHEET S4.03, FOUNDATION DETAILS:

REVISE: Detail 2. Revise 8" typ to 6" typ for top of wall elevation below top of slab.

REVISE: Detail 4. Revise the note "1/2" diameter threaded rod ea side of column & at 12" oc, embed 6" in adhesive."

REVISE: Detail 12 in its entirety.

SHEET S4.04, FOUNDATION DETAILS:

ADD: Detail 11. Add Note in lower left corner "Single mat reinforcing at similar. Concrete slab and reinforcing per 19/S4.05 at similar."

REVISE: Detail 14. Revise the note "Additional information per 8/S4.02."

ADD: Detail 20. Add Note "Cont pile tie reinf thru slab. Not shown for clarity." And revise dimensional leader extent for the grade beam depth.

SHEET S4.05, FOUNDATION DETAILS:

ADD: Add Detail 19.

REVISE: Detail 5. Delete the note T/Pier = 100'-0"

REVISE: Detail 10. Revise the note to T/Pier = 100'-1"

SHEET S5.03, FRAMING DETAILS:

REVISE: Detail 2. Revise the note " 1 ½ x 43 mil taut horiz flat strap @ third points ..." and delete note 3.

SHEET S5.05, FRAMING DETAILS:

CHANGE: Detail 5. Change the centerline of truss webs to the dimensions shown clouded in the detail.

SHEET S5.07, FRAMING DETAILS:

CHANGE: Detail 4. The Plate ½" for the connection of the Channel to the column should be a knife plate.

SHEET S6.01, BRACED FRAME ELEVATIONS:

REVISE: Detail 15 AND 19. Revise the detail callout 15/S4.04 to 5/S4.04.

REVISE: Detail 16. Revise the note to read "Completed truss to have 2" camber at mid-span."

REVISE: Detail 20. Revise the detail callout 20/S6.01 to 19/S6.10.

END OF STRUCTURAL ADDENDUM NO. 4

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

FOODSERVICE

Specifications:

EQUIPMENT LIST, Page 10:

DELETE:

Item: 16 Work Table
Qty: 1
Manufacturer: Advance Tabco
Model Number: SS-488
Remarks: Double Overshelf/ Pot Rack, Mid-mount, Adjustable w/ 2 Ea. – SS-2020 Drawers

ADD:

Item: 16 Work Table
Qty: 1
Manufacturer: Advance Tabco
Model Number: SS-487
Remarks: Double Overshelf/ Pot Rack, Mid-mount, Adjustable w/ 2 Ea. – SS-2020 Drawers

Drawings:

SHEET FS101, FOODSERVICE PLAN:

CHANGE: Relocate Item 15, Mixer and replace Item 16, Work Table as shown on the attached clarification drawing CK-01.

SHEET FS102, FOODSERVICE EQUIPMENT SCHEDULE:

CHANGE: Item 16, Work Table- Model to #SS-487 as shown on the attached clarification drawing CK-02.

CHANGE: Item 18, Mixer- Electrical Remarks from CO mounted on Work Table to Drop Cord as shown on the attached clarification drawing CK-02.

SHEET FS103, FOODSERVICE ELECTRICAL PLAN:

CHANGE: Relocate Item 15, Mixer junction box and change electrical connection for Item 18, Mixer as shown on the attached clarification drawing CK-03.

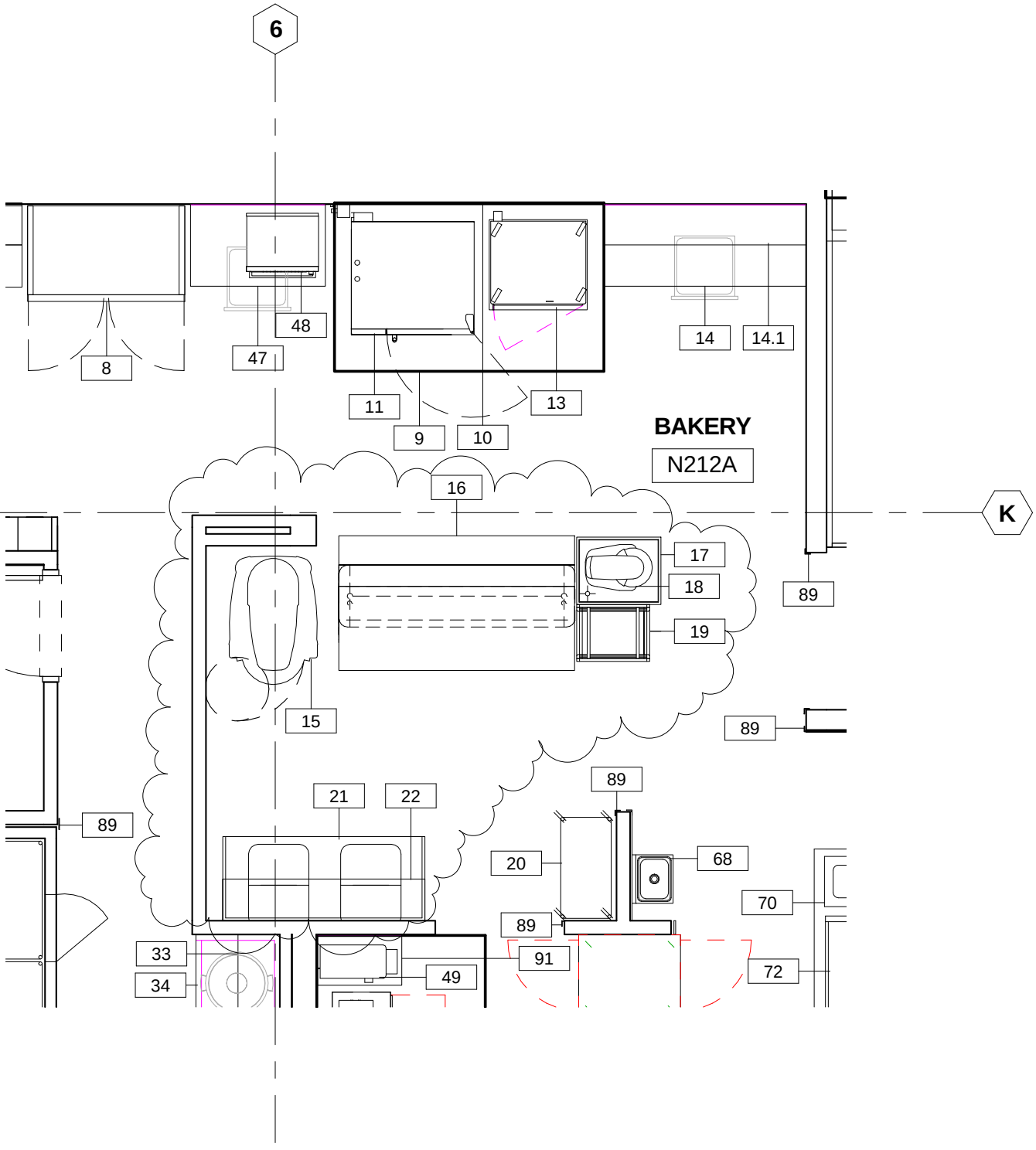
SHEET FS105, FOODSERVICE ELEVATIONS:

CHANGE: Change Elevations 2- Bakery South
and 4- Prep as shown on the attached clarification drawing CK-04.

SHEET FS106, FOODSERVICE ELEVATIONS:

CHANGE: Change Elevation 1- Kitchen as shown on the attached clarification drawing CK-05.

END OF FOODSERVICE ADDENDUM NO. 4



SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HIGH SCHOOL - PHASE 2

1600 NORTH HOWARD STREET, SPOKANE, WA 99205

NAC ARCHITECTURE
nacarchitecture.com
1203 WEST RIVERSIDE AVE
SPOKANE WA 99201
P:509.838.8240

NAC NO	111-15017
FILE	
DRAWN	CR
CHECKED	SCP
DATE	03/02/16

CK1

RE: FS101

ADDENDUM 4

Equipment Schedule Revision													
Item Number	Quantity	Description	Manufacturer	Model	Volts	Phase	FL Amps	Watts	HP	Electric Connection Type	Conn Plug	Elec Conn Rl Height	Electrical Remarks
	40												
1	1	Mop Sink	By G.C.										
2	1	Washer/ Dryer	By G.C.										
3	1	Hand Sink	Advance Tabco	7-PS-90									
4	1	Utility Sink	Advance Tabco	93-61-18--18L									
4.1	1	Wall Mount Faucet	T&S Brass	B-0231									
5	1	Wall Shelf	Advance Tabco	WS-15-96									
6	1	Work Table	Advance Tabco	KMS-305									
7	1	Lockers	By G.C.										
8	1	Refrigerator/Freezer	Delfield	SSDFL2-S	120 V	1	8.00 A		3/4		14-20P	7' - 0"	120/208V
9	1	Exhaust Hood, Type II	CaptiveAire	6030 VHB-G-PSP-F	120 V		15.00 A			Direct		9' - 2"	
10	1	S/S Wall Flashing	Stainless Steel	Custom									
11	1	Combi Oven- Double Stacked	Alto-Shaam (Existing)	(2)7.14ES/I/SK/Simple	208 V	3	38.50 A	13900 W		Direct		1' - 0"	Second Connection at 3' 6"
11 Alternate	1	Combi Oven- Double Stacked	Alto-Shaam	CTC7-20E/CTC7-20E	208 V	3	45.70 A	17000 W		Direct		1' - 0"	Second Connection at 3' 6"
12	2	6 Gallon Kettle	Cleveland	KET-6-T	208 V	3	17.00 A	6100 W		Direct		2' - 0"	
12.1	2	Equipment Stand	Cleveland	ST-28									
13	1	Retherm Oven	Cres Cor	RO-151-F-1332DE	208 V	3	33.30 A	12000 W		Cord and Plug	6-50P	4' - 0"	
14	1	Work Table	Advance Tabco	KMS-306									
14.1	1	Wall Shelf	Advance Tabco	WS-15-72									
15	1	80 Qt. Mixer	Hobart (Existing)	M802	208 V	3	10.80 A		3	Direct		4' - 0"	
15 Alternate	1	60-Qt Mixer	Hobart	HL600-1STD	208 V	3	10.00 A	2080 W	2.7	Direct		4' - 0"	
16	1	Work Table w/ Double Shelf/ Pot Rack	Advance Tabco	SS-487									
17	1	Mixer Stand	Existing										
17 Alternate	1	Mobile Mixer Stand	Advance Tabo	MX-SS-302									
18	1	20-Qt Mixer	Hobart (Exisitng)		120 V	1	8.00 A		1/2	Cord and Plug	5-15P	7' - 0"	Drop Cord
18 Alternate	1	20-Qt Mixer	Hobart	HL200-1STD	120 V	1	8.00 A		1/2	Cord and Plug	5-15P	7' - 0"	Drop Cord
19	1	Pan Rack	Advance Tabco	PR20-3W									
20	1	Mobile Shelving	Metro	A336BC									
21	1	Baker's Table	Duke	336									
22	1	Wall Shelf	Advance Tabco	WS-15-72									

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HIGH SCHOOL - PHASE 2

1600 NORTH HOWARD STREET, SPOKANE, WA 99205

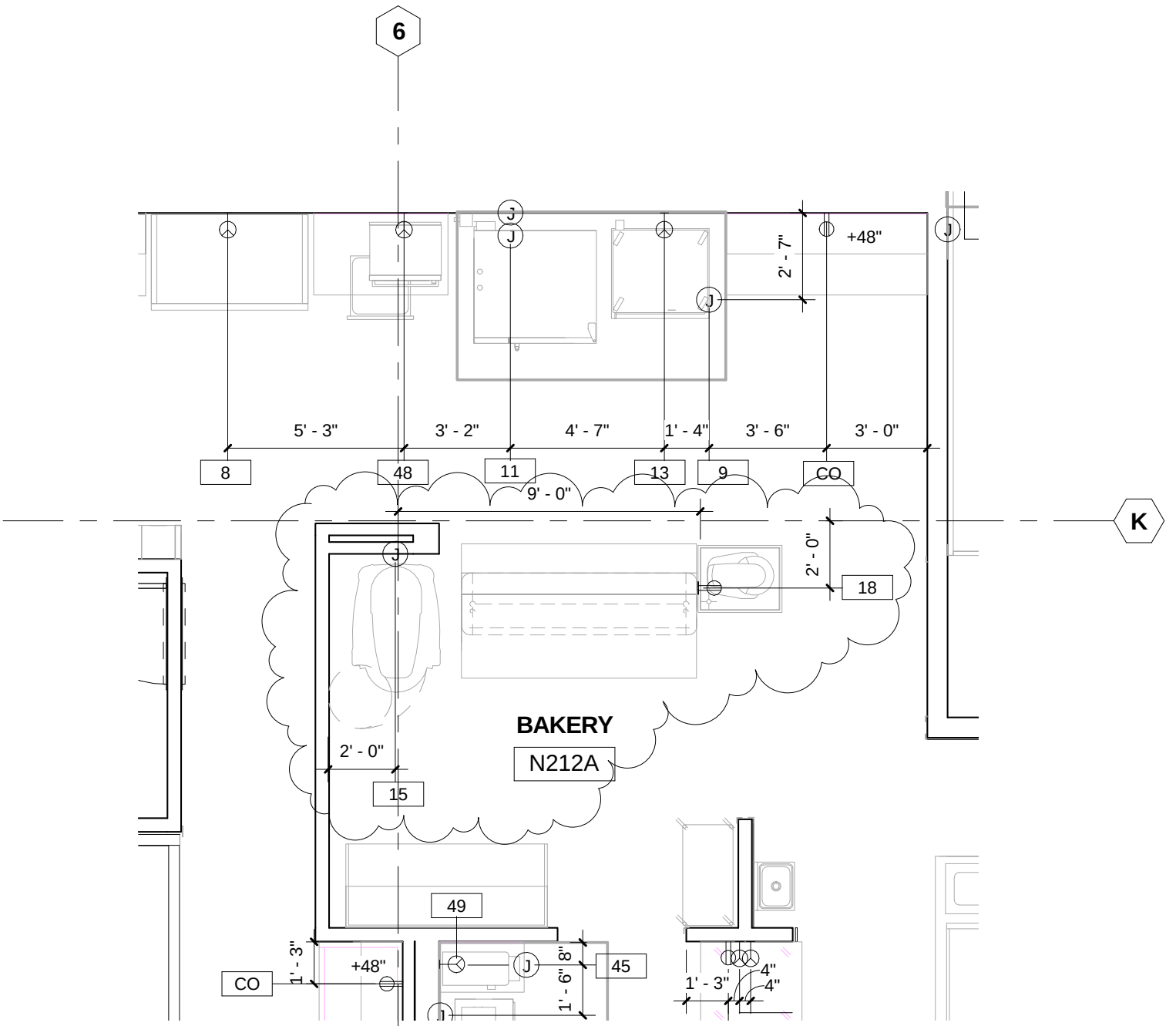
NAC ARCHITECTURE
nacarchitecture.com
1203 WEST RIVERSIDE AVE.
SPOKANE WA 99201
P:509.838.8240

NAC NO 111-15017
FILE
DRAWN CR
CHECKED SCP
DATE 03/02/16

CK2

RE: FS102

ADDENDUM 4



Commons Level- Foodservice Electrical Plan

Revision

1/4" = 1'-0"

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HIGH SCHOOL - PHASE 2

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NAC NO	111-15017
FILE	
DRAWN	CR
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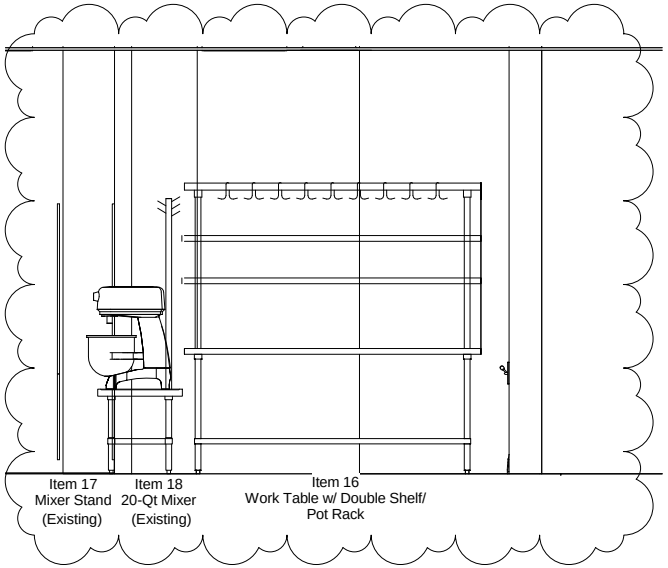
DATE	03/02/16

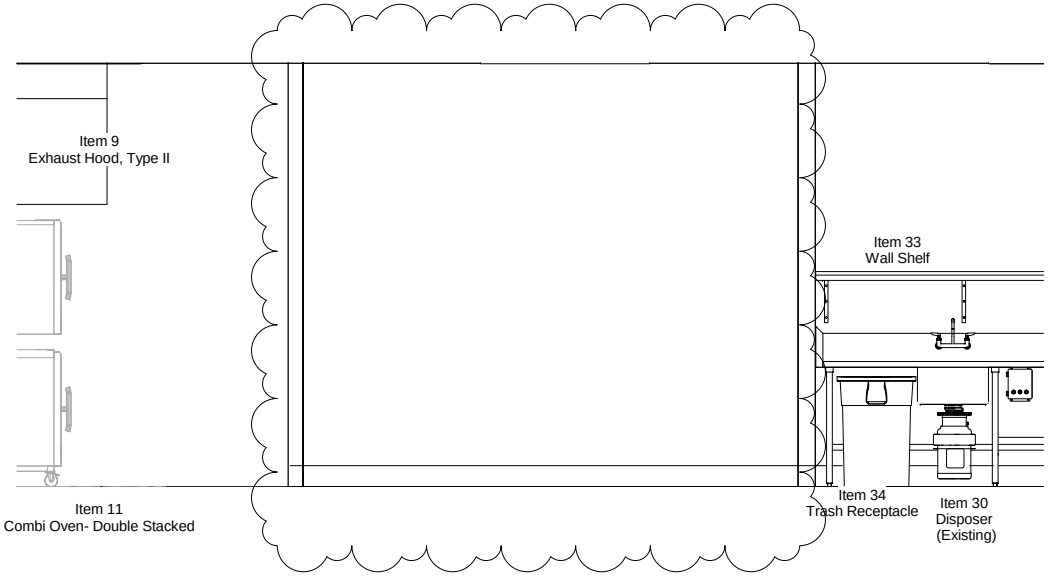
CK3

RE: FS103

ADDENDUM 4



1 Elevation- Bakery- South Revision
3/8" = 1'-0"



2 Elevation- Prep Revision
3/8" = 1'-0"

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HIGH SCHOOL - PHASE 2

1600 NORTH HOWARD STREET, SPOKANE, WA 99205

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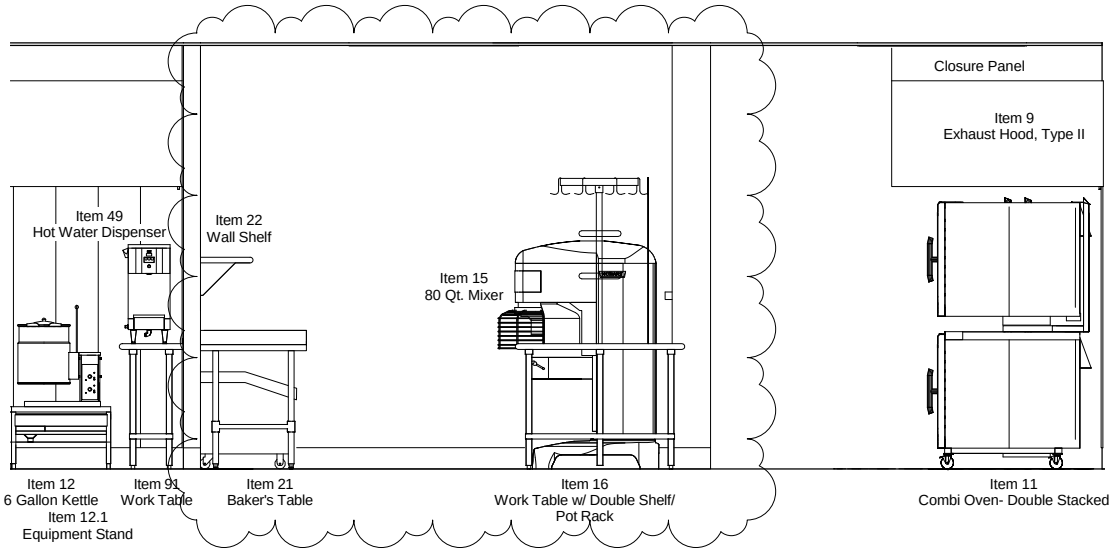
NAC NO 111-15017
FILE
DRAWN CR
CHECKED SCP
DATE 03/02/16

CK4

RE: FS105

ADDENDUM 4



1 Elevation- Kitchen Revision
3/8" = 1'-0"

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HIGH SCHOOL - PHASE 2

1600 NORTH HOWARD STREET, SPOKANE, WA 99205

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NAC NO 111-15017
FILE
DRAWN CR
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DATE 03/02/16

CK5

RE: FS106

ADDENDUM 4

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

MECHANICAL

Specifications:

None.

Drawings:

SHEET M3.01, LEVEL 1 – AREA A - HVAC:

ADD: To 48x18 exhaust air ductwork located in the Black Box, Room 024A, the following notation; "Exhaust air ductwork shall be constructed of a minimum 18 gauge sheet metal, in order to provide additional acoustic attenuation for control of break-out noise".

Prior Approvals:

The following products are approved for bidding subject to review and approval of Submittals and provided the Manufacturer meets all the requirements of the originally specified product. It shall be the initiator's responsibility to ensure that the proposed substitution is equal in every respect to the originally specified product, including but not limited to finish, size, weight, clearances, durability, maintenance, ease of operation, performance criteria, etc.

Specification Section	Item	Manufacturer
23 31 00 – Ducts	Duct Fabrication – Shop Fabricated Fittings and Spiral Ductwork	ACI Northwest, Inc. Tyco Mechanical Apollo Sheet Metal
23 33 00 – Duct Accessories	OSA Valves	York/JCI
23 75 13 – Packaged Rooftop DX AC Unit	Rooftop AC Units	Valent
23 82 19 – Fan Coils	Fan Coil Units	AMI/Johnson Controls

END OF MECHANICAL ADDENDUM NO. 4

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

ELECTRICAL

Specifications:

SECTION 26 05 36, CABLE TRAYS:

REPLACE: Specification in its entirety. Refer to the attached.

SECTION 26 63 20, ELECTRIC HEAT-TRACING CABLES:

ADD: Section in its entirety. Refer to attached.

SECTION 26 51 00, INTERIOR LIGHTING:

REVISE Line A(1) of PART 2.5: "LED fixtures: 1% or six (6) whole fixtures, whichever is greater, of each type and size."

SECTION 26 56 23, EXTERIOR LIGHTING:

REVISE Line A(1) of PART 2.6: "LED fixtures: 1% or six (6) whole fixtures, whichever is greater, of each type and size."

SECTION 27 51 11 CLASSROOM SOUND SYSTEMS:

ADD Line J to PART 2.1:

J. Factory-terminated Cables
   1. Cables shall have threaded connectors with pulling eye
   2. After removal of pulling eyes, cables that thread into factory-terminated faceplates and connectors
   3. Cable configurations shall be one of the following and provide the audio/video circuits indicated on the Drawings:
      a. Rapid Run PC/Video runner, CMP rated
      b. Rapid Run multimedia runner, CMP rated
      c. Rapid Run digital runner, CL-2 rated

ADD Line K to PART 2.1:

K. Factory-terminated Faceplates and Connectors:
   1. RapidRun Decora-style faceplates with factory-installed connectors
   2. Faceplates shall have ivory finish
   3. Quantities and types of connectors as indicated on the Drawings.

ADD Line L to PART 2.1:

L. Field-terminated Faceplates and Connectors:
   1. Stainless steel device plates as specified in Section 26 05 51.
   2. Connectors to match factory-terminated connectors

ADD Line M to PART 2.1:

M. Cables:
   1. Multi-conductor with overall jack
   2. RapidRun cables with factory-installed connectors.
      a. 50' – 100' Plenum runner cable.
      b. VGA + 3.5mm decora wall plate end.
      c. VGA + 3.5mm Flying lead 1.5'.

d. Component decora wall plate end.
e. Component Flying lead 1.5'.

3. Audio/video circuits as indicated on the Drawings.

SECTION 27 51 15 DISTRIBUTED SOUND REINFORCEMENT SYSTEMS:

REVISE Line B(8) to PART 2.1: "Equivalent to Biamp Nexia CS."

ADD Line D(8) to PART 2.1: "Provide with wireless passive antenna splitter/combiner Shure UA221."

ADD Line K to PART 2.1:
K. Commons Amplifier

1. Amplifier shall be sized to provide optimal output of specified speakers and allow for 20% head room.
2. Shall be equivalent to Crown CT series.

SECTION 28 16 13, INTRUSION DETECTION SYSTEM:

ADD Line D to PART 1.2: "Intrusion system shall monitor temperature alarm for kitchen freezer and cooler via (2) temperature sensors, (1) for freezer and (1) for the cooler."

ADD Line E to PART 1.2: "Intrusion system shall monitor cold room temperature alarm for classrooms via (1) temperature sensor per classroom."

ADD Line F to PART 1.2: "Intrusion system shall monitor fire alarm panel outputs for alarm, trouble, and supervisory statuses."

SECTION 28 31 13, FIRE ALARM SYSTEM:

ADD Line F to PART 1.2: "The Fire Alarm System shall provide contact closures of alarm, trouble, and supervisory statuses for monitoring by the Intrusion Detection Control Panel."

Drawings:

SHEET E0.01, ELECTRICAL SYMBOLS, ABBREVIATIONS, & CODED NOTES:

REVISE: Wall Switch Occupancy Sensor to include subscript "D" which is a 0-10V dimming occupancy sensor. See attached clarification drawing CE-01.

REVISE: Coded note reference in "Electrical Symbols" to reference Sheet E0.01.

REVISE: Coded note #L2 in "Electrical Coded Notes" to replace "Dowell" with "Dowell/Drill."

REVISE: Coded note #D1 in "Electrical Coded Notes" to: "Replace fiber and raceway completely to replace existing fiber run and raceway. Coordinate shut-down with SPS prior to demolition by generating a scheduled plan."

SHEET E1.02, SITE DETAILS:

DELETE: Coded note #P28 from 'Utility Yard" detail.

SHEET E2.01, LEVEL 1 FLOOR PLAN – AREA B - LIGHTING:

ADD: Homerun for interior emergency lighting at entry west and east entry lobby areas from circuit 2HXB:3.

ADD: (2) Daylight sensors and associated programming and terminations to East Entry Lobby N101 daylight zone.

REVISE: R08 fixture in elevator machine room to be powered via circuit 2HXB:3.

ADD: (1) C02 fixture to elevator pit directly across from C02 fixture indicated on plans. Added C02 fixture to be powered via circuit 2HXB:3.

REVISE: All Z01 fixtures at east entry to be powered via circuit 2HXB:1.

SHEET E2.02, LEVEL 1 FLOOR PLAN – AREA A - LIGHTING:

ADD: (1) single-port data outlet at +46" for future lighting control panel in Black Box 024A at "FRESCO CTL MODULE."

ADD: (1) single-port data outlet at +46" for future lighting control panel in TV Studio 024B at "FRESCO CTL MODULE."

ADD: enclosure and (6) ¾"C from enclosure to accessible ceiling for future lighting control module, branch circuiting, and control wiring in Black Box 024A at "FRESCO CTL MODULE." Provide enclosure type Hoffman #A-10N104.

ADD: enclosure and (6) ¾"C from enclosure to accessible ceiling for future lighting control module, branch circuiting, and control wiring in TV Studio 024B at "FRESCO CTL MODULE." Provide enclosure type Hoffman #A-10N104.

ADD: "Mount at 12' AFF unless otherwise noted" to fixture type Z02.

ADD: Fixture type C02B: Self ARROW-45-40K-110-S-C0.

REVISE: MECHANICAL EQUIPMENT SCHEDULE – PHASE 2 line item "AHU-C1 LIGHT/CTL" to have MMS rather than fused disconnect switch.

SHEET E2.03, LEVEL 2 FLOOR PLAN – LIGHTING:

ADD: Wall Switch Occupancy Sensor to include subscript "D" in rooms N212F and N213A. See attached clarification drawing CE-02.

ADD: (2) Fixture type C02B to display/POS counter in DECA N213C.

REVISE: Rooms N218, N216, N214 to be on circuit 2HXB:7.

SHEET E2.04, LEVEL 3 FLOOR PLAN - LIGHTING:

REVISE: Update location of lighting in Commons N201. See attached clarification drawing CE-03.

SHEET E3.02, LEVEL 1 FLOOR PLAN – AREA A - POWER:

ADD: Detail #1 to plans via CE-09.

ADD: Detail #2 to plans via CE-10.

SHEET E3.05, FLOOR PLAN LEVEL 2 – AREA B - POWER:

ADD: 120V power circuit for AHU-C1 for heat trace cabling. Provide 1P-20A GFCI breaker in Panel 3LC and (2)#12, (1)#12 GND, in ¾"C. Refer to Mechanical Plans for lengths of piping runs that require heat trace.

ADD: 120V power circuit for RTU-C1 for heat trace cabling. Provide 1P-20A GFCI breaker in Panel 3LC and (2)#12, (1)#12 GND, in ¾"C. Refer to Mechanical Plans for lengths of piping runs that require heat trace.

SHEET E4.02, LEVEL 1 FLOOR PLAN – AREA A - SYSTEMS:

REVISE: Single-gang receptacle and data outlet pair adjacent to the whiteboard to +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303.

ADD: "AV0" location adjacent to single-gang receptacle and data outlet pair adjacent to the whiteboard at +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303. AV0 is (1) 1"C stubbed to ceiling and down to +30"AFF with pull string and plates for future AV cabling.

SHEET E4.03, LEVEL 2 FLOOR PLAN – AREA B - SYSTEMS:

REVISE: Single-gang receptacle and data outlet pair adjacent to the whiteboard to +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303.

ADD: "AV0" location adjacent to single-gang receptacle and data outlet pair adjacent to the whiteboard at +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303. AV0 is (1) 1"C stubbed to ceiling and down to +30"AFF with pull string and plates for future AV cabling.

SHEET E4.04, LEVEL 3 FLOOR PLAN – AREA B - SYSTEMS:

REVISE: Single-gang receptacle and data outlet pair adjacent to the whiteboard to +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303.

ADD: "AV0" location adjacent to single-gang receptacle and data outlet pair adjacent to the whiteboard at +30"AFF in the following rooms for future smart board locations: 023A, 023B, 023C, 024B, N213, N209, N317, N319, and N303. AV0 is (1) 1"C stubbed to ceiling and down to +30"AFF with pull string and plates for future AV cabling.

SHEET E5.01, ENLARGED FLOOR PLANS:

RELOCATE: LCP-1 to south wall of Electrical N219 on STORAGE RM – ENLARGED PLAN #5.

ADD: Coded note #P4 to transformer T-X2 and T-Y2 in Electrical N219 on STORAGE RM – ENLARGED PLAN #5.

SHEET E5.02, KITCHEN ENLARGED PLAN:

REVISE: Kitchen plan, schedule, and Satelite Serving Plan as indicated on CE-05.

SHEET E6.01, POWER ONE-LINE DIAGRAM – NORTH:

REVISE: Panel "2HB" to "3HB" on the "FAULT CURRENT TABLE."

ADD: AHU-C1 rating of 7,800 AIC on the "FAULT CURRENT TABLE." Provide rated equipment disconnects, controllers, and mechanical equipment per 10,000 AIC minimum rating.

ADD: RTU-C1 rating of 6,000 AIC on the "FAULT CURRENT TABLE." Provide rated equipment disconnects, controllers, and mechanical equipment per 10,000 AIC minimum rating.

ADD: Chiller #2 rating of 18,000 AIC on the "FAULT CURRENT TABLE." Provide rated equipment disconnects, controllers, and mechanical equipment per 22,000 AIC minimum rating.

SHEET E6.05, PANEL SCHEDULES:

REVISE: Panel schedule 2LB indicated on CE-11.

SHEET E7.01, OVERALL FLOOR PLANS:

ADD: Cabling and programming as required to existing sound system for MUTE function via Fire Alarm System at existing Gym N101.

ADD: Cabling and programming as required to existing sound system for MUTE function via Fire Alarm System at existing Wrestling N024.

ADD: Cabling and programming as required to existing sound system for MUTE function via Fire Alarm System at existing Band room at south end of school.

ADD: Cabling and programming as required to existing sound system for MUTE function via Fire Alarm System at existing Choir room at south end of school.

SHEET E7.03, INTERCOM / SECURITY / CCTV DETAILS:

ADD: Detail #13 to plans via CE-06.

SHEET E7.04, A/V DETAILS AND DIAGRAMS:

ADD: Detail #12 to plans via CE-08. CE-08 applies to ENLARGED PLAN #5 – STORAGE RM on Sheet E5.01.

SHEET E7.05, LIGHTING CONTROL DIAGRAMS:

DELETE: Detail #2 “Emergency Lighting Control.”

REVISE: Detail #6 “Generic Lighting Control Diagrams.” See attached clarification drawing CE-04.

SHEET E7.06, TELECOMMUNICATION DETAILS:

ADD: Detail #11 to plans via CE-07.

Prior Approvals:

The following products are approved for bidding subject to review and approval of Submittals and provided the Manufacturer meets all the requirements of the originally specified product. It shall be the initiator's responsibility to ensure that the proposed substitution is equal in every respect to the originally specified product, including but not limited to finish, size, weight, clearances, durability, maintenance, ease of operation, performance criteria, etc.

N/A

END OF ELECTRICAL ADDENDUM NO. 4

SECTION 26 05 36 – CABLE TRAYS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work specified in Division 26.

B. Requirements in each of the Division 26 specification sections apply to every other Division 26 section whether specifically referenced or not.

1.2 SUMMARY

A. Provide cable trays to support communications cabling as indicated on the Drawings.

B. Cable trays shall be installed above accessible ceiling.

1.3 SUBMITTALS

A. Product Data: For each type of wall duct provided on the Project. Include materials, finishes and dimensions.

PART 2 - PRODUCTS

2.1 CABLE TRAY

A. General:

1. The cable tray systems shall be an assembly of metallic cable tray sections and accessories that form a rigid structural system to support cables. The system shall be in compliance with the latest publications of NEMA VE-1 and the National Electrical Code. Cable trays shall be UL classified as equipment grounding conductors.
2. The cable tray system shall comply with IEC 61537, with load span criteria of L/200 (to exceed standard requirements of L/100) and a Safety Factor of 1.7. Trays shall be capable of supporting an allowable working load of at least 730 N/m (50 pounds per lineal foot) when supported at intervals no greater than 1.83 m (72 in) on center.
3. The cable tray system shall present no sharp edges, burrs, or projections which can damage cable insulation.
4. Straight sections shall be 3 to 4 meters (118 in to 157 in) in length.
5. Provide all miscellaneous mounting and installation hardware including splice plates, drop-outs, hold-down clips, drop-out bushings, end plates, conduit clamps, wall brackets, and trapeze hangers.
6. Splice plates shall be bolted type.
7. Drop-outs shall have minimum radius of 102 mm (4 in).
8. Drop-out bushings shall snap into openings in bottom of ventilated trough.

B. Solid Trough Tray: Solid trough cable tray shall consist of two longitudinal side rails and a solid corrugated bottom welded to the side rails. Fittings shall be of the same construction and design as straight sections.

1. Tray size shall be as follows unless otherwise noted:

a. 24”W x 4” loading depth

2. Inside bend radius shall be:

a. 610 mm (24 in)

3. The peaks of the corrugated bottom shall have bearing surfaces at least 70 mm (2¾ in) wide located no more than 152 mm (6 in) on center.
4. Vertical offsets shall be made with hinged, adjustable splice plates.
5. Trays shall be manufactured of:

a. Galvanized steel hot dipped galvanized after fabrication.

2.2 CABLE RUNWAY

A. General:

1. The cable runway systems shall be an assembly of metallic ladder runway sections and accessories that form a rigid structural system to support cables. Cable runway shall be in compliance with the National Electrical Code, and shall be UL classified as equipment grounding conductors.
2. The cable tray system shall comply with IEC 61537, with load span criteria of L/200 (to exceed standard requirements of L/100) and a Safety Factor of 1.7. Trays shall be capable of supporting an allowable working load of at least 730 N/m (50 pounds per lineal foot) when supported at intervals no greater than 1.83 m (72 in) on center.
3. Cable runway shall be compatible with communications equipment racks and shall be attached directly to the top of the racks using brackets designed for the purpose.
4. The cable runway shall present no sharp edges, burrs, or projections which can damage cable insulation.
5. Straight sections shall be 1.8 to 3.0 meters (71 in to 118 in) in length.
6. Provide all miscellaneous mounting and installation hardware including splice plates, drop-outs, hold-down clips, drop-out bushings, end plates, conduit clamps, wall brackets, and trapeze hangers. Splice plates shall be bolted type. Drop-outs shall have minimum radius of 102 mm (4 in).
7. Drop-out bushings shall snap into openings in bottom of ventilated trough.

B. Tubular Runway: Ladder runway shall consist of two longitudinal tubular steel side rails between which transverse steel channel rungs are welded near the top plane of the side rails.

1. Top of rungs shall be approximately 6 mm (¼ in) below the top of the side rails.

2. Rungs shall be spaced 229 mm (9 in) on center, except where the width of the runway is 305 mm (12 in) or less, in which case rung spacing may be 305 mm (12 in) on center.
3. Rungs shall have rolled edges and a minimum cable bearing surface at least 19 mm (¾ in) wide.
4. Side rails shall have radiused edges.
5. Vertical offsets shall be made with hinged, adjustable splice plates.
6. Cable runways shall have rust-resistant black finish.

2.3 WIRE-BASKET TRAY

A. Wire Basket Tray: Wire basket cable tray shall consist of a continuous, rigid, 51 mm by 102 mm (2 in x 4 in) wire mesh, surface-treated after manufacture.

1. Tray size shall be as follows unless otherwise noted:

   a. 12”W x 3” loading depth

2. Wire mesh cable tray fittings shall be field-fabricated from straight tray sections, in accordance with manufacturer’s instructions.
3. Horizontal and vertical bends shall have a 305 mm (12 in) inside radius.
4. Splices and connectors shall be formed galvanized steel with plated or stainless steel nuts, bolts and washers, as necessary for a complete, UL-classified, continuously grounded system.
5. Trays shall be manufactured of ASTM A 510, Grade 1008 carbon steel wire.
6. Wire Diameter must be adequate to meet application load requirements, but wire diameter may vary to optimize tray strength and to allow tray to remain lightweight.
7. Surface treatment shall be electrodeposited zinc plating per ASTM B 633, Type III, SC-1, applied after welding and bending of mesh.

2.4 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers shall be as follows:

1. Ladder or Trough Tray: B-Line, Cope, Chalfant, Globetray, M.P. Husky, Mono-Systems, P-W Industries, Thomas & Betts.
2. Wire Basket Tray: B-Line “Flextray” series, Cope “Cat-Tray” Series, Cablofil “EZ” series, GS Metals “Flextray” series, Mono-Systems “Mono-Mesh” series, WBT LLC “Shaped-Tray” WBT series.
3. Cable Runway: B-Line, Chatsworth, Homoco.

B. Substitutions may be considered only when submitted in conformance with Section 26 01 00.

PART 3 - EXECUTION

3.1 TRAY & RUNWAY SELECTION

A. Cable trays and cable runways shall be suitably sized and supported for the indicated quantity and type of cables. In no case shall the cross-sectional area of cable tray be smaller than the size indicated on the Drawings.

B. Widths of cable trays and cable runways shall be as noted above or as indicated on the Drawings.

C. Exposed in communications equipment rooms:

1. Runway type.

D. Exposed in other spaces :

1. Ventilated trough type.

E. Concealed above accessible ceilings:

1. Ladder type.

3.2 INSTALLATION

A. Install in strict accordance with manufacturer’s recommendations.

B. Install cable trays and cable runways in the approximate location shown on the Drawings. Installation shall be coordinated with all mechanical and structural systems and equipment which share the same general location. Provide all horizontal and vertical offsets necessary to avoid conflicts with building construction and building systems components.

C. Mount bottom of tray at constant elevation above the ceiling system except where vertical offsets are shown or required to accommodate other building components. Cable tray and fittings shall be bolted together using splice plates, carriage bolts and nuts to provide an electrically continuous cable support system. Cable tray shall be bolted to supports. Cable tray supports shall be capable of supporting the same load as the tray. Cable tray supports shall be installed no more than 1.83 m (72 in) on center.

D. Mount cable runway at an elevation that allows sections of it to be attached directly to the top of the communications equipment racks. Cable runway and fittings shall be bolted together using splice plates, carriage bolts and nuts to provide an electrically continuous cable support system. Cable runway shall be bolted to supports. Cable runway supports shall be capable of supporting the same load as the tray. Cable tray supports shall be installed no more than 1.83 m (72 in) on center.

E. Support cable tray and cable runway systems in accordance with IEC 61537, with load span criteria of L/200 (to exceed standard requirements of L/100) and a Safety Factor of 1.7. Supports shall comply with the requirements of Section 26 05 29.

F. Associated raceway stubs shall be attached to side or end of cable tray, utilizing conduit clamps, or bonded to it using bonding jumpers. Refer to Section 26 05 33.

G. Provide a manufactured cable drop-out at the end of each cable tray run. Provide manufactured drop-out bushings where cables pass through the bottom of ventilated trough tray.

H. Cable trays shall terminate 254 mm (10 in) from both sides of fire, smoke or acoustical partitions. To provide a path for cables to pass through each such partition that separates sections of cable tray, provide sufficient 102 mm² (4 in²) fire-rated sleeves to equal 140% of the cross-sectional area of the cable tray on either side of the partition. Cable pass-through sleeves shall include a built-in fire-sealing system that automatically adjusts to the amount of cables installed, in accordance with Section 26 05 10. Cable pass-through sleeves shall be mounted higher than the bottom of the cable tray, to facilitate use as a pathway for cables. Bond sleeves to tray system on each side.

I. Where cable tray passes through seismic and expansion joints, tray on each side of the joint shall be connected with slotted splice plates to allow a minimum of 25 mm (1 in) horizontal movement.

J. Where the cable tray system is shown to pass through inaccessible spaces, terminate the tray 305 mm (12 in) from both sides of the space and provide conduit raceways with a total cross-sectional area equivalent to the tray between the ends of the tray. Bond raceways to tray system.

K. Provide grounding conductor running the length of the cable tray and cable runway system and bonded to it periodically in accordance with the requirements of Section 26 05 26.

END OF SECTION 26 05 36

SECTION 26 63 20 – ELECTRIC HEAT-TRACING CABLES

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to work specified in this section.

B. Requirements in each of the Division 26 specification sections apply to every other Division 26 section whether specifically referenced or not.

1.2 SUMMARY

A. Provide a complete system of heat-tracing cable and controls in the locations indicated on the drawings, to provide freeze protection for water piping exposed to cold temperatures.

B. Test the system as specified herein.

1.3 DESCRIPTION

A. The heat-tracing system shall consist of a control thermostat, heating cable, power connection kits, splice kits, end seals, and other accessories as required to form a complete, operable system for freeze protection.

B. Test the system as specified herein.

1.4 OPERATION

A. The wattage of the heating cable shall be selected, in accordance with the manufacturer's published tables, to deliver sufficient heat to maintain insulated steel pipes filled with water at 4°C (40°F) when subjected to an ambient air temperature of −34°C (−30°F) at a wind speed of 32 km/hour (20 miles per hour). The cable selection shall be based on the pipe size and the insulation thickness of the pipe to be protected.

B. The system shall be automatically controlled by means of a thermostat; such that the heating cables are energized whenever ambient air temperature below 4°C (40°F).

1.5 SUBMITTALS

A. Product Data: For each type of heat-tracing cable and control device provided on the Project.

B. Test Reports: Record of all field test data.

1.6 INFORMATION FOR OPERATING AND MAINTENANCE MANUALS

A. Submittals: Information submitted for review, up-dated to record any changes.

B. Maintenance Instructions: List replacement parts, including source. Indicate recommended maintenance procedures, and the intervals involved for each. Indicate application conditions, limitations of use and adjustments. Include manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Heat-Tracing Cable for Water Lines: Heat-tracing cable for freeze protection shall be parallel, self-regulating type, suitable for application to pipes under insulation. Cable power output shall vary inversely as temperature and shall deliver 16.4-watts/meter (5-watts/ft) at 10°C (50°F) when cable is dry. Cable shall include a waterproof modified polyolefin dielectric jacket, covered by a grounded tinned-copper braid and a thermoplastic elastomer or modified polyolefin outer jacket. Voltage rating of cable shall be 120 VAC**,** as required to match the voltage of the circuit as indicated on the Drawings. 120 VAC cable shall be equivalent to Nelson #CLT5-JT series or Raychem #5XL1-CR series.

B. Heat-Tracing Cable for Fuel Lines: Heat-tracing cable for freeze protection shall be parallel, self-regulating type, suitable for application to pipes under insulation. Cable power output shall vary inversely as temperature and shall deliver 16.4-watts/meter-(5 watts/ft) at 10°C (50°F) when cable is dry. Cable shall include a waterproof modified polyolefin or fluoropolymer dielectric jacket, covered by a grounded tinned-copper braid and a fluoropolymer outer jacket. Voltage rating of cable shall be 120 VAC, as required to match the voltage of the circuit as indicated on the Drawings. 120 VAC cable shall be equivalent to Nelson #HLT5-J series or Raychem #5XL1-CT series.

C. Thermostats: Outdoor air thermostats shall have contacts rated 10-amps minimum at 120 VAC, with set point adjustable from -9°C (15˚F) to 60°C (140°F). Thermostats shall be equivalent to Nelson #TA-4X140 or Raychem #AMC-1A.

D. Contactors: Magnetic contactors shall be in accordance with Section 26 29 33, equipped with 120 VAC coils. Contact ratings shall equal or exceed the trip rating of the corresponding circuit breaker.

2.2 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers shall be as listed above, and as follows:

1. Heat-tracing Cable: Nelson, Raychem.
2. Thermostats: Nelson, Raychem.

B. Substitutions may be considered only when submitted in conformance with Section 26 01 00.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install heat-tracing cable in accordance with the manufacturer's recommendations.

B. Install heat-tracing cable to piping after the pipe has been successfully pressure-tested in accordance with Division 23 and prior to installation of thermal insulation on the piping per Section 22 07 00. Install the cable only after allowing it to warm to room temperature.

C. Cable shall be installed linearly along the pipe. Cable lay shall conform to the shape of flanges and other heat sinks, in accordance with the manufacturer's recommendations. At each valve, the heating cable shall wrap around the valve and flange in a crossover configuration. Secure the heating cable to the piping with fiberglass tape.

D. At pipe branches, splice a branch heating cable to the heating cable on the main pipe by means of a suitable tee kit supplied by the cable manufacturer.

E. At the end of each run of heating cable, provide a suitable end seal supplied by the cable manufacturer

F. Provide a weather-proof outlet box at each point of power connection to the heat-tracing cable. Connect the heating cable to the outlet box by means of a suitable power connection kit supplied by the cable manufacturer.

G. Provide a separate above-grade outlet box for each power connection and each end seal for heat-tracing applied to underground pipe. Provide a separate 27 mm (1″ trade size) raceway from the pipe to the outlet box. The raceways shall be water-sealed at the point of cable entry.

H. Care shall be exercised during cable installation not to damage cable jacket or cable insulation. Damaged cables shall be removed and replaced.

I. Heat-tracing cable shall be applied to piping only where the pipe is to be thermally insulated in accordance with Section 22 07 00. Underground piping to which heat-tracing cable is applied shall be insulated with closed-cell, waterproof thermal insulation with fire-retardant waterproof covering. Verify that suitable insulation is installed on all heat-traced pipes.

J. After thermal insulation has been installed, apply labels reading "Electric Traced" on the outside of the thermal insulation wherever heat-tracing cable lies under the insulation. Labels shall be applied no farther apart than 3 m (10 ft) on center.

K. Provide outdoor air thermostats and magnetic contactors for controlling heat-tracing cable circuits.

L. Circuits supplying power to the heat-tracing cable shall be protected by circuit breakers equipped with 30 mA ground fault circuit interrupters. Select circuit breaker trip rating based on starting the heat-tracing cable at a temperature of -18°C (0°F).

3.2 ADJUSTMENT & TESTING

A. Notify the Owner's Representative at least one (1) week in advance of the date of each test, to allow witnessing of the tests.

B. Supply tools, instruments, gauges, testing equipment, protective devices and safety equipment for adjustment and testing.

C. During adjustment and testing, carefully record all settings and all test results, including expected test results, actual test results, and corrective actions taken. Records shall be submitted to the Architect's Consultant and included in the Operating & Maintenance Manuals.

D. Test all system cable after installation and prior to connection to equipment, both before and after insulation of pipes. Tests to be performed shall include, but not be limited to, the following:

1. Conductor continuity
2. D.C. insulation resistance
3. Freedom from shorts and grounds

E. Minimum insulation resistance shall be 20 megohms, regardless of the heating cable length.

F. Measure voltage and current at each unit.

G. Adjust outdoor air thermostats to shut off heat-tracing cable when outdoor temperature exceeds 4ºC (40˚F).

H. Correct any deficiencies discovered as a result of the above testing, and completely retest the work affected by such corrections, with no additional compensation.

END OF SECTION 26 63 20

SWITCHING DEVICES

SUBSCRIPTS DENOTE:

"2"	TWO-POLE
"3"	THREE-WAY
"4"	FOUR-POLE
"AT"	AUTO-TRANSFORMER DIMMER
"D"	SOLID-STATE DIMMER
"K"	KEY-OPERATED
"LD"	LOCKDOWN DURESS BUTTON
"M"	MOMENTARY-CONTACT
"MA"	MASTER SWITCH
"S"	SLAVE SWITCH
"P"	PILOT-LIGHT
"WP"	WEATHER-PROOF DEVICE

WALL SWITCH OCCUPANCY SENSOR +46"

"A" DENOTES ABOVE COUNTER, CENTER 4" ABOVE TOP OF COUNTER OR BACKSPLASH

"D" 0-10V DIMMING OCCUPANCY SENSOR 4

abcd

WALL SWITCH +46"
EACH LOWER CASE LETTER DENOTES (1) SWITCH & ORDER OF SW'S

"A" DENOTES ABOVE COUNTER, CENTER 4" ABOVE TOP OF COUNTER OR BACKSPLASH

"D" DENOTES 0-10V DIMMING SWITCH

"LV" DENOTES LOW VOLTAGE MOMENTARY SWITCH

COMBINATION SWITCH & DUPLEX RECEPTACLE +46"

LOW VOLTAGE SWITCH, LETTER IS SWITCH DESIGNATION

OS — SYMBOL DENOTES THE REQUIREMENT FOR OCCUPANCY SENSOR OR SENSORS IN THE ROOM +114"

DL A — DAYLIGHT SENSOR

"A" DENOTES SENSOR FOR EMERGENCY FIXTURE & ASSOCIATED LCM

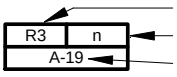
PC — PHOTOCELL

TS — TIME SWITCH

R — RELAY

LCM — LIGHTING CONTROL MODULE ABOVE ACCESIBLE CEILING UNLESS NOTED OTHERWISE

LIGHTING CONTROL DESIGNATION



RELAY OR CONTACTOR
SWITCH OR CONTROL DEVICE
CIRCUIT NUMBER

ELECTRICAL SYMBOLS, ABBREVIATIONS, & CODED NOTES

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION

1600 NORTH HOWARD STREET, SPOKANE, WA 99205

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NAC ENGINEERING
nacarchitecture.com
1203 WEST RIVERSIDE AVE
SPOKANE WA 99201
P:509.838.8240

NAC NO:	111-15017
RE:	E0.01
DRAWN:	KVT
CHECKED:	NBH
DATE:	03/04/16

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0 1/8" 1/4" 1/2" 1"

CE-01

ADDENDUM #4

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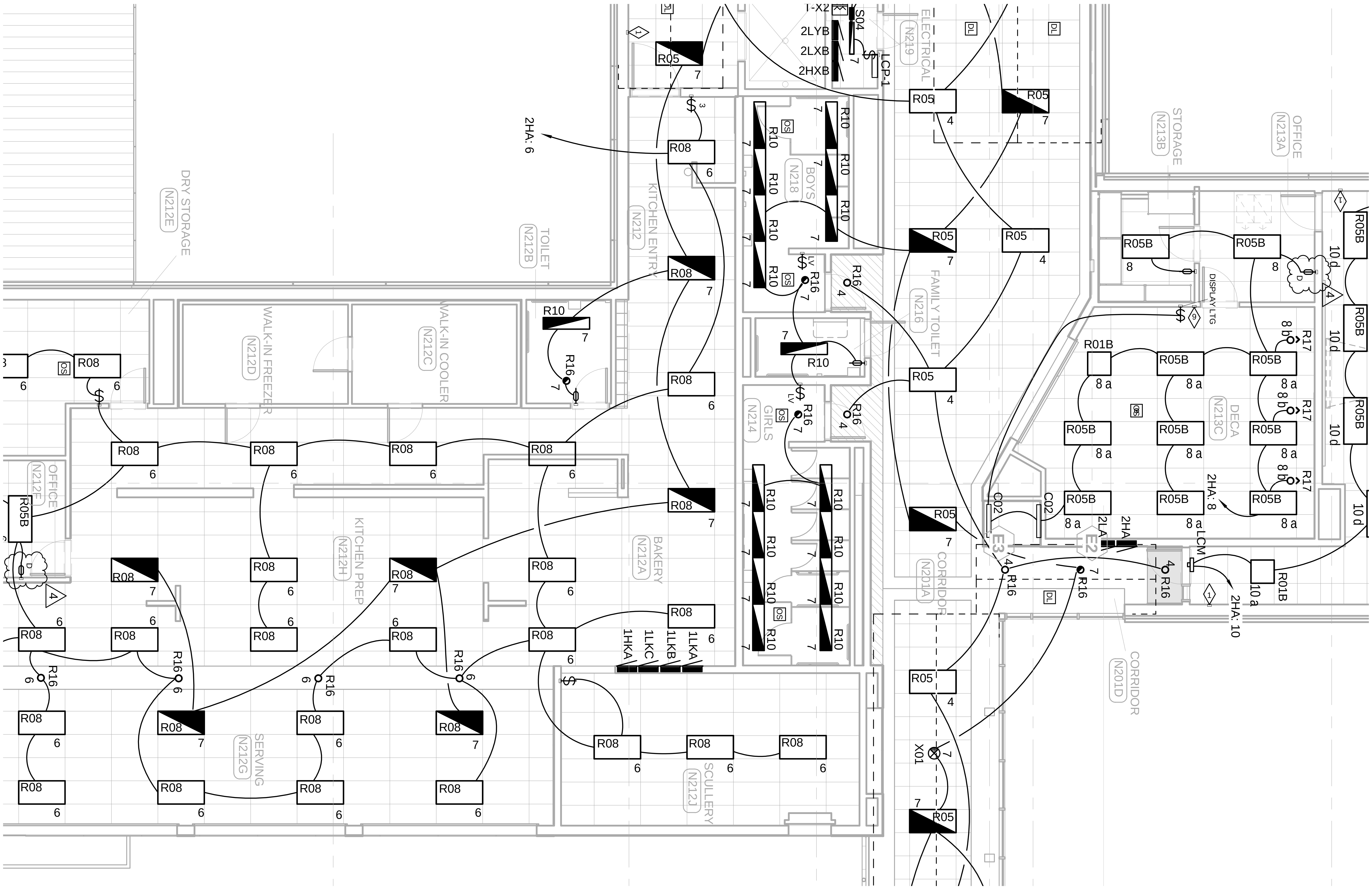

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LEVEL 2 FLOOR PLAN - LIGHTING

CE-02

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LEVEL 3 FLOOR PLAN - LIGHTING

CE-03

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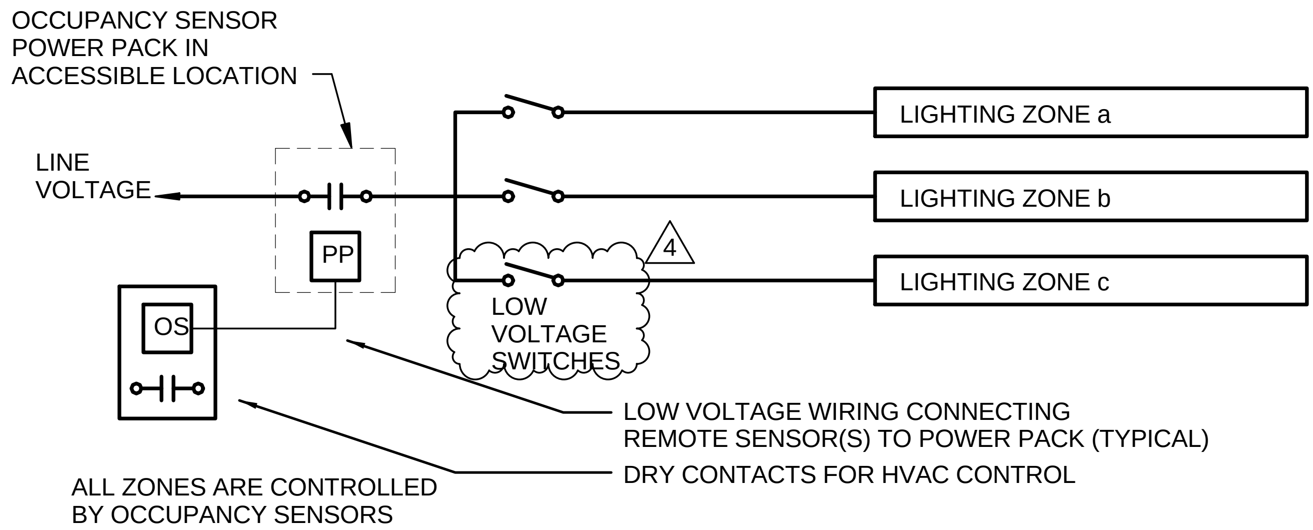
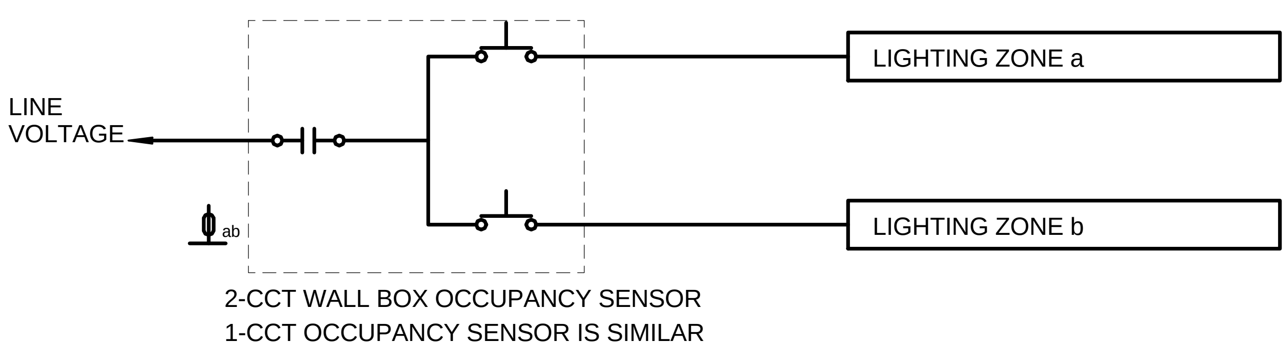
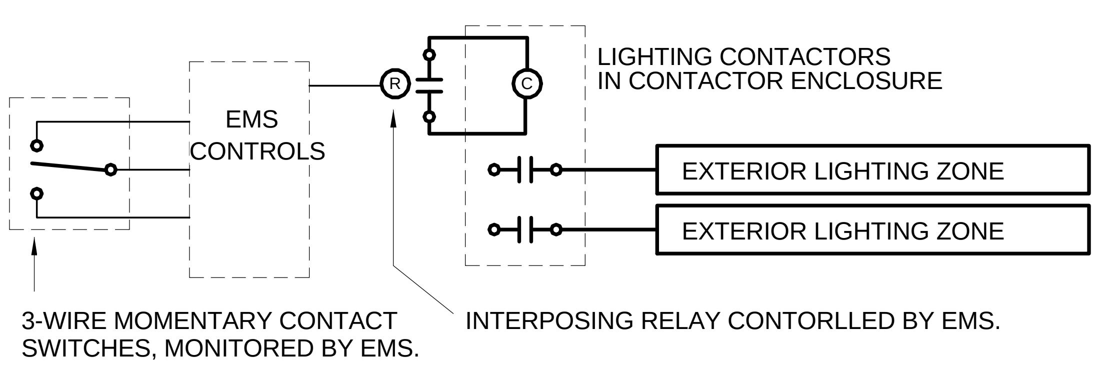


A CEILING OR WALL MTD OCCUPANCY SENSOR
NO SCALE



B WALL BOX OCCUPANCY SENSOR (SMALL OFFICES)
NO SCALE



C TYPICAL EXTERIOR LIGHTING
NO SCALE

NOTES

1. THESE ARE GENERIC DIAGRAMS AND NOT ALL ZONES OR SPECIFIC APPLICATIONS ARE SHOWN

6 GENERIC LIGHTING CONTROL DIAGRAMS
Scale: NTS

LIGHTING CONTROL DIAGRAMS

CE-04

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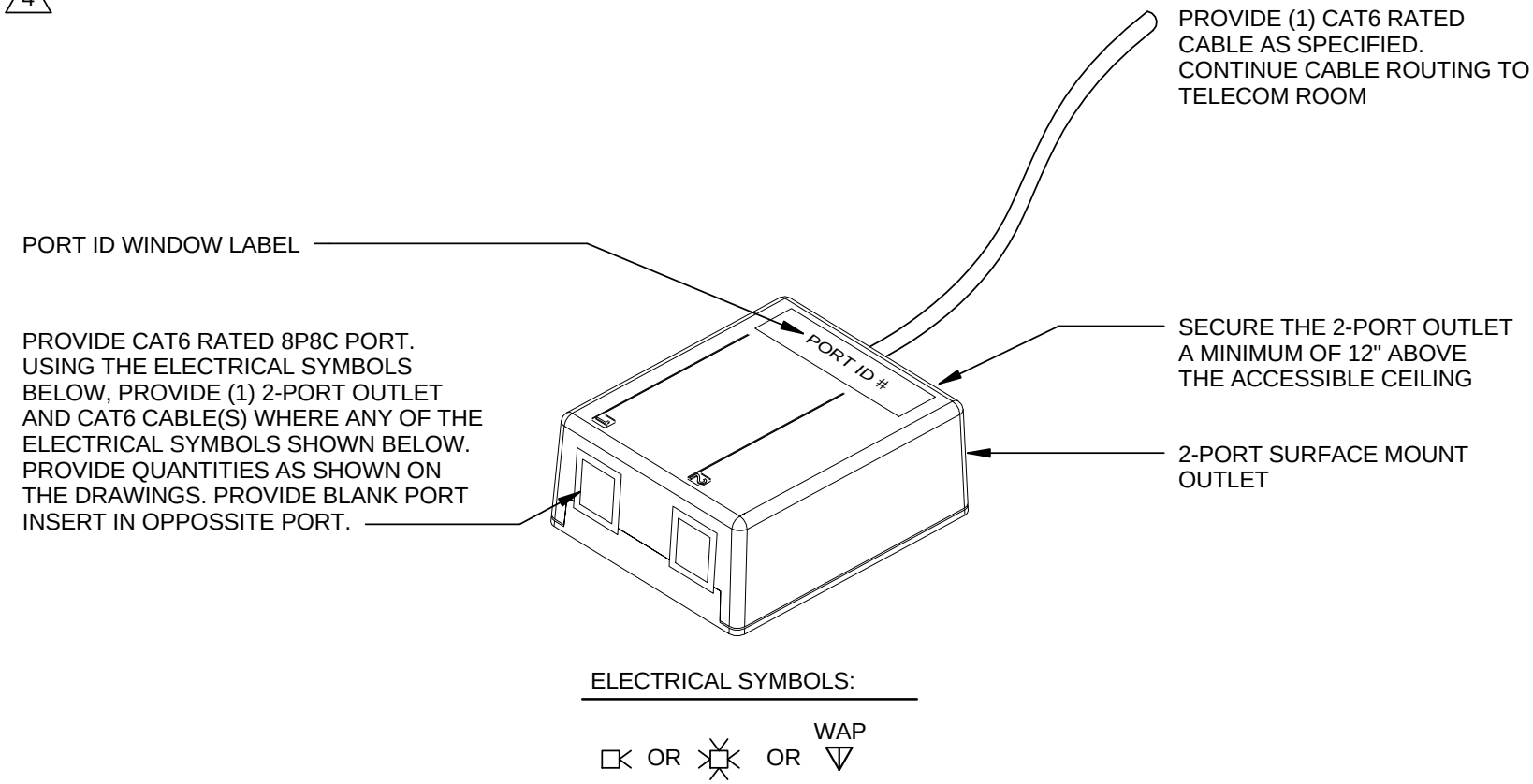

13 2-PORT OUTLET LOCATED ABOVE ACCESSIBLE CEILING

Scale: NTS

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0 1/8" 1/4" 1/2" 1"

CE-06

ADDENDUM #4

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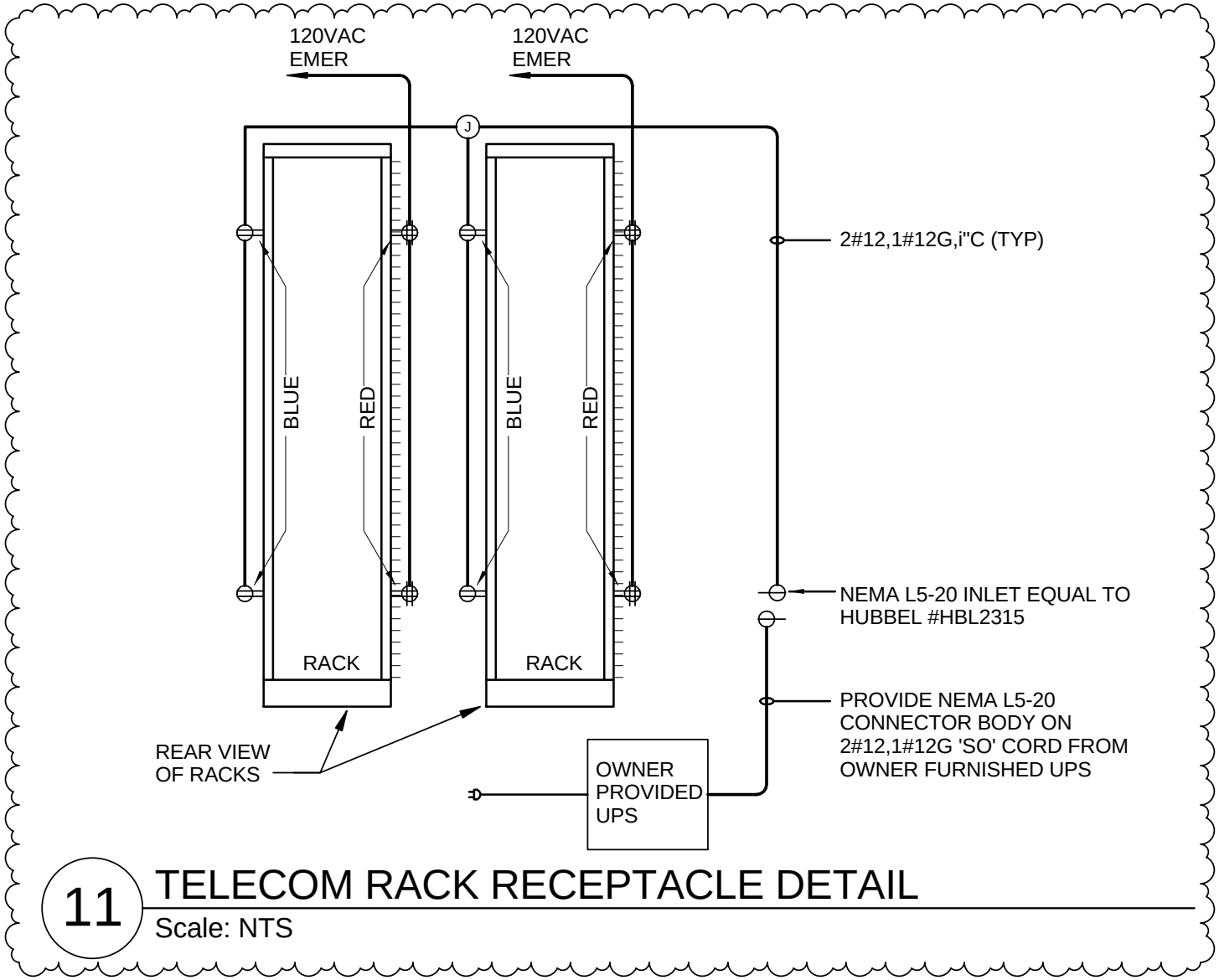

11 TELECOM RACK RECEPTACLE DETAIL

Scale: NTS

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0 1/8" 1/4" 1/2" 1"

CE-07

ADDENDUM #4

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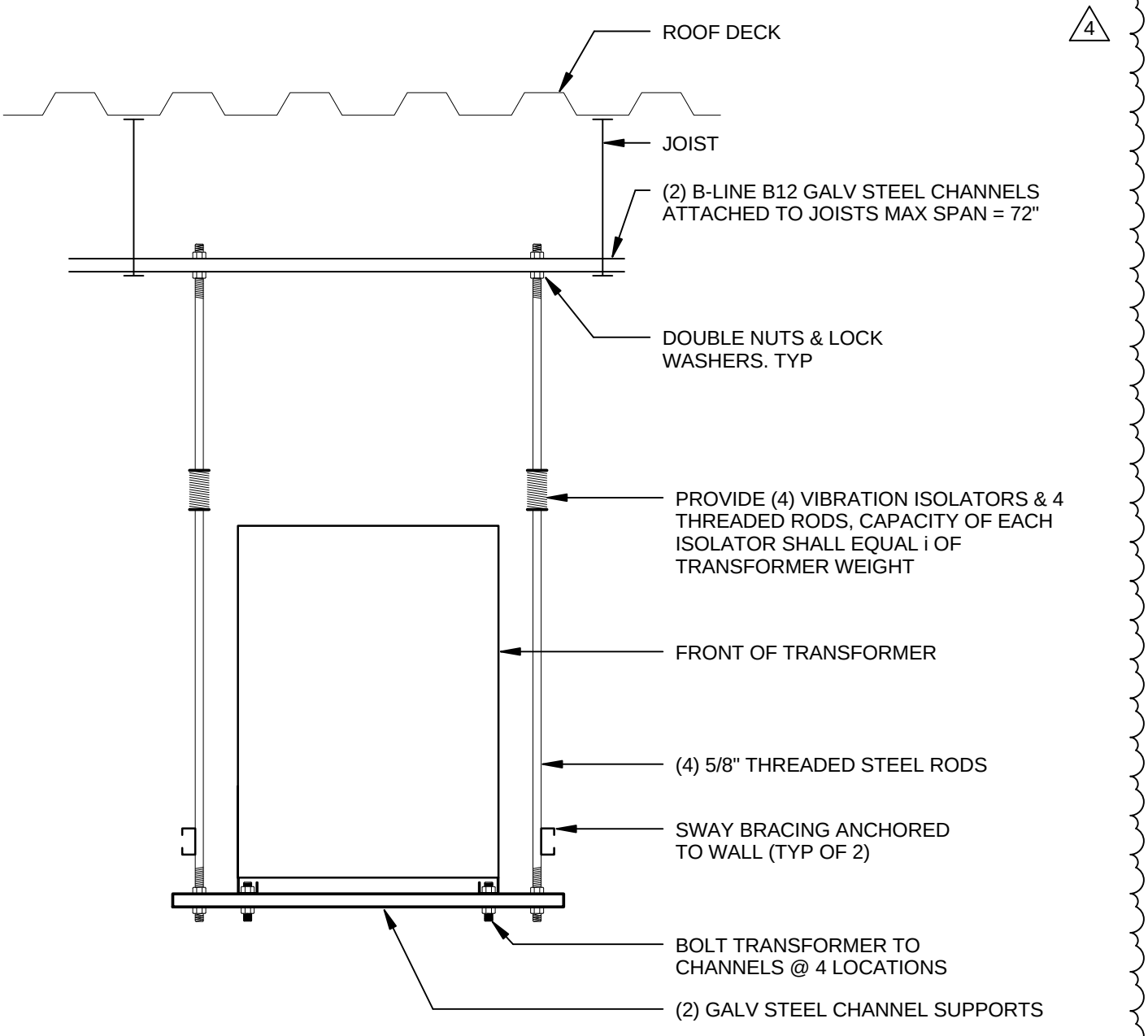

12 TRANSFORMER SUPPORT DETAIL

Scale: NTS

AUDIO/VIDEO DETAILS & DIAGRAMS

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0 1/8" 1/4" 1/2" 1"

CE-08

ADDENDUM #4

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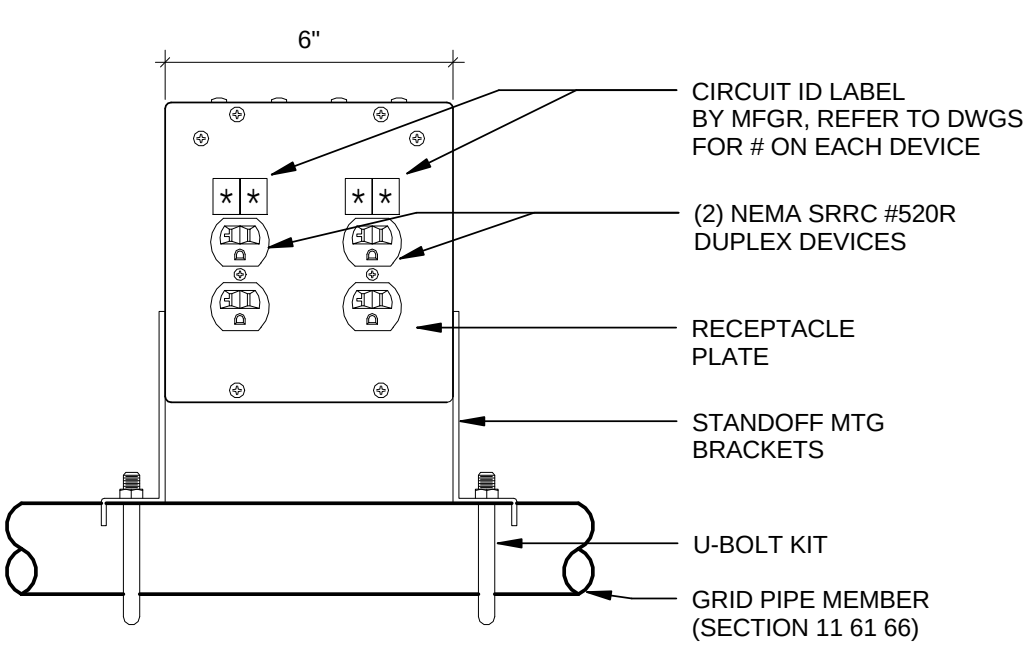
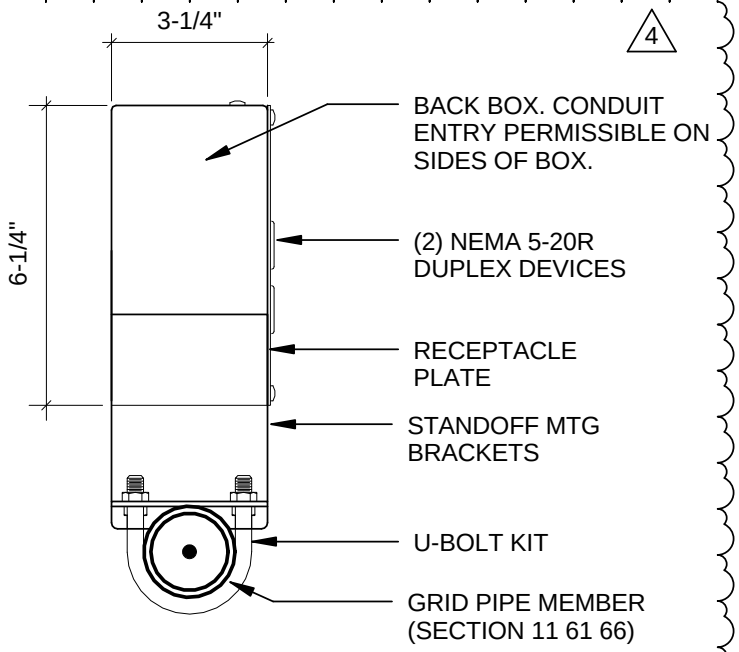


ELEVATION VIEW



END VIEW

4

1 RECEPTACLE MTG DETAIL

Scale: NTS

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CAFETERIA/COMMONS ADDITION

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0 1/8" 1/4" 1/2" 1"

CE-09

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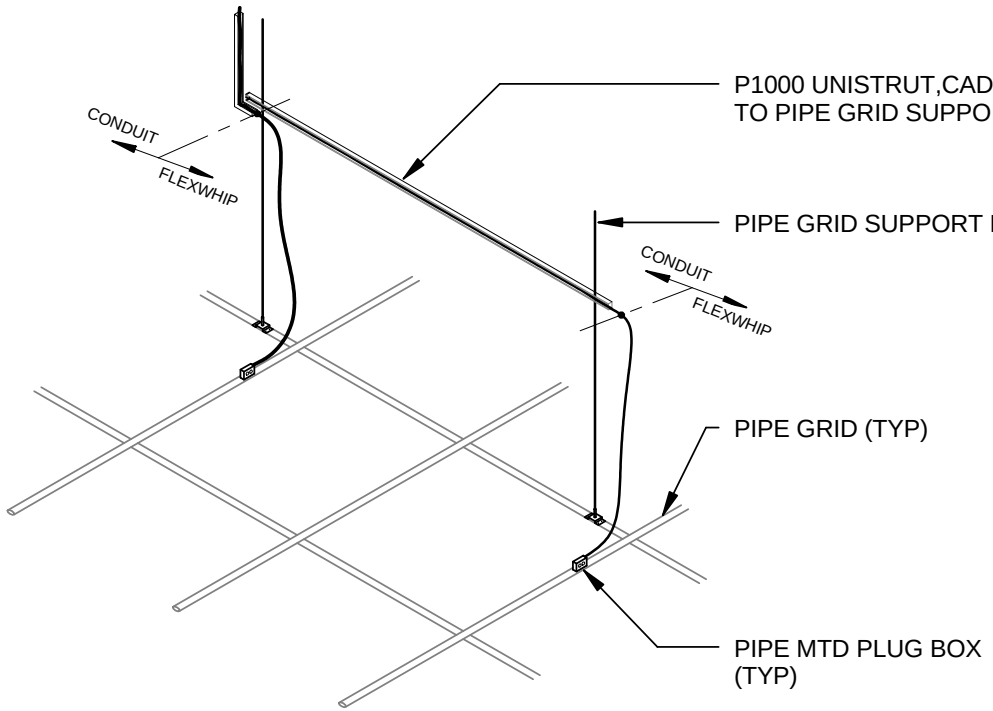

2 CONDUIT ROUTING UP AWAY FROM GRID

Scale: NTS

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0 1/8" 1/4" 1/2" 1"

CE-10

ADDENDUM #4

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PANEL: 2LB

LOCATION: | VOLTS: 120/208 Wye | INTEGRAL SPD: No | A.I.C. RATING: SEE FAULT TABLE
SUPPLY: 1LMD | PHASES 3 | ISO GND BAR: No | MAINS TYPE: MLO
MOUNTING: Surface | WIRES: 4 | FEED-THRU LUGS: No | MAINS RATING: 125 A
ENCLOSURE: Type 1 | BUS RATING: 125 | WIREWAY TO FLR: Yes

CCT	LOAD NAME	CCT NOTE	TRIP	POLE	A		B		C		POLE	TRIP	CCT NOTE	LOAD NAME	CCT
1	REC ASB CLASSROOM N209		20	1	960	180					1	20		REC OUTSIDE SOUTH	2
3	REC ASB CLASSROOM N209...		20	1			1360	360			1	20		REC COMMONS N201 FLOORBOX	4
5	ASB CLASSROOM N209		20	1					1080	540	1	20		REC Room N101E, 024EA	6
7	REC ASB CLASSROOM N209		20	1	780	600					1	20		REC MECH N201E	8
9	REC ASB CLASSROOM N209		20	1			1200	600			1	20		CONT ACPS	10
11	REC OFFICE N209A		20	1					1140	600	1	20		KIT SATELLITE SERVING N204 S11	12
13	CONT CLASSROOM N209 AV CABINET		20	1	1500	936					2	20		KIT SATELLITE SERVING N204 S10	14
15	REC ASB STORAGE N206A		20	1			720	936			--	--	--	--	16
17	REC ASB STORE N210		20	1					1200	1456	2	20		KIT SATELLITE SERVING N204 S9	18
19	REC ASB STORE N210		20	1	780	1456					--	--	--	--	20
21	REC Room N201, N205 EAST WALL		20	1			900	0			1	20		--	22
23	REC SATELLITE SERVING N202		20	1					540	0	1	20		--	24
25	REC DRO N203		20	1	720	0					1	20		--	26
27	REC Room N203A, N201B		20	1			900	0			1	20		--	28
29	KIT SATELLITE SERVING N204 S3		20	1					1440	0	1	20		--	30
31	KIT SATELLITE SERVING N204 S4		20	1	2136	0					1	20		--	32
33	KIT SATELLITE SERVING N204 S7		20	1			864	0			1	20		--	34
35	KIT SATELLITE SERVING N204 S13		20	1					1800	0	1	20		--	36
37	--		20	1	0	0					1	20		--	38
39	--		20	1			0	0			1	20		--	40
41	--		20	1					0	0	1	20		--	42

4

4

SPECIAL PANEL FEATURES:	CONN LOAD:	10048 VA	7,840 VA	9,796 VA
A.	DMND LOAD:	8098 W	6318 W	7895 W
B.	DMND AMPS:	70	53	68
C.				
D.				

CIRCUITING NOTES:
1.
2.
3.
4.

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
COMP	300 VA	100.00%	300 VA	EXG DEMAND CURRENT @ 125%	
CONT	2,100 VA	125.00%	2,625 VA	TOTAL NEW CONNECTED LOAD:	27,684 VA
REC	13,660 VA	86.60%	11,830 VA	TOTAL NEW DEMAND LOAD:	22311 VA
KIT	11,624 VA	65.00%	7,556 VA	TOTAL NEW CONN CURRENT:	76.84 A
				TOTAL NEW DEMAND CURRENT:	61.93 A
				TOTAL EXG + NEW CURRENT:	62
				UNBALANCED CURRENT:	20
LINE TOTALS:	27,684 VA	80.59%	22,311 VA		

NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION #111-15017

PANEL SCHEDULES

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81
NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION
1600 NORTH HOWARD STREET, SPOKANE, WA 99205

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NAC NO	111-15017
RE:	E6.05
DRAWN	KVT
CHECKED	NBH
DATE:	03/04/16
ADDENDUM:	ADDENDUM #4

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0 1/8" 1/4" 1/2" 1"

CE-11

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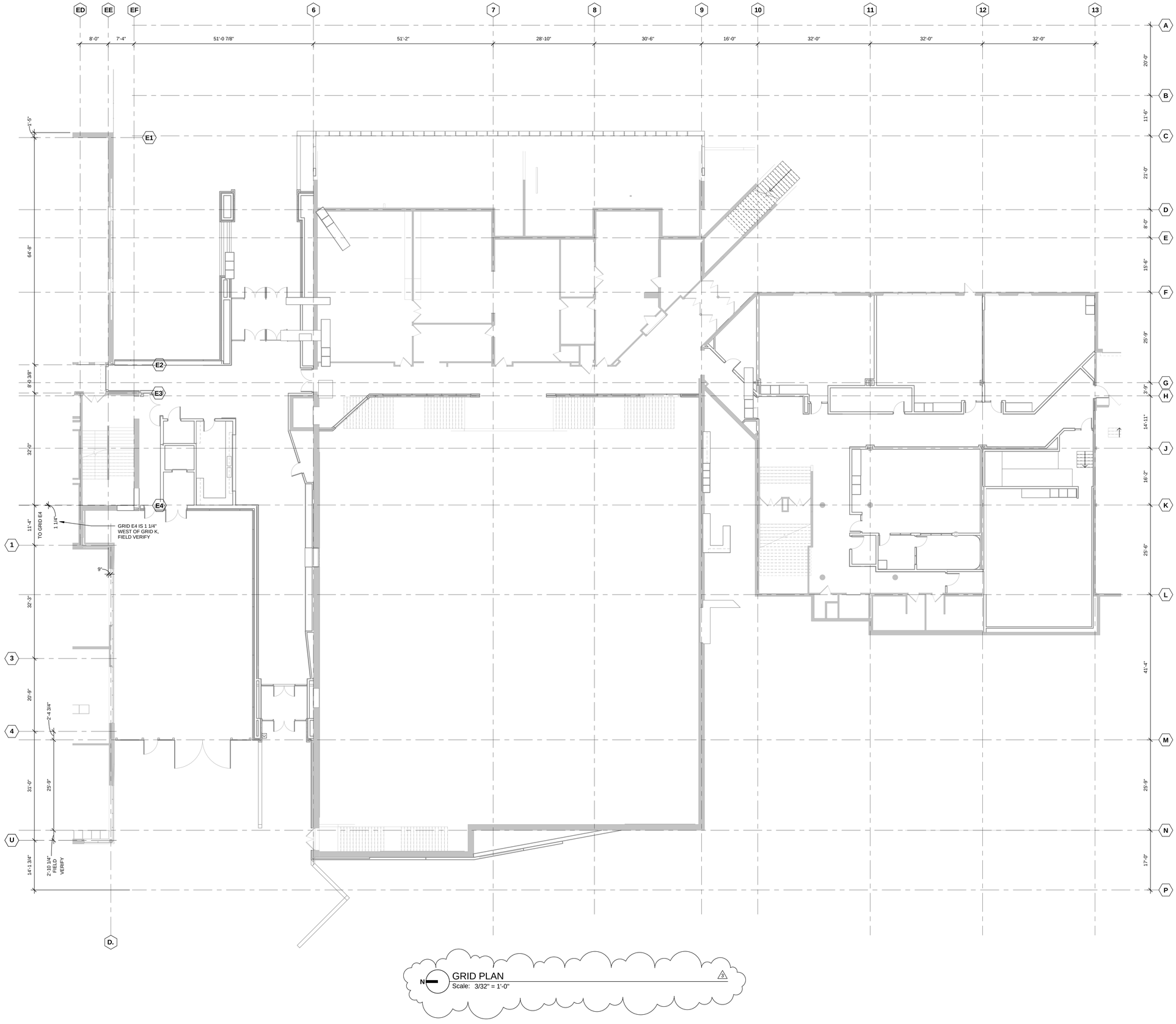

GRID PLAN
Scale: 3/32" = 1'-0"

REVISIONS

3 Addendum 3 03/02/16

3382 REGISTERED ARCHITECT
STEVEN J. McNUTT
STATE OF WASHINGTON

7714 REGISTERED ARCHITECT
DANA L. HARBAUGH
STATE OF WASHINGTON

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION

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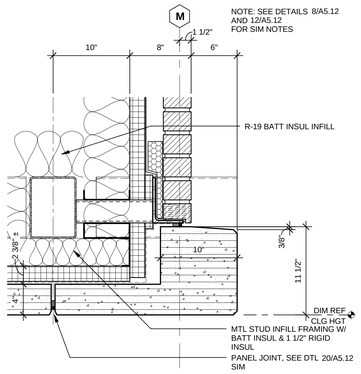
DRAWN	RSW
CHECKED	-
DATE	02/19/2016

GRID PLAN

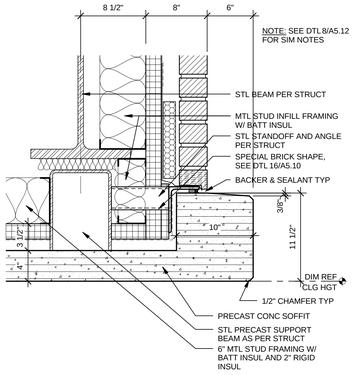
CD

G1.01

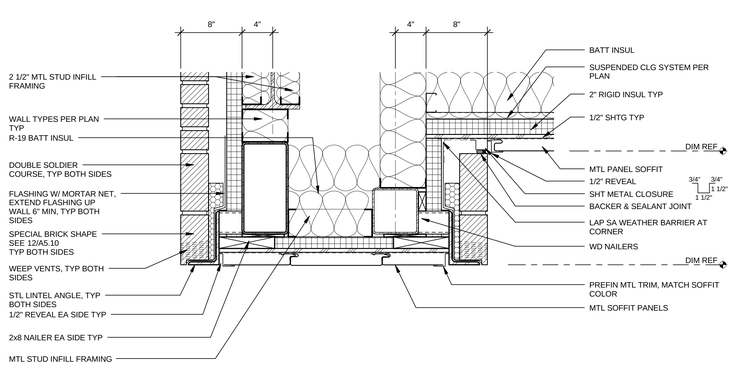
2/23/2016 3:08:57 PM D:_RevitNCHS-Arch_rwilson.rvt



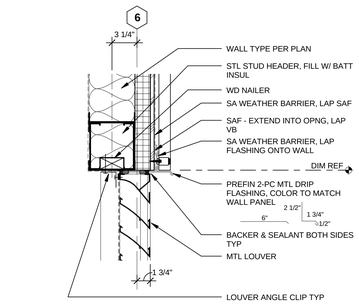
16 WEST PORTAL HEAD
Scale: 1 1/2" = 1'-0"



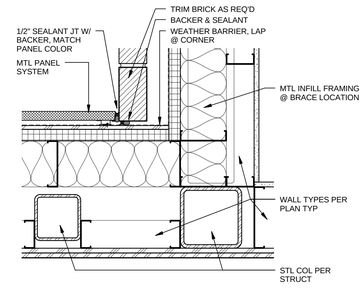
12 EAST PORTAL HEAD
Scale: 1 1/2" = 1'-0"



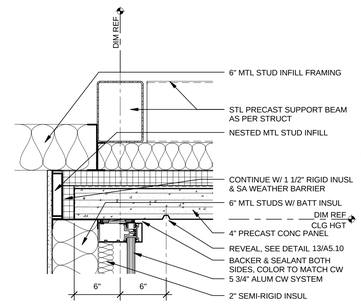
8 EAST PORTAL - BENCH HEAD
Scale: 1 1/2" = 1'-0"



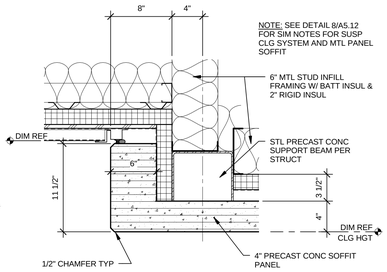
4 LOUVER HEAD
Scale: 1 1/2" = 1'-0"



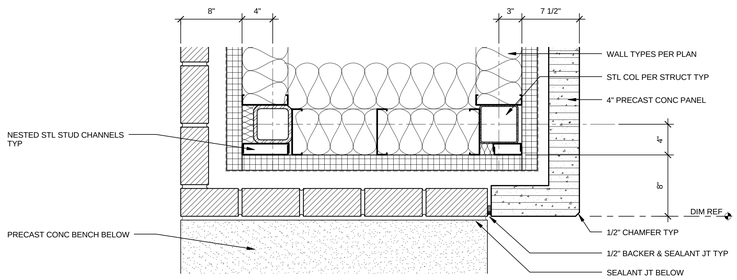
1 SKYBRIDGE WALL DTL
Scale: 1 1/2" = 1'-0"



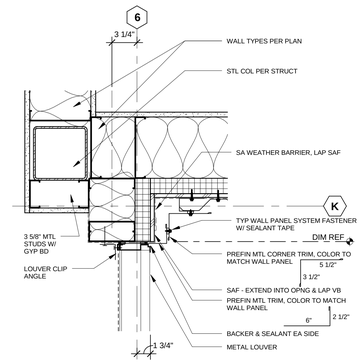
17 WEST PORTAL HEAD @ CW
Scale: 1 1/2" = 1'-0"



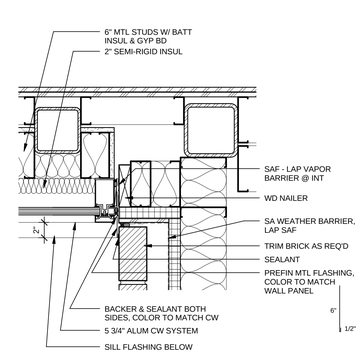
13 EAST PORTAL HEAD
Scale: 1 1/2" = 1'-0"



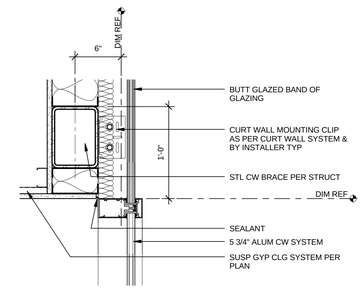
9 EAST PORTAL - BENCH JAMB
Scale: 1 1/2" = 1'-0"



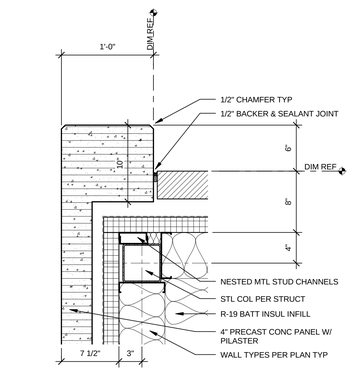
5 LOUVER JAMB
Scale: 1 1/2" = 1'-0"



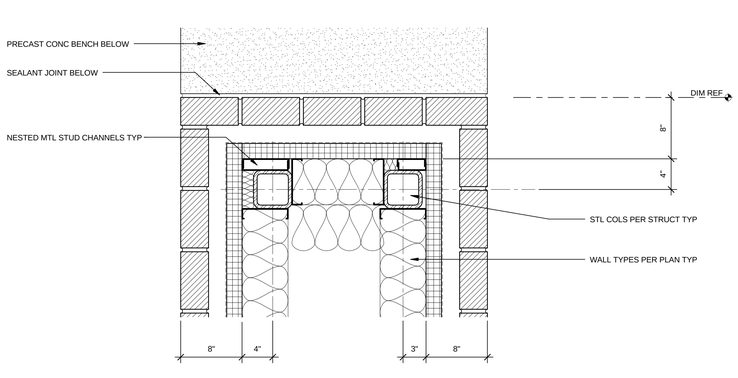
2 SKYBRIDGE WALL DTL
Scale: 1 1/2" = 1'-0"



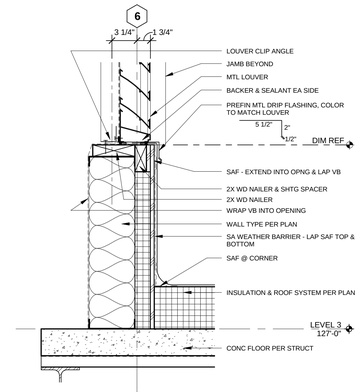
18 WEST PORTAL CW DETAIL
Scale: 1 1/2" = 1'-0"



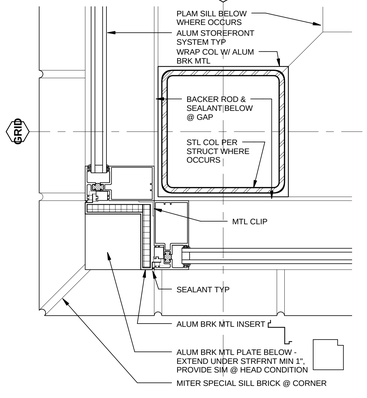
14 EAST PORTAL JAMB
Scale: 1 1/2" = 1'-0"



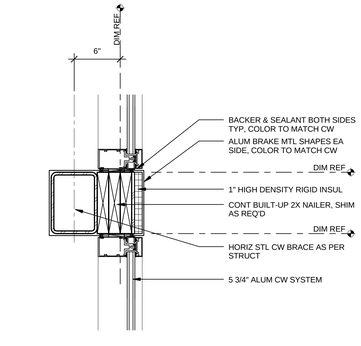
10 EAST PORTAL - BENCH JAMB
Scale: 1 1/2" = 1'-0"



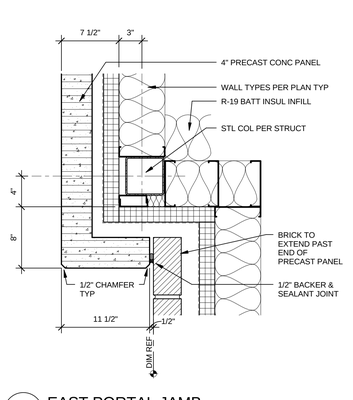
6 LOUVER SILL
Scale: 1 1/2" = 1'-0"



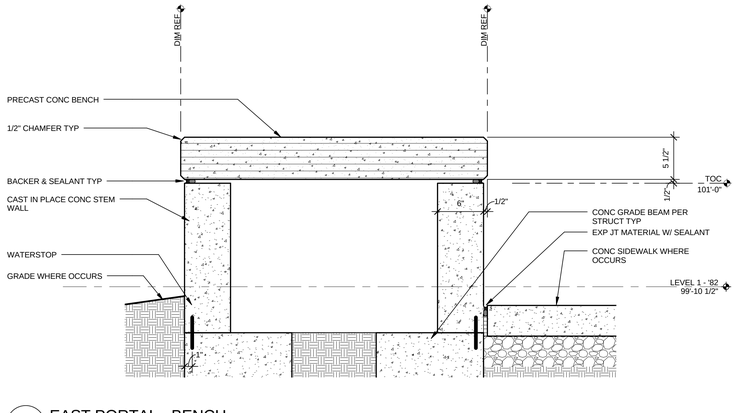
3 WINDOW CORNER
Scale: 3" = 1'-0"



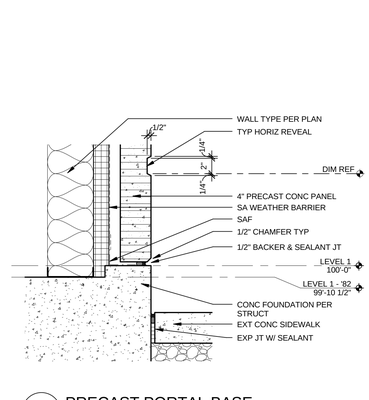
19 WEST PORTAL CW DETAIL
Scale: 1 1/2" = 1'-0"



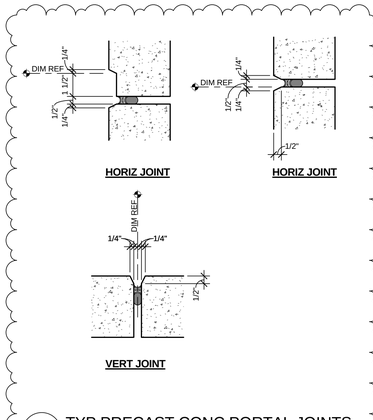
15 EAST PORTAL JAMB
Scale: 1 1/2" = 1'-0"



11 EAST PORTAL - BENCH
Scale: 1 1/2" = 1'-0"



7 PRECAST PORTAL BASE
Scale: 1 1/2" = 1'-0"



20 TYP PRECAST CONC PORTAL JOINTS
Scale: 3" = 1'-0"

REVISIONS

4	Addendum 4	03/02/16

3382 REGISTERED ARCHITECT STEVEN J. McNUTT STATE OF WASHINGTON

7714 REGISTERED ARCHITECT DANA L. HARBAUGH STATE OF WASHINGTON

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION

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NAC NO	111-15017
DRAWN	SHN
CHECKED	Checker
DATE	02/19/2016

EXTERIOR DETAILS

CD

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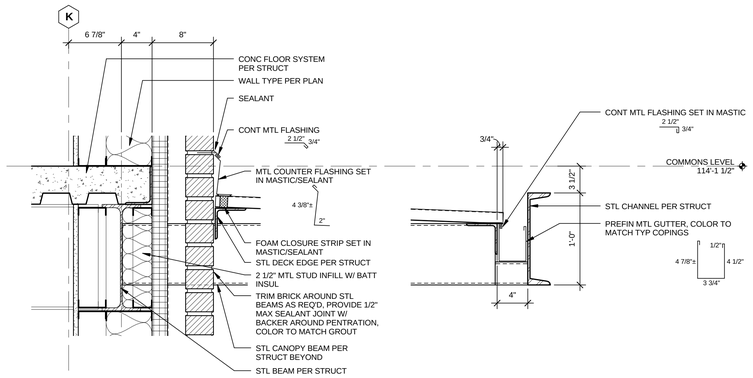
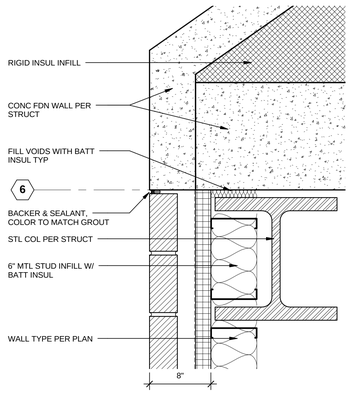
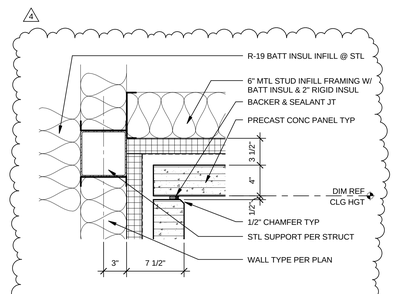


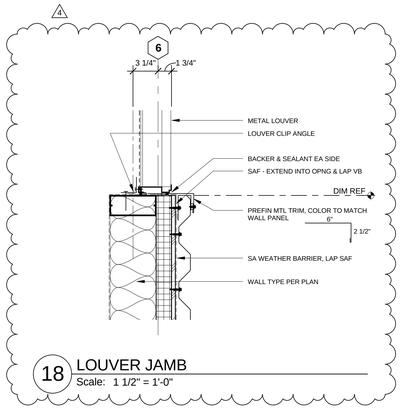
15 CANOPY SECTION
Scale: 1 1/2" = 1'-0"



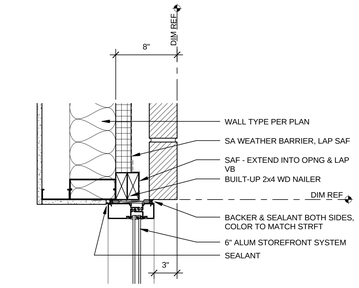
16 MASONRY DETAIL
Scale: 1 1/2" = 1'-0"



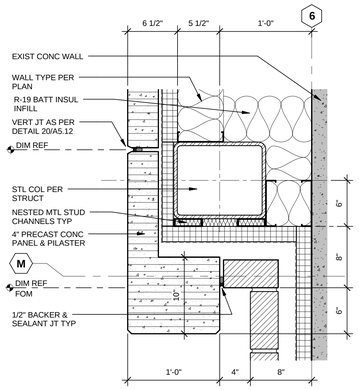
17 PRECAST PORTAL PANEL/SOFFIT
Scale: 1 1/2" = 1'-0"



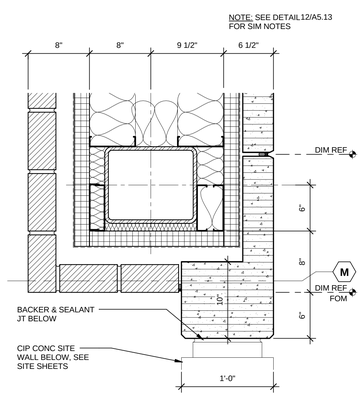
18 LOUVER JAMB
Scale: 1 1/2" = 1'-0"



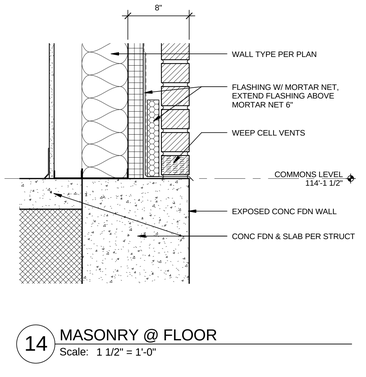
11 STOREFRONT JAMB
Scale: 1 1/2" = 1'-0"



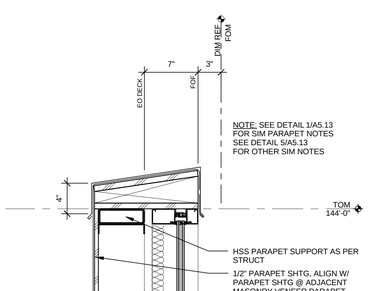
12 WEST PORTAL JAMB
Scale: 1 1/2" = 1'-0"



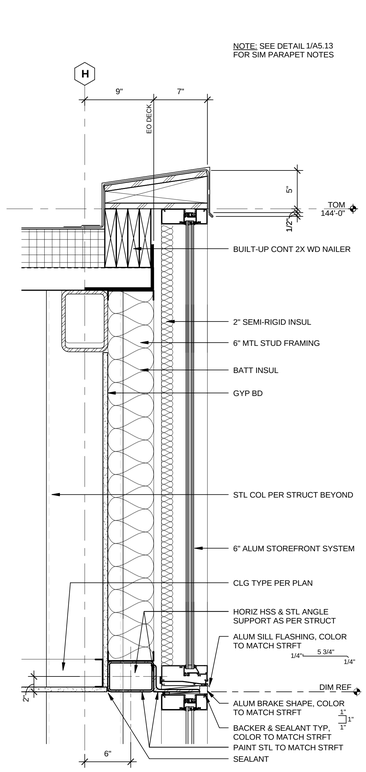
13 WEST PORTAL JAMB
Scale: 1 1/2" = 1'-0"



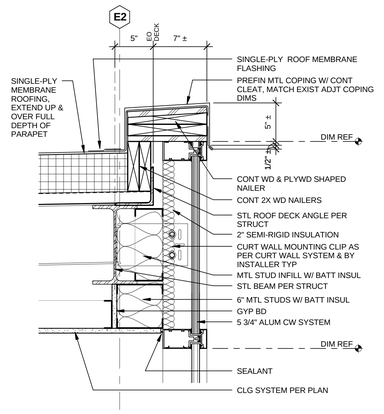
14 MASONRY @ FLOOR
Scale: 1 1/2" = 1'-0"



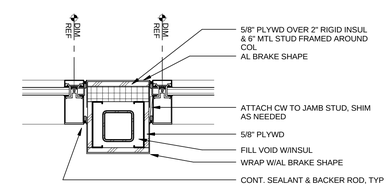
8 STOREFRONT @ ROOF
Scale: 1 1/2" = 1'-0"



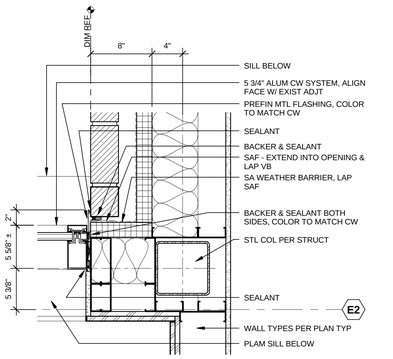
5 STOREFRONT @ ROOF
Scale: 1 1/2" = 1'-0"



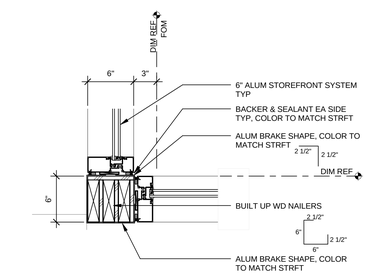
1 CURTAIN WALL @ ROOF
Scale: 1 1/2" = 1'-0"



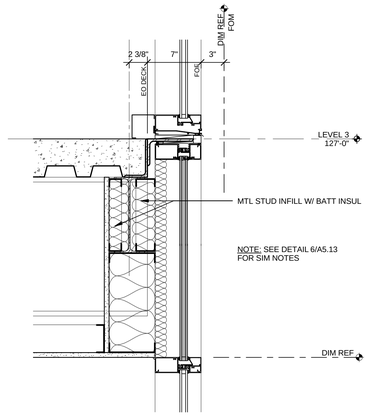
2 MULLION AT LEVEL 3
Scale: 1 1/2" = 1'-0"



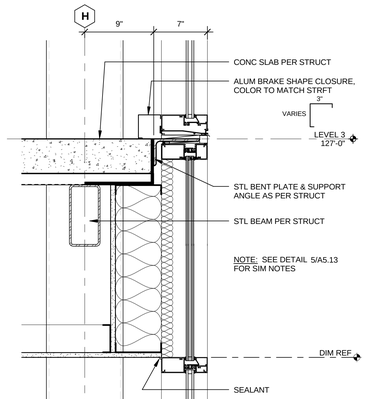
3 CW JAMB / WALL CORNER
Scale: 1 1/2" = 1'-0"



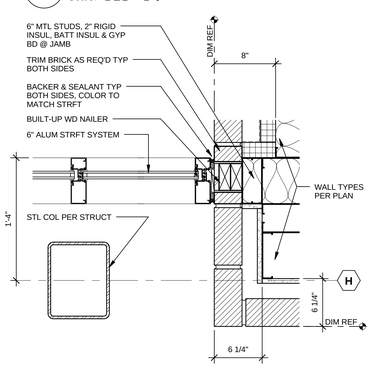
4 STOREFRONT JAMB
Scale: 1 1/2" = 1'-0"



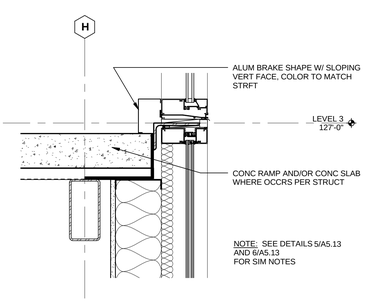
9 STOREFRONT @ LVL 3
Scale: 1 1/2" = 1'-0"



6 STOREFRONT @ LVL 3
Scale: 1 1/2" = 1'-0"



10 STOREFRONT JAMB
Scale: 1 1/2" = 1'-0"



7 STOREFRONT @ LVL 3
Scale: 1 1/2" = 1'-0"

REVISIONS

4	Addendum 4	03/02/16

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STEVEN J. McNUTT
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SPOKANE PUBLIC SCHOOL DISTRICT NO. 81

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NAC NO	111-15017
DRAWN	RSW
CHECKED	-
DATE	02/19/2016

4 EXTERIOR DETAILS

CD

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- KITCHEN EQUIPMENT SCHEDULE - PHASE 2 -

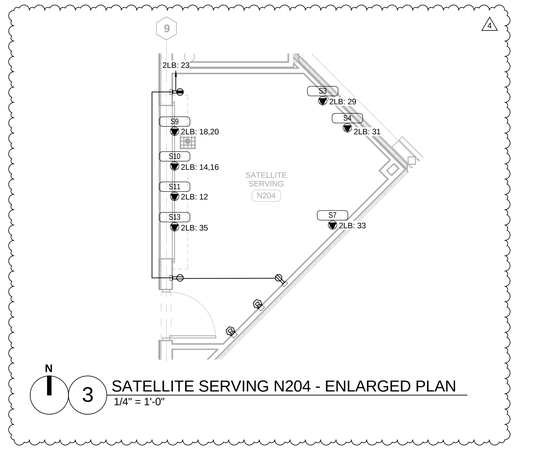
EQMT #	DESCRIPTION	VOLT	PHASE	PNL	CCT	FLA	DISC SIZE	FUSE	COND SIZE	GROUND SIZE	RACEWAY SIZE	CONNECTION TYPE	CONN HEIGHT	REMARKS
K-08	REFRIGERATOR	120 V	1	1LKA	7	8	-	-	12	12	3/4"	NEMA 5-15P	7'	
K-09	EXHAUST CANOPY - TYPE 1	120 V	1	1LKA	9	15	-	-	10	10	3/4"	DIRECT	9' 2"	
K-11	COMBIOVEN - DOUBLE	208 V	3	1LKA	17,19,21	46	-	-	4	10	1-1/4"	DIRECT	1'	SECOND CONNECTION AT 3' 6"
K-11	COMBIOVEN - DOUBLE	208 V	3	1LKA	11,13,15	46	-	-	4	10	1-1/4"	DIRECT	1'	SECOND CONNECTION AT 3' 6"
K-12	STEAM KETTLES	208 V	3	1LKA	23,25,27	17	-	-	10	10	3/4"	DIRECT	2'	
K-12	STEAM KETTLES	208 V	3	1LKA	29,31,33	17	-	-	10	10	3/4"	DIRECT	2'	
K-13	RETHERM OVEN	208 V	3	1LKB	29,31,33	33	-	-	6	10	1"	NEMA 6-50P	4'	
K-15	60-QT MIXER	208 V	3	1LKA	10,12,14	10	30/3	15	12	12	3/4"	DIRECT	4'	
K-18	20 QT MIXER	120 V	1	1LKA	35	8	-	-	12	12	3/4"	NEMA 5-15P		CO MOUNTED ON WORK TABLE (ITEM 16)
K-23	WALK-IN COOLER	120 V	1	1LKB	7	15	30/1	20	10	10	3/4"	DIRECT	8' 6"	
K-24	COOLER CONDENSER	208 V	3	1LKB	11,13,15	20	60/3	30	8	10	1"	DIRECT		LOCATED ON ROOFTOP
K-24.1	COOLER EVAPORATOR	120 V	1	1LKB	9	3	20/1	5	12	12	3/4"	DIRECT	8' 6"	
K-26	WALK-IN FREEZER	120 V	1	1LKB	17	15	30/1	20	10	10	3/4"	DIRECT	8' 6"	
K-27	FREEZER CONDENSER	208 V	3	1LKB	23,25,27	29	60/3	45	4	10	1-1/2"	DIRECT		LOCATED ON ROOFTOP
K-27.1	FREEZER EVAPORATOR	208 V	1	1LKB	23,25,27	1	30/2	17.5	10	10	3/4"	DIRECT	8' 6"	PROVIDE SINGLE-PHASE CIRCUIT FROM CONDENSER
K-30	DISPOSER	208 V	3	1LKA	16,18,20	3	20/3	5	12	12	3/4"	DIRECT	2'	
K-32	FOOD PROCESSOR	120 V	1	1LKA	22	9	-	-	12	12	3/4"	NEMA 5-15P	4'	
K-36	REFRIGERATED PREP TABLE	120 V	1	1LKA	24	12	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-39	SLICER	120 V	1	1LKA	26	6	-	-	12	12	3/4"	NEMA 5-15P	4'	
K-42	REACH-IN REFRIGERATOR	120 V	1	1LKA	28	10	-	-	12	12	3/4"	NEMA 5-15P	7'	
K-43	PASS THRU REFRIGERATOR	120 V	1	1LKA	8	6	-	-	12	12	3/4"	NEMA 5-15P		
K-43	PASS THRU REFRIGERATOR	120 V	1	1LKA	6	6	-	-	12	12	3/4"	NEMA 5-15P		
K-44	PASS THRU HEATED CABINETS	208 V	1	1LKA	2,4	9	-	-	12	12	3/4"	DIRECT	7'	
K-44	PASS THRU HEATED CABINETS	208 V	1	1LKA	45,47	9	-	-	12	12	3/4"	DIRECT	7'	
K-44	PASS THRU HEATED CABINETS	208 V	1	1LKA	41,43	9	-	-	12	12	3/4"	DIRECT	7'	
K-44	PASS THRU HEATED CABINETS	208 V	1	1LKA	37,39	9	-	-	12	12	3/4"	DIRECT	7'	
K-45	EXHAUST CANOPY	120 V	1	1LKA	38	15	30/1	20	10	10	3/4"	DIRECT	9' 2"	
K-48	MICROWAVE OVEN	208 V	1	1LKA	30,32	28	-	-	8	10	1"	NEMA 6-30P	4'	
K-49	HOTWATER DISPENSER	208 V	1	1LKA	34,36	24	-	-	10	10	3/4"	NEMA 6-30P	4'	
K-52	COMBI-OVEN DOUBLE STACK	208 V	3	1LKC	1,3,5	48	-	-	4	10	1-1/4"	DIRECT	-	REFER TO KITCHEN PLAN FOR CONNECTION HEIGHT
K-52	COMBI-OVEN DOUBLE STACK	208 V	3	1LKC	13,15,17	48	-	-	4	10	1-1/4"	DIRECT	-	REFER TO KITCHEN PLAN FOR CONNECTION HEIGHT
K-52	COMBI-OVEN DOUBLE STACK	208 V	3	1LKC	7,9,11	48	-	-	4	10	1-1/4"	DIRECT	-	REFER TO KITCHEN PLAN FOR CONNECTION HEIGHT
K-52	COMBI-OVEN DOUBLE STACK	208 V	3	1LKC	19,21,23	48	-	-	4	10	1-1/4"	DIRECT	-	REFER TO KITCHEN PLAN FOR CONNECTION HEIGHT
K-60	DISPOSER	208 V	3	1LKB	1,3,5	6	20/3	9	12	12	3/4"	DIRECT	2'	
K-64	DISHMACHINE	480 V	3	1HKA	1,3,5	28	60/3	40	4	10	1-1/4"	DIRECT	5' 8"	
K-64.1	BOOSTER HEATER	480 V	3	1HKA	7,9,11	40	100/3	50	4	10	1-1/4"	DIRECT	5' 8"	
K-70	HOTWELL	120 V	1	1LKB	2	8	-	-	12	12	3/4"	DIRECT	1' 6"	
K-70	HOTWELL	120 V	1	1LKB	4	8	-	-	12	12	3/4"	DIRECT	1' 6"	
K-70	HOTWELL	120 V	1	1LKB	6	8	-	-	12	12	3/4"	DIRECT	1' 6"	
K-71	SNEEZE GUARD SINGLE	120 V	1	1LKB	28	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-72	HEATED DISPLAY CASE	208 V	1	1LKB	20,22	25	-	-	8	10	1"	L14-20P	2'	120/208V POWER REQUIREMENT
K-72	HEATED DISPLAY CASE	208 V	1	1LKB	12,14	25	-	-	8	10	1"	L14-20P	2'	120/208V POWER REQUIREMENT
K-72	HEATED DISPLAY CASE	208 V	1	1LKB	16,18	25	-	-	8	10	1"	L14-20P	2'	120/208V POWER REQUIREMENT
K-73	HOTWELLS DOUBLE	120 V	1	1LKB	10	17	-	-	10	12	3/4"	DIRECT	1' 6"	
K-73	HOTWELLS DOUBLE	120 V	1	1LKB	8	17	-	-	10	12	3/4"	DIRECT	1' 6"	
K-73.1	HOT/COLD WELL NORTH	120 V	1	1LKB	24	24	-	-	10	10	3/4"	DIRECT	1' 6"	
K-73.1	HOT/COLD WELL NORTH	120 V	1	1LKB	26	24	-	-	10	10	3/4"	DIRECT	1' 6"	
K-74	SNEEZE GUARD DOUBLE	120 V	1	1LKB	30	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-74	SNEEZE GUARD DOUBLE	120 V	1	1LKB	32	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-74	SNEEZE GUARD DOUBLE	120 V	1	1LKB	34	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-76	REFRIDGERATED SANDWICH UNIT	120 V	1	1LKB	38	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-79	SNEEZE GUARD	120 V	1	1LKB	40	5	-	-	12	12	3/4"	DIRECT		
K-80	REFRIGERATED DISPLAY CASE	120 V	1	1LKB	35	12	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-82	MILK COOLERS	120 V	1	1LKB	41	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-82	MILK COOLERS	120 V	1	1LKB	39	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-82	MILK COOLERS	120 V	1	1LKB	37	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-84	POS MACHINES	120 V	1	1LKB	47	15	-	-	12	12	3/4"			FLOOR OUTLET, VERIFY DATA REQUIREMENT
K-84	POS MACHINES	120 V	1	1LKB	45	15	-	-	12	12	3/4"			FLOOR OUTLET, VERIFY DATA REQUIREMENT
K-84	POS MACHINES	120 V	1	1LKB	43	15	-	-	12	12	3/4"			FLOOR OUTLET, VERIFY DATA REQUIREMENT
K-85	DROP-IN COLD PAN	120 V	1	1LKB	42	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-85	DROP-IN COLD PAN	120 V	1	1LKB	44	7	-	-	12	12	3/4"	NEMA 5-15P	1' 6"	
K-86	SNEEZE GUARD	120 V	1	1LKB	46	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-86	SNEEZE GUARD	120 V	1	1LKB	48	5	-	-	12	12	3/4"	DIRECT	2' 6"	
K-88	SNEEZE GUARD	120 V	1	1LKB	36	5	-	-	12	12	3/4"	DIRECT	2' 6"	

4

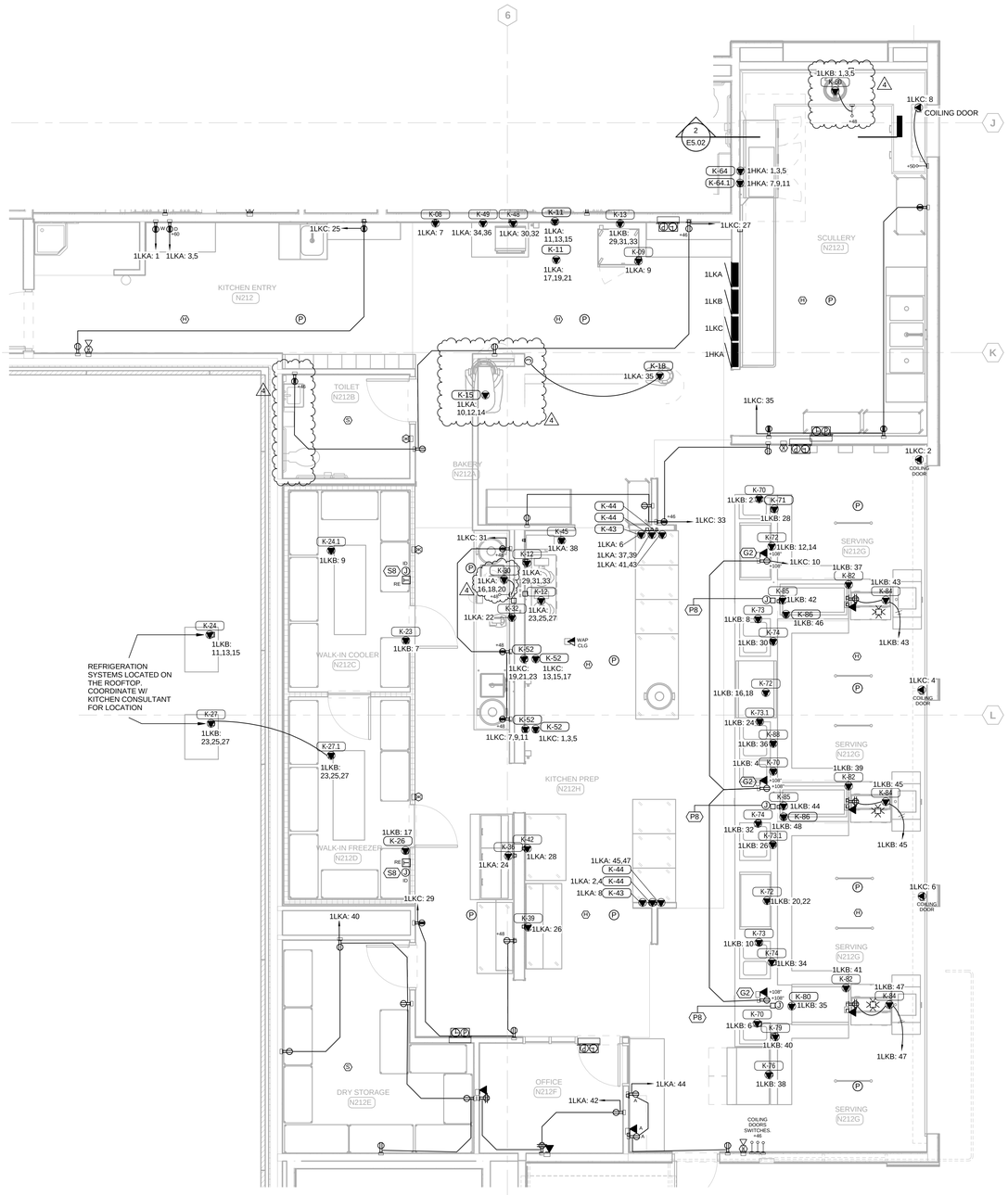
- SATELLITE SERVING EQUIPMENT SCHEDULE - PHASE 2 -

EQMT #	DESCRIPTION	VOLT	PHASE	PNL	CCT	FLA	DISC SIZE	FUSE	COND SIZE	GROUND SIZE	RACEWAY SIZE	CONNECTION TYPE	CONN HEIGHT	REMARKS
S3	HOT TRANSPORT CARTS	120 V	1	2LB	29	12	-	-	12	12	3/4"	5-20P		
S4	MICROWAVE OVEN	120 V	1	2LB	31	18	-	-	12	12	3/4"	5-20P		
S7	GLASS DOOR REFRIGERATOR	120 V	1	2LB	33	7	-	-	12	12	3/4"	5-20P		
S9	HEATED DISPLAY CASE	208 V	1	2LB	18,20	14	-	-	12	12	3/4"	L14-20P		
S10	HOT/COLD WELLS	208 V	1	2LB	14,16	9	-	-	12	12	3/4"			
S11	SNEEZE GUARD - ADJUSTABLE	120 V	1	2LB	12	5	-	-	12	12	3/4"	5-20P		
S13	POS MACHINE	120 V	1	2LB	35	15	-	-	12	12	3/4"	5-20P		

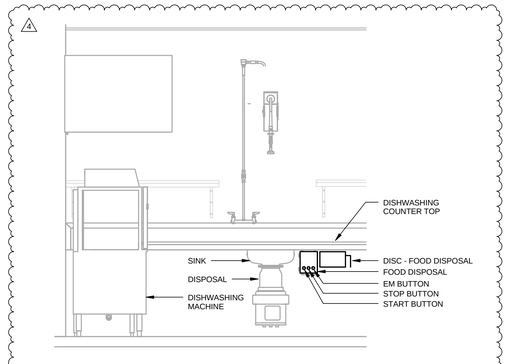
4



3 SATELLITE SERVING N204 - ENLARGED PLAN
1/4" = 1'-0"



1 KITCHEN ENLARGED PLAN
1/4" = 1'-0"



2 DISHWASHING DISPOSAL START / STOP ELEVATION
Scale: NTS

REVISIONS
4 ADDENDUM #4 03/04/2016

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81
NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION
1600 NORTH HOWARD STREET, SPOKANE, WA 99205

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NAC NO	111-15017
REF/SHT	E5.02 / CD
DRAWN	KVT
CHECKED	NBH
DATE	03/04/2016

KITCHEN ENLARGED PLAN

CE-05

ADDENDUM:
ADDENDUM #4

STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: The design and construction of this project is governed by the **"International Building Code (IBC)", 2012 Edition**, hereafter referred to as the IBC, as adopted and modified by the City of **Spokane, WA understood** to be the Authority Having Jurisdiction (AHJ).

REFERENCE STANDARDS: Refer to Chapter 35 of 2012 IBC. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

DEFINITIONS: The following definitions cover the meanings of certain terms used in these notes:

"**Architect/Engineer**" – The Architect of Record and the Structural Engineer of Record.

- "**Structural Engineer of Record" (SER)** – The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- **"Submit for review"** - Submit to the Architect/Engineer for review prior to fabrication or construction.
- "**Per Plan**" – Indicates references to the structural plans, elevations and structural general notes.
- **"Specialty Structural Engineer" (SSE) –** A professional engineer (PE or SE), licensed in the State where the project is located, (typically not the SER), who performs specialty structural engineering services for selected specialty-engineered elements identified in the Contract Documents, and who has experience and training in the Specialty. Documents stamped and signed by the SSE shall be completed by or under the direct supervision of the SSE.
- **"Bidder-designed" –** Components of the structure that require the general contractor, subcontractor, or supplier who is responsible for the design, fabrication and installation of specialty-engineered elements identified in the Contract Documents to retain the services of an SSE. Submittals of "Bidder-designed" elements shall be stamped and signed by the SSE.

SPECIFICATIONS: Refer to the project specifications issued as part of the contract documents for information supplemental to these drawings.

OTHER DRAWINGS: Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, curtain walls, elevators, curbs, depressions, mechanical unit locations, and other nonstructural items.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

STRUCTURAL RESPONSIBILITIES: The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

COORDINATION: The Contractor is responsible for coordinating details and accuracy of the work; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a safe and secure manner.

MEANS, METHODS and SAFETY REQUIREMENTS: The contractor is responsible for the means and methods of construction and all job related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health). Contractor is responsible to adhere to OSHA regulations regarding steel erection items specifically addressed in the latest OSHA regulations. Bolting and field welding at all member connections is to be completed prior to the release of the member from the hoisting mechanism unless reviewed and approved by the General Contractor's temporary bracing and shoring design engineer.

BRACING/SHORING DESIGN ENGINEER: The contractor shall at his discretion employ an SSE, a registered professional engineer for the design of any temporary bracing and shoring.

TEMPORARY SHORING, BRACING: The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

CHANGES IN LOADING: The contractor has the responsibility to notify the SER of any architectural, mechanical, electrical, or plumbing load imposed onto the structure that differs from, or that is not documented on the original Contract Documents (architectural / structural / mechanical / electrical or plumbing drawings). Provide documentation of location, load, size and anchorage of all undocumented loads in excess of **400** pounds. Provide marked-up structural plan indicating locations of any new equipment or loads. Submit plans to the Architect/Engineer for review prior to installation.

NOTE PRIORITIES: Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

DISCREPANCIES: In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

ADJACENT UTILITIES: The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, shoring, excavation, and prior to drilling holes for piles and tieback anchors. Any utility information shown on the drawings and details is approximate and not necessarily complete.

ALTERNATES: Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical documentation or that significantly deviate from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

DESIGN CRITERIA AND LOADS

OCCUPANCY:	Risk Category of Building per 2012 IBC Table 1604.5 =	**III**

WIND DESIGN:	**MAIN WIND FORCE RESISTING SYSTEM**	
	Ultimate Design Wind Speed, V_{ULT} (MPH)	**115**
	Exposure Category	**B**
	Internal Pressure Coefficient **Cpi =**	**+/- 0.18**
	Topographic Factor **Kzt =**	**1.0**
	Wind Analysis procedure used:	**Directional**
	COMPONENT & CLADDING PRESSURES for DESIGN (Ultimate) based on 10 sq ft.	**PSF**
	Wall Cladding, Typical Zone	**35**
	Wall Cladding, Edge Zone within **16** feet of corners	**43**
	Roof Cladding, Middle Zone	**32**
	Roof Cladding, Edge Zone within **16** feet of edge	**54**
	Roof Cladding, Corner Zone within **16** feet of corners	**82**
	Uplift Load Net	**6**

SEISMIC DESIGN:	**Seismic Design Category: SDC =**	**C**
	Basic Structural System	**Building Frame**
	Seismic Force Resisting System	**Steel System Not Specifically Detailed for Seismic Resistance**
	Response Modification Factor: **R =**	**3**
	System Over strength Factor **Omega =**	**3**
	Deflection Amplification Factor **Cd =**	**3**
	Site Classification per IBC 1613.3.2 & ASCE 7-10, Ch. 20 **Site Class =**	**D**
	Seismic Importance Factor per ASCE 7-10 Table 1.5-2 **Ie =**	**1.25**
	Spectral Response Acceleration (Short Period) S_s **=**	**0.333**
	Spectral Response Acceleration (1-Second Period) S_1 **=**	**0.115**
	Spectral Design Response Coefficient (Short Period) S_{DS} **=**	**0.340 g**
	Spectral Design Response Coefficient (1-Second Period) S_{DI} **=**	**0.180 g**
	Seismic response coefficient(s) **Cs =**	**0.14**
	Redundancy Factor (North/South Direction)	**1.0**
	Design Base Shear (North/South Direction) (KIPS)	**279**
	Design Base Shear (East / West Direction) (KIPS)	**245**
	Base shear governed by:	**Seismic**
	Seismic Analysis procedure used:	**Equivalent Lateral Force (ELF)**

SNOW LOAD: (1)	Flat Roof Snow Load, (PSF) p_f =	**40** (2)
	Snow Drift Loading required by Authority Having Jurisdiction?	**Yes**
	Snow Load Importance Factor I_s =	**1.0** (3)
	Ground Snow Load, (PSF) p_g =	**39**
	Snow Exposure Factor C_e =	**B**
	Thermal Factor C_t =	**1.0**
	See Roof Plan for Drift Loading	

1) Snow Load is un-reducible and includes 5 psf rain-on-snow surcharge where ground snow load is greater than zero and 20 psf or less per ASCE 7-10 Section 7.10.
2) Snow Load based on Spokane Public Schools "Best Practices Manual"
3) Snow Load Importance Factor per ASCE 7-10 Table 1.5-2.

DESIGN LIVE LOADS	AREA	LIVE LOADS (PSF) UNO	REMARKS & FOOT-NOTES
	See structural loading plans for area loads and line loads. Loads listed below are for miscellaneous items.		
	Handrails & Pedestrian Guardrails	50 PLF or 200 LB	(1)
	Stairs & Exits	100 PSF or 300 LB	Stair treads per note (2)
	Lobbies	100	2000 lbs, (Movable seats)
	Corridors at First Floor	100	
	Corridors above First Floor	80	
	School Classrooms	40	1000 lb
	Mechanical Rooms	150	
	Roofs	20 PSF or 300 LB	Area load is reducible. Point load per note (2), See above for Snow Load
	Live load in unoccupied landscaped roofs	20	Per IBC 1607.12.3.1

(1) Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.
(2) Place 300 lb concentrated load over 2"x2" area at any point to produce maximum stress. Area load and concentrated load are to be considered separately with worst case used for design.
(3) Need not apply concurrently with other handrail and guardrail loads; applied over not more than 1 square foot.

DESIGN DEAD LOADS	BIDDER DESIGN	DEAD LOADS (PSF) UNO	REMARKS & FOOTNOTES
	Roof Dead Load, Total Top Chord Bottom Chord	20 PSF 15 PSF 5 PSF	For Open Web Steel Joist design
	OWSJ Additional Load	500 LBS Point load	to be applied at any panel point on the top or bottom chord of each joist (wherever it produces the highest stress)

SUBMITTALS

SUBMIT FOR REVIEW: SUBMITTALS of shop drawings, and product data are required for items noted in the individual materials sections and for *bidder designed* elements.

SUBMITTAL REVIEW PERIOD: Submittals shall be made in time to provide a minimum of TWO WEEKS or 10 WORKING DAYS for review by the Architect/Engineer prior to the onset of fabrication.

GENERAL CONTRACTOR'S PRIOR REVIEW: Prior to submission to the Architect/Engineer, the Contractor shall review the submittal for completeness. Dimensions and quantities are not reviewed by the SER, and therefore, must be verified by the General Contractor. Contractor shall provide any necessary dimensional details requested by the Detailer and provide the Contractor's review stamp and signature before forwarding to the Architect/Engineer.

SHOP DRAWING REVIEW: Once the contractor has completed his review, the SER will review the submittal for general conformance with the design concept and the contract documents of the building and will stamp the submittal accordingly. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures there from. The SER will return submittals in the form they are submitted in (either hard copy or electronic). For hard copy submittals, the contractor is responsible for submitting the required number of copies to the SER for review.

SHOP DRAWING DEVIATIONS: When shop drawings (component design drawings) differ from or add to the requirements of the structural drawings they shall be designed and stamped by the responsible SSE.

DEFERRED SUBMITTALS

BIDDER-DESIGNED ELEMENTS
Submit "Bidder-Designed" deferred submittals to the Architect and SER for review. The deferred submittals shall also be submitted to the city for approval, if required by the city.

Design of prefabricated, "bidder designed", manufactured, pre-engineered, or other fabricated products shall be comply with the following requirements:

1) Design considers tributary dead, live, wind and earthquake loads in combinations required by IBC.
2) Design within the Deflection Limits noted herein and as specified or referenced in the IBC.
3) Design shall conform to the specifications and reference standards of the governing code.
4) Submittal shall include:
   a. Calculations prepared, stamped and signed by the SSE demonstrating code conformance.
   b. Engineered component design drawings are prepared, stamped and signed by the SSE.
   c. Product data, technical information and manufacturer's written requirements and Agency approvals as applicable.
   d. SSE may submit to the Architect/Engineer, a request to utilize relevant alternate design criteria of similar nature and generally equivalency which is recognized by the Code and acceptable to the Authority Having Jurisdiction. Submit adequate documentation of design.

DEFLECTION LIMITS FOR SSE / BIDDER DESIGNED ELEMENTS:	VERTICAL	LIMIT
	Roof Members, Dead + Live or Snow or Wind, Total Load (TL) Deflection	L / 240, where (L is span length,inches)
	Roof, Live or Snow or Wind Load (RLL)	L / 360
	Floor Members, Total Load (TL) uno	L / 240
	Floor Live Load (LL) uno	L / 360
	Members Supporting Masonry	L / 1200 or 1/4" max masonry DL only
	HORIZONTAL	**LIMIT and FOOTNOTE**
	Members Supporting Brittle Finishes	L / 240 (1)
	Members Supporting Flexible Finishes	L / 180 (1)
	Members Supporting Masonry	L / 600 @ 0.7 x Cladding Wind or 0.7E (1)

(1) Wind Load is reducible to 0.42 times the Component and Cladding Loads per Table 1604.3 footnote f.

GENERAL CONTRACTOR'S PRIOR REVIEW: Once the contractor has completed his review of the SSE component drawings, the SER will review the submittal for general conformance with the design of the building and will stamp the submittal accordingly. Review of the Specialty Structural Engineer's (SSE) shop drawings (component design drawings) is for compliance with design criteria and compatibility with the design of the primary structure and does not relieve the SSE of responsibility for that design. All necessary bracing, ties, anchorage, proprietary products shall be furnished and installed per manufacturer's instructions or the SSE's design drawings and calculations. These elements include but are not limited to:

- Open Web Steel Joists and Girders
- Steel Stairs
- Handrails, Guardrails and Balcony Rail Anchorages
- Metal Deck Edge Forms
- Exterior Cladding Systems: Curtain Wall Systems, Pre-engineered Panels
- Roof Mounted Components: Skylights, hatches
- Window Washing System; Tie-down Anchorage
- Mechanical, Electrical, Plumbing & Sprinkler Hanger Plans
- Temporary Shoring Systems
- Micropiles
- Precast Structural and Architectural Elements and the Connections to structure
- Slide Bearing Pads

INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

INSPECTIONS: Foundations, footings, under slab systems and framing are subject to inspection by the Building Official in accordance with IBC 110.3. Contractor shall coordinate all required inspections with the Building Official.

SPECIAL INSPECTIONS, VERIFICATIONS and TESTS: Special Inspections, Verifications and Testing shall be done in accordance with IBC Chapter 17 and the STATEMENT OF SPECIAL INSPECTIONS herein per IBC Sections 1704 and 1705, as applicable.

SPECIAL INSPECTION AGENCY and SPECIAL INSPECTORS: Owner shall retain a WABO accredited Special Inspections agency to provide Special Inspections for the project. Special Inspectors shall be qualified persons per IBC 1704.2.1.

STATEMENT OF SPECIAL INSPECTIONS. Special Inspections and Testing per IBC Sections 1704 and 1705 are required for the following:

FABRICATION SHOP INSPECTION: Where off-site Fabrication of gravity LOAD BEARING MEMBERS & ASSEMBLIES is performed, Special Inspector shall verify that the fabricator complies with IBC 1704.2.5 which includes the following:

- **Prior to the start of fabrication**, Special Inspector(s), representing the Owner, shall visit the Fabricator's shop(s) where the work is to be performed, and verifies that the Fabricator maintains detailed Fabrication and Quality Control procedures that provide a basis for inspection, control of workmanship, material control and fabricator's ability to conform to approved Construction Documents and referenced Standards.
- **Fabricator shall have available** for Inspector's review, detailed procedures for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and applicable test reports for primary load-carrying members, are capable of being determined.

SOILS & FOUNDATION CONSTRUCTION per IBC Section 1705.6

- **Periodic** inspection of soils earthwork per Table 1705.6 is required for:
  - Footing soil bearing surfaces prior to placing any reinforcing steel
  - Excavation depth and bearing layer prior to placing any reinforcing steel.
  - Compacted fill material classification.
  - Subgrade preparation prior to filling.
- **Continuous** inspection per Table(s) 1705.6 required for: 4
  - Filling operations to satisfy requirements of IBC Table 1705.6 and the geotechnical report listed under SOILS & FOUNDATIONS section.
  - Compacted fill density testing of each lift, proper lift thickness and material classification.
  - Installation of Micropile Foundations per IBC Section 1705.9.

CONCRETE CONSTRUCTION per IBC Section 1705.3 and Table 1705.3 including:

- **Periodic** inspection required for:
  - Size & placement of all reinforcing steel prior to the pour.
  - Placement clearances around reinforcing steel at embedded conduit.
  - Placing & size of cast-in-place bolts and embedded fabrications prior to the pour.
  - Shape, location & dimensions of members formed.
  - Use of the required design concrete mix.
  - Maintenance of specified curing temperature and techniques.
  - Verification of in-situ concrete strength prior to removal of shores and forms from beams and structural slabs.
- **Continuous** inspection required during the:
  - Placing of reinforced concrete, including concrete on metal deck for proper application techniques.
  - Placing of concrete around cast-in-place bolts and embeds.
  - Sampling of fresh concrete.
  - Determinations of slump, air content and temperature.
  - Grouting operation of post-installed bolts or rebar dowels.

STRUCTURAL MASONRY per IBC Section 1705.4 and 1705.12

LEVEL B - MASONRY CONSTRUCTION per TMS 402-11/ACI 530-11/ASCE 6-11 Section 1.19.2:

- **Periodic** inspection required for:
  - Grouting of Existing Masonry Walls
  - 4 Infill of Openings at Existing Masonry Walls

STRUCTURAL STEEL per IBC 1704.2.5.1

A qualified Special Inspector of an "approved agency" providing Quality Assurance (QA) Special Inspections for the project shall review and confirm the Fabricator and Erector's Quality Control (QC) procedures for completeness and adequacy relative to AISC 360-10 Chapter N, the AISC 303 Code of Standard Practice, AWS D1.1-2010 Structural Welding Code and 2012 IBC code requirements for the fabricator's scope of work.

- QA Agency providing Special Inspections shall provide personnel meeting the minimum qualification requirements for Inspection and Nondestructive Testing NDT per AISC 360-10 Section N4.
- Verify Fabricator and Erector Quality Control Program per AISC 360-10 Section N2.
- Visual Welding Inspection of welds by both QC and QA personnel shall be per tables listed in AISC 360 Section N5. Inspection Tasks for Welding
  - Prior to Welding per AISC 360-10 Table N5.4-1.
  - During Welding per AISC 360-10 Table N5.4-2.
  - After Welding per AISC 360-10 Table N5.4-3.
- Nondestructive Testing (NDT) of welds:
  - Non-Destructive Testing (NDT) of welded joints per AISC 360-10 N.5.
  - Risk Category for determination of extent of NDT per AISC 360 N5.5b is noted in the Design Criteria and Loads section of these General Requirements.
  - NDT performed shall be documented and reports shall identify the tested weld by piece mark and location in the piece.
  - For field work, the NDT report shall identify the tested weld by location in the structure, piece mark and location in the piece.
- Inspection Tasks for Bolting per AISC 360-10 Section N5.6
  - Prior to Bolting per AISC 360-10 Table N5.6-1. Not required for snug-tight joints.
  - During Bolting per AISC 360-10 Table N5.6-2. Not required for snug-tight joints.
  - After Bolting per AISC 360-10 Table N5.6-3.
- Additional Inspection tasks per AISC 360-10 Section N5.7.

POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY**:** shall comply with IBC Section 1703. Inspections shall be in accordance with the requirements set forth in the approved ICC Evaluation Report and as indicated by the design requirements specified on the drawings. Refer to the POST INSTALLED ANCHORS section of these notes for anchors that are the basis of the design. Special inspector shall verify anchors are as specified in the POST INSTALLED ANCHORS section of these notes or as otherwise specified on the drawings. Substitutions require approval by the SER and require substantiating calculations and current 2012 IBC recognized ICC Evaluation Services (ES) Report. Special Inspector shall document in their Special Inspection Report compliance with each of the elements required within the applicable ICC Evaluation Services (ES) Report.

INSPECTION SUBMITTALS: Special inspection reports shall be provided on a weekly basis. Final special inspection reports will be required by each special inspection firm per IBC 1704.2.4. Submit copies of all inspection reports to the Architect/Engineer and the Authority Having Jurisdiction for review.

STRUCTURAL OBSERVATION: Structural Observation shall be provided for structures classified as Seismic Design Category D, E and F in accordance with IBC Section 1704.5 and Section 107.3.4. This project is Seismic Design Category C and Structural Observation is not required.

CONTRACTOR RESPONSIBILITY: Prior to issuance of the building permit, the Contractor is required to provide the Authority Having Jurisdiction a signed, written acknowledgement of the Contractor's responsibilities associated with the above Statement of Special Inspections addressing the requirements listed in IBC Section 1704.4. Contractor is referred to IBC Sections 1705.11.5 and 1705.11.6 for architectural and MEP building systems that may be subject to additional inspections (based on the building's designated Seismic Design Category listed in the CRITERIA), including anchorage of HVAC ductwork containing hazardous materials, piping systems and mechanical units containing flammable, combustible or highly toxic materials, electrical equipment used for emergency or standby power, exterior wall panels and suspended ceiling systems.

PREFABRICATED CONSTRUCTION: All prefabricated construction shall conform to IBC Section 1703.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: Conform to IBC Chapter 18 "Soils and Foundations."

4

GEOTECHNICAL REPORT: Recommendations contained in **"Geotechnical Engineering Services during Design, North Central High School Phase II Modernization"**, report number **2562-020-04** by GeoEngineers dated September 4, 2015 and **"Geotechnical Engineering Services during Design, North Central High School Phase II Modernization, Black Box Classroom"**, report number **2562-020-04** by GeoEngineers dated **February 2, 1016** were used for design.

CONTRACTOR'S RESPONSIBILITIES: Contractor shall be responsible to review the Geotechnical Report and shall follow the recommendations specified therein including, but not limited to, subgrade preparations, pile installation procedures, ground water management and steep slope Best Management Practices."

GEOTECHNICAL SUBGRADE INSPECTION: The Geotechnical Engineer shall inspect all sub-grades and prepared soil bearing surfaces, prior to placement of foundation reinforcing steel and concrete. Geotechnical Engineers shall provide a letter to the owner stating that soils are adequate to support the "Allowable Foundation Bearing Pressure(s)" shown below.

DESIGN SOIL VALUES: 4

Allowable Foundation Bearing Pressure	3000	PSF – Conventional Foundations at Addition
Allowable Foundation Bearing Pressure	6000	PSF – Conventional Foundations at Black Box
Passive Lateral Pressure	250	PSF/FT
Active Lateral Pressure (unrestrained)............................	30	PSF/FT
Coefficient of Sliding Friction...	0.40	

Micropiles……………………………………………………Bidder Designed, Reference Foundation plans for loading information

FOUNDATIONS and FOOTINGS: Foundations shall bear on properly compacted sand and gravel backfill or Micropiles per the geotechnical report. Exterior perimeter footings shall bear not less than 24 inches below finish grade, unless otherwise specified by the geotechnical engineer and/or the building official.

FOOTING DEPTH: Tops of footings shall be as shown on plans with vertical changes as indicated with steps in the footings; locations of steps shown as approximate and shall be coordinated with the civil grading plans to ensure that the exterior perimeter footings bear no less than 24 inches below finish grade, or as otherwise indicated by the geotechnical engineer or building official.

SLABS-ON-GRADE: All slabs-on-grade shall bear on compacted structural fill or competent native soil per the geotechnical report. All moisture sensitive slabs-on-grade or those subject to receive moisture sensitive coatings/covering shall be provided with an appropriate capillary break and vapor barrier/retardant over the subgrade prepared and installed as noted in the geotechnical report, barrier manufacturer's written recommendations and coordinated with the finishes specified by the Architect.

DRAWING LEGEND

MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)		INDICATES WIDE FLANGE COLUMN
1P	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN
1	TILT-UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
2W4	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)		INDICATES WOOD POST
1	REVISION TRIANGLE		INDICATES BUNDLED STUDS
1	TILT-UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT-UP/ PRECAST CONCRETE WALL ELEVATIONS)		INDICATES CONCRETE COLUMN
1	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)		INDICATES PRECAST CONCRETE COLUMN
8"	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)		INDICATES MOMENT FRAME CONNECTION
1D	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)		INDICATES CANTILEVER CONNECTION
00TB	INDICATES REINFORCING TYPE (REFER TO THE REINFORCING SCHEDULE)		INDICATES DRAG CONNECTION
SR__	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)		INDICATES WOOD OR STEEL STUD WALL
1	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)		INDICATES MASONRY/CMU WALL
C1 XX"xXX"	STEEL/CONCRETE COLUMN SYMBOL (REFER TO STEEL COLUMN SCHEDULE)		INDICATES CONCRETE/TILT-UP CONCRETE WALL
T/FTG = X'-X"	ELEVATION SYMBOL (T/ REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)		INDICATES WOOD OR STEEL STUD SHEAR WALL
3	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)		INDICATES BEARING WALL BELOW
S	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)		INDICATES EXISTING WALL
X / SX.X	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)		POST-TENSION DEAD END (PLAN)
00 / S0.0	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)		POST-TENSION STRESSING END (PLAN)
X/ SX.X	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	3	POST-TENSION PROFILE (PLAN) (IN INCHES)
	SPAN INDICATOR (INDICATES EXTENTS OF FRAMING MEMBERS OR OTHER STRUCTURAL COMPONENTS)		INTERMEDIATE STRESSING (PLAN)
	INDICATES DIRECTION OF DECK SPAN		

ABBREVIATIONS

L	Angle	FD	Floor Drain	PSF	Pounds per Square Foot
AB	Anchor Bolt	FDN	Foundation	PSI	Pounds Per Square Inch
ADDL	Additional	FIN	Finish	PSL	Parallel Strand Lumber
ALT	Alternate	FLR	Floor	P-T	Post-Tensioned
ARCH	Architectural	FRP	Fiberglass Reinforced Plastic	PT	Pressure Treated
B or BOT	Bottom	FTG	Footing	R	Radius
B/	Bottom Of	F/	Face of	RD	Roof Drain
BLDG	Building	GA	Gage	REF	Refer/Reference
BLKG	Blocking	GALV	Galvanized	REINF	Reinforcing
BMU	Brick Masonry Unit	GEOTECH	Geotechnical	REQD	Required
BP	Baseplate	GL	Glue Laminated Timber	RET	Retaining
BRBF	Buckling Resisting Braced Frame	GWB	Gypsum Wall Board	SCB	Special Concentric Braced
BRG	Bearing	HDR	Header	SCHED	Schedule
BTWN	Between	HF	Hem-Fir	SHTHG	Sheathing
CL	Centerline	HGR	Hanger	SIM	Similar
C	Camber	HD	Hold-down	SMF	Special Moment Frame
CB	Castellated Beam	HORIZ	Horizontal	SOG	Slab on Grade
CIP	Cast in Place	HP	High Point	SPEC	Specification
CJ	Construction or Control Joint	HSS = TS	(Hollow Structural Section)	SQ	Square
CJP	Complete Joint Penetration	IBC	International Building Code	SR	Studrail
CLR	Clear	ID	Inside Diameter	SF	Square Foot
CLG	Ceiling	IE	Invert Elevation	SST	Stainless Steel
CMU	Concrete Masonry Unit	IF	Inside Face	STAGG	Stagger/Staggered
COL	Column	INT	Interior	STD	Standard
CONC	Concrete	k	Kips	STIFF	Stiffener
CONN	Connection	KSF	Kips Per Square Foot	STL	Steel
CONST	Construction	LF	Lineal Foot	STRUCT	Structural
CONT	Continuous	LL	Live Load	SWWJ	Solid Web Wood Joist
C'SINK	Countersink	LLH	Long Leg Horizontal	SYM	Symmetrical
CTRD	Centered	LLV	Long Leg Vertical	T	Top
DIA	Diameter	LP	Low Point	T/	Top Of
DB	Drop Beam	LONGIT	Longitudinal	T&B	Top & Bottom
DBA	Deformed Bar Anchor	LSL	Laminated Strand Lumber	TC AX LD	Top Chord Axial Load
DBL	Double	LVL	Laminated Veneer Lumber	TCX	Top Chord Extension
DEMO	Demolish	MAS	Masonry	TDS	Tie Down System
DEV	Development	MAX	Maximum	T&G	Tongue & Groove
DF	Douglas Fir	MECH	Mechanical	THKND	Thickened
DIAG	Diagonal	MEZZ	Mezzanine	THRD	Threaded
DIST	Distributed	MFR	Manufacturer	THRU	Through
DL	Dead Load	MIN	Minimum	TRANSV	Transverse
DN	Down	MISC	Miscellaneous	TYP	Typical
DO	Ditto	NIC	Not In Contract	UBC	Uniform Building Code
DP	Depth/Deep	NTS	Not To Scale	UNO	Unless Noted Otherwise
DWG	Drawing	OC	On Center	URM	Unreinforced Masonry Unit
(E)	Existing	OCBF	Ordinary Concentric Braced Frame	VERT	Vertical
EA	Each	OD	Outside Diameter	W	Wide
EF	Each Face	OF	Outside Face	W/	With
EL	Elevation	OPNG	Opening	W/O	Without
ELEC	Electrical	OPP	Opposite	WHS	Welded Headed Stud
ELEV	Elevator	OWSJ	Open Web Steel Joist	WP	Working Point
EMBED	Embedment	OWWJ	Open Web Wood Joist	WWF	Welded Wire Fabric
EQ	Equal	PL	Plate	±	Plus or Minus
EQUIP	Equipment	PAF	Powder Actuated Fastener		
EW	Each Way	PC	Precast		
EXP	Expansion	PERP	Perpendicular		
EXP JT	Expansion Joint	PLWD	Plywood		
EXT	Exterior	PP	Partial Penetration		
		PREFAB	Prefabricated		

REVISIONS
4 ADDENDUM 4 03-02-16

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CHECKED	LMB
DATE	02/19/16

Structural General Notes

CD

S1.01

CAST-IN-PLACE CONCRETE

REFERENCE STANDARDS: Conform to:
(1) ACI 301-10 "Specifications for Structural Concrete"
(2) IBC Chapter 19 "Concrete"
(3) ACI 318-11/318R-11 "Building Code Requirements for Structural Concrete"
(4) ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

FIELD REFERENCE: The contractor shall keep a copy of ACI Field Reference manual, SP-15, "Standard Specifications for Structural Concrete (ACI 301) with Selected ACI and ASTM References."

CONCRETE MIXTURES: Conform to ACI 301 Section 4 "Concrete Mixtures" and IBC Section 1904.2.

MATERIALS: Conform to ACI 301 Section 4.2.1 "Materials" for requirements for cementitious materials, aggregates, mixing water and admixtures.

SUBMITTALS: Provide all submittals required by ACI 301 Section 4.1.2. Submit mix designs for each mix in the table below. Substantiating strength results from past tests shall not be older than 24 months per ACI 318 Section 5.3.

TABLE OF MIX DESIGN REQUIREMENTS

Member Type/Location	Strength f'c (psi)	Test Age (days)	Maximum Aggregate	Exposure Class	Max W/C Ratio	Air Content	Notes (1 to 8 Typical UNO)
Footings and Grade Beams	3000	28	1"	-	-	-	-
Pile Caps	4000	28	1"	-	-	-	-
Exterior Slabs on Grade & Sidewalks	3000	28	1"	-	0.45	6%	F2
Interior Slabs on Grade	4000	28	1"	-	0.42	3%-4%	-
Mild Reinforced Beams & Slabs	4000	28	1"	-	0.45	-	
Slabs on Metal Deck	3500	28	1"	-	-	-	-
Exterior Stem Walls & Curbs	4000	28	1"	-	0.45	6%	F2
Architectural / Exposed Stem Walls & Curbs	4000	28	½"	-	0.45	6%	F2

Table of Mix Design Requirements Notes:

(1) W/C Ratio: Water–cementitious material ratios shall be based on the total weight of cementitious materials. Maximum ratios are controlled by strength noted in the Table of Mix Design Requirements and durability requirements given in ACI 318 Section 4.3.

(2) Cementitious Materials:
 a. The use of fly ash, other pozzolans, silica fume, or slag shall conform to ACI 318 Sections 4.3.1 and 4.4.2. Maximum amount of fly ash shall be 25% of total cementitious content unless reviewed and approved otherwise by SER.
 b. For concrete used in elevated floors, minimum cementitious-materials content shall conform to ACI 301 Table 4.2.2.1. Acceptance of lower cement content is contingent on providing supporting data to the SER for review and acceptance.
 c. Cementitious materials shall conform to the relevant ASTM standards listed in ACI 318 Section 3.2.1.

(3) Air Content: Conform to ACI 318 Section 4.4.1. Minimum standards for exposure class are noted in the table. If freezing and thawing class is not noted, air content given is that required by the SER. Tolerance is ±1-½%. Air content shall be measured at point of placement.

(4) Aggregates shall conform to ASTM C33.

(5) Slump: Conform to ACI 301 Section 4.2.2.2. Slump shall be determined at point of placement.

(6) Chloride Content: Conform to ACI 318 Section 4.3.1.

(7) Non- chloride accelerator: Non-chloride accelerating admixture may be used in concrete placed at ambient temperatures below 50°F at the contractor's option.

(8) ACI 318, Section 4.2.1 exposure classes shall be assumed to be F0, S0, P0, and C0 unless different exposure classes are listed in the Table of Mix Design Requirements that modify these base requirements.

FORMWORK & RESHORING: Conform to ACI 301 Section 2 "Formwork and Form Accessories." Removal of Forms shall conform to Section 2.3.2 except strength indicated in Section 2.3.2.5 shall be 0.75 f' c. Mild reinforced (non post-tensioned) slabs shall be continuously reshored for a minimum of 14 days following placement of concrete or 7 days after concrete has reached 0.75 f'c, whichever is longer.

MEASURING, MIXING, AND DELIVERY: Conform to ACI 301 Section 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: Conform to ACI 301 Section 5. In addition, hot weather concreting shall conform to ACI 305.1-06 and cold weather concreting shall conform to ACI 306.1-90.

CONSTRUCTION JOINTS: Conform to ACI 301 Sections. 2.2.2.5, 5.2.2.1 and 5.3.2.6. Construction joints shall be located and detailed as on the construction drawings. Submit alternate locations per ACI 301 Section 5.1.2.3a for review and approval by the SER two weeks minimum prior to forming. Use of an acceptable adhesive, surface retardant, portland cement grout or roughening the surface is not required unless specifically noted on the drawings.

EMBEDDED ITEMS: Position and secure in place expansion joint material, anchors and other structural and non-structural embedded items before placing concrete. Contractor shall refer to mechanical, electrical, plumbing and architectural drawings and coordinate other embedded items.

GROUT: Use 7000 psi non-shrink grout under column base plates.

POST-INSTALLED ANCHORS to CONCRETE: Anchor location, type, diameter and embedment shall be as indicated on drawings. Reference the POST INSTALLED ANCHORS section for applicable Post-Installed Anchor Adhesives. Anchors shall be installed and inspected in strict accordance with the applicable ICC-Evaluation Service Report (ESR). Special inspection shall be per the TESTS and INSPECTIONS section.

STRENGTH TESTING AND ACCEPTANCE:

Testing: Obtain samples and conduct tests in accordance with ACI 301 Section 1.6.3.2. Additional samples may be required to obtain concrete strengths at alternate intervals than shown below.

- Cure 4 cylinders for 28-day test age. Test 1 cylinder at 7 days, test 2 cylinders at 28 days, and hold 1 cylinder in reserve for use as the Engineer directs. After 56 days, unless notified by the Engineer to the contrary, the reserve cylinder may be discarded without being tested for specimens meeting 28-day strength requirements.
- The number of cylinders indicated above reference 6 by 12 in cylinders. If 4 by 8 in cylinders are to be used, additional cylinders must be cured for testing of 3 cylinders at test age per the table of mix design requirements.

Acceptance. Strength is satisfactory when:

(1) The averages of all sets of 3 consecutive tests equal or exceed the specified strength.

(2) No individual test falls below the specified strength by more than 500 psi.

A "test" for acceptance is the average strength of two 6 by 12 in. cylinders or three 4 by 8 in. cylinders tested at the specified test age.

CONCRETE PLACEMENT TOLERANCE: Conform to ACI 117-10 for concrete placement tolerance.

OVER-FRAMING / STRUCTURAL FOAM FILL / RIGID INSULATION

FOAM FILL: Structural foam fill / rigid insulation as shown on the drawings shall be InsulFoam GF, by InsulFoam LLC Engineered EPS, Type ASTM D6817, or approved equal. Provide in locations and thicknesses indicated on plans. Minimum Required Foam Properties are: Foam Type, InsulFoam EPS19; Density, 1.15 pcf; Compressive Resistance, 5.8 psi (at 1% deformation), 13.1 psi (at 5% deformation), and 16.0 psi (at 10% deformation).

CONCRETE REINFORCEMENT

REFERENCE STANDARDS: Conform to:
(1) ACI 301-10 "Standard Specifications for Structural Concrete", Section 3 "Reinforcement and Reinforcement Supports."
(2) ACI SP-66-04 "ACI Detailing Manual" including ACI 315-99 "Details and Detailing of Concrete Reinforcement."
(3) CRSI MSP-09, 28th Edition, "Manual of Standard Practice."
(4) ANSI/AWS D1.4 "Structural Welding Code - Reinforcing Steel."
(5) IBC Chapter 19-Concrete.
(6) ACI 318-11 "Building Code Requirements for Structural Concrete."
(7) ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

SUBMITTALS: Conform to ACI 301 Section 3.1.1 "Submittals, data and drawings." Submit placing drawings showing fabrication dimensions and locations for placement of reinforcement and reinforcement supports.

MATERIALS:
Reinforcing Bars .... ASTM A615, Grade 60, deformed bars.
Weldable Reinforcing Bars .... ASTM A706, Grade 60, deformed bars.
Smooth Welded Wire Fabric................................ ASTM A185
Bar Supports .... CRSI MSP-09, Chapter 3 "Bar Supports."
Tie Wire.. 16 gage or heavier, black annealed.
Headed Deformed Bars .... ASTM A970

FABRICATION: Conform to ACI 301, Section 3.2.2. "Fabrication", and ACI SP-66 "ACI Detailing Manual."

WELDING: Bars shall not be welded unless authorized. When authorized, conform to ACI 301, Section 3.2.2.2. "Welding", AWS D1.4, and provide ASTM A706, grade 60 reinforcement.

PLACING: Conform to ACI 301, Section 3.3.2 "Placement." Placing tolerances shall conform to ACI 117.

CONCRETE COVER: Conform to the following cover requirements unless noted otherwise in the drawings.
Concrete cast against earth................................. 3"
Concrete exposed to earth or weather .... 2"
Ties in columns and beams................................. 1-½"
Bars in slabs .... ¾"
Bars in walls .... ¾"
Exterior bars in Tilt-up Panels............................. 1"

SPLICES: Conform to ACI 301, Section 3.3.2.7, "Splices". Refer to "Typical Lap Splice and Development Length Schedule" for typical reinforcement splices. Splices indicated on individual sheets shall control over the schedule. Mechanical connections may be used when approved by the SER.

FIELD BENDING: Conform to ACI 301 Section 3.3.2.8. "Field Bending or Straightening." Bar sizes #3 through #5 may be field bent cold the first time. Other bars require preheating. Do not twist bars. Bars shall not be bent past 45 degrees.

REINFORCED UNIT MASONRY

REFERENCE STANDARDS: Conform to:

1) IBC Chapter 21 "Masonry."
2) ACI 530-11/ASCE 5-11/TMS 402-11 "Building Code Requirements for Masonry Structures." Herein referenced as MSJC.
3) ACI 530.1-11/ASCE 6-11/TMS 602-11 "Specification for Masonry Structures." Herein referenced as MSJC.1.
4) ACI SP-66 "ACI Detailing Manual" including ACI 315 "Details and Detailing of Concrete Reinforcement."
5) ANSI/AWS D1.4 "Structural Welding Code - Reinforcing Steel."

SUBMITTALS: Conform to MSJC.1 Section 1.2. Submit shop drawings for review including:

1) Masonry reinforcement, size, layout, and grade in accordance with plans.

2) Material certificates for all Steel Reinforcing, Anchors, Ties and Metal Accessories certifying compliance with required strength, grade and ASTM standards.

3) Certification letters for masonry block and grout mix design certifying compliance with required strength and respective ASTM standards.

4) Mix Designs for each Grout Mix indicating type and proportions of ingredients in compliance of Proportion Specification.

5) Product Information, ICC ESR Reports and Material Certifications certifying compliance for all non-pre-approved Post-Installed Anchors.

STRENGTH: The assumed compressive strength of the masonry assemblage, f'm, is 1500 psi based on IBC Section 2105.2.2.1.2 for concrete masonry.

MATERIALS:

1) Concrete Masonry Units: Conform to ASTM C 90, Type-I (moisture controlled), medium weight (approx. 115 PCF) units. Provide 1900 psi compressive strength to achieve masonry assembly strength indicated above under STRENGTH.

2) Mortar: Conform to ASTM C270, Type S, and IBC Section 2103.9 "Mortar."

3) Grout: Conform to ASTM C476 and IBC Section 2103.13 Proportion Specifications. Use fine grout except coarse grout may be used where permitted by MSJC Table 1.19.1.

4) Reinforcing Bars: Conform to ASTM A615, Grade 60 deformed bars and IBC Section 2103.14 unless noted otherwise. Lap Splices shall be as noted on plans. Fabrication shall be in accordance with MSJC.1 Section 2.7.

5) Anchors, Ties and Accessories: Conform to IBC Section 2103.14 and MSJC.1 Section 2.4D.

6) Water: Shall be clean and potable.

7) Admixtures: Admixtures shall not be used unless approved by SER.

8) Post-Installed Anchors in MASONRY: Reference the POST- INSTALLED ANCHORS section for applicable Post-Installed Anchors to Masonry.

9) Second-Hand Units: Shall not be used unless approved by SER.

QUALITY ASSURANCE (f'm=1500 psi): Conform to IBC Section 2105 "Quality Assurance".

1) Masonry Units: A letter of certification from the manufacturer of the units shall be provided to the SER prior to the delivery of the units to the jobsite to ensure the units comply with the compressive strength specified above and ASTM C 90.

2) Mortar: No mortar testing is required.

3) Grout: A letter of certification from the supplier of the grout shall be provided to the SER prior to delivery of the grout to the jobsite to ensure that the grout complies with ASTM C 476.

DELIVERY, STORAGE AND HANDLING: Delivery, storage and handling of materials used for masonry construction shall be per MSJC.1, Section 1.7.

SPECIAL INSPECTION: Special Inspections shall be performed per the "TESTS AND INSPECTIONS" section of the STRUCTURAL GENERAL NOTES.

ANCHORS, TIES AND CONNECTORS: Masonry anchors, ties and connectors shall be as specified on structural drawings. Consult architectural drawings for masonry anchor ties not included on the structural drawings.

POST-INSTALLED ANCHORS to MASONRY: Anchor location, type, diameter and embedment shall be as indicated on drawings. Reference the POST INSTALLED ANCHORS section for applicable Post-Installed Anchor Adhesives. Anchors shall be installed and inspected in strict accordance with the applicable ICC-Evaluation Service Report (ESR). Special inspection shall be per the TESTS and INSPECTIONS section.

MASONRY REINFORCING STEEL: Masonry reinforcing shall be as noted on plans and shall be securely placed in accordance with IBC Sections 2104.1.1, 2106, and MSJC Section 1.16.

Bond beams with horizontal bar or bars shall be provided at 48 inches on center and at all floor and roof lines and at the top of the wall. Provide a bond beam with horizontal bar or bars over all openings, and extend these bars 2'-0" past the opening at each side. Provide a bar or bars vertically for the full height of the wall at each side of openings, wall ends and intersections. Dowels to masonry walls shall be embedded a minimum of 1'-6" or hooked into the supporting structure and be of the same size and spacing as wall reinforcing. Reinforcing steel shall be as specified under "MATERIALS" Section. Provide corner bars to match the horizontal wall reinforcing at wall intersections. All bars shall be lapped a minimum 48 diameters or 1'-6" minimum unless noted on the plans.

CONSTRUCTION: Masonry shall be constructed in accordance with IBC Section 2104 "Construction", and MSJC.1 Part 3 "Execution."

COLD AND HOT WEATHER CONSTRUCTION: Cold and hot weather construction shall be in accordance with IBC Section 2104.3 and 2104.4.

BLOCK PATTERN: Use running bond unless noted. For stack bond, follow criteria in MSJC Section 1.11.

GROUTED CELLS: At the infill openings, fill those cells which contain reinforcing steel with grout unless noted otherwise on plans. Minimum grouting spaces and construction shall be in accordance with MSJC Section 1.16 and MSJC.1 Section3.5.

At the existing wall, fill those cells indicated on the drawings with grout unless noted otherwise on plans.

GROUT POUR HEIGHT: Grout Pour Height shall not exceed height specified in MSJC.1 Section 3.5C.
- Masonry blocks shall be adequately braced to withstand fluid pressures of Grout Pour, see temporary bracing.

GROUT LIFTS: Unless otherwise noted, Grout Lifts and pour height shall not exceed 5ft 4in. Grout Lifts shall not exceed spacing of intermediate reinforced bond beams. Grout Lifts exceeding 5ft 4in shall be approved by SER.

REINFORCING COVER AND CLEARANCE REQUIREMENTS: Unless otherwise noted:

Clear distance between parallel bars (and between adjacent pairs of lap spliced bars) shall be equal to the bar adjacent bar diameter (for bars greater than #8), and not less than:
1) 1" at 8" and smaller block,
2) 2" at 10" block
3) 3" at 12" block.
Clearance (clear space) between the block and the reinforcing shall be:
1) ¼" at fine grout
2) ½" at course grout.
Masonry Cover (including grout and block wall) at masonry face exposed to earth or weather shall be:
1) 1 1/2" minimum
2) 2" for bars #6 and larger.

TEMPORARY BRACING: Contractor is responsible for all temporary bracing of masonry during construction. Reference "CONTRACTOR RESPONSIBILITIES" section for further information and requirements.

BRICK VENEER

REFERENCE STANDARDS: Conform to:

1) IBC Chapter 14 "Exterior Walls."
2) TMS 402-11/ACI 530-11/ASCE 5-11 "Building Code Requirements for Masonry Structures.", Chapter 6 "Veneer" Herein referenced as MSJC.
3) TMS 602-11/ACI 530.1-11/ASCE 6-11 "Specification for Masonry Structures." Herein referenced as MSJC.1.

SUBMITTALS: Submit product specific information on anchor size, type and capacities with corresponding ICC-ESR reports regarding wire ties, sheet metal connector pieces, screws, and expansion anchors to the Architect/Engineer for review.

MATERIALS:
1) BRICK VENEER: Conform to ASTM C216 "Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)", Grade SW.

2) Mortar: Conform to ASTM C270, Type S, and IBC Section 2103.9 "Mortar."

3) JOINT REINFORCING: Conforms to ASTM A951 "Standard Specification for Steel Wire for Masonry Joint Reinforcement". All joint reinforcing shall be hot dip galvanized.

4) ANCHORS: Anchor ties shall be the Hohmann & Barnard seismic anchors. Anchor ties shall be adjustable two-piece anchors made of 14 gage or 12 gage galvanized metal and/or W2.8 (3/16" diameter) galvanized wire that shall be engineered to attach:
 - to the face of Masonry or concrete with a ¼" expansion bolt or screw anchor for concrete or masonry embedded 2" minimum into the concrete or masonry.
 - to steel stud with two #12 (0.209" diameter) screws per anchor.

All parts of the veneer anchorage system shall be fabricated of similar metals with similar coatings to reduce the possibility of galvanic corrosion occurring.

Brick veneer in Seismic Design Category A, B, and C and all brick veneer not laid in a running bond pattern shall have continuous joint reinforcing of W1.7 (0.148" diameter) wires at a maximum vertical spacing of 20"oc. Lap wires 10" at splices.

Pintle anchors shall have at least two pintle legs of wire size W2.8 (3/16" diameter) each and shall have an offset not exceeding ½" from the horizontal plane of the plate anchored to the structure.

Both wire and sheet-metal anchors shall extend into the veneer a minimum of 1½" and shall have a minimum of 5/8" mortar cover on the outside face.

All anchors shall adjust 1-¼" up or down to allow for different course heights and shall allow at least ½" horizontal in-plane and ¾" vertical in-plane movement to accommodate expansion, contraction, shrinkage and other movement..

Coordinate expansion joint locations with the architect prior to erection. Typically expansion joints should be installed at 24" from corners on one side of the corner, at intersecting walls, at changes in wall height, at changes in wall thickness and at 20' maximum on center,.

CONSTRUCTION OVER STUDS: When applied over wood or metal stud construction, the studs shall be spaced a maximum of 16 inches on centers and approved paper shall first be applied over the sheathing or wires between studs except as otherwise provided in IBC Section 1402-1405. An air space should be maintained between the backing and the veneer. The air space must be kept free and clear of debris and mortar droppings. See Architectural Drawings for air space dimension.

POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

REFERENCE STANDARDS: Conform to:
1) IBC Chapter 19 "Concrete"
2) ACI 318-11 "Building Code Requirements for Structural Concrete"
3) IBC Chapter 21 "Masonry"
4) ACI 530-11/ASCE 5-11/TMS402-11 "Building Code Requirements for Masonry Structures"

POST-INSTALLED ANCHORS: Install only where specifically shown in the details or allowed by SER. All post-Installed anchors types and locations shall be approved by the SER and shall have a current ICC-Evaluation Service Report that provides relevant design values necessary to validate the available strength exceeds the required strength. Submit current manufacturer's data and ICC ESR report to SER for approval regardless of whether or not it is a pre-approved anchor. Anchors shall be installed in strict accordance to ICC-ESR and manufacturer's instructions. No reinforcing bars shall be damaged during installation of post-installed anchors. Special inspection shall be per the TESTS and INSPECTIONS section. Anchor type, diameter and embedment shall be as indicated on drawings.

1. ADHESIVE ANCHORS: The following Adhesive-type anchoring systems have been used in the design and shall be used for anchorage to CONCRETE and MASONRY, as applicable and in accordance with corresponding current ICC ESR report. Drilled-in anchor embedment lengths shall be as shown on drawings, or not less than 7 times the anchor nominal diameter (7D).
 a. HILTI "HIT-HY 200 SAFESET" – ICC ESR-3187 for anchorage to CONCRETE with embedment depth less than or equal to 20 bar diameters
 b. HILTI "HIT-RE 500 SD" – ICC ESR-2322 for anchorage to CONCRETE with any embedment depth
 c. SIMPSON "SET-XP" – ICC ESR 2508 for anchorage to CONCRETE, IAPMO 265 for anchorage to MASONRY
2. EXPANSION ANCHORS: The following Expansion type anchors are pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
 a. HILTI "KWIK BOLT TZ" – ICC ESR-1917 for CONCRETE Only
 b. SIMPSON "STRONG-BOLT 2" – ICC ESR-3037 for CONCRETE Only
3. SCREW ANCHORS: The following Screw type anchor is pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
 a. SIMPSON "TITEN HD" – ICC ESR-2713 for CONCRETE Only and ICC ESR-1056 for MASONRY Only
 b. HILTI "KWIK HUS-EZ" – ICC ESR-3027 for anchorage to CONCRETE Only and ICC ESR-3056 for MASONRY Only

STRUCTURAL STEEL

REFERENCE STANDARDS: Conform to:
1) IBC Chapter 22 – "Steel"
2) ANSI/AISC 303-10 – "Code of Standard Practice for Steel Buildings & Bridges"
3) AISC – "Manual of Steel Construction", Fourteenth Edition (2010)
4) ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
5) AWS D1.1:2010 – "Structural Welding Code – Steel"
6) 2009 RCSC – "Specification for Structural Joints using High-Strength Bolts"

SUBMITTALS: Submit the following documents to the SER for review:

(1) SHOP DRAWINGS complying with AISC 360 Sections M1and N3 and AISC 303 Section 4.
(2) ERECTION DRAWINGS complying AISC 360 Sections M1and N3 and AISC 303 Section 4.
(3) Weld Procedure Specifications (WPS's) for shop and field welding.

Make copies of the following documents "Available upon Request" to the SER or Owner's Inspection Agency in electronic or printed form prior to fabrication per AISC 360 Section N3.2 requirements:

(1) Fabricator's written Quality Control Manual that includes, as a minimum:
 a. Material Control Procedures
 b. Inspection Procedures
 c. Non-conformance Procedures
(2) Steel & Anchor Rod suppliers' Material Test Reports (MTR's) indicating the compliance with specifications.
(3) Fastener manufacturer's Certification documenting conformance with the specification.
(4) Filler metal manufacturer's product data for SMAW, FCAW and GMAW indicating:
 a. Product specification compliance
 b. Recommended welding parameters
 c. Recommended storage and exposure requirements including baking
 d. Limitations of use
(5) Welded Headed (Shear) Stud Anchors Manufacturer's certification indicating the meet specifications.
(6) Manufacturer's Certificates of Conformance for electrodes, fluxes and gases (welding consumables).
(7) Procedure Qualification Records (PQR's) for WPS's that are not prequalified in accordance with AWS.
(8) Welding personnel Performance Qualification Records (WPQR) and continuity records conforming to AWS standards and WABO standards as applicable for Washington State projects.

MATERIALS:
Structural steel materials shall conform to materials and requirements listed in AISC 360 section A3 including, but not limited to:
Wide Flange (W), Tee (WT) Shapes ....ASTM A992, Fy = 50 ksi
Channel (C) & Angle (L) Shapes.........................ASTM A36, Fy = 36 ksi
Structural Plate (PL) ....ASTM A36, Fy = 36 ksi
High Strength Plate (Gr 50 PL) ....ASTM A572, Fy = 50 ksi
Hollow Structural Section – Square/Rect (HSS) ..ASTM A500, Grade B, Fy = 46 ksi
Structural Pipe, (PIPE) 12" dia. and less.............ASTM A53, Grade B, Fy = 35 ksi
High Strength, Heavy Hex Structural Bolts ....ASTM A325/F1852, Type 1 or 3, Plain
Heavy Hex Nuts ....ASTM A563, Grade and Finish per RCSC Table 2.1
Washers (Hardened Flat or Beveled)..................ASTM F436, Grade and Finish per RCSC Table 2.1
Compressible Washer DTI ....ASTM F959-09 Direct Tension Indicators
Anchor Rods (Anchor Bolts, typical) ....ASTM F1554, Gr. 36
Anchor Rods (High Strength) ....ASTM F1554, Gr. 55 (weldable) per Supplement S1
Mild Threaded Rods ....ASTM A36, Fy = 36 ksi
Welded Headed (shear) Stud Anchors ....ASTM A108 – Nelson/TRW S3L
Welded Headed Stud (WHS) Anchors ....ASTM A108 – Nelson/TRW H4L
Dowel Bar Anchors (DBA) ....ASTM A496 – Nelson/TRW D2L, Fy = 70 ksi

STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS:

1) ASTM A325-N bolts – "threads NOT excluded in the shear plane".
2) High-strength bolted joints have been designed as "BEARING" connections.
3) Provide ASTM Bolt Grade and Type as specified in the Materials section above.
4) Provide Washers over outer ply of slotted holes and oversize holes per RCSC Table 6.1.
5) Provide Nut and Washer grades, types and finishes conforming to RCSC specification Table 2.1.
6) Provide *fastener assemblies* from a single supplier.
7) Joint Types shall be:
 a. ST - "Snug Tight", for typical beam end "shear" connections, unless noted otherwise.
 b. SC - "Slip Critical", where specifically indicated. Provide with Class A Faying surface.
8) Install bolts in joints in accordance with the RCSC Specification Section 8 and Table 4.1.
9) Inspection is per RCSC Section 9.

ANCHORAGE to CONCRETE:

1) EMBEDDED STEEL PLATES for Anchorage to Concrete: Plates (PL) embedded in concrete with studs (WHS) or dowel bar anchors (DBA) shall be of the sizes and lengths as indicated on the plans with minimum 1/2" dia. WHS x 6" long but provide not less than ¾" interior cover or 1 ½" exterior cover to the opposite face of concrete, unless noted otherwise.

2) COLUMN ANCHOR RODS and BASE PLATES: All columns (vertical member assemblies weighing over 300 pounds) shall be provided with a **minimum of four ¾" diameter anchor rods**. Column base plates shall be at least ¾" thick, unless noted otherwise. Cast-in-place anchor rods shall be provided unless otherwise approved by the Engineer. Unless noted otherwise, embedment of cast-in-place anchor rods shall be 12 times the anchor diameter (12D).

FABRICATION:

1) Conform to AISC 360 Section M2 "Fabrication" and AISC 303 Section 6 "Shop Fabrication".

2) Quality Control (QC) shall conform to:
 a. AISC 360 Chapter N "Quality Control and Quality Assurance" and
 b. AISC 303 Section 8 "Quality Control".
 c. Fabricator and Erector shall establish and maintain written Quality Control (QC) procedures per AISC 360 section N3.
 d. Fabricator shall perform self-inspections per AISC 360 section N5 to ensure that their work is performed in accordance with Code of Standard Practice, the AISC Specification, Contract Documents and the Applicable Building Code.
 e. QC inspections may be coordinated with Quality Assurance inspections per Section N5.3 where fabricators QA procedures provide the necessary basis for material control, inspection, and control of the workmanship expected by the Special Inspector.

WELDING:

1) Welding shall conform to AWS D1.1 with Prequalified Welding Processes except as modified by AISC 360 section J2. Welders shall be qualified in accordance with AWS D1.1 and WABO requirements.
2) Use 70ksi strength, low-hydrogen type electrodes (E7018) or E71T as appropriate for the process selected.
3) Welding of high strength anchor rods is prohibited unless approved by Engineer.
4) Welding of headed stud anchors shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding".

ERECTION:

1) Conform to AISC 360 Section M4 "Erection" and AISC 303 Section 7 "Erection".
2) Conform to AISC 360 Chapter N "Quality Control and Quality Assurance" and AISC 303 Section 8.
 a. The Erector shall maintain detailed erection quality control procedures that ensure that the work is performed in accordance with these requirements and the Contract Documents.
3) Steel work shall be carried up true and plumb within the limits defined in AISC 303 Section 7.13.
4) High strength bolting shall comply with the RCSC requirements including RCSC Section 7.2 "Required Testing", as applicable and AISC 360 Chapter J, Section M2.5 and Section N5.6.
5) Welding of HEADED STUD ANCHORS shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding.
6) Provide Headed (Shear) Stud Anchors welded through the metal deck to tops of beams denoted in plans.
7) The contractor shall provide temporary bracing and safety protection required by AISC 360 Section M4.2 and AISC 303 Section 7.10 and 7.11.

PROTECTIVE COATING REQUIREMENTS:

1) SHOP PAINTING: Conform to the project specifications.

2) INTERIOR STEEL:
 a. Unless noted otherwise, ***do not paint*** any of the steel surfaces meeting the following conditions:
  - Concealed by the interior building finishes,
  - Fireproofed,
  - Embedded in concrete,
  - Specially prepared as a "faying surface" for Type-SC "slip-critical" connections including bolted connections that form a part of the Seismic Force Resisting System governed by AISC 341 unless the coating conforms to requirements of the RCSC Bolt Specification and is approved by the Engineer.
  - Welded; if area requires painting, do not paint until after weld inspections and non-destructive testing requirement, if any, are satisfied.

 b. Interior steel, exposed to view, shall be painted with one coat of shop primer unless otherwise indicated in the project specifications. Field touch-ups to match the finish coat or as otherwise indicated in the project specifications.

3) EXTERIOR STEEL: Exposed exterior steel shall have a protective coating per the project specifications.

ARCHITECTURALLY EXPOSED STRUCTURAL STEEL: Steel identified by the Architect on the architectural drawings as Architecturally Exposed Structural Steel, (AESS) shall conform to AISC 303 Section 10.

SPECIAL CAMBER/SWEEP REQUIREMENTS: Ledger angle for brick support shall be installed such that the sweep/camber does not exceed 1/8" deviation from straight in 10 feet.

METAL ROOF AND FLOOR DECK

REFERENCE STANDARDS: Conform to:
1) ICC Report ESR-1735P reissued January 1, 2013
2) AISI NAS - "American Iron and Steel Institute North American Specifications" or ASCE 8-02 - "Specification for the Design of Cold-Formed Stainless Steel Structural Members"
3) NASPEC 2007 – "North American Specification for the Design of Cold-Formed Steel Structural Members"
4) AISI - "Specification for the Design of Cold-Formed Steel Structural Members",
5) AWS D1.3 - "Structural Welding Code - Sheet Steel"

SUBMITTALS: Submit shop drawings to the Architect/Engineer for review. Shop drawings shall include material type, design loads, diaphragm capacities, span layout by SSE, deck attachments, metal deck edge form design & calculations, and shoring requirements. All openings shall be indicated. Any alternate deck types and gages shall be submitted to the Architect/Engineer for review prior to fabrication and shall include a valid ICC evaluation report, calculations & shop drawings (component design drawings) stamped by the SSE.

MATERIAL: ASTM A653 – SS Designation, Grade 33. Zinc coated per A653, G60. Minimum yield strength shall be 38 ksi.

TYPE: Deck shall be "Verco" type as shown on the structural drawings based on 3-span, unshored condition, except where shown on drawings. Shoring is required for conditions other than 3-span except where single span condition is shown on drawings. To eliminate shoring, the contractor may choose to use a heavier gage deck with approval by the SER.

DIAPHRAGM CAPACITY: Deck and attachments shall be capable of resisting the diaphragm shears where indicated on the drawings. Submit ICC Evaluation Report as proof of compliance.

INSTALLATION: Install deck in accordance with supplier's instructions and shop drawings. Attachments shall resist the uplift forces and the diaphragm shear forces shown on the drawings. Welding shall conform to AWS D1.3. Welders shall have current WABO Light Gage Certification. Minimum end lap shall be 2" centered over supports. Minimum bearing shall be 2."

OPENINGS: Deck openings less than 6" do not require reinforcement. For larger openings, refer to typical details.

ACCESSORIES: Deck manufacturer shall furnish shoring plans, closure plates, ridge and valley plates, cant strips, sump pans, flashing and all other light gage steel material required to complete the work.

CONCRETE FILL: Conform to notes this sheet for CAST-IN-PLACE CONCRETE and CONCRETE REINFORCEMENT. Provide minimum 3000 psi concrete and WWF 6x6-W2.9Xw2.9 unless noted otherwise. Splice welded plain wire reinforcement per ACI 318 Section 12.19 or 12" minimum.

DECK FASTENING: Minimum deck fastening shall be as noted on the drawings.

OPEN WEB STEEL JOISTS AND JOIST GIRDERS (OWSJ)

REFERENCE STANDARDS: Conform to:
1) IBC Section 2207 – "Steel Joists"
2) SJI – "Standard Specifications for Open Web Steel Joists, K-Series"
3) SJI – "Standard Specifications for Long span Steel Joists, LH-Series and Deep Long span Steel Joists, DLH Series"
4) SJI – "Standard Specifications for Joist Girders"

SUBMITTALS: Comply with IBC 2207. Submit structural calculations and shop drawings (component design drawings) stamped by a SSE. Reference DEFERRED SUBMITTALS above for additional information.

SIZE: Joists and girders shall be designed and fabricated by a member of the Steel Joist Institute (SJI) for the loads indicated above and on the drawings. Design live loads are listed under THE "DESIGN CRITERIA AND LOADS" section in these "STRUCTURAL GENERAL NOTES". Design dead loads are shown in the "BIDDER DESIGNED" table in the same section. Design shall include the effects of wind up-lift as well as drifting and sliding snow, when applicable, in accordance with IBC Section 1608, as shown on the structural plans, and for fire sprinkler support loads, where applicable. Design for additional loads as indicated on the Drawings.

ERECTION AND STABILITY: The overall stability of the joist system is the responsibility of the SSE (SJI supplier). Careful attention shall be given to the stability of the joists during erection in accordance with the IBC and all sections of the SJI Manual. Specifically, sections in the SJI Manual on "Bridging", "Erection Stability and Handling" and "Handling and Erection" shall be carefully followed by the SSE (SJI supplier) to provide stability of all members at all times.

ACCESSORIES: All bridging, collector-drag struts, drag splice plates, bottom chord bracing, girders and related connection hardware shall be provided and designed by the supplier. All additional erection bolts, stabilizer plates, and any other additional steel to meet OSHA standards, shall be coordinated by the joist manufacturer and shall be provided by the steel detailer/supplier. Supplier to provide sloped bearing seats where required for roof slope. Reference drawings for non-standard joist end bearing lengths.

PRIMER COLOR: All steel shall be painted per project specifications.

BAR GRATING

DESIGN STANDARDS: Conform to:
1) ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
2) OSHA and similar State agency safety requirements in the layout, details, and construction of all handrail, ladders, cages and elevated platforms.

MATERIALS: Provide steel per ASTM A569 or A36.

Bar Grating:
1) Unless noted otherwise, provide welded steel grating conforming to ASTM A1011-10 at skylight wells as indicated on the Drawings.
2) Provide banding at edges, pipe penetrations, cutouts, and stair and ladder landings with bar matching bearing bar strength or toe-plates where required for protection. Weld banding at each end and at every fourth bar where bearing bars are interrupted by penetrations.
3) Cut-outs around equipment shall maintain an even clearance of 2" between the toe-plate and the surface of equipment (insulation where applicable). Cut-outs for pipes shall center at the pipe's center and shall have a diameter of the flange for the pipe's size and weight plus 2" to provide a clearance of 1" around the flange to accommodate the pipe's passage.
4) Layout and fabricate grating panels such that bearing bars of adjacent panels align. Junctions of bearing bars and crossbars shall be fully fused with no deduction in the bearing bar.

Grating Anchorage:
1) Secure grating to support framing with manufacturer's recommended fastening system that securely anchors the grating. Provide a minimum of four anchor locations per panel and at not more than 48 inches along supports.
2) Non-removable grating shall be welded to support members with 2" long x 3/16" fillet welds at every eighth bearing bar and every other cross member at each side of grating panel. Field welding may be used at Contractor's option.
3) Repair damaged finishes as required.

COLD-FORMED STEEL FRAMING

REFERENCE STANDARDS: Conform to:
(1) AISI "North American Specification for the Design of Cold-Formed Steel Structural Members - 2007 Edition."
(2) AISI "Standard for Cold Formed Steel Framing – General Provisions"
(3) AISI "Standard for Cold Formed Steel Framing – Header Design"
(4) AISI "Standard for Cold Formed Steel Framing – Wall Stud Design"
(5) AISI "Standard for Cold Formed Steel Framing – Lateral Design"
(6) AWS D1.3 "Structural Welding Code - Sheet Steel."

MATERIALS:

Structural Sections	54, 68 and 97-mil; ASTM A653 Grade D or ASTM A1011 Grade 50, Min Fy=50 KSI, 33 and 43-mil; ASTM A653 Grade A, or ASTM A1011 Grade 33, Min Fy=33 KSI
Sheet Metal Screws	Grabber or Buildex Self-Drilling, #10 screws unless noted otherwise on drawings; ASTM C1513 or SER approved alternate
Fasteners to Steel	Hilti X-U Power Actuated Fasteners – ICC ESR-2269
Fasteners to Concrete	Hilti X-U Power Actuated Fasteners with ¾" embedment– ICC ESR-2269
Weld Material	E60XX electrodes conforming to AWS D1.3

Studs and Track shall be galvanized in accordance with ASTM A653, G60, unless in contact with pressure treated wood. If in contact with pressure treated wood, use G90 or greater coatings. Fastenings not shown on the drawings shall be as recommended by the manufacturer.

SIZE AND PROFILE: Cold-formed steel framing members shall be as specified in the Steel Stud Manufacturer's Association ICC Evaluation Report ESR-3064P and of the size and profile as shown on the drawings. Alternate members equivalent in shape, size, and strength by manufacturers not members of the Steel Stud Manufacturer's Association shall be subject to review and approval by the Architect / Engineer.

COLD FORMED STEEL CONNECTORS: Shall be "Strong Tie" by Simpson Company as specified in their latest catalog. Alternate connectors by other manufacturers may be substituted provided they have current ICC approval for equivalent or greater load capacities and are reviewed and approved by the SER prior to ordering. Connectors shall be installed per the manufacturer's instructions.

REVISIONS
4 ADDENDUM 4 03-02-16

38314

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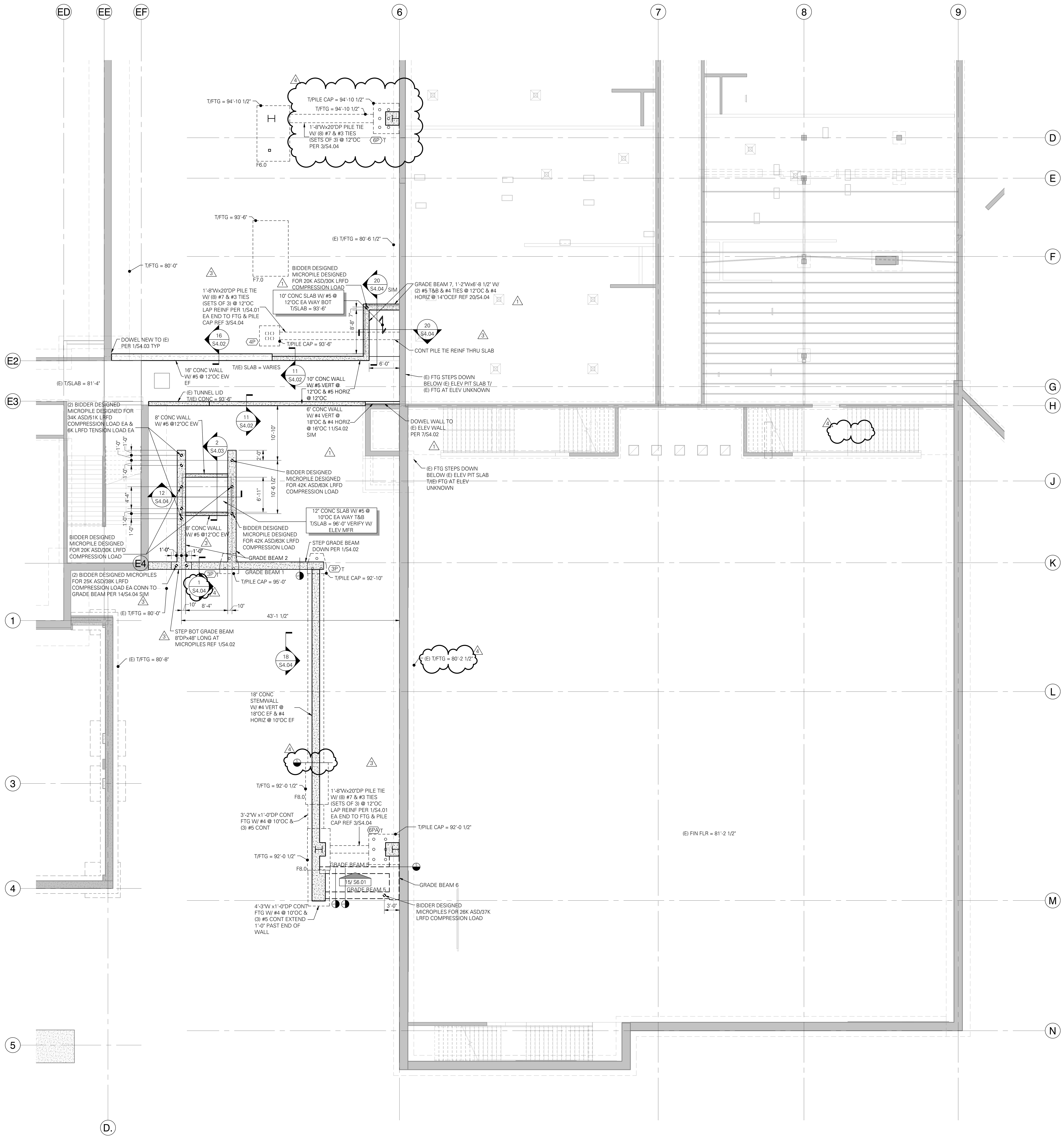
NAC NO	111-15017
DRAWN	JLJ
CHECKED	LMB
DATE	02/19/16

Structural General Notes

CD

S1.02



FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING WITH OTHERS PRIOR TO POURING CONCRETE: ALL DOOR OPENINGS IN FOUNDATION WALLS; DRAINS AND SLOPES; BLOCKOUTS FOR PLUMBING, SPRINKLERS AND HVAC. ALL DUCTS, CHASES AND PIPES PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS. STAIR DETAILS AND GUARDRAILS PER ARCHITECTURAL DRAWINGS.

4. TOP OF SLAB (T/SLAB) ELEVATION PER PLAN. PROVIDE VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES AS REQUIRED PER SPECIFICATIONS. PROVIDE FREE-DRAINING GRANULAR FILL PER GEOTECH REPORT.

5. TYPICAL TOP OF INTERIOR (T/INTERIOR) FOOTING ELEVATION PER PLAN. TYPICAL TOP OF EXTERIOR (T/EXTERIOR) FOOTING ELEVATIONS PER PLAN. 1

6. ALL FOOTINGS AND SLABS TO BEAR ON PROPERLY COMPACTED SAND & GRAVEL BACKFILL. SUBGRADE PREPARATION, STRUCTURAL FILL, FOOTING DRAINS, AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES.

7. CJ INDICATES CONTROL JOINT PER PLAN.

8. MOISTURE PROOF ALL CONCRETE STEM AND BASEMENT WALLS PER ARCHITECT.

9. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES. 3

10. ALL EXTERIOR WALL STUDS AT ALL LEVELS TO BE 600S162-54 @ 16"OC TYPICAL, UNLESS NOTED OTHERWISE. BOTTOM TRACK 600T150-54, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH AND GAUGE. WHERE DEFLECTION TRACK NOT REQUIRED MATCH BOTTOM TRACKATTACH TOP AND BOTTOM TRACK PER 1/S5.03 AT 10" STUDS, BOTTOM TRACK 1000T200-68, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH & GAUGE. AT PARAPET 800S162-54 @ 16"OC, TOP & BOTTOM TRACK 800T160-54, TYPICAL UNO. PROVIDE FLAT STRAP BRIDGING PER 2/S5.03 AT THIRD POINTS.

4 11.WHERE NEW WORK OR DEMO WORK REQUIRES THE REPLACEMENT OF SLAB ON GRADE, THE FOLLOWING SHOULD BE APPLIED: REPLACEMENT SLAB TO BE 4" SLAB ON GRADE WITH H3 @ 15"OC EACH WAY CENTERED IN SLAB. (2) MINIMUM EACH WAY FOR SMALL PATHES. DOWEL TO EXISTING SLAB PER 11/S4.03.

12. TYPICAL DETAILS PER:

1/S4.01	TYPICAL LAP SPLICE SCHEDULE
2/S4.01	PIPE OR CONDUIT EMBEDDED IN SLAB ON GRADE
3/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
4/S4.01	TYPICAL ANCHOR BOLT SCHEDULE
6/S4.01	STANDARD HOOKS AND BAR BENDS
8/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
9/S4.01	TYPICAL CONCRETE WALL OPENING REINFORCEMENT
11/S4.01	TYPICAL STEPPED FOOTING
12/S4.01	TYPICAL DEPRESSED SLAB DETAIL
16/S4.01	TYPICAL PIPE AND TRENCH LOCATIONS AT CONCRETE STEMWALL/FOOTING
19/S4.01	TYPICAL BASE PLATE CONFIGURATIONS
20/S4.01	TYPICAL STEP AT SLAB ON GRADE
1/S4.02	TYPICAL CONCRETE WALL STEP
1/S4.03	TYPICAL NEW CONCRETE TO EXISTING CONCRETE
6/S4.03	TYPICAL SAWCUT IN EXISTING CONCRETE WALL OR SLAB
11/S4.03	NEW/EXISTING SLAB JOINT

PILE CAP SCHEDULE

TYPE	NUMBER OF PILES	DIMENSIONS WIDTH	DIMENSIONS LENGTH	THICKNESS	REFERENCE DETAIL	COMMENTS
3P	3	4'-0"	3'-9"	2' - 0"	8/S4.04	1-2
4P	4	4'-0"	4'-0"	2' - 0"	13/S4.04	1-2
6P	6	5'-1"	6'-0"	2' - 9"	5/S4.05	1-2
6PA	6	6'-0"	6'-0"	2' - 9"	10/S4.05	1-2

NOTES:
1. XP INDICATES QUANTITY OF PILES WITH 56K/85K ASD/LRFD COMPRESSION LOAD INDICATED FOR EACH PILE PER SCHEDULE REFERENCE 4/S4.04.
2. XPT INDICATES QUANTITY OF PILES WITH COMPRESSION & TENSION LOADS INDICATED FOR EACH PILE PER SCHEDULE DESIGNATIONS WITHOUT T DO NOT REQUIRE TENSION LOADS INDICATED IN SCHEDULE REFERENCE 9/S4.04

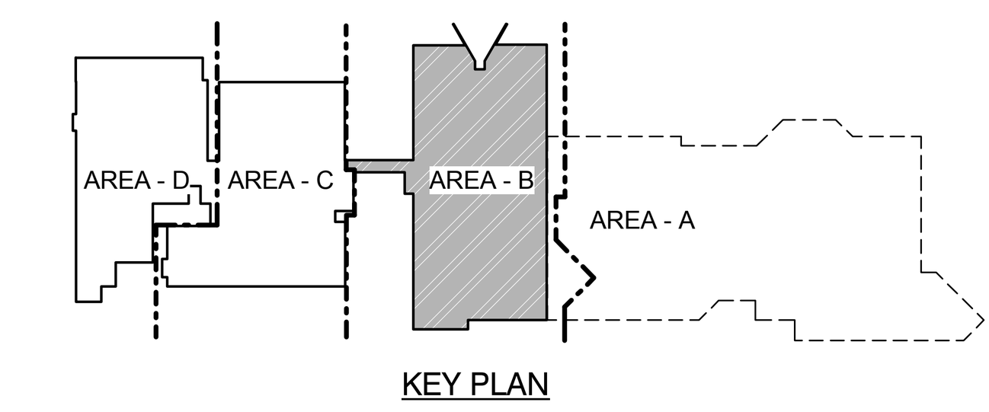
TYPE	COMPRESSION LOAD		TENSION LOAD		PILE DIAMETER	
	ASD	LRFD	ASD	LRFD	MAX	MIN
3P	56K	85K			6"	4"
4P	56K	85K			6"	4"
6P	70K	94K	20K	25K	6"	4"
6PA	56K	85K	31K	43K	6"	4"

GRADE BEAM SCHEDULE

TYPE	DIMENSIONS WIDTH	DIMENSIONS DEPTH	REINFORCING	COMMENTS
GRADE BEAM 1	1'-6"	4' - 0"	(3) #5 T&B & #4 TIES @ 16"OC & #4 HORIZ @ 10"OC EF	
GRADE BEAM 2	1'-8"	4' - 6"	(2) #5 T&B & #4 TIES @ 12"OC & #4 HORIZ @ 14"OC EF	
GRADE BEAM 3	2'-0"	5' - 10 1/2"	(5) #8 T&B & #4 TIES @ 12"OC & #5 HORIZ @ 12"OC EF	
GRADE BEAM 4	1'-4"	3' - 0"	(3) #7B & (3) #5T & #4 TIES @ 12"OC & #4 HORIZ @ 12"OC EF	
GRADE BEAM 5	1'-2"	3' - 0"	(2) #5 T&B & #4 TIES @ 12"OC & #4 HORIZ @ 14"OC EF	
GRADE BEAM 6	1'-11"	4' - 0"	(4) #5 T&B & #4 TIES @ 12"OC & #5 HORIZ @ 10"OC EF	

SPREAD FOOTING

TYPE	DIMENSIONS LENGTH	DIMENSIONS WIDTH	DIMENSIONS DEPTH	REINFORCING	COMMENTS
F6.0	11'-0"	6'-6"	2' - 0"	(13) #6 T&B LONGIT & (8) #6 T&B TRANSV	
F7.0	11'-0"	7'-0"	2' - 0"	(13) #6 T&B LONGIT & (9) #6 T&B TRANSV	
F8.0	4'-6"	8'-3"	1' - 6"	(8) #6 T&B LONGIT & (6) #5 T&B TRANSV	



KEY PLAN

REVISIONS

1	ADDENDUM 1	02-03-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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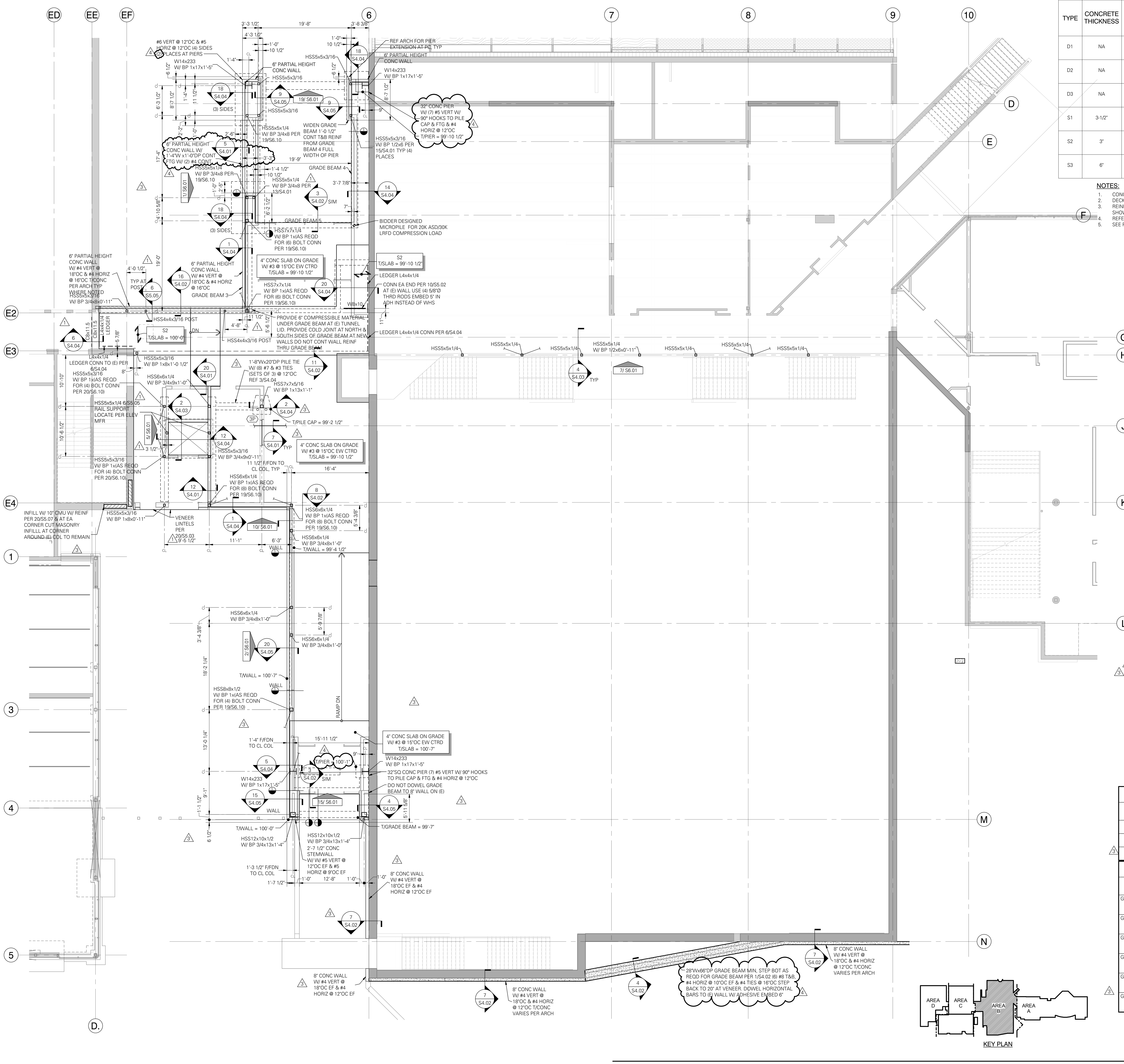
NACNO	111-15017
DRAWN	JLJ
CHECKED	LMB
DATE	02/19/16

FIELD LEVEL - AREA B

CD

S3.00

FIELD LEVEL AREA B - EAST
SCALE: 1/8" = 1'-0"



KEY PLAN

SLAB AND DECK / DIAPHRAGM SCHEDULE

TYPE	CONCRETE THICKNESS	STEEL DECK	TOTAL THICKNESS	DECK ATTACHMENT: SUPPORTS PERPENDICULAR TO DECK SPAN	DECK ATTACHMENT: SUPPORTS PARALLEL TO DECK SPAN	DECK ATTACHMENT: SIDELAPS
D1	NA	1-1/2"DPx20GA (B)	NA	(7) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D2	NA	3"DPx18GA (N3)	NA	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D3	NA	1-5/16"DP VERCOR x20GA	NA	14/S5.04	14/S5.04	14/S5.04
S1	3-1/2"	1-1/2"DPx20GA (B) COMPOSITE	5"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
S2	3"	3"DPx18GA (W3)	6"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 12"OC
S3	6"	1-1/2"DPx20GA (B) COMPOSITE	7-1/2"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC

NOTES:

1. CONCRETE TO BE NORMAL WEIGHT.
2. DECK SHALL BE GALVANIZED. FLOOR DECK SHALL BE COMPOSITE STEEL DECK.
3. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WWF UNO. PROVIDE ADDITIONAL REINFORCING AS SHOWN IN THE PLAN AND DETAILS WWF NOT REQD AT S3.
4. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR WHERE ACOUSTICAL DECK IS REQUIRED.

FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING WITH OTHERS PRIOR TO POURING CONCRETE: ALL DOOR OPENINGS IN FOUNDATION WALLS; DRAINS AND SLOPES; BLOCKOUTS FOR PLUMBING, SPRINKLERS AND HVAC. ALL DUCTS, CHASES AND PIPES PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS. STAIR DETAILS AND GUARDRAILS PER ARCHITECTURAL DRAWINGS.

4. TOP OF SLAB (T/SLAB) ELEVATION PER PLAN. PROVIDE VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES AS REQUIRED PER SPECIFICATIONS. PROVIDE FREE-DRAINING GRANULAR FILL PER GEOTECH REPORT.

5. TYPICAL TOP OF INTERIOR (T/INTERIOR) FOOTING ELEVATION PER PLAN. TYPICAL TOP OF EXTERIOR (T/EXTERIOR) FOOTING ELEVATIONS PER PLAN. 1

6. ALL FOOTINGS AND SLABS TO BEAR ON PROPERLY COMPACTED SAND & GRAVEL BACKFILL. SUBGRADE PREPARATION, STRUCTURAL FILL, FOOTING DRAINS, AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES.

7. CJ INDICATES CONTROL JOINT PER PLAN.

8. MOISTURE PROOF ALL CONCRETE STEM AND BASEMENT WALLS PER ARCHITECT.

9. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES. 3

10. ALL EXTERIOR WALL STUDS AT ALL LEVELS TO BE 600S162-54 @ 16"OC TYPICAL, UNLESS NOTED OTHERWISE. BOTTOM TRACK 600T150-54, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH AND GAUGE. WHERE DEFLECTION TRACK NOT REQUIRED MATCH BOTTOM TRACKATTACH TOP AND BOTTOM TRACK PER 1/S5.03 AT 10" STUDS, BOTTOM TRACK 1000T200-68, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH & GAUGE. AT PARAPET 800S162-54 @ 16"OC, TOP & BOTTOM TRACK 800T160-54, TYPICAL UNO. PROVIDE FLAT STRAP BRIDGING PER 2/S5.03 AT THIRD POINTS.

4 11.WHERE NEW WORK OR DEMO WORK REQUIRES THE REPLACEMENT OF SLAB ON GRADE, THE FOLLOWING SHOULD BE APPLIED: REPLACEMENT SLAB TO BE 4" SLAB ON GRADE WITH H3 @ 15"OC EACH WAY CENTERED IN SLAB. (2) MINIMUM EACH WAY FOR SMALL PATHES. DOWEL TO EXISTING SLAB PER 11/S4.03.

12. TYPICAL DETAILS PER:

1/S4.01	TYPICAL LAP SPLICE SCHEDULE
2/S4.01	PIPE OR CONDUIT EMBEDDED IN SLAB ON GRADE
3/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
4/S4.01	TYPICAL ANCHOR BOLT SCHEDULE
6/S4.01	STANDARD HOOKS AND BAR BENDS
8/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
9/S4.01	TYPICAL CONCRETE WALL OPENING REINFORCEMENT
11/S4.01	TYPICAL STEPPED FOOTING
12/S4.01	TYPICAL DEPRESSED SLAB DETAIL
16/S4.01	TYPICAL PIPE AND TRENCH LOCATIONS AT CONCRETE STEMWALL/FOOTING
19/S4.01	TYPICAL BASE PLATE CONFIGURATIONS
20/S4.01	TYPICAL STEP AT SLAB ON GRADE
1/S4.02	TYPICAL CONCRETE WALL STEP
1/S4.03	TYPICAL NEW CONCRETE TO EXISTING CONCRETE
6/S4.03	TYPICAL SAWCUT IN EXISTING CONCRETE WALL OR SLAB
11/S4.03	NEW/EXISTING SLAB JOINT

PILE CAP SCHEDULE

TYPE	NUMBER OF PILES	DIMENSIONS: WIDTH	DIMENSIONS: LENGTH	THICKNESS	REFERENCE DETAIL	COMMENTS
3P	3	4'-0"	3'-9"	2' - 0"	8/S4.04	1-2
4P	4	4'-0"	4'-0"	2' - 0"	13/S4.04	1-2
6P	6	5'-1"	6'-0"	2' - 9"	5/S4.05	1-2
6PA	6	6'-0"	6'-0"	2' - 9"	10/S4.05	1-2

NOTES:

1. XP INDICATES QUANTITY OF PILES WITH COMPRESSION LOAD INDICATED FOR EACH PILE PER SCHEDULE. REFERENCE 4/S4.04.
2. XPT INDICATES QUANTITY OF PILES WITH COMPRESSION & TENSION LOADS INDICATED FOR EACH PILE PER SCHEDULE. DESIGNATIONS WITHOUT T DO NOT REQUIRE TENSION LOADS INDICATED IN SCHEDULE. REFERENCE 9/S4.04

TYPE	COMPRESSION LOAD: ASD	COMPRESSION LOAD: LRFD	TENSION LOAD: ASD	TENSION LOAD: LRFD	PILE DIAMETER: MAX	PILE DIAMETER: MIN
3P	56K	85K			6"	4"
4P	56K	85K			6"	4"
6P	70K	94K	20K	25K	6"	4"
6PA	56K	85K	31K	43K	6"	4"

SPREAD FOOTING

TYPE	DIMENSIONS: LENGTH	DIMENSIONS: WIDTH	DIMENSIONS: DEPTH	REINFORCING	COMMENTS
F6.0	11'-0"	6'-6"	2' - 0"	(13) #6 T&B LONGIT & (8) #6 T&B TRANSV	
F7.0	11'-0"	7'-0"	2' - 0"	(13) #6 T&B LONGIT & (9) #6 T&B TRANSV	
F8.0	4'-6"	8'-3"	1' - 6"	(8) #6 T&B LONGIT & (6) #5 T&B TRANSV	

GRADE BEAM SCHEDULE

TYPE	DIMENSIONS: WIDTH	DIMENSIONS: DEPTH	REINFORCING	COMMENTS
GRADE BEAM 1	1'-6"	4' - 0"	(3) #5 T&B & #4 TIES @ 16"OC & #4 HORIZ @ 10"OC EF	
GRADE BEAM 2	1'-8"	4' - 6"	(2) #5 T&B & #4 TIES @ 12"OC & #4 HORIZ @ 14"OC EF	
GRADE BEAM 3	2'-0"	5' - 10 1/2"	(5) #8 T&B & #4 TIES @ 12"OC & #5 HORIZ @ 12"OC EF	
GRADE BEAM 4	1'-4"	3' - 0"	(3) #7B & (3) #5T & #4 TIES @ 12"OC & #4 HORIZ @ 12"OC EF	
GRADE BEAM 5	1'-2"	3' - 0"	(2) #5 T&B & #4 TIES @ 12"OC & #4 HORIZ @ 14"OC EF	
GRADE BEAM 6	1'-11"	4' - 0"	(4) #5 T&B & #4 TIES @ 12"OC & #5 HORIZ @ 10"OC EF	

LEVEL 1 FOUNDATION PLAN - AREA B

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

REVISIONS

1	ADDENDUM 1	02-03-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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NAC NO 111-15017
DRAWN JLJ
CHECKED LMB
DATE 02/19/16

LEVEL 1 FOUNDATION PLAN - AREA B

CD

S3.01

REVISIONS

4 ADDENDUM 4 03-02-16

FOUNDATION PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. CONTRACTOR SHALL LOCATE AND VERIFY THE FOLLOWING WITH OTHERS PRIOR TO POURING CONCRETE: ALL DOOR OPENINGS IN FOUNDATION WALLS; DRAINS AND SLOPES; BLOCKOUTS FOR PLUMBING, SPRINKLERS AND HVAC. ALL DUCTS, CHASES AND PIPES PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS. STAIR DETAILS AND GUARDRAILS PER ARCHITECTURAL DRAWINGS.

4. TOP OF SLAB (T/SLAB) ELEVATION PER PLAN. PROVIDE VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES AS REQUIRED PER SPECIFICATIONS. PROVIDE FREE-DRAINING GRANULAR FILL PER GEOTECH REPORT.

5. TYPICAL TOP OF INTERIOR (T/INTERIOR) FOOTING ELEVATION PER PLAN. TYPICAL TOP OF EXTERIOR (T/EXTERIOR) FOOTING ELEVATIONS PER PLAN. 1

6. ALL FOOTINGS AND SLABS TO BEAR ON PROPERLY COMPACTED SAND & GRAVEL BACKFILL. SUBGRADE PREPARATION, STRUCTURAL FILL, FOOTING DRAINS, AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES.

7. CJ INDICATES CONTROL JOINT PER PLAN.

8. MOISTURE PROOF ALL CONCRETE STEM AND BASEMENT WALLS PER ARCHITECT.

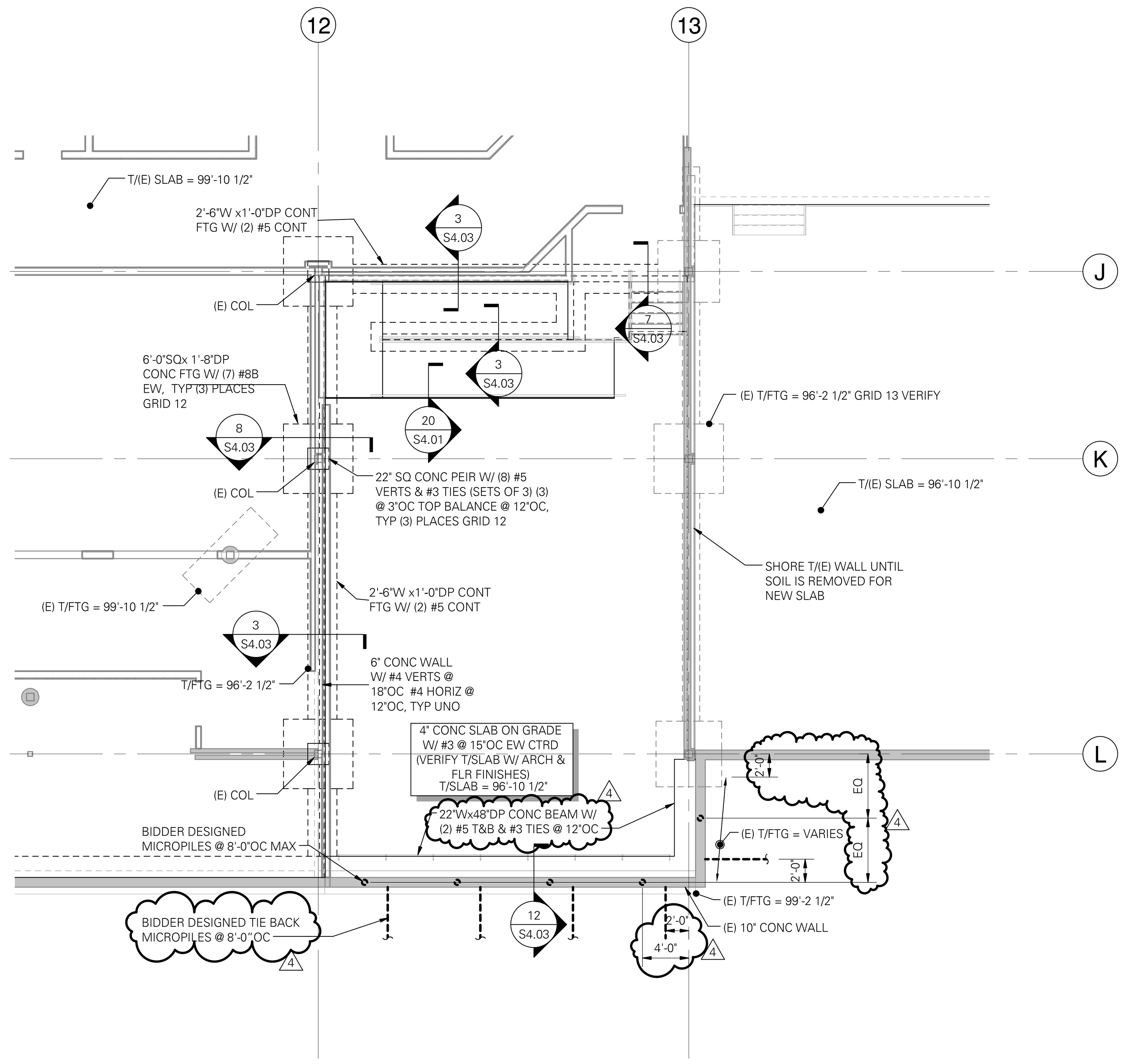
9. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES. 3

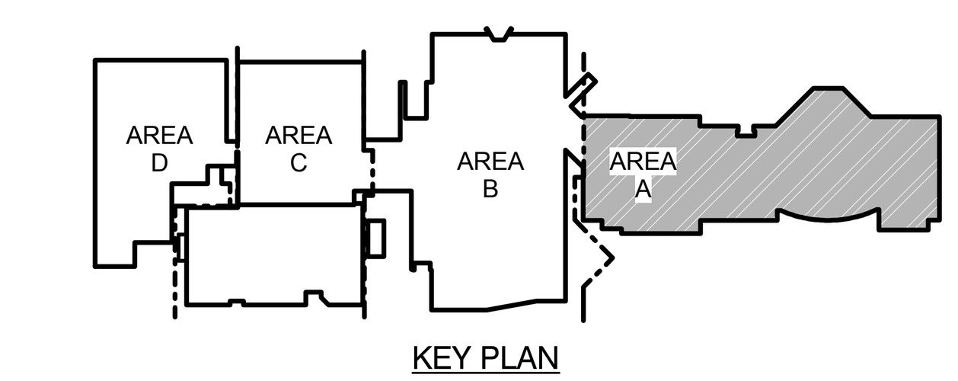
10. ALL EXTERIOR WALL STUDS AT ALL LEVELS TO BE 600S162-54 @ 16"OC TYPICAL, UNLESS NOTED OTHERWISE. BOTTOM TRACK 600T150-54, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH AND GAUGE. WHERE DEFLECTION TRACK NOT REQUIRED MATCH BOTTOM TRACKATTACH TOP AND BOTTOM TRACK PER 1/S5.03 AT 10" STUDS, BOTTOM TRACK 1000T200-68, TOP TRACK TO BE DEFLECTION TRACK TO MATCH STUD WIDTH & GAUGE. AT PARAPET 800S162-54 @ 16"OC, TOP & BOTTOM TRACK 800T160-54, TYPICAL UNO. PROVIDE FLAT STRAP BRIDGING PER 2/S5.03 AT THIRD POINTS.

4 11.WHERE NEW WORK OR DEMO WORK REQUIRES THE REPLACEMENT OF SLAB ON GRADE, THE FOLLOWING SHOULD BE APPLIED: REPLACEMENT SLAB TO BE 4" SLAB ON GRADE WITH H3 @ 15"OC EACH WAY CENTERED IN SLAB. (2) MINIMUM EACH WAY FOR SMALL PATHES. DOWEL TO EXISTING SLAB PER 11/S4.03.

12. TYPICAL DETAILS PER:

1/S4.01	TYPICAL LAP SPLICE SCHEDULE
2/S4.01	PIPE OR CONDUIT EMBEDDED IN SLAB ON GRADE
3/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
4/S4.01	TYPICAL ANCHOR BOLT SCHEDULE
6/S4.01	STANDARD HOOKS AND BAR BENDS
8/S4.01	PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
9/S4.01	TYPICAL CONCRETE WALL OPENING REINFORCEMENT
11/S4.01	TYPICAL STEPPED FOOTING
12/S4.01	TYPICAL DEPRESSED SLAB DETAIL
16/S4.01	TYPICAL PIPE AND TRENCH LOCATIONS AT CONCRETE STEMWALL/FOOTING
19/S4.01	TYPICAL BASE PLATE CONFIGURATIONS
20/S4.01	TYPICAL STEP AT SLAB ON GRADE
1/S4.02	TYPICAL CONCRETE WALL STEP
1/S4.03	TYPICAL NEW CONCRETE TO EXISTING CONCRETE
6/S4.03	TYPICAL SAWCUT IN EXISTING CONCRETE WALL OR SLAB
11/S4.03	NEW/EXISTING SLAB JOINT





KEY PLAN

LEVEL 1 FOUNDATION PLAN - AREA A

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

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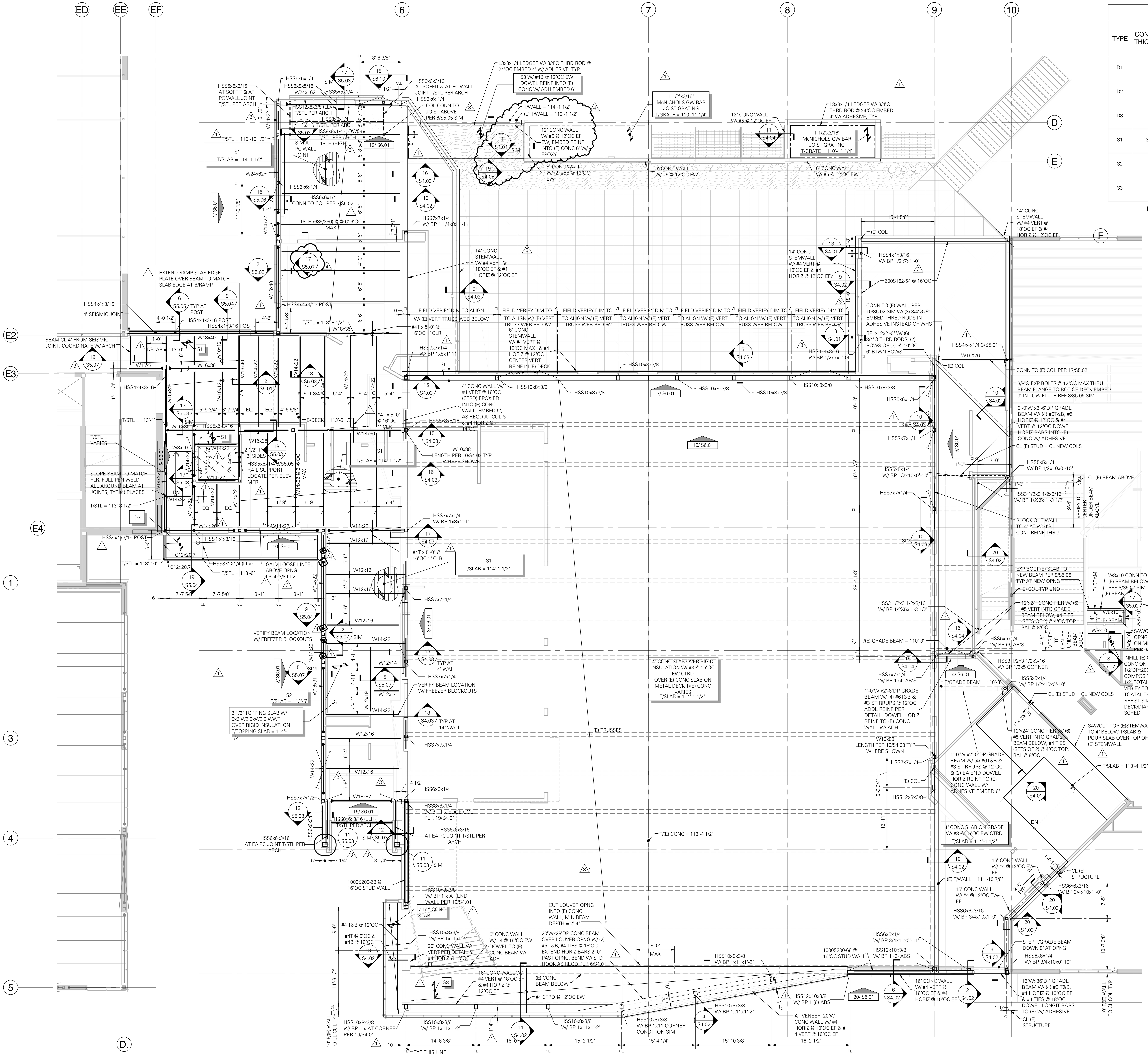
DATE	02/19/16

LEVEL 1 FOUNDATION PLAN - AREA A

CD

S3.02



SLAB AND DECK / DIAPHRAGM SCHEDULE

TYPE	CONCRETE THICKNESS	STEEL DECK	TOTAL THICKNESS	DECK ATTACHMENT SUPPORTS PERPENDICULAR TO DECK SPAN	DECK ATTACHMENT SUPPORTS PARALLEL TO DECK SPAN	DECK ATTACHMENT SIDELAPS
D1	NA	1-1/2"DPx20GA (B)	NA	(7) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D2	NA	3"DPx18GA (N3)	NA	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D3	NA	1-5/16"DP VERCOR x20GA	NA	14/S5.04	14/S5.04	14/S5.04
S1	3-1/2"	1-1/2"DPx20GA (B) COMPOSITE	5"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
S2	3"	3"DPx18GA (W3)	6"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 12"OC
S3	6"	1-1/2"DPx20GA (B) COMPOSITE	7-1/2"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC

NOTES:

1. CONCRETE TO BE NORMAL WEIGHT.
2. DECK SHALL BE GALVANIZED. FLOOR DECK SHALL BE COMPOSITE STEEL DECK.
3. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WWF UNO. PROVIDE ADDITIONAL REINFORCING AS SHOWN IN THE PLAN AND DETAILS WWF NOT REQD AT S3.
4. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR WHERE ACOUSTICAL DECK IS REQUIRED.

REVISIONS

1	ADDENDUM 1	02-03-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

FLOOR FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

4. TOP OF SLAB ELEVATION (T/SLAB) = PER PLAN.

5. T/STL=X'-X" INDICATES TOP OF STEEL (T/STL) ELEVATION (T/STL = B/DECK) UNO; AT GIRDERS SUPPORTING OPEN WEB STEEL JOISTS (T/STL) = -5" FOR BEARING SEAT DEPTH. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.

6. NUMBERS INDICATED ON PLAN ADJACENT TO JOIST CALLOUT SHOWN THUS: (400/200) INDICATES TOTAL LOAD AND LIVE LOAD (IN PLF) FOR WHICH JOISTS ARE TO BE DESIGNED BY OTHERS.

7. CONCRETE OVER METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. PROVIDE REINFORCING AS SHOWN IN PLAN AND DETAILS. DECK GAGE AND ATTACHMENT PER DIAPHRAGM KEY PLAN.

8. TYPICAL FLOOR DECK OVERHANG TO BE 4" FROM BEAM CENTERLINE, UNO.

9. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.

11. BRACED FRAME MEMBER SIZES PER ELEVATIONS.

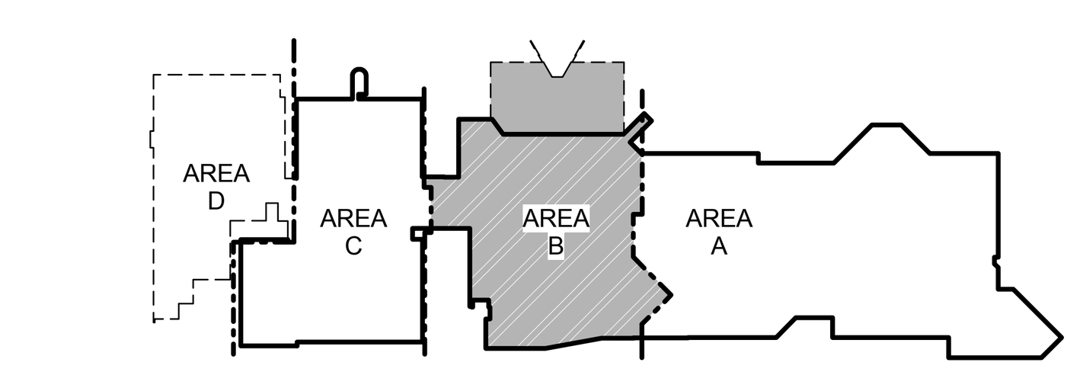
12. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.

13. LEDGER ANGLES ARE REQUIRED WHERE METAL DECKING AND SLAB INTERFACE WITH CONCRETE WALLS. REQUIREMENTS ARE PER PLAN.

14. REFER TO 16/S5.01 AND 18/S5.01 FOR REINFORCING REQUIREMENTS AT ALL DECK PENETRATIONS AND ALL MECHANICAL UNITS. NOT ALL UNITS NOR PENETRATIONS HAVE BEEN SHOWN. CONTRACTOR TO REFERENCE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION FOR ADDTIONAL PENETRATIONS AND UNITS.

15. TYPICAL DETAILS PER:

2/S5.01	TYPICAL DECK AT DISCONTINUITIES
3/S5.01	BEAM TO HSS COLUMN CONNECTIONS
8 & 9/S5.01	TYPICAL FLOOR JOIST TO BEAM
11/S5.01	PLAN - TYPICAL DECK SUPPORT AT INTERIOR COLUMN
12/S5.01	TYPICAL SLAB EDGE AT STEEL BEAM
15/S5.01	TYPICAL HSS JOIST CONNECTION TO BEAM
16 & 18/S5.01	TYPICAL METAL DECK OPENING REINFORCING
17/S5.02	STEEL CONNECTION DETAILS
20/S5.01	TYPICAL CANTILEVER OVER BEAM



KEY PLAN

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NAC NO	111-15017
DRAWN	JLJ
CHECKED	LMB
DATE	02/19/16

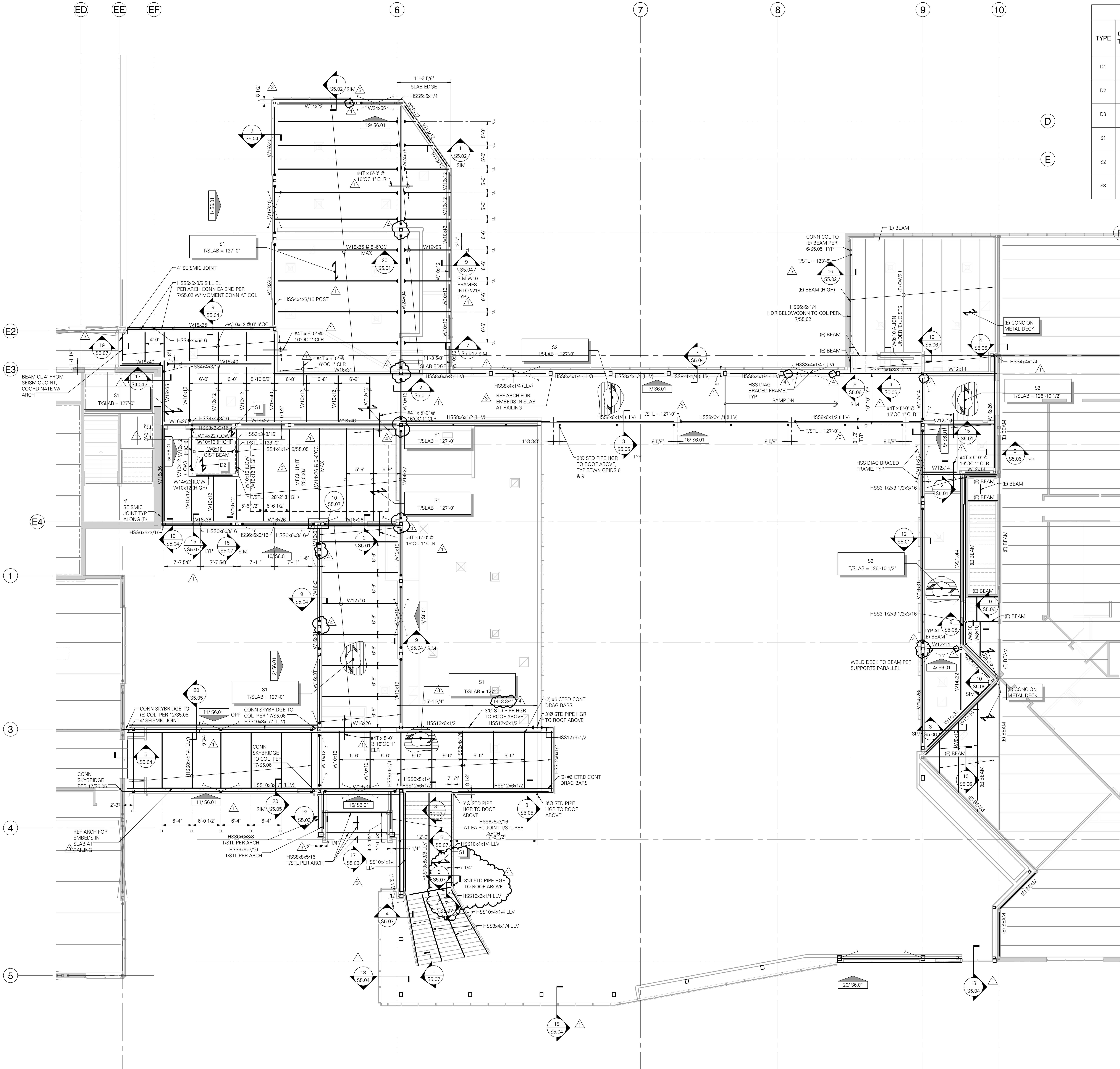
COMMONS LEVEL FRAMING PLAN

CD

S3.03

COMMONS LEVEL FLOOR FRAMING & FOUNDATION PLAN

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



LEVEL 3 FLOOR FRAMING PLAN

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

SLAB AND DECK / DIAPHRAGM SCHEDULE

TYPE	CONCRETE THICKNESS	STEEL DECK	TOTAL THICKNESS	DECK ATTACHMENT: SUPPORTS PERPENDICULAR TO DECK SPAN	DECK ATTACHMENT: SUPPORTS PARALLEL TO DECK SPAN	DECK ATTACHMENT: SIDELAPS
D1	NA	1-1/2"DPx20GA (B)	NA	(7) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D2	NA	3"DPx18GA (N3)	NA	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D3	NA	1-5/16"DP VERCOR x20GA	NA	14/S5.04	14/S5.04	14/S5.04
S1	3-1/2"	1-1/2"DPx20GA (B) COMPOSITE	5"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
S2	3"	3"DPx18GA (W3)	6"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 12"OC
S3	6"	1-1/2"DPx20GA (B) COMPOSITE	7-1/2"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC

NOTES:

1. CONCRETE TO BE NORMAL WEIGHT.
2. DECK SHALL BE GALVANIZED. FLOOR DECK SHALL BE COMPOSITE STEEL DECK.
3. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WWF UNO. PROVIDE ADDITIONAL REINFORCING AS SHOWN IN THE PLAN AND DETAILS WWF NOT REQD AT S3.
4. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR WHERE ACOUSTICAL DECK IS REQUIRED.

FLOOR FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

4. TOP OF SLAB ELEVATION (T/SLAB) = PER PLAN.

5. T/STL=X'-X" INDICATES TOP OF STEEL (T/STL) ELEVATION (T/STL = B/DECK) UNO; AT GIRDERS SUPPORTING OPEN WEB STEEL JOISTS (T/STL) = -5" FOR BEARING SEAT DEPTH. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.

6. NUMBERS INDICATED ON PLAN ADJACENT TO JOIST CALLOUT SHOWN THUS: (400/200) INDICATES TOTAL LOAD AND LIVE LOAD (IN PLF) FOR WHICH JOISTS ARE TO BE DESIGNED BY OTHERS.

7. CONCRETE OVER METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. PROVIDE REINFORCING AS SHOWN IN PLAN AND DETAILS. DECK GAGE AND ATTACHMENT PER DIAPHRAGM KEY PLAN.

8. TYPICAL FLOOR DECK OVERHANG TO BE 4" FROM BEAM CENTERLINE, UNO.

9. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.

11. BRACED FRAME MEMBER SIZES PER ELEVATIONS.

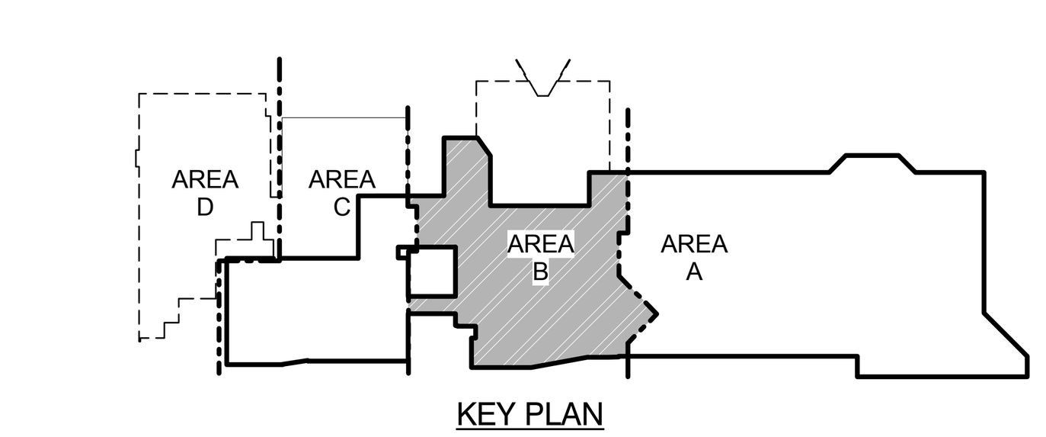
12. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.

13. LEDGER ANGLES ARE REQUIRED WHERE METAL DECKING AND SLAB INTERFACE WITH CONCRETE WALLS. REQUIREMENTS ARE PER PLAN.

14. REFER TO 16/S5.01 AND 18/S5.01 FOR REINFORCING REQUIREMENTS AT ALL DECK PENETRATIONS AND ALL MECHANICAL UNITS. NOT ALL UNITS NOR PENETRATIONS HAVE BEEN SHOWN. CONTRACTOR TO REFERENCE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION FOR ADDTIONAL PENETRATIONS AND UNITS.

15. TYPICAL DETAILS PER:

2/S5.01	TYPICAL DECK AT DISCONTINUITIES
3/S5.01	BEAM TO HSS COLUMN CONNECTIONS
8 & 9/S5.01	TYPICAL FLOOR JOIST TO BEAM
11/S5.01	PLAN - TYPICAL DECK SUPPORT AT INTERIOR COLUMN
12/S5.01	TYPICAL SLAB EDGE AT STEEL BEAM
15/S5.01	TYPICAL HSS JOIST CONNECTION TO BEAM
16 & 18/S5.01	TYPICAL METAL DECK OPENING REINFORCING
17/S5.02	STEEL CONNECTION DETAILS
20/S5.01	TYPICAL CANTILEVER OVER BEAM



KEY PLAN

REVISIONS

1 ADDENDUM 1	02-03-16
3 ADDENDUM 3	02-19-16
4 ADDENDUM 4	03-02-16

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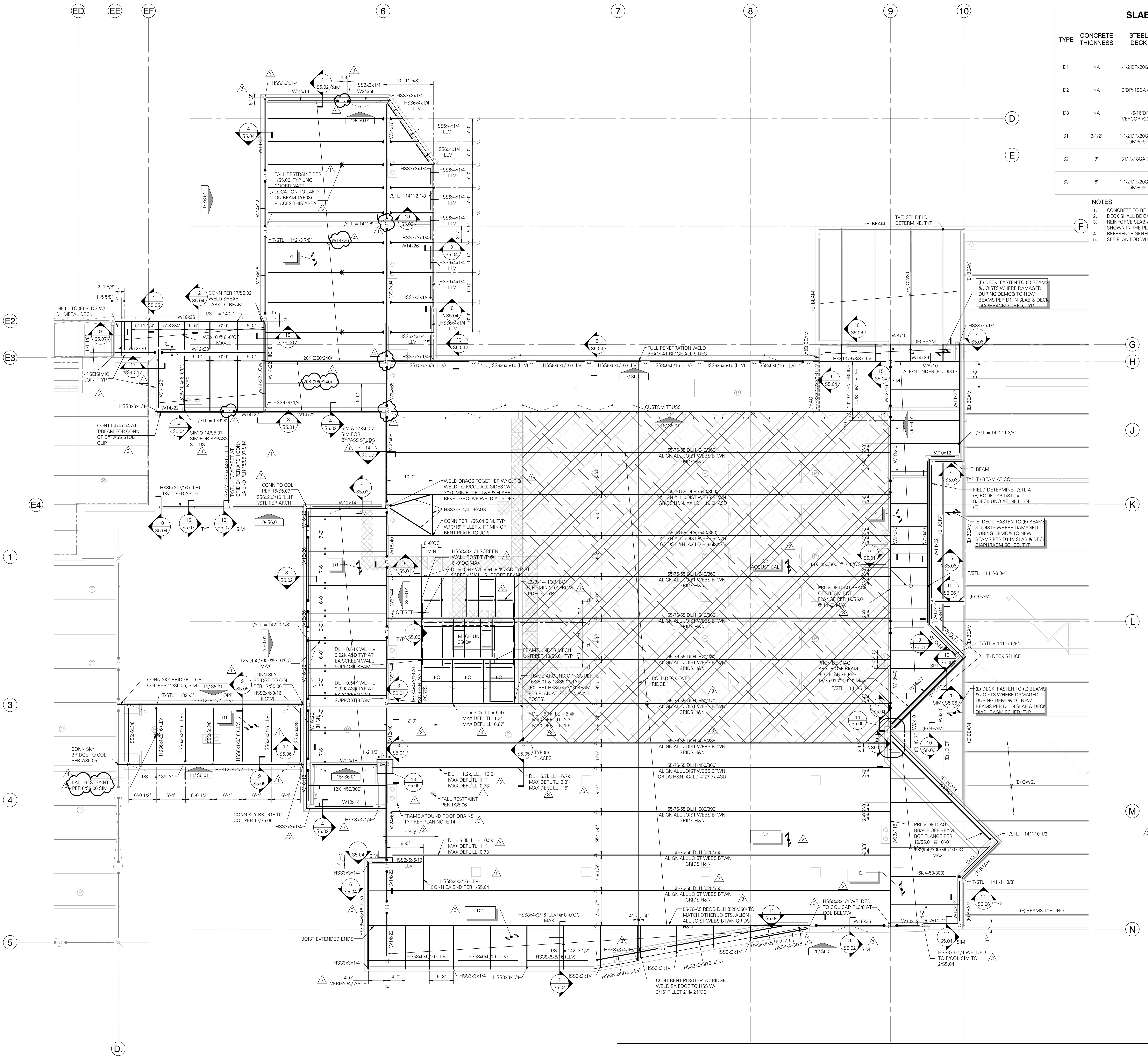
CHECKED	LMB
DATE	02/19/16

LEVEL 3 FRAMING PLAN

CD

S3.04



ROOF LEVEL FRAMING PLAN

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

SLAB AND DECK / DIAPHRAGM SCHEDULE

TYPE	CONCRETE THICKNESS	STEEL DECK	TOTAL THICKNESS	DECK ATTACHMENT		
				SUPPORTS PERPENDICULAR TO DECK SPAN	SUPPORTS PARALLEL TO DECK SPAN	SIDELAPS
D1	NA	1-1/2"DPx20GA (B)	NA	(7) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D2	NA	3"DPx18GA (N3)	NA	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
D3	NA	1-5/16"DP VERCOR x20GA	NA	14/S5.04	14/S5.04	14/S5.04
S1	3-1/2"	1-1/2"DPx20GA (B) COMPOSITE	5"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC
S2	3"	3"DPx18GA (W3)	6"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 12"OC
S3	6"	1-1/2"DPx20GA (B) COMPOSITE	7-1/2"	(4) 1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 18"OC	BP @ 24"OC

NOTES:

1. CONCRETE TO BE NORMAL WEIGHT.
2. DECK SHALL BE GALVANIZED. FLOOR DECK SHALL BE COMPOSITE STEEL DECK.
3. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WWF UNO. PROVIDE ADDITIONAL REINFORCING AS SHOWN IN THE PLAN AND DETAILS WWF NOT REQD AT S3.
4. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
5. SEE PLAN FOR WHERE ACOUSTICAL DECK IS REQUIRED.

ROOF FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.01, S1.02, AND S1.03.

2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECT'S DRAWINGS. ALL EXISTING DIMENSIONS AND EXISTING INFORMATION SHALL BE FIELD VERIFIED AS REQUIRED TO COORDINATE WITH NEW WORK.

3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

4. T/STL=X'-X" INDICATES TOP OF STEEL (T/STL) ELEVATION AT JOISTS (T/STL = B/DECK) UNO. AT GIRDERS SUPPORTING OPEN WEB STEEL JOISTS T/STL = -3 1/2" AT K SERIES JOIST -10" AT LH SERIES JOIST SEAT BEARING DEPTH NOTED ON PLANS. STEEL JOISTS SHALL BE EQUALLY SPACED, TYPICAL UNO.

5. METAL DECK PER PLAN AND STRUCTURAL GENERAL NOTES. DECK GAGE AND ATTACHMENT PER DIAPHRAGM KEY PLAN.

6. TYPICAL ROOF DECK OVERHANG TO BE 4" FROM CENTERLINE OF BEAM, UNO.

7. NUMBERS INDICATED ON PLAN ADJACENT TO JOIST CALLOUT SHOWN THUS: (400/200) INDICATES TOTAL LOAD AND LIVE LOAD (IN PLF) FOR WHICH JOISTS ARE TO BE DESIGNED BY OTHERS.

8. ROOF JOISTS TO BE DESIGNED FOR A NET UPLIFT LOAD OF 6PSF.

9. ROOF JOISTS ARE TO BE REVIEWED FOR ADDITIONAL LOADS FROM MECHANICAL UNITS AND PIPING. [ADDITIONAL LOADING REQUIREMENTS PER PLAN.] CONTRACTOR TO PROVIDE THE TRUSS/JOIST SUPPLIER WITH A DRAWING SHOWING THE LOCATION AND SUPPORT CONDITIONS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER LOADS. SPECIAL TRUSS SHAPES AND OPENING REQUIREMENTS ARE AS DESIGNATED ON PLAN. ROOF TRUSS/JOIST SUPPLIER IS RESPONSIBLE FOR ADDITIONAL FRAMING REQUIRED TO SUPPORT MECHANICAL EQUIPMENT, DUCTS, ELECTRICAL EQUIPMENT, PLUMBING AND FIRE PROTECTION.

10. LEDGER ANGLES ARE REQUIRED WHERE METAL DECKING INTERFACES WITH CONCRETE WALLS. REQUIREMENTS PER PLAN.

11. STEEL STAIRS SHALL BE BIDDER-DESIGNED, UNO. APPLICABLE DESIGN REQUIREMENTS PER STRUCTURAL GENERAL NOTES.

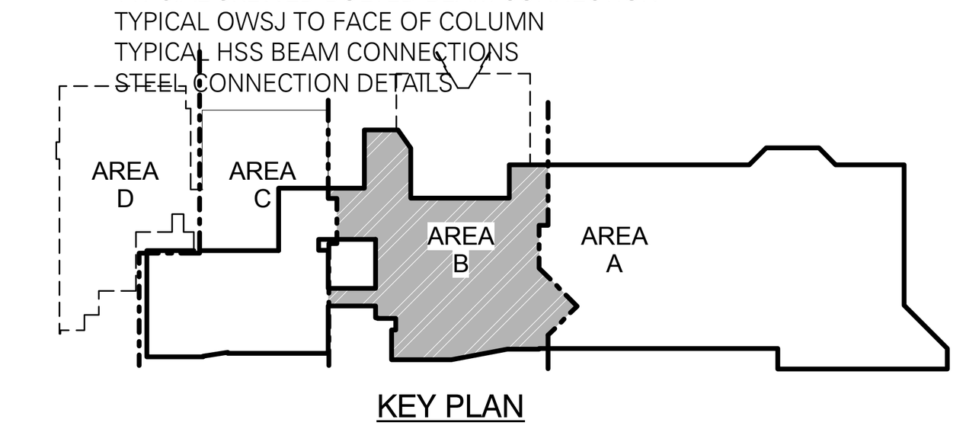
3 12. BRACED FRAME MEMBER SIZES PER ELEVATIONS.

13. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING.

14. REFER TO 16/S5.01 AND 18/S5.01 FOR REINFORCING REQUIREMENTS AT ALL DECK PENETRATIONS AND ALL MECHANICAL UNITS. NOT ALL UNITS NOR PENETRATIONS HAVE BEEN SHOWN. CONTRACTOR TO REFERENCE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION FOR ADDTIONAL PENETRATIONS AND UNITS.

15. TYPICAL DETAILS PER:

1/S5.01	ALLOWABLE METHODS AND LOCATIONS FOR SUPPORTING LOADS FROM OWSJ
7/S5.01	TYPICAL CHANGE IN DECK DIRECTION AT ROOF
16/S5.01 & 18/S5.01	TYPICAL DECK OPENING REINFORCING DETAILS
5/S5.02	TYPCIAL SKEWED BOLTED BEAM CONNECTION
6/S5.02	TYPICAL OWSJ TO FACE OF COLUMN
7/S5.02	TYPICAL HSS BEAM CONNECTIONS
17/S5.02	STEEL CONNECTION DETAILS



KEY PLAN

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1 ADDENDUM 1 02-03-16
2 ADDENDUM 2 02-08-16
3 ADDENDUM 3 02-19-16
4 ADDENDUM 4 03-02-16

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ROOF FRAMING PLAN

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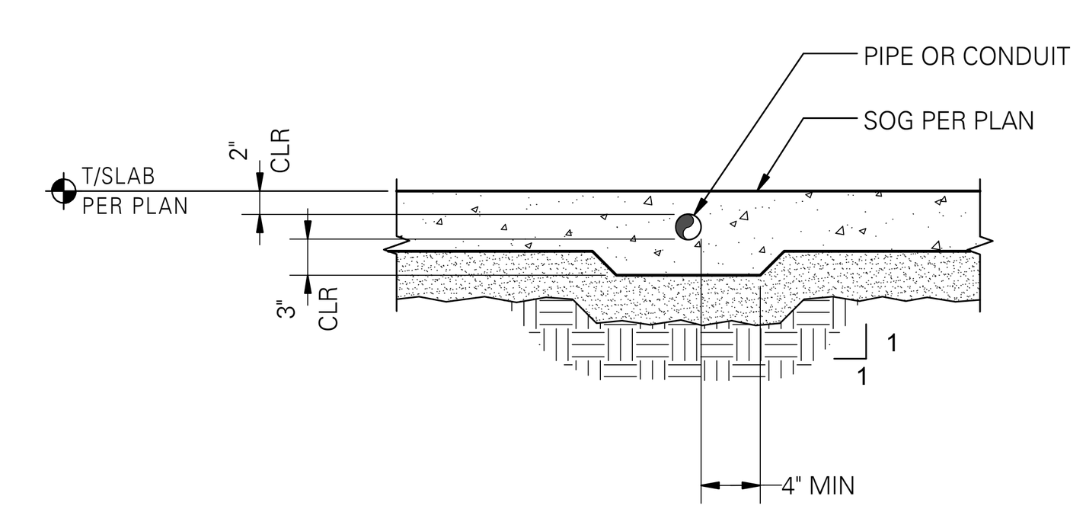
S3.05

BAR SIZE	MISCELLANEOUS BARS		TOP BARS (see note #4)		HOOKED BARS	BAR SIZE	MISCELLANEOUS BARS		TOP BARS (see note #4)		HOOKED BARS
	Ld	Splice	Ld	Splice	Ldh		Ld	Splice	Ld	Splice	Ldh
f'c = 3000psi						f'c = 4000psi					
#3	17	23	22	29	9	#3	15	20	19	25	8
#4	22	29	29	38	11	#4	19	25	25	33	10
#5	28	37	36	47	14	#5	24	32	31	41	12
#6	33	43	43	56	17	#6	29	38	37	49	15
#7	48	63	63	82	20	#7	42	55	54	71	17
#8	55	72	72	94	22	#8	48	63	62	81	19
#9	62	81	81	106	25	#9	54	71	70	91	22
#10	70	91	91	119	28	#10	61	80	79	103	25
#11	78	102	101	132	31	#11	67	88	87	114	27

NOTES:

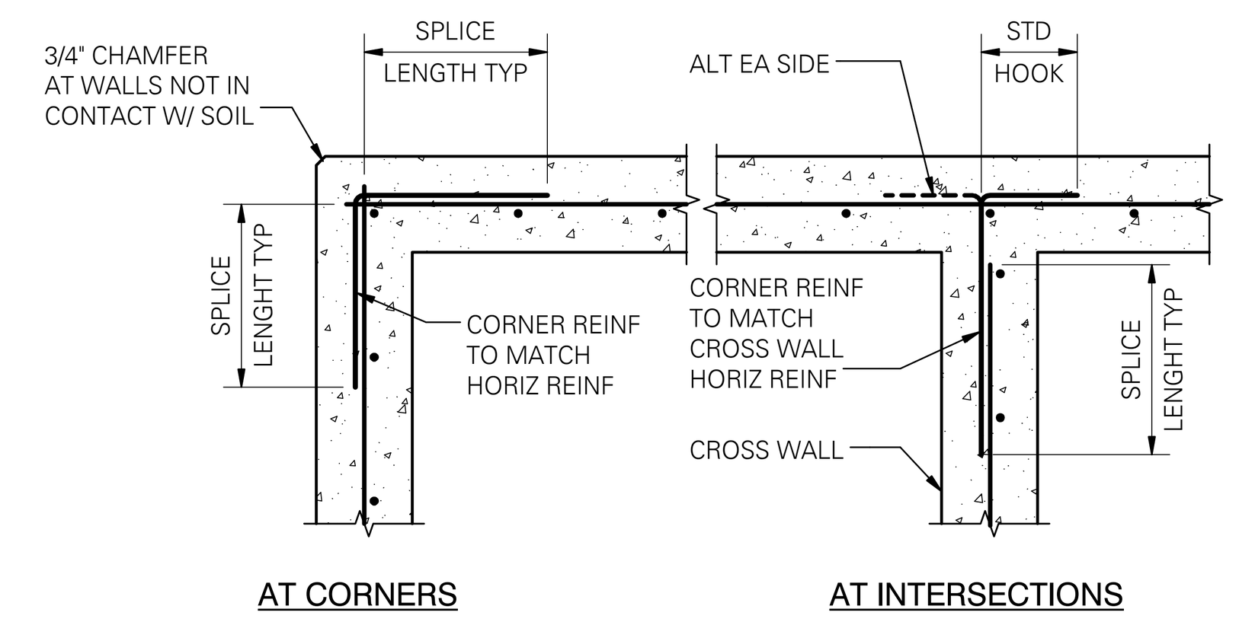
1. VALUES FOR UNCOATED REINFORCING AND NORMAL WEIGHT CONCRETE WITH CLEAR SPACING > db, CLEAR COVER > db AND MINIMUM STIRRUPS OR TIES THROUGHOUT Ld OR CLEAR SPACING > 2db AND CLEAR COVER > db.
2. DEVELOP ALL REINFORCING IN STRUCTURAL SLABS WITH MINIMUM DEVELOPMENT LENGTH Ld.
3. Ldh = DEVELOPMENT LENGTH OF BAR WITH STANDARD HOOK.
4. TOP BAR = HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE BELOW (EXCLUDING WALL HORIZONTAL REINFORCING) OR AS NOTED ON DOCUMENTS AS "TOP BAR".
5. ALL TABULATED VALUES ARE IN INCHES.

1 TYPICAL LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE
SCALE: 3/4" = 1'-0" (01400M)



NOTE:
ALUMINUM MATERIALS SHALL NOT BE EMBEDDED IN CONCRETE.

2 PIPE OR CONDUIT EMBEDDED IN SLAB ON GRADE
SCALE: 3/4" = 1'-0" (03204)



NOTES:
1. SPLICE LENGTHS PER LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE.
2. WALL REINFORCING PER PLAN OR ELEVATIONS, SECTIONS AND DETAILS.
3. AT FOOTINGS AND STEMWALLS, CORNER REINFORCING TO MATCH FOOTING AND STEMWALL HORIZONTAL REINFORCING.

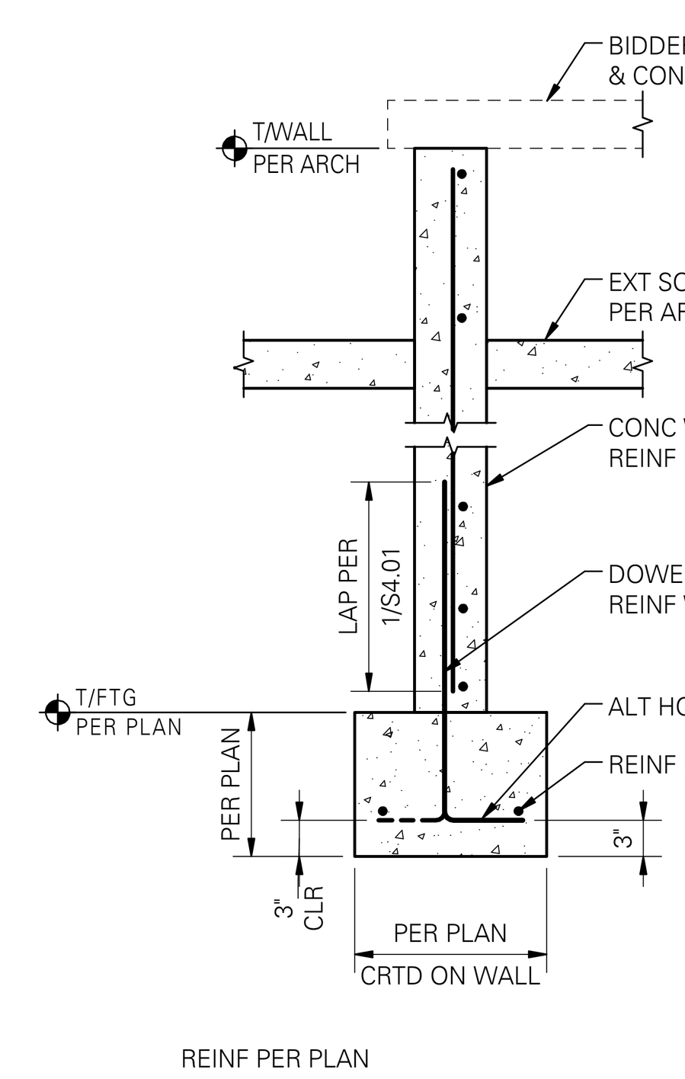
3 PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
SCALE: 3/4" = 1'-0" (03402-SINGLE MAT)

01901M TYPICAL ANCHOR BOLT SCHEDULE					
INSTALLATION TYPE	CAST-IN-PLACE (PRE-AUTHORIZED) [2]			DRILL-IN OPTIONS (SUBMITTAL REQUIRED) [3]	
BOLT TYPE	STANDARD J-BOLT	HEADED ANCHOR	THREADED ROD ANCHOR	ADHESIVE ANCHOR	EXPANSION ANCHOR
EMBEDMENT REQUIREMENTS	7 1/2"	12x DIA	12x DIA; 1/4" MIN; TACK	NOTE [4]	NOTE [4]
LIMITS	5/8"Ø MAX	5/8"Ø THRU 2 1/2"Ø		5/8"Ø THRU 1"Ø	
DIA = ANCHOR BOLT DIAMETER (NOMINAL)					

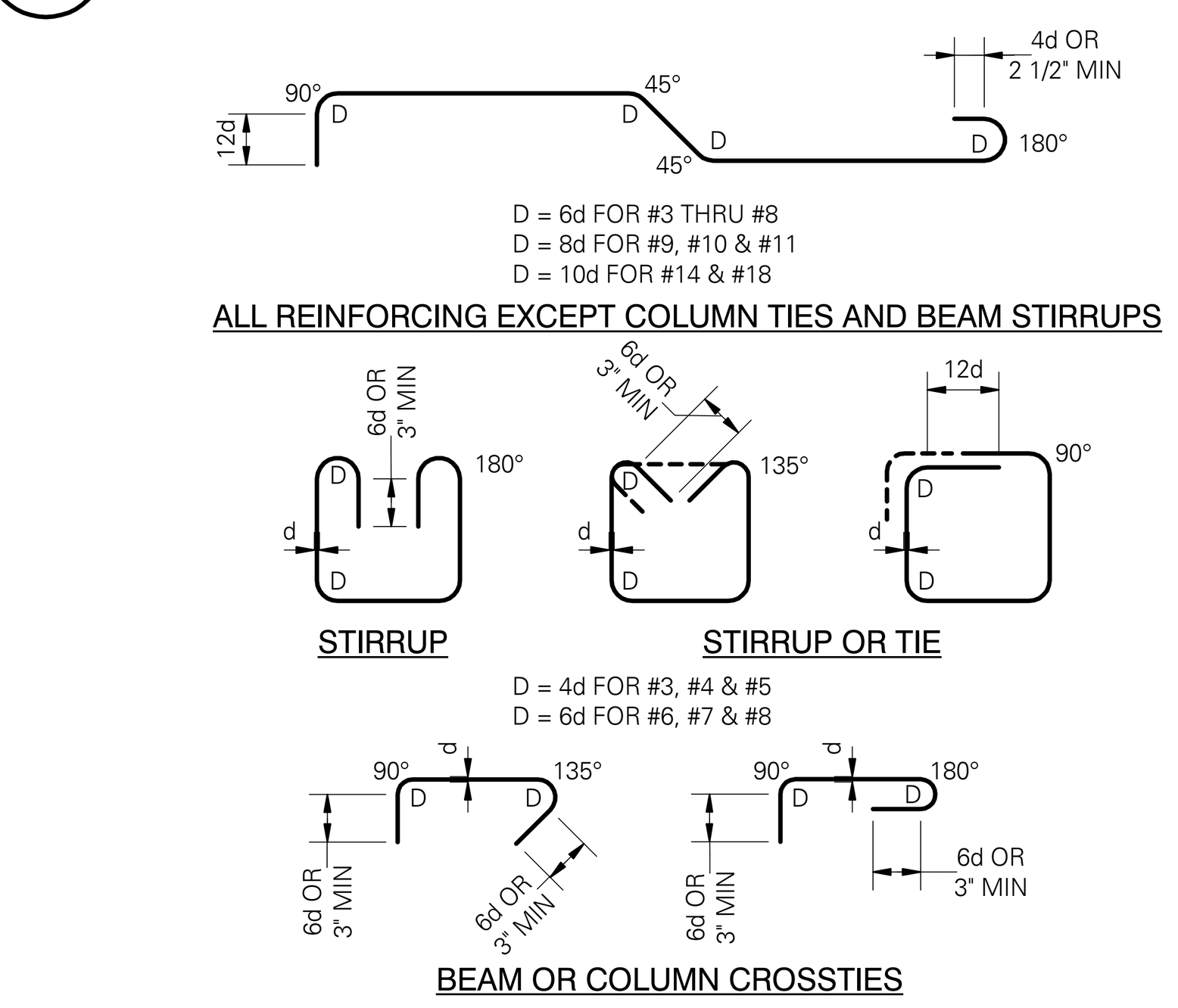
PROJECTION NOTE [1]
MIN EMBED UNO PER PLAN

NOTES:
[1] CONTRACTOR SHALL DETERMINE THE REQUIRED THREAD PROJECTION SUITABLE FOR THE THICKNESS OF MATERIAL BEING FASTENED PLUS GROUT ALLOWANCE, IF ANY, AND CONSTRUCTION TOLERANCES, UNO.
[2] CONTRACTOR MAY SELECT APPROPRIATE CAST-IN-PLACE ANCHOR BOLT OPTION WITHOUT SUBMITTAL.
[3] DRILL-IN OPTIONS ARE NOT APPROPRIATE AT ALL CONDITIONS. IF DRILL-IN METHOD IS PREFERRED, SUBMIT MANUFACTURER'S INFORMATION, ALLOWABLE LOAD VS EMBEDMENT DATA AND LOCATIONS OF WHERE SUBSTITUTIONS ARE REQUESTED. ENGINEER WILL DETERMINE IF SUBSTITUTION IS APPROPRIATE FOR LOCATION AND LOADING.
[4] EMBEDMENT OF DRILL-IN ANCHORS SHALL BE PER ENGINEERS'S SUBMITTAL REVIEW COMMENTS. EMBEDMENT SHALL BE (9) NINE TIMES FOR NOMINAL ANCHOR DIAMETER, UNO.

4 TYPICAL ANCHOR BOLT SCHEDULE
SCALE: 1" = 1'-0" (01901M)

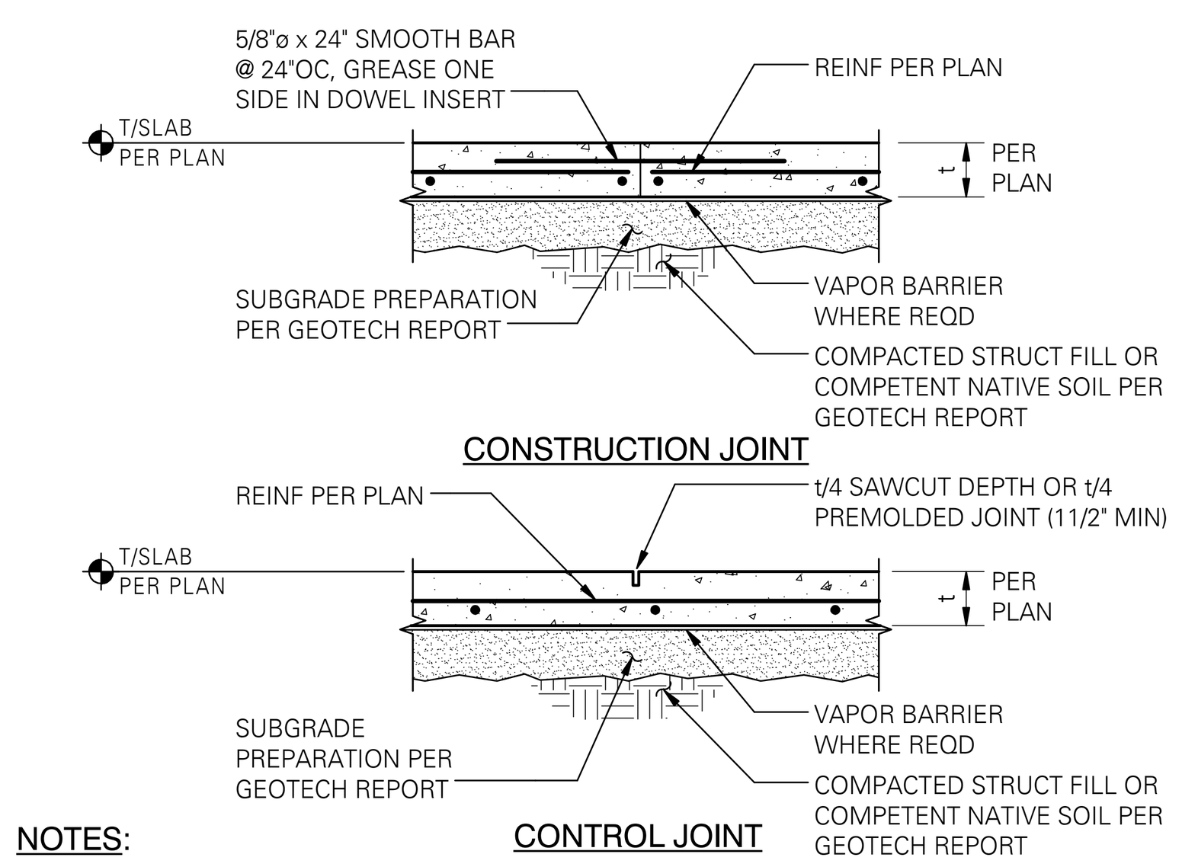


5 BENCH STEMWALL
SCALE: 3/4" = 1'-0" (03005)



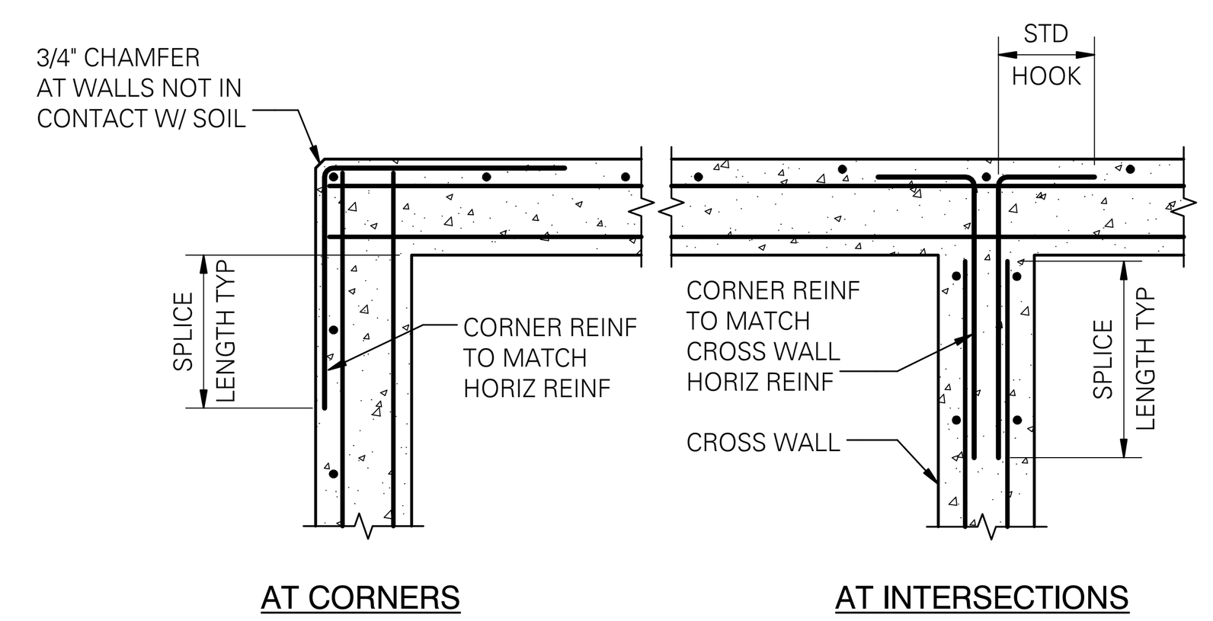
NOTE:
TIES AND CROSSTIES FOR SHEAR WALL BOUNDARY ELEMENTS SHALL BE DETAILED AS COLUMN TIES/CROSSTIES.

6 STANDARD HOOKS AND BENDS - BEAM STIRRUPS AND COLUMN TIES
SCALE: 3/4" = 1'-0" (03400)



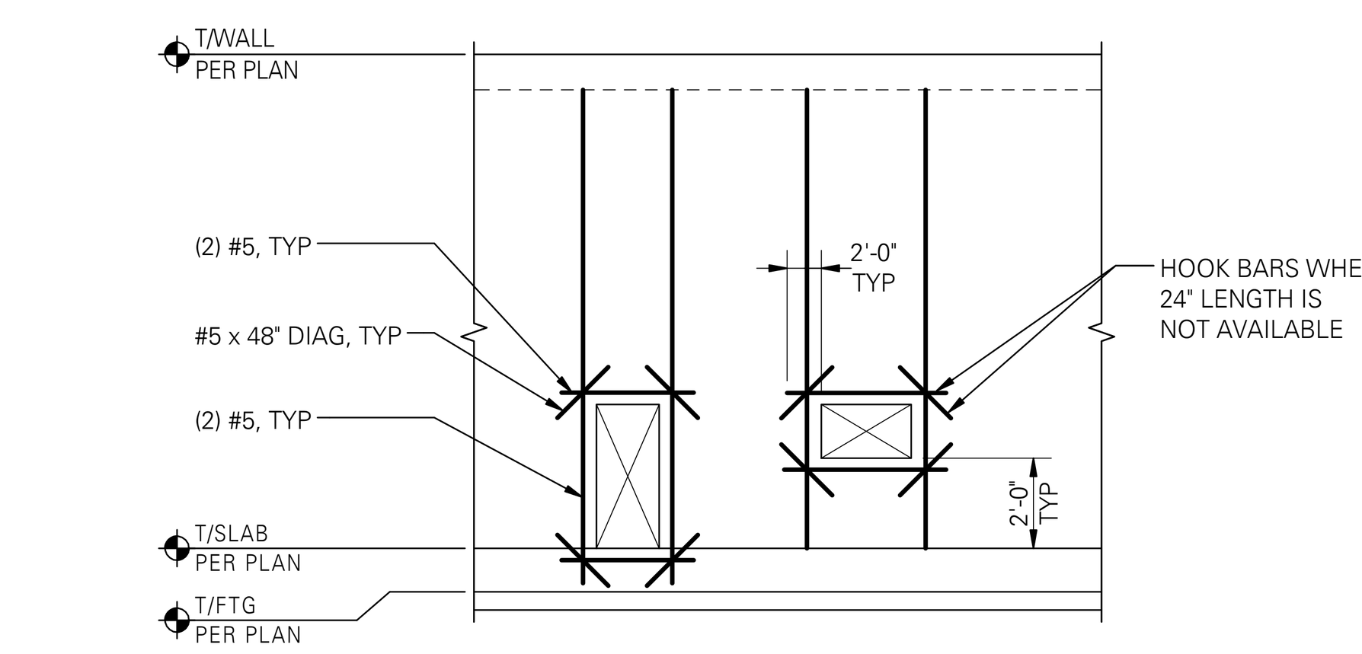
NOTES:
1. USE "EARLY ENTRY DRY-CUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST.
2. ALIGN A CONSTRUCTION OR CONTROL JOINT WITH RE-ENTRANT SLAB CORNERS, EACH WAY, TYPICAL.
3. CONSTRUCTION/CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS 225 SQUARE FEET MAXIMUM, WITH MAXIMUM PANEL ASPECT RATIO OF 1.3 TO 1.0.
4. CONTRACTOR TO SUBMIT CONSTRUCTION/CONTROL JOINT PLAN TO STRUCTURAL ENGINEER OF RECORD FOR REVIEW/APPROVAL.

7 TYPICAL SLAB ON GRADE JOINT DETAILS WITH REINFORCING
SCALE: 3/4" = 1'-0" (03201)



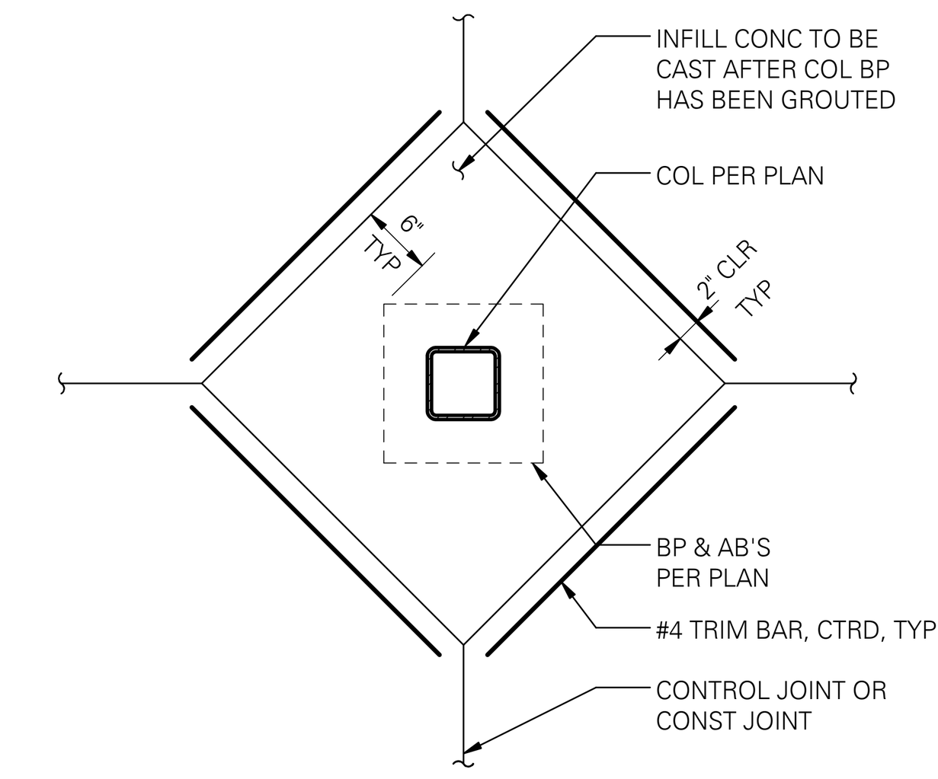
NOTES:
1. SPLICE LENGTHS PER LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE.
2. WALL REINFORCING PER PLAN OR ELEVATIONS, SECTIONS AND DETAILS.
3. AT FOOTINGS AND STEMWALLS, CORNER REINFORCING TO MATCH FOOTING AND STEMWALL HORIZONTAL REINFORCING.

8 PLAN - TYPICAL CORNER REINFORCING AT CONCRETE WALLS
SCALE: 3/4" = 1'-0" (03403-DOUBLE MAT)

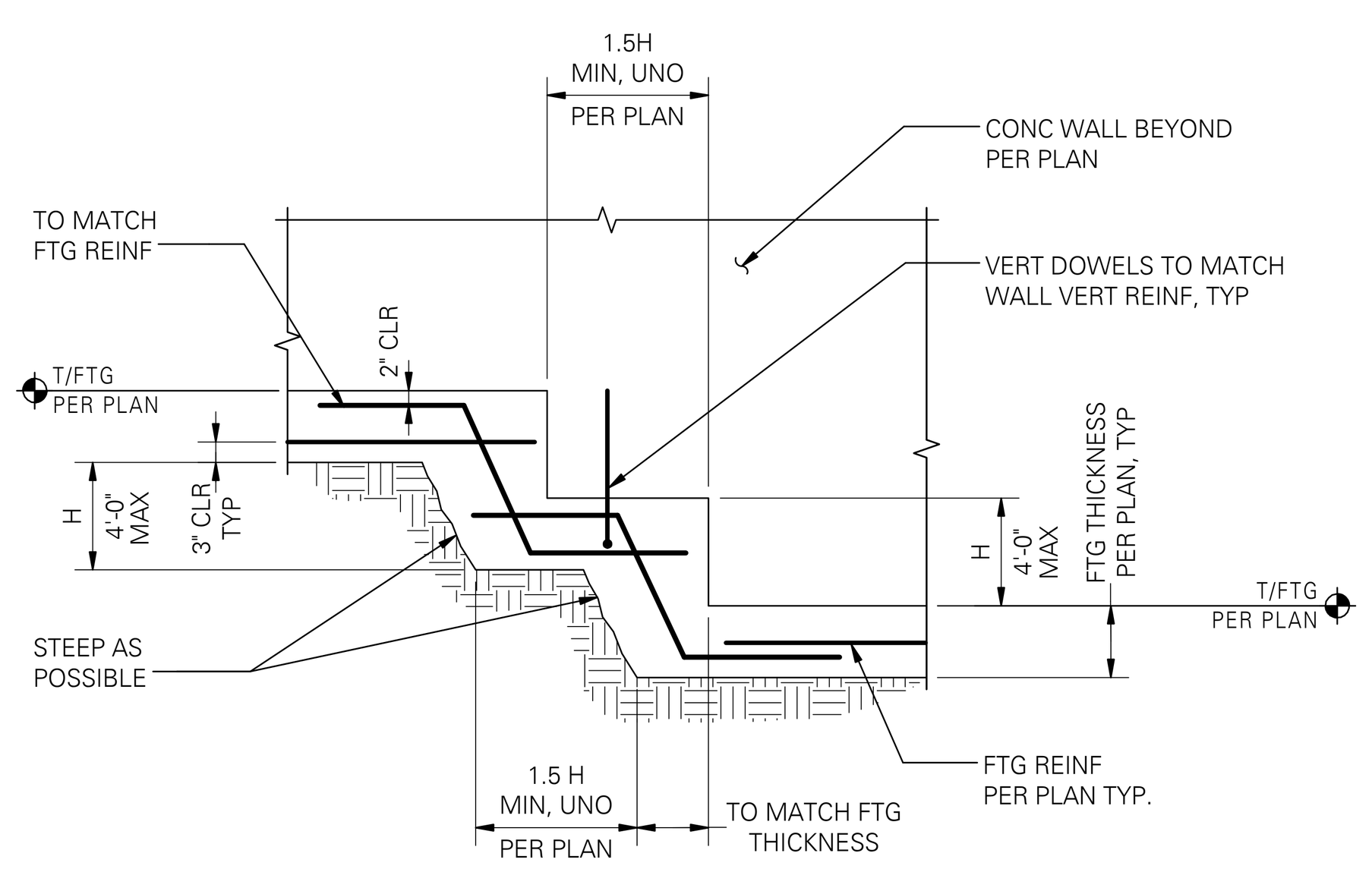


NOTE:
PROVIDE (2) #5 x 48" DIAGONAL BARS AT WALLS 10" OR THICKER.

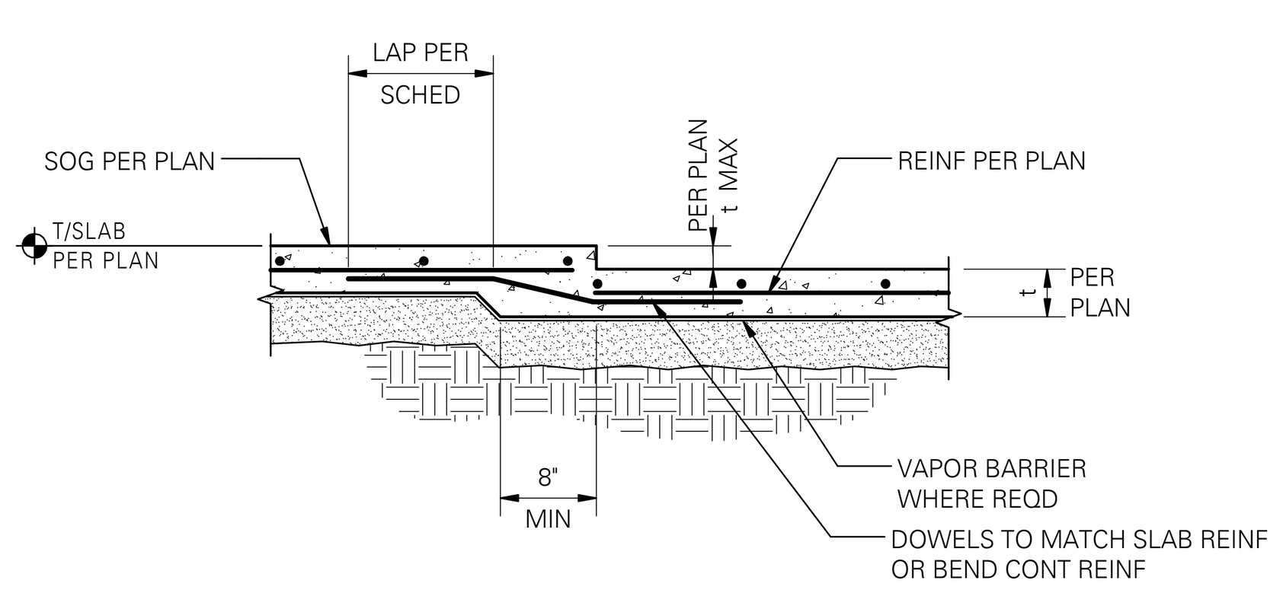
9 ELEVATION - TYPICAL CONCRETE WALL OPENING REINFORCING
SCALE: 3/4" = 1'-0" (03401M)



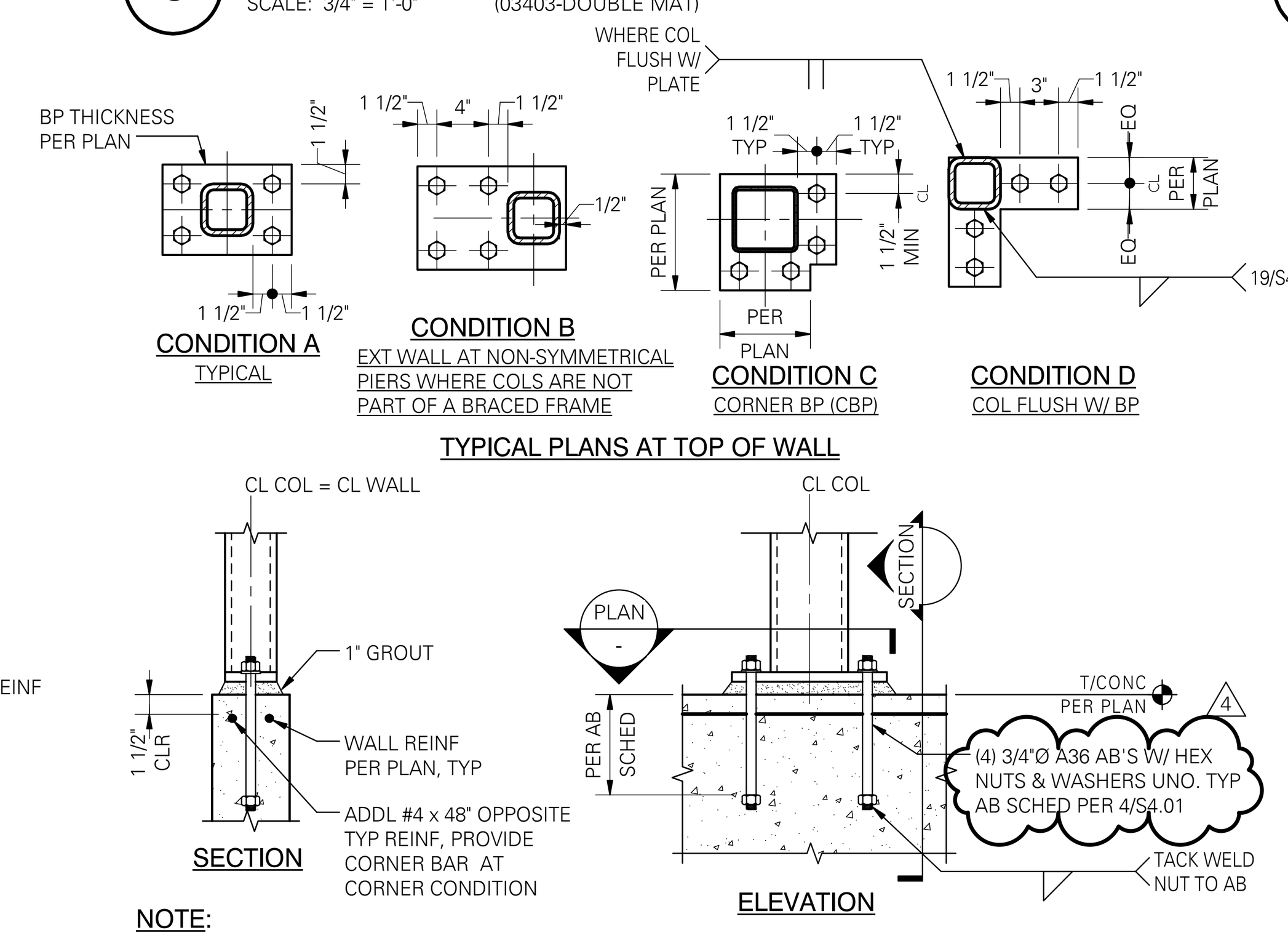
10 PLAN - TYPICAL CONTROL JOINT AT HSS COLUMNS
SCALE: 3/4" = 1'-0" (03212)



11 TYPICAL STEPPED FOOTING
SCALE: 3/4" = 1'-0" (03901)

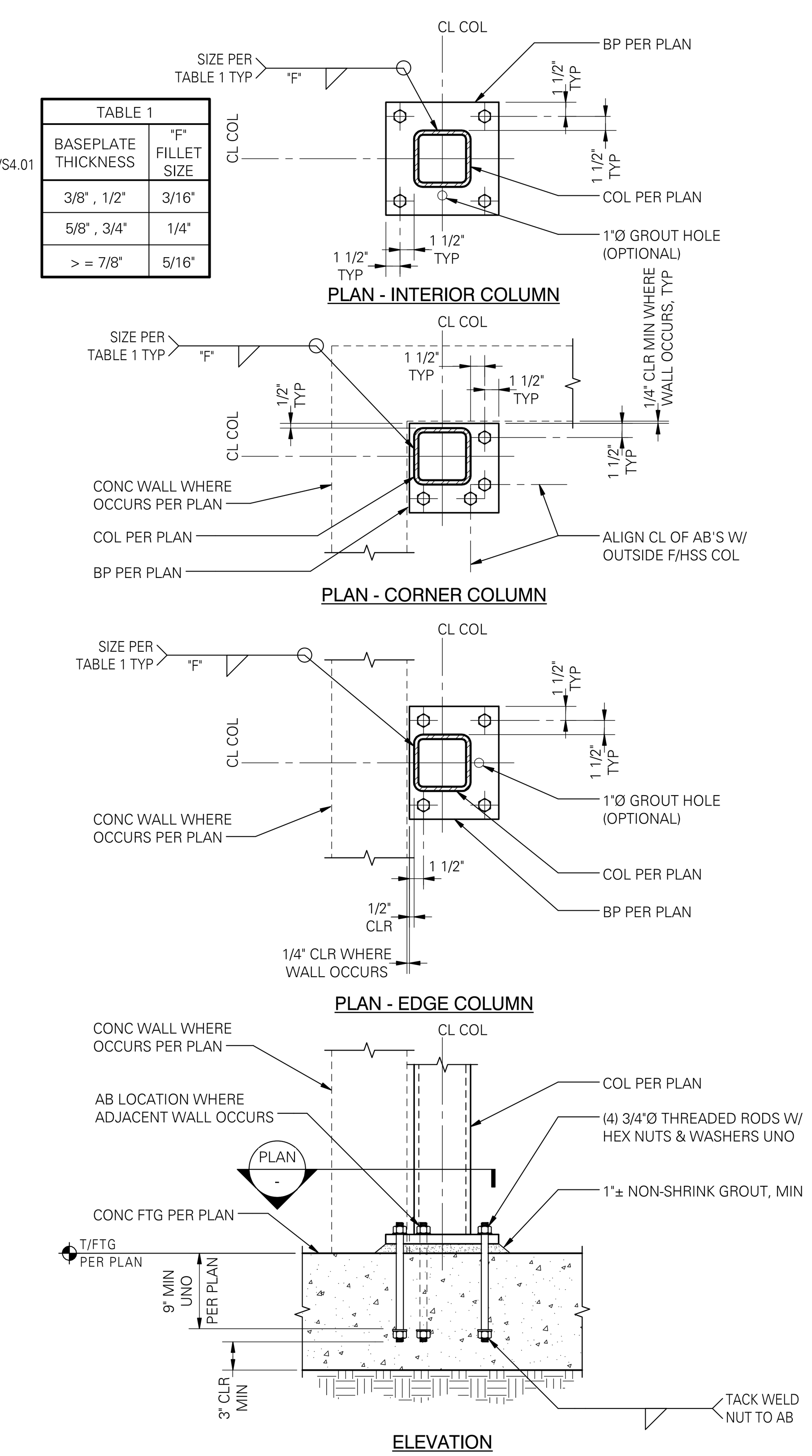


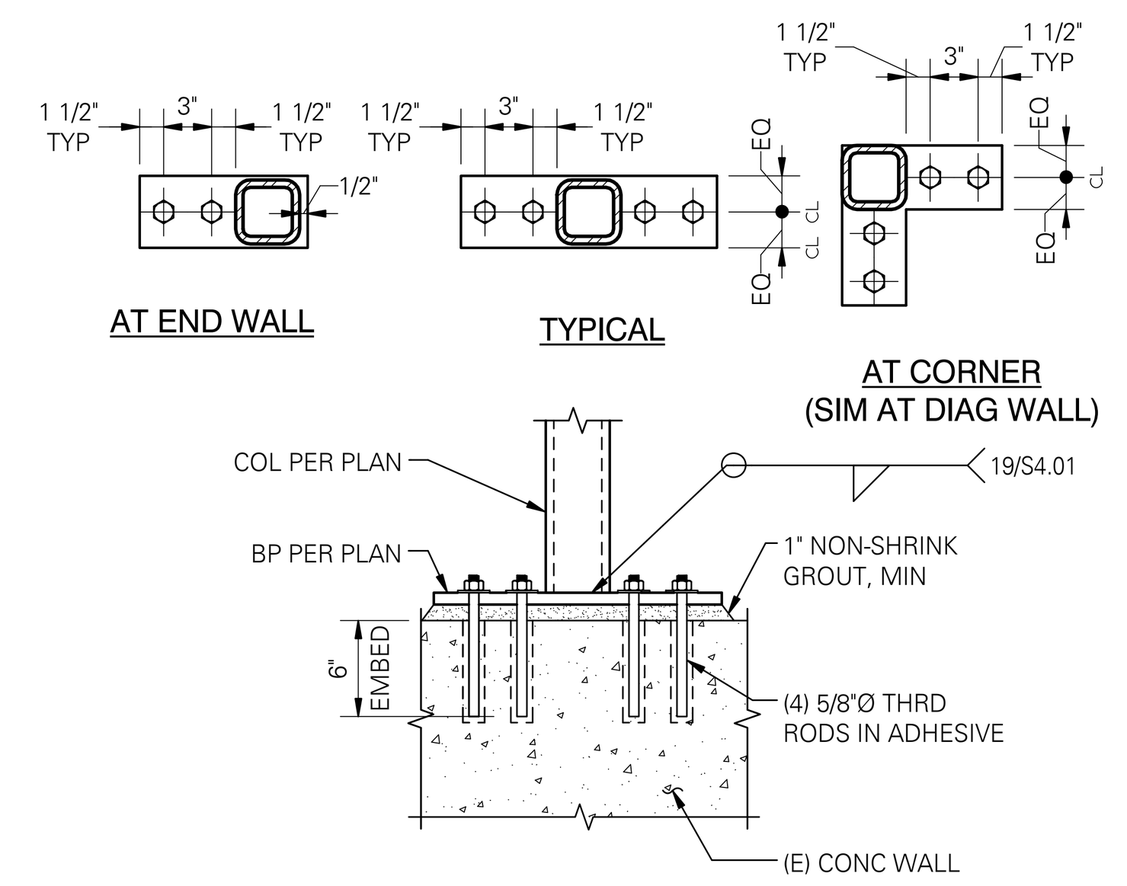
12 TYPICAL DEPRESSED SLAB DETAIL
SCALE: 3/4" = 1'-0" (03202)



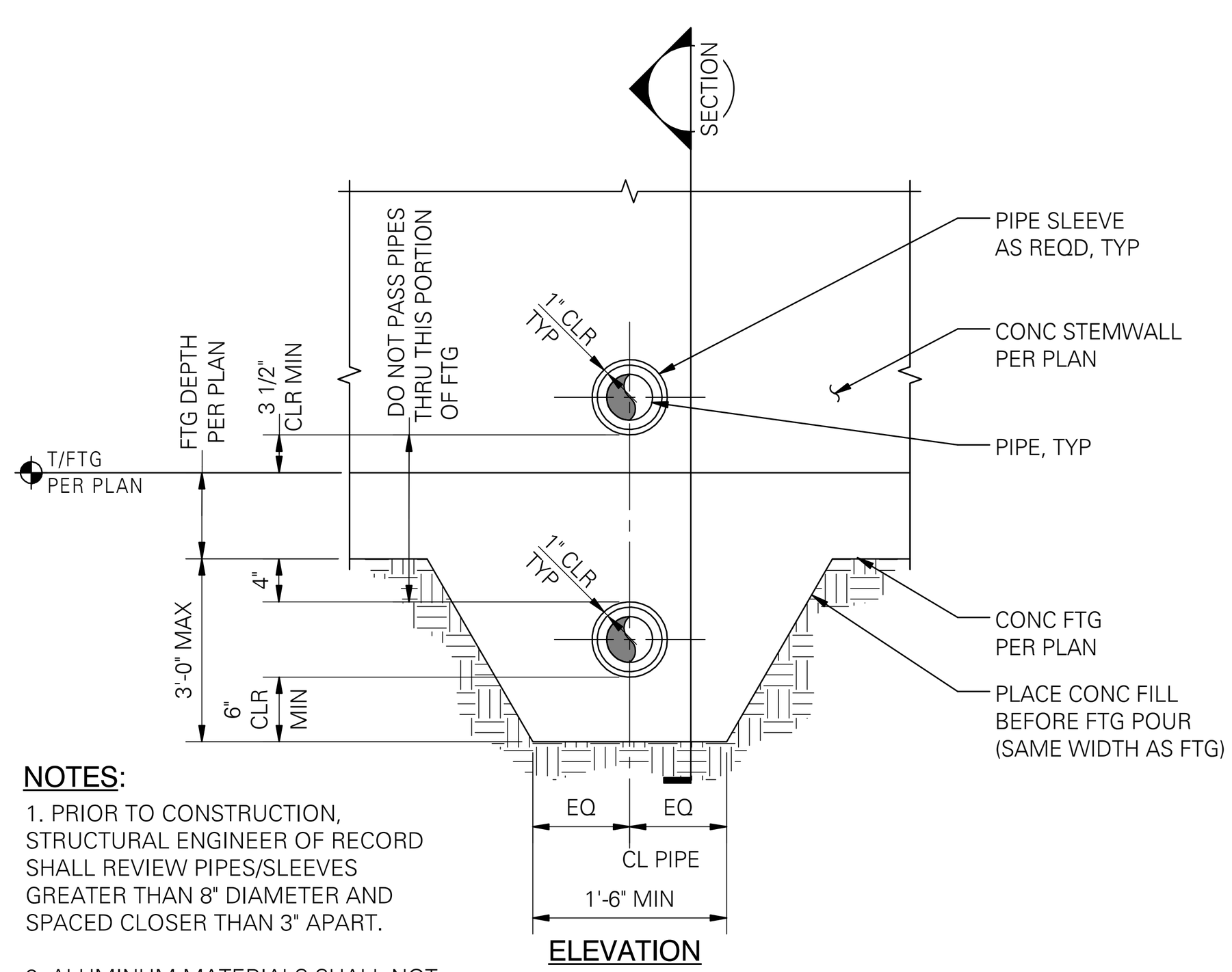
NOTE:
AT EXISTING CONCRETE PROVIDE 3/4"Ø THRD ROD EMBED 6" IN ADHESIVE.

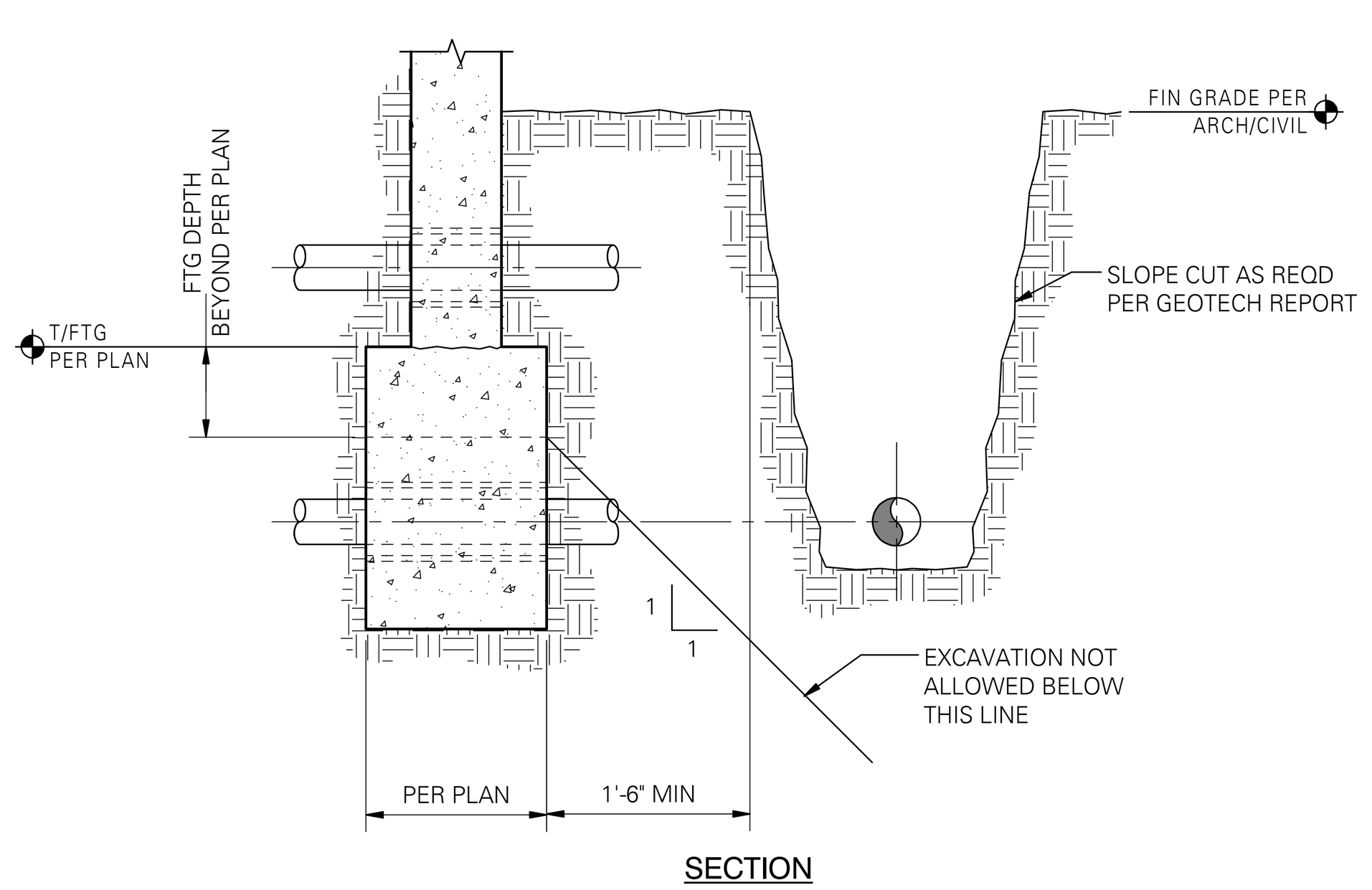
13 TYPICAL BASEPLATE TO CONCRETE WALL CONNECTION - HSS COLUMN
SCALE: 1" = 1'-0" (05032M)





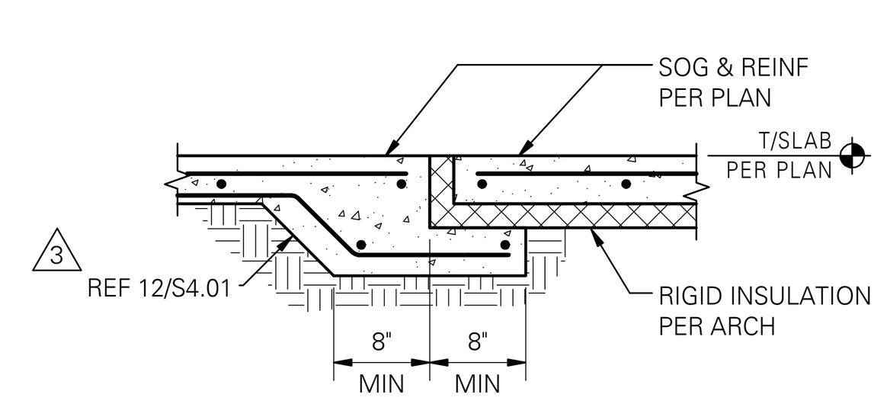
15 COLUMN BASEPLATE AT EXISTING STEMWALL
SCALE: 1" = 1'-0"





NOTES:
1. PRIOR TO CONSTRUCTION, STRUCTURAL ENGINEER OF RECORD SHALL REVIEW PIPES/SLEEVES GREATER THAN 8" DIAMETER AND SPACED CLOSER THAN 3" APART.
2. ALUMINUM MATERIALS SHALL NOT BE EMBEDDED IN CONCRETE.

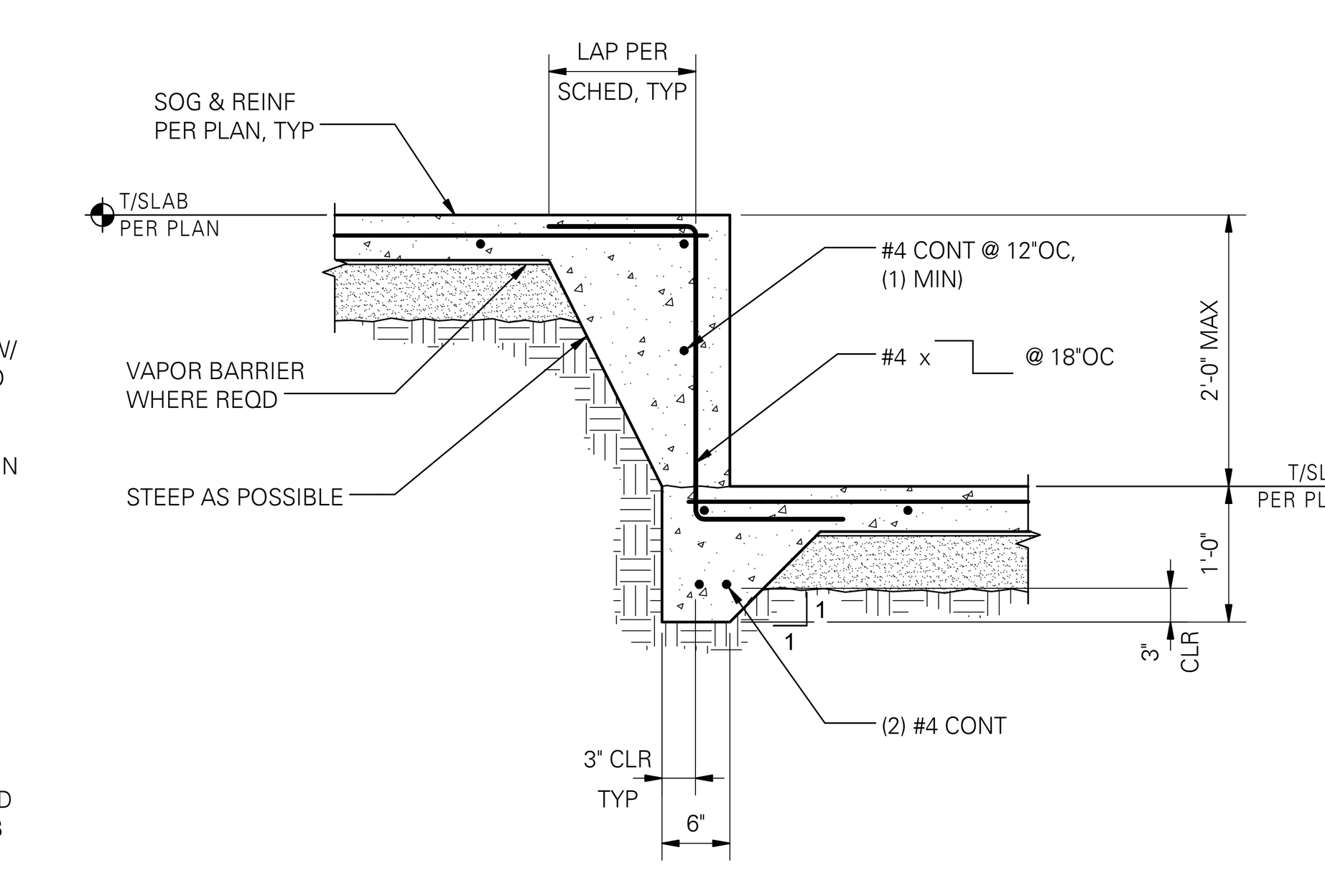
16 TYPICAL PIPE AND TRENCH LOCATIONS AT CONCRETE STEMWALL/FOOTING
SCALE: 3/4" = 1'-0" (03906)



NOTE:
1. REFERENCE ARCH & MECHANICAL FOR EXTENT OF RADIANT FLOOR.
2. REFERENCE ARCH FOR LOCATION OF THIS DETAIL.

18 SLAB ON GRADE JOINT AT RADIANT FLOOR
SCALE: 3/4" = 1'-0"

19 TYPICAL BASEPLATE TO FOUNDATION CONNECTION - HSS COLUMN
SCALE: 1" = 1'-0" (05030)



20 TYPICAL STEP AT SLAB ON GRADE
SCALE: 3/4" = 1'-0" (03202A)

REVISIONS
3 ADDENDUM 3 02-19-16
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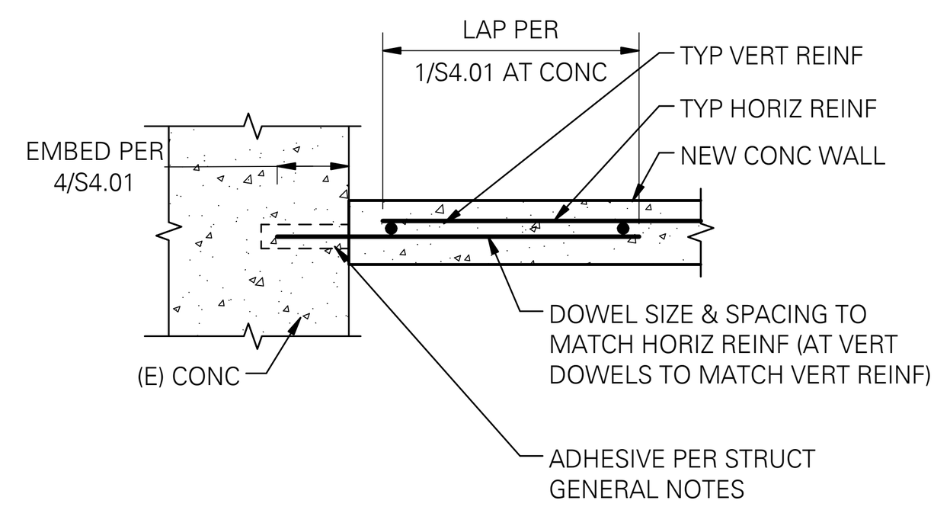
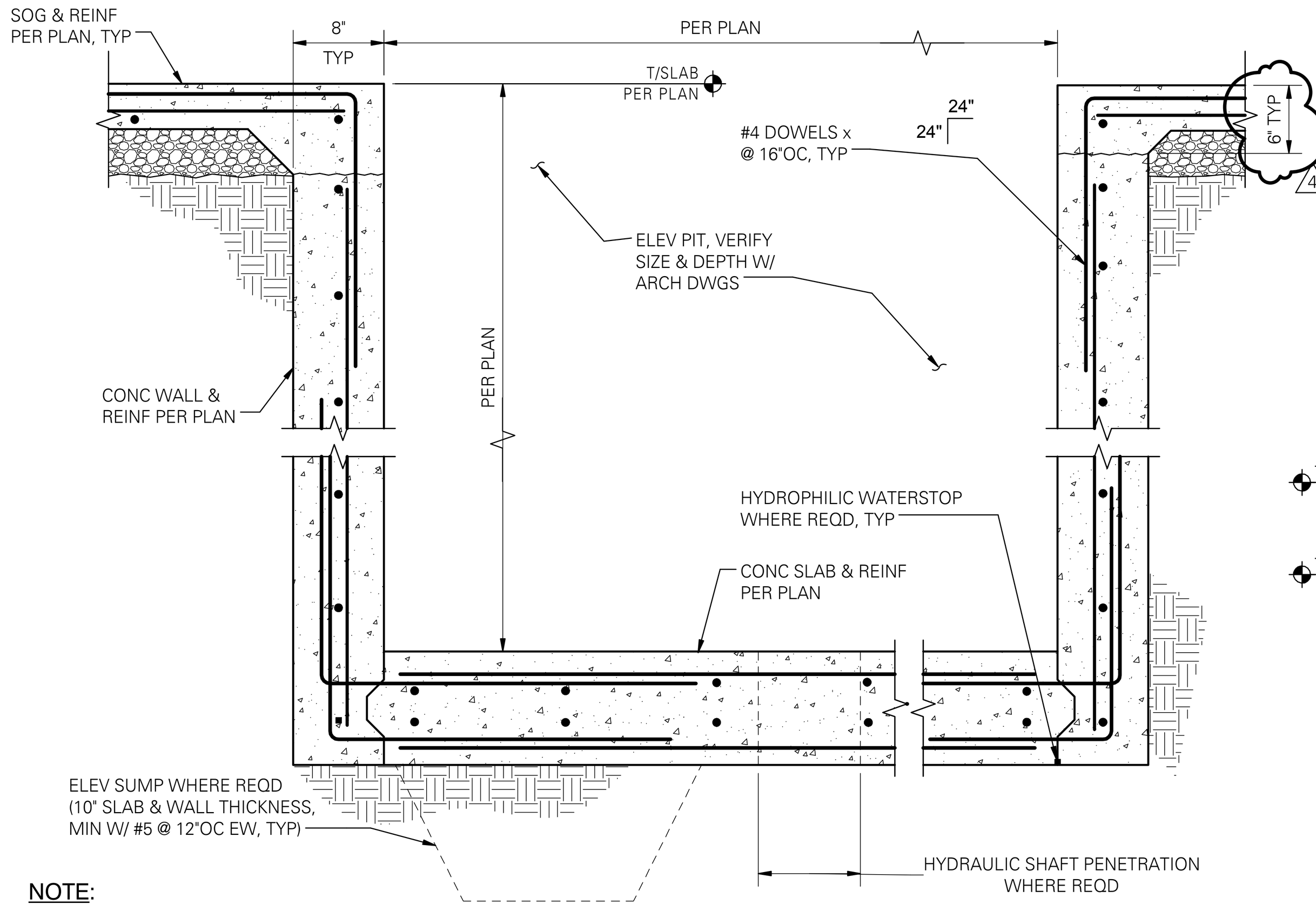
FOUNDATION DETAILS
CD
S4.01

3/2/2016 11:12:05 AM C:_localrevit\NCHS Phase 2-Struct-X_DCI-SPO-63_jjustice.rvt



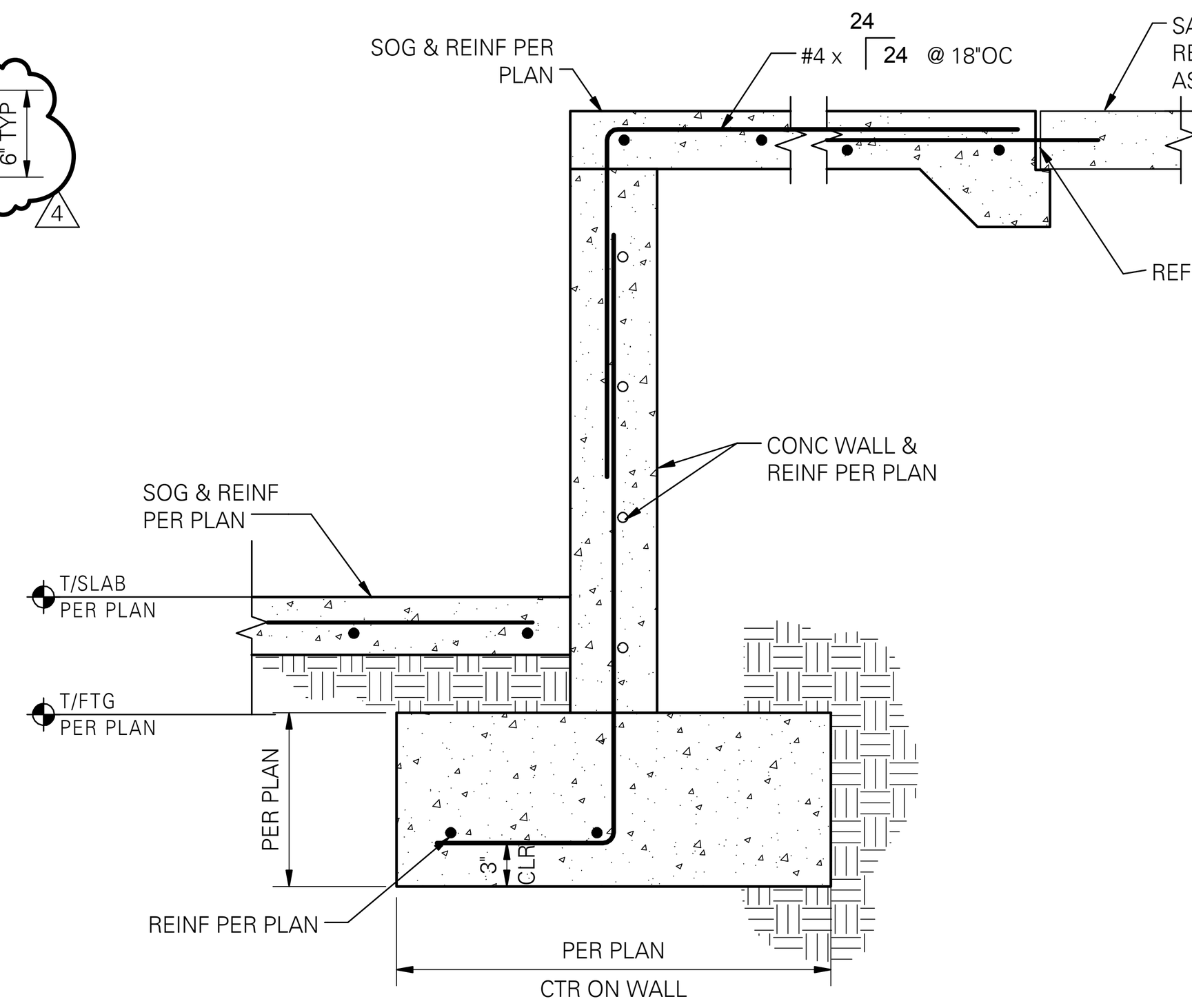
NOTE:
SIMILAR AT NEW FOOTINGS TO EXISTING FOOTINGS.

1 TYPICAL NEW CONCRETE TO EXISTING CONCRETE
SCALE: 1" = 1'-0"

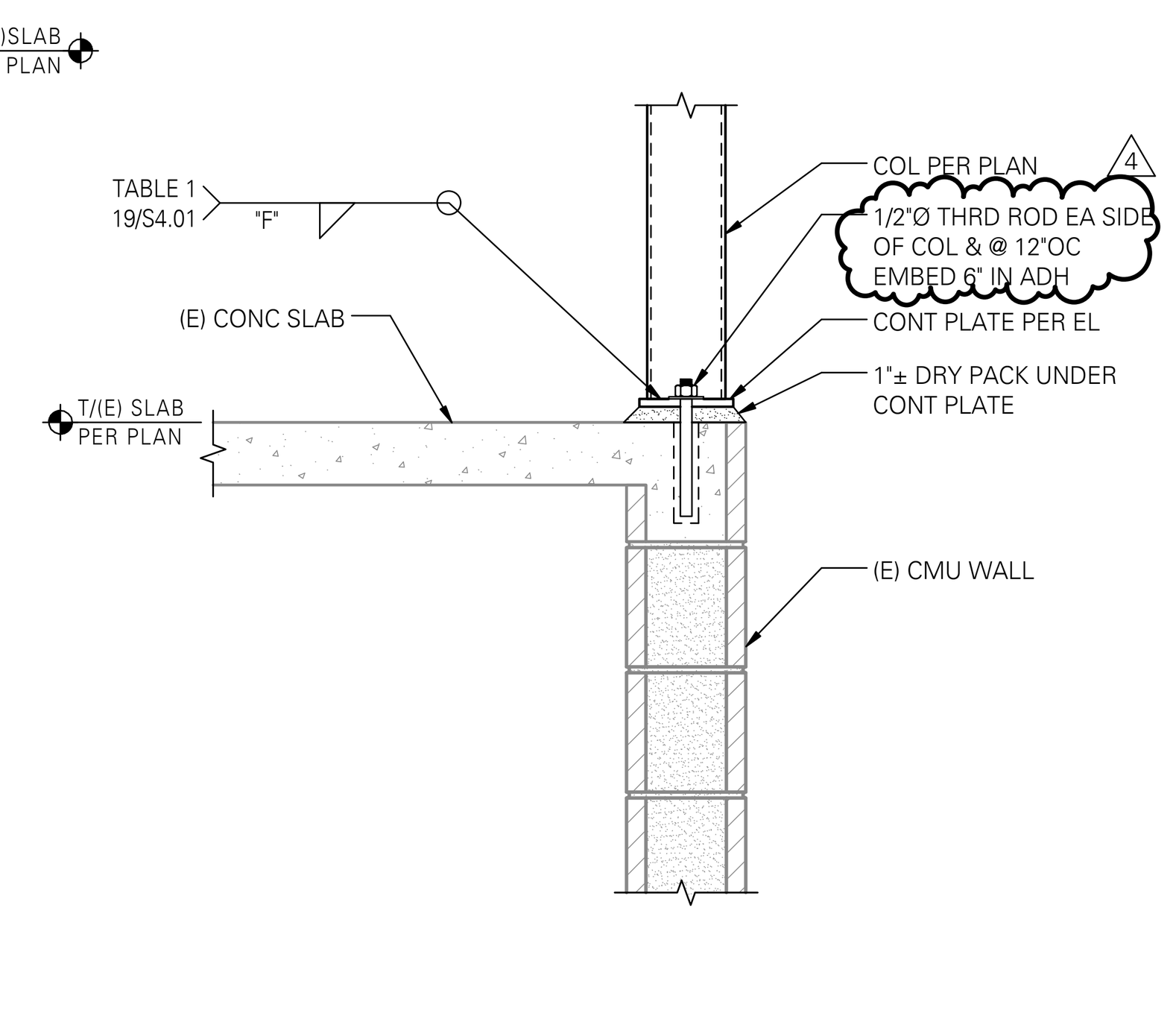


NOTE:
1. PROVIDE MISCELLANEOUS METALS AS REQUIRED BY ELEVATOR MANUFACTURER.
2. REFERENCE 7/S4.04 FOR ANGLE AT DOORS PER ELEVATOR MANUFACTURER.
3. REFERENCE 12/S4.04 FOR ADDITIONAL INFORMATION.

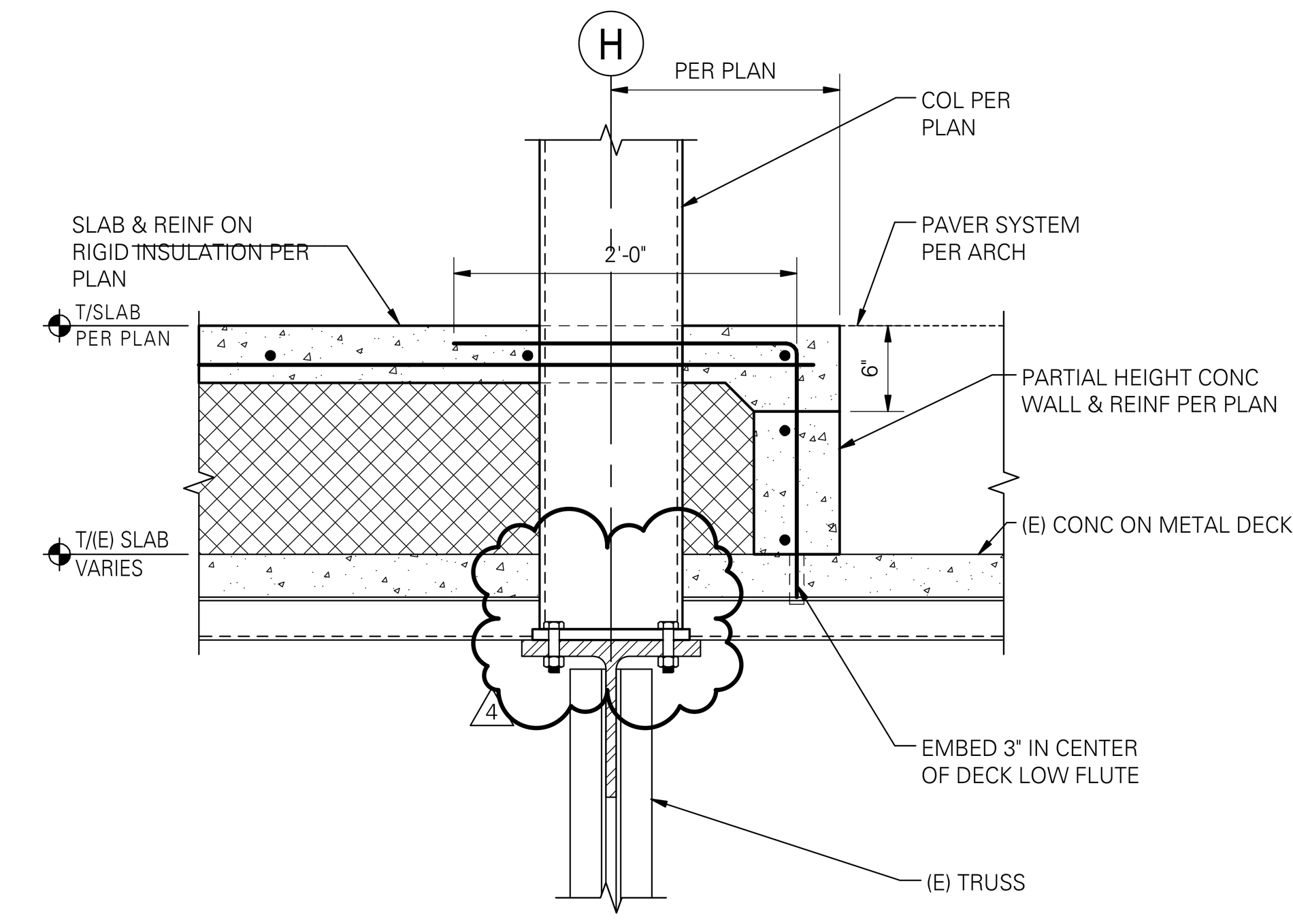
2 ELEVATOR PIT SECTION
SCALE: 1" = 1'-0"



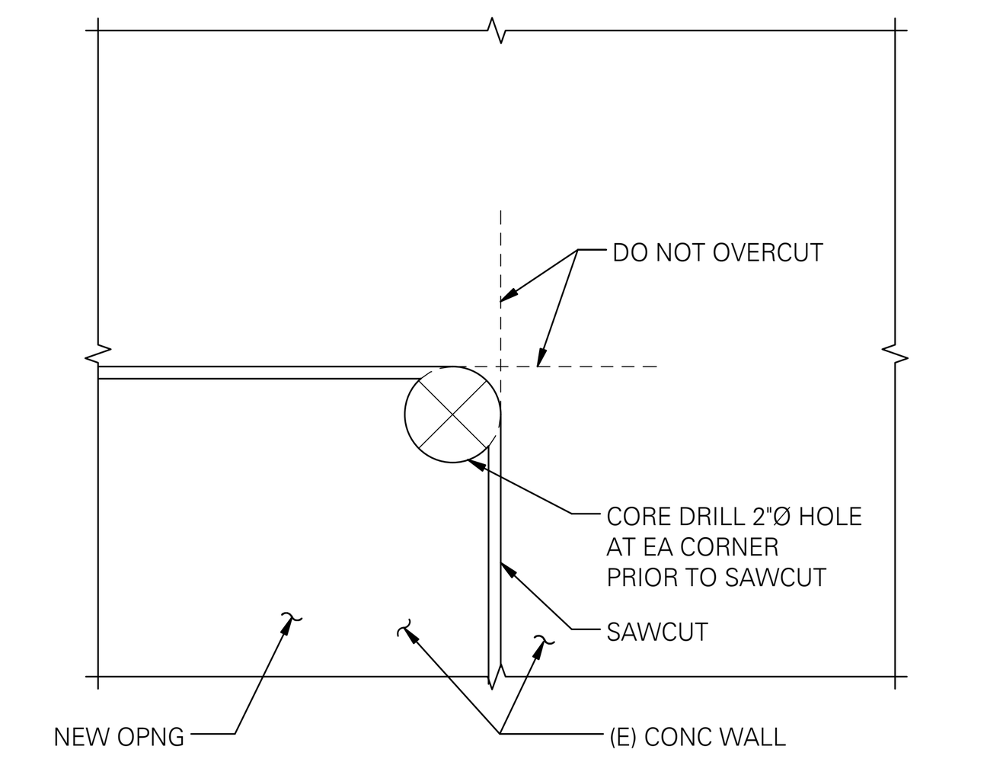
3 STEM WALL AT BLACK BOX
SCALE: 1" = 1'-0"



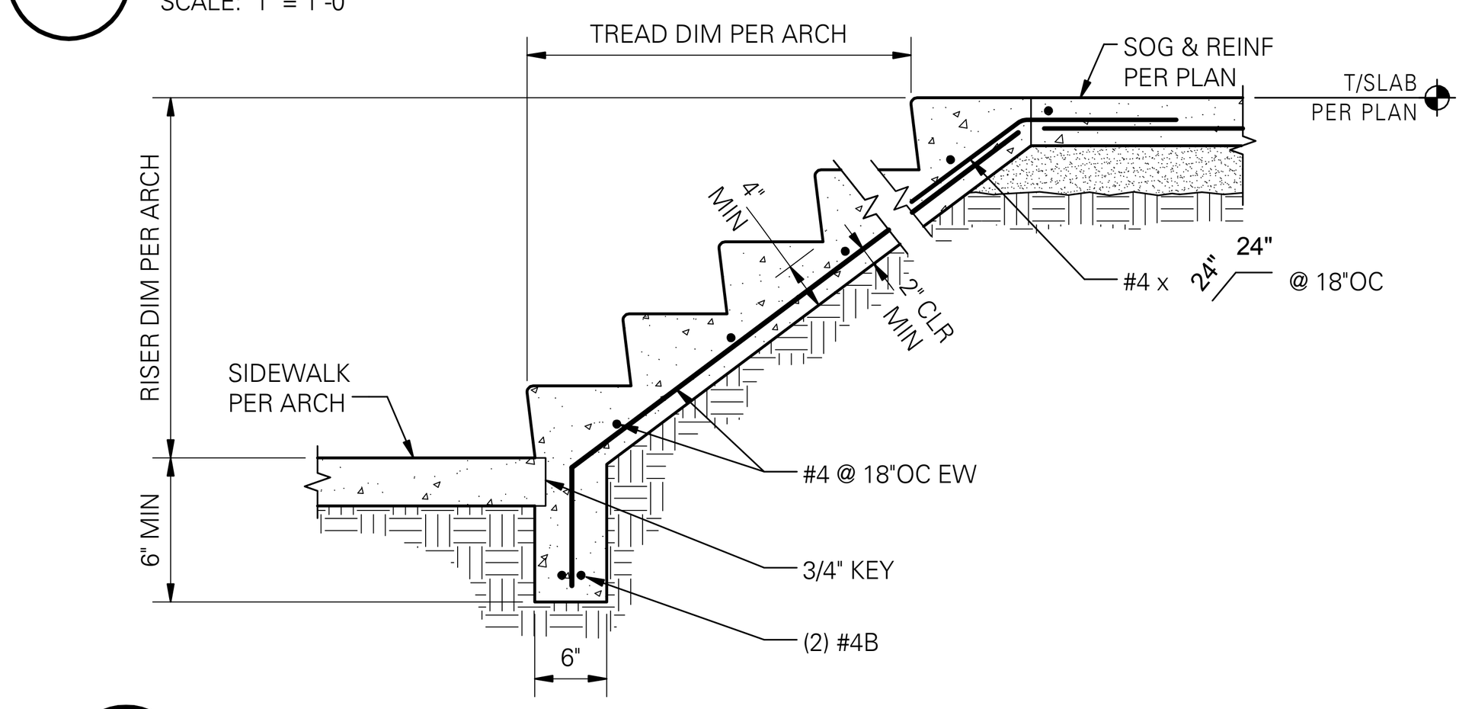
4 GRID H COLUMN TO EXISTING CMU WALL
SCALE: 1" = 1'-0"



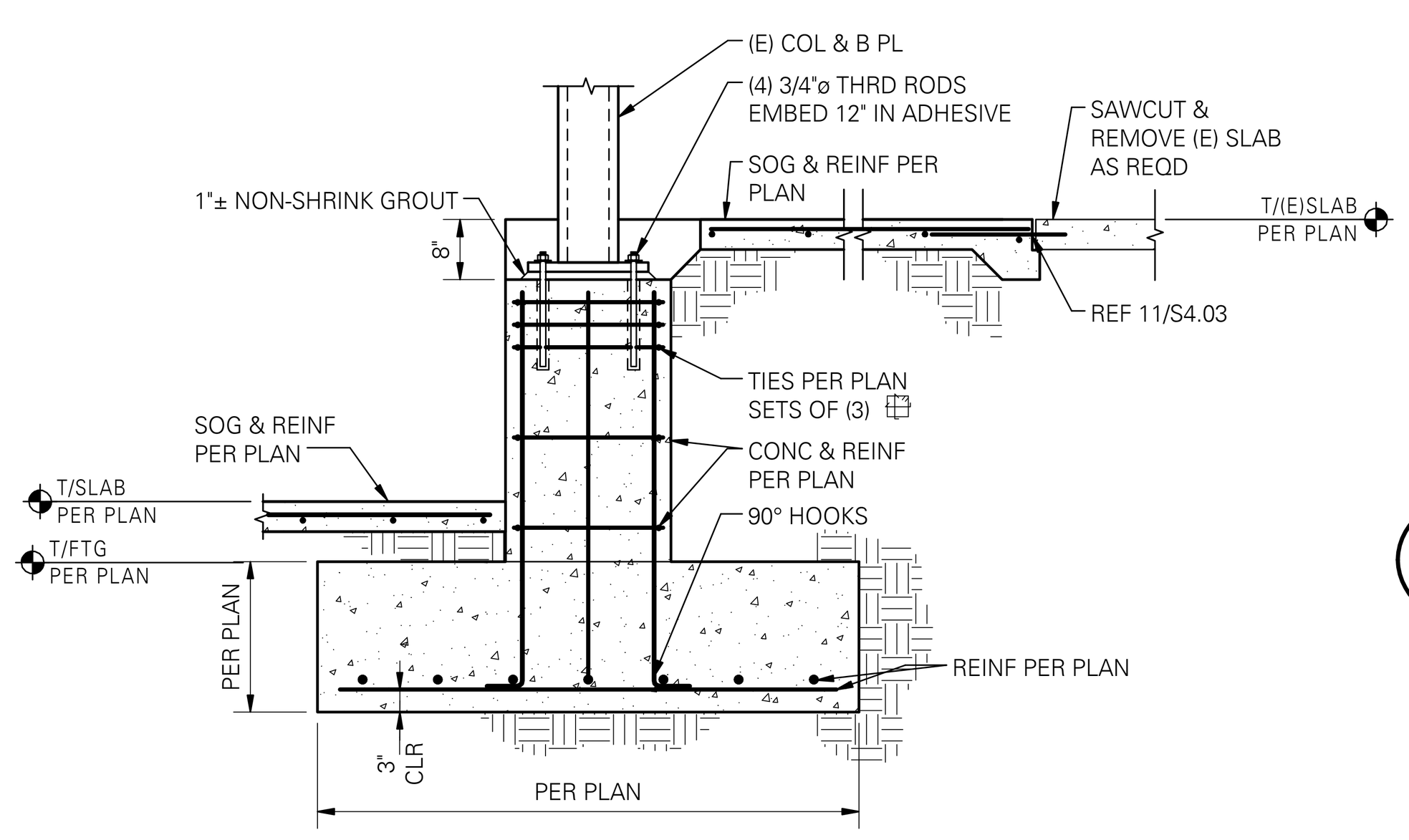
5 COLUMN AT EXISTING TRUSS
SCALE: 1" = 1'-0"



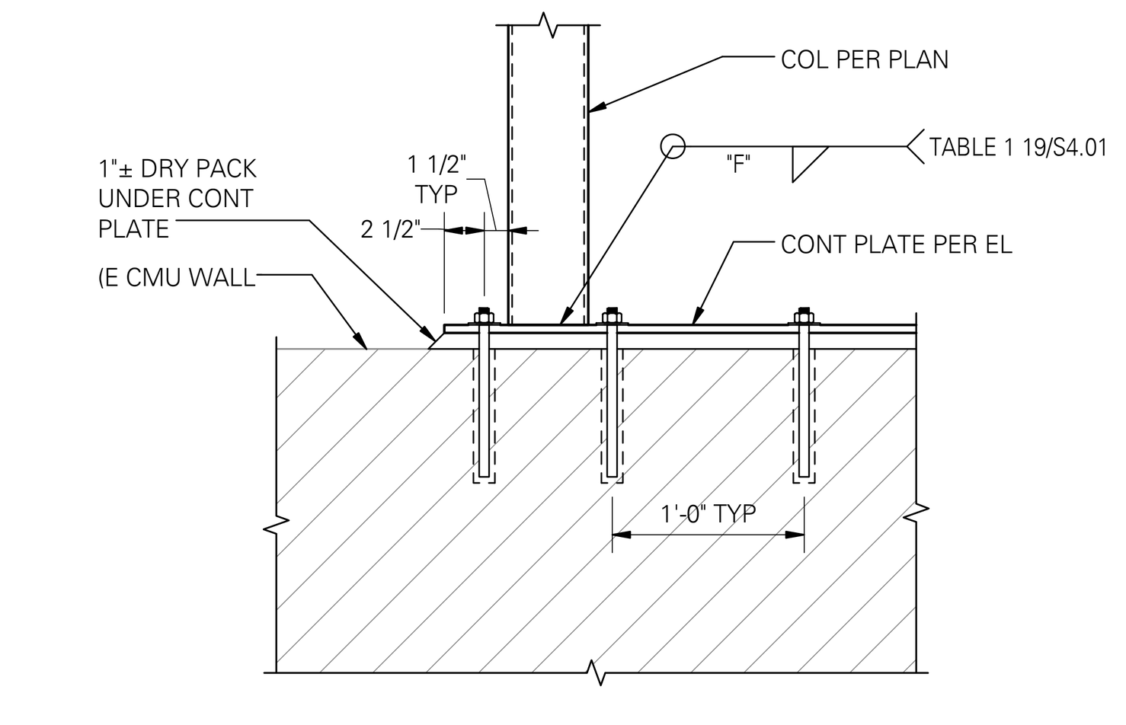
6 TYPICAL SAWCUT IN EXISTING CONCRETE WALL OR SLAB
SCALE: 3" = 1'-0" (03405)



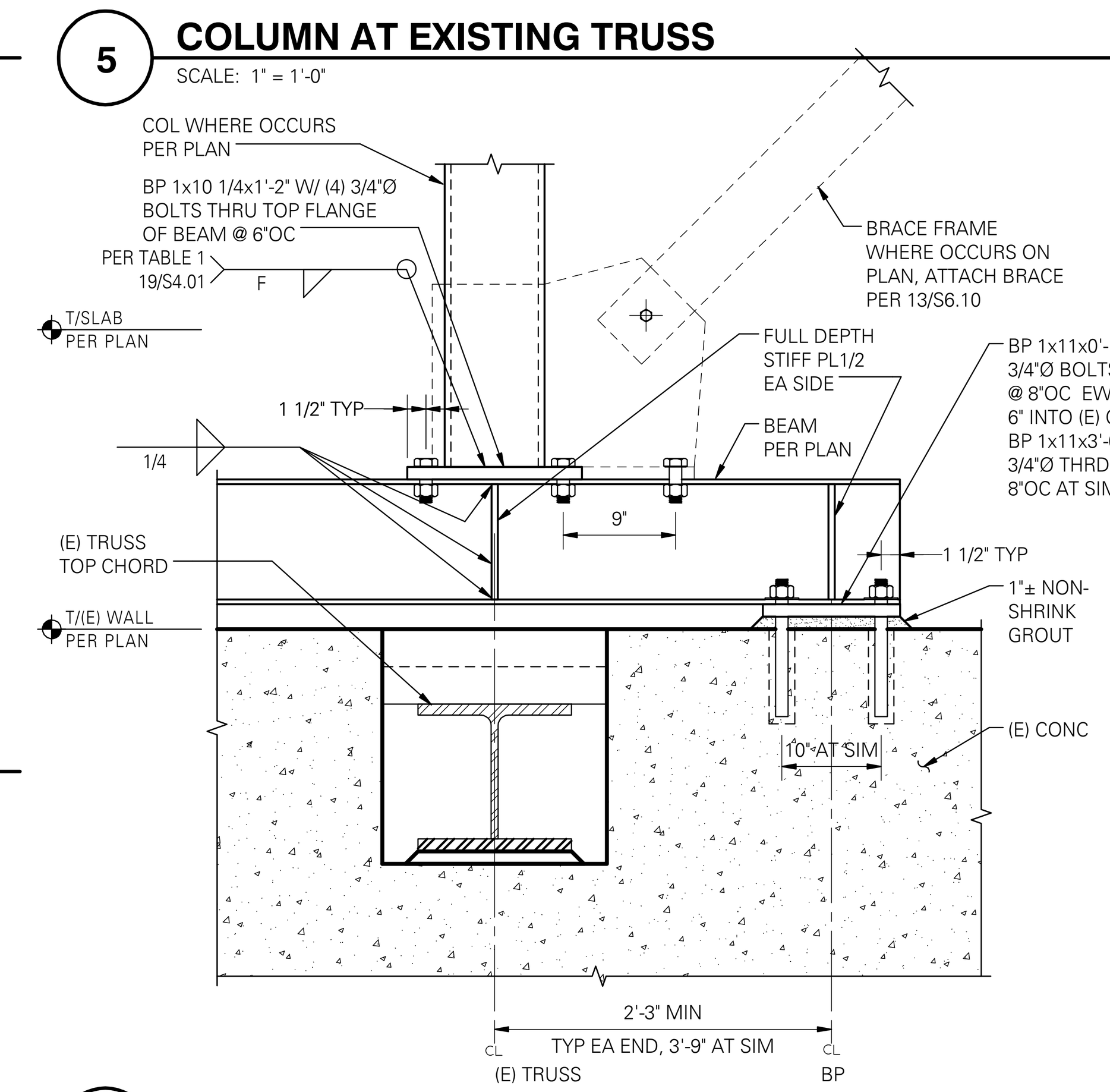
7 TYPICAL STAIR ON GRADE
SCALE: 3/4" = 1'-0"



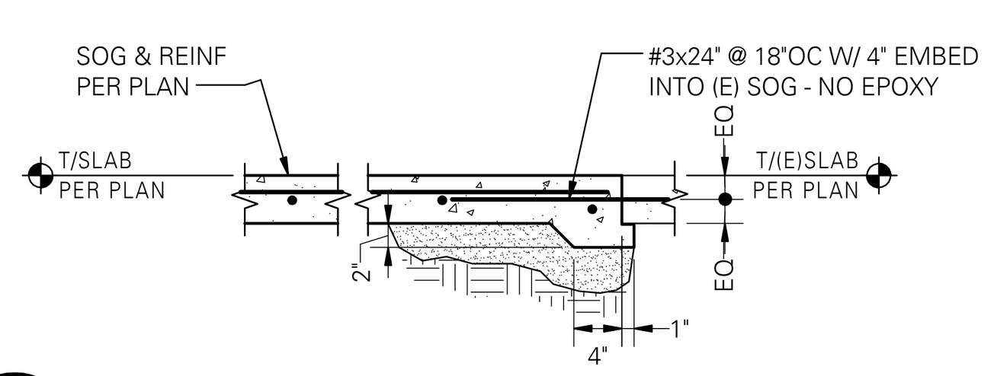
8 EXISTING COLUMN AT NEW FOOTING
SCALE: 1/2" = 1'-0"



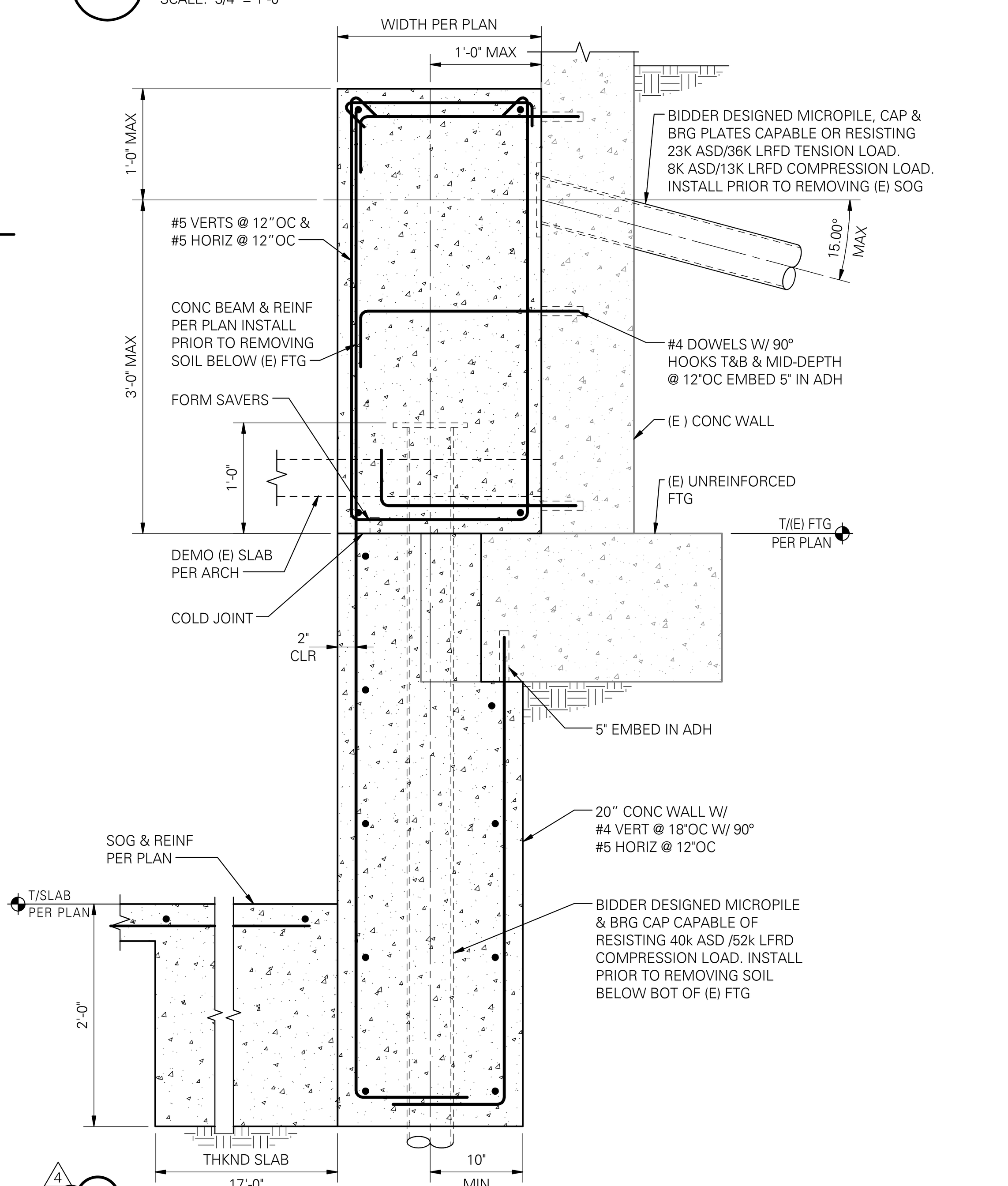
9 GRID H COLUMN TO EXISTING CMU WALL
SCALE: 1" = 1'-0"



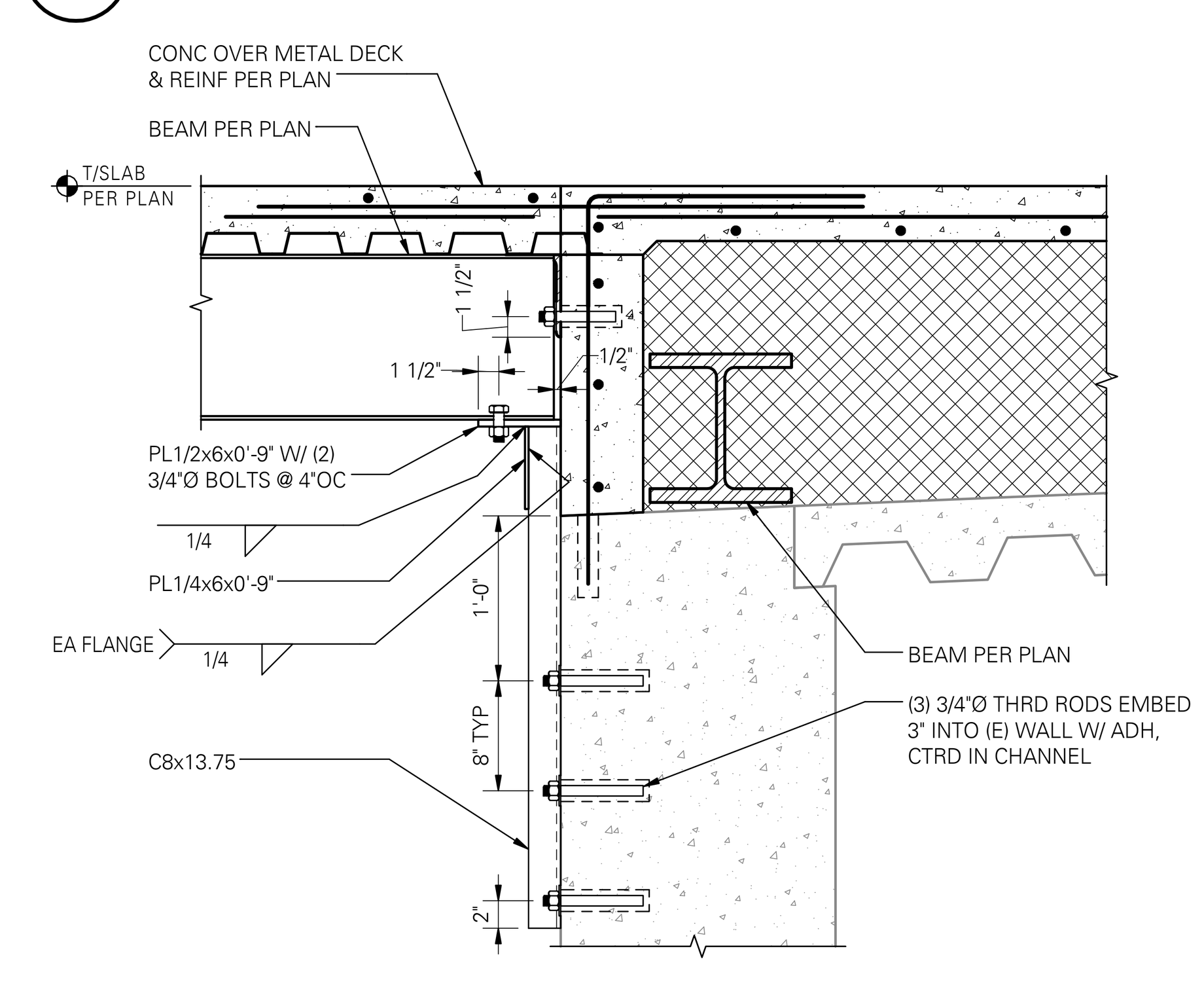
10 BEAM OVER EXISTING TRUSS
SCALE: 1" = 1'-0"



11 NEW/EXISTING SLAB JOINT
SCALE: 3/4" = 1'-0"

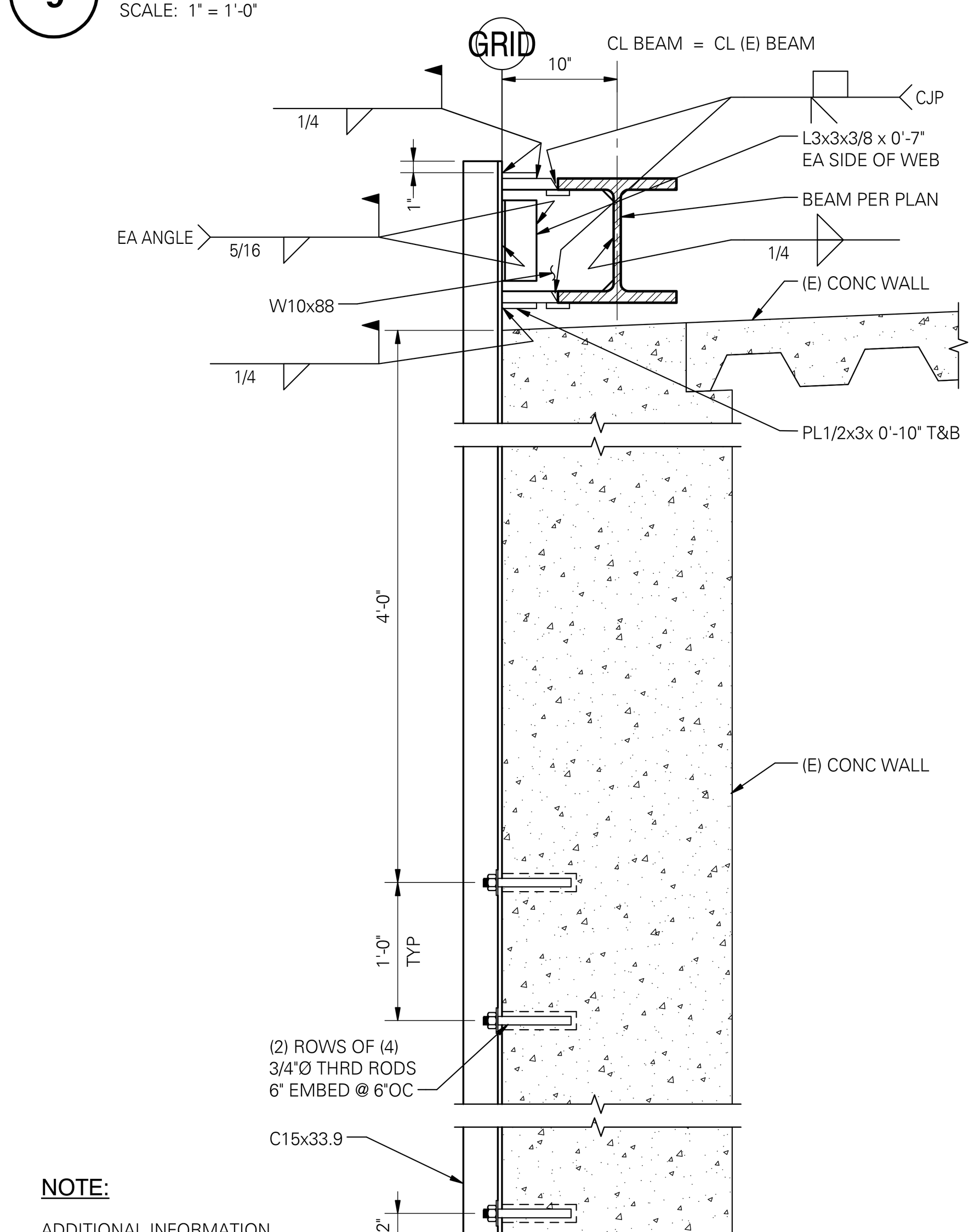


12 MICROPILES AT EXISTING WALL
SCALE: 1" = 1'-0"



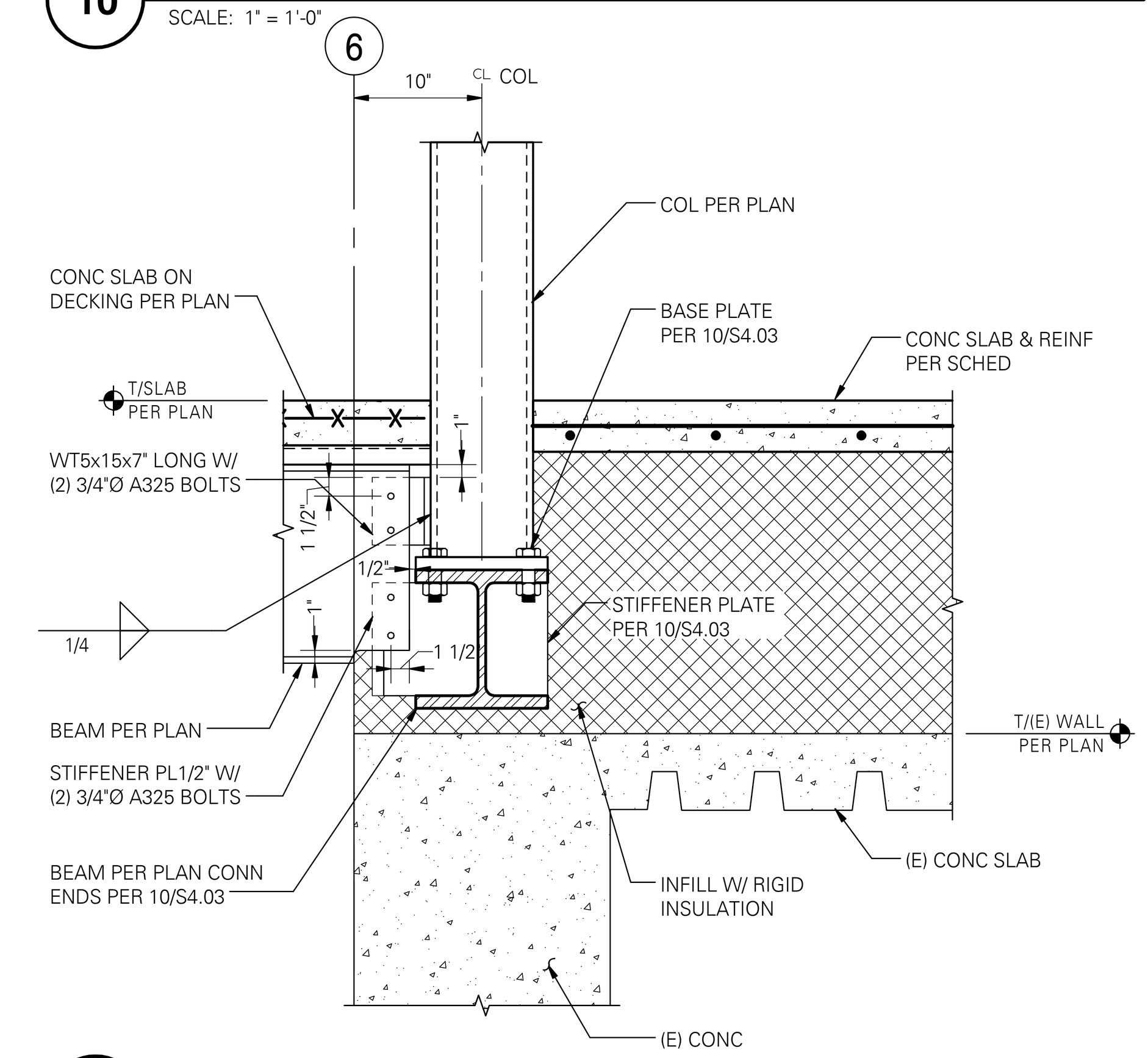
NOTE:
ADDITIONAL INFORMATION PER 16/S4.03.

13 TYPICAL CONCRETE WALL TO EXISTING WALL
SCALE: 1" = 1'-0"

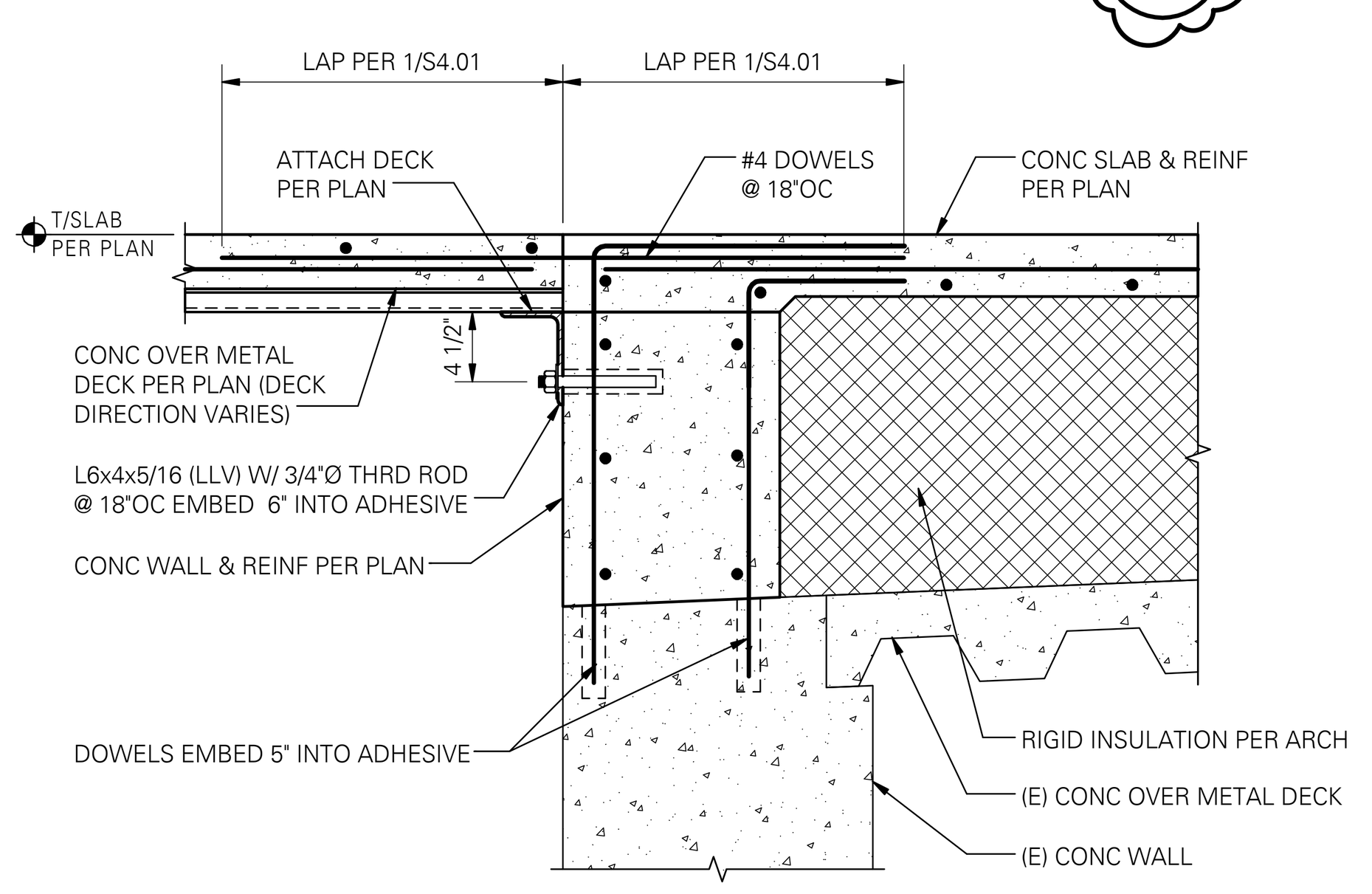


NOTE:
ADDITIONAL INFORMATION PER 10/S4.03.

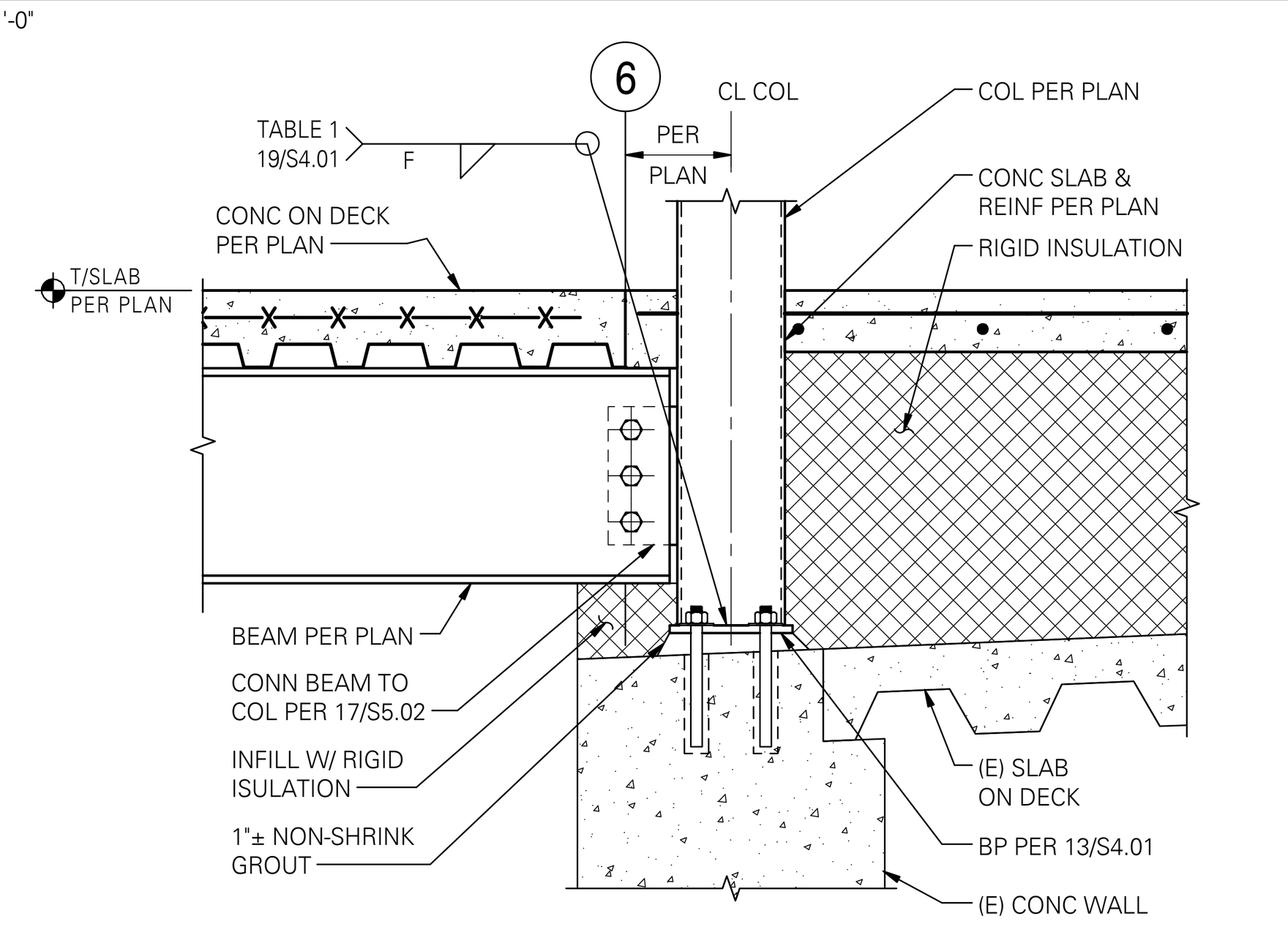
14 BEAM TO EXISTING WALL AT BRACE FRAME
SCALE: 1" = 1'-0"



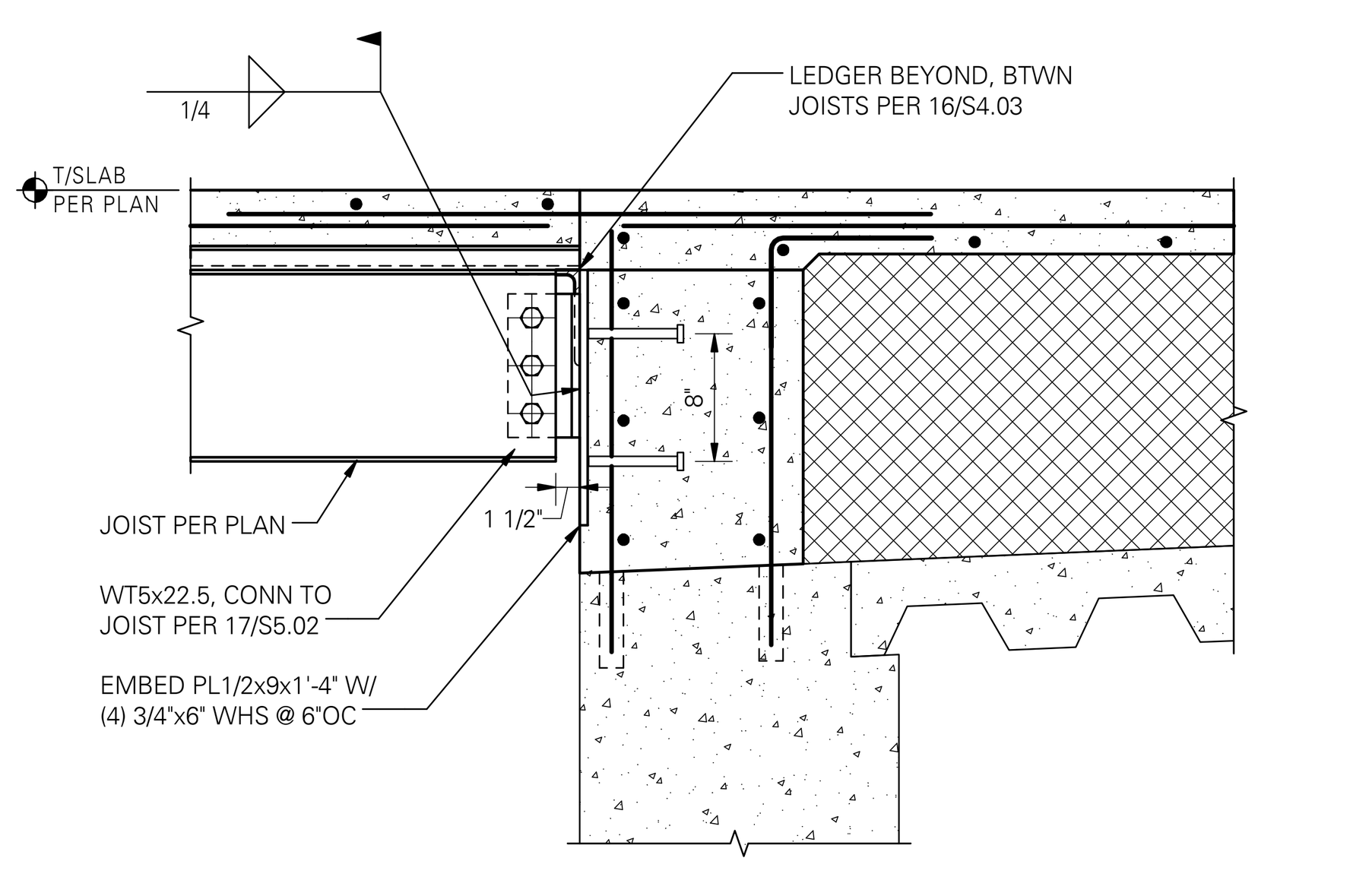
15 BEAM TO COLUMN CONNECTION AT GRID 6 & H.7
SCALE: 1" = 1'-0"



16 TYPICAL CONCRETE WALL TO EXISTING WALL
SCALE: 1" = 1'-0"

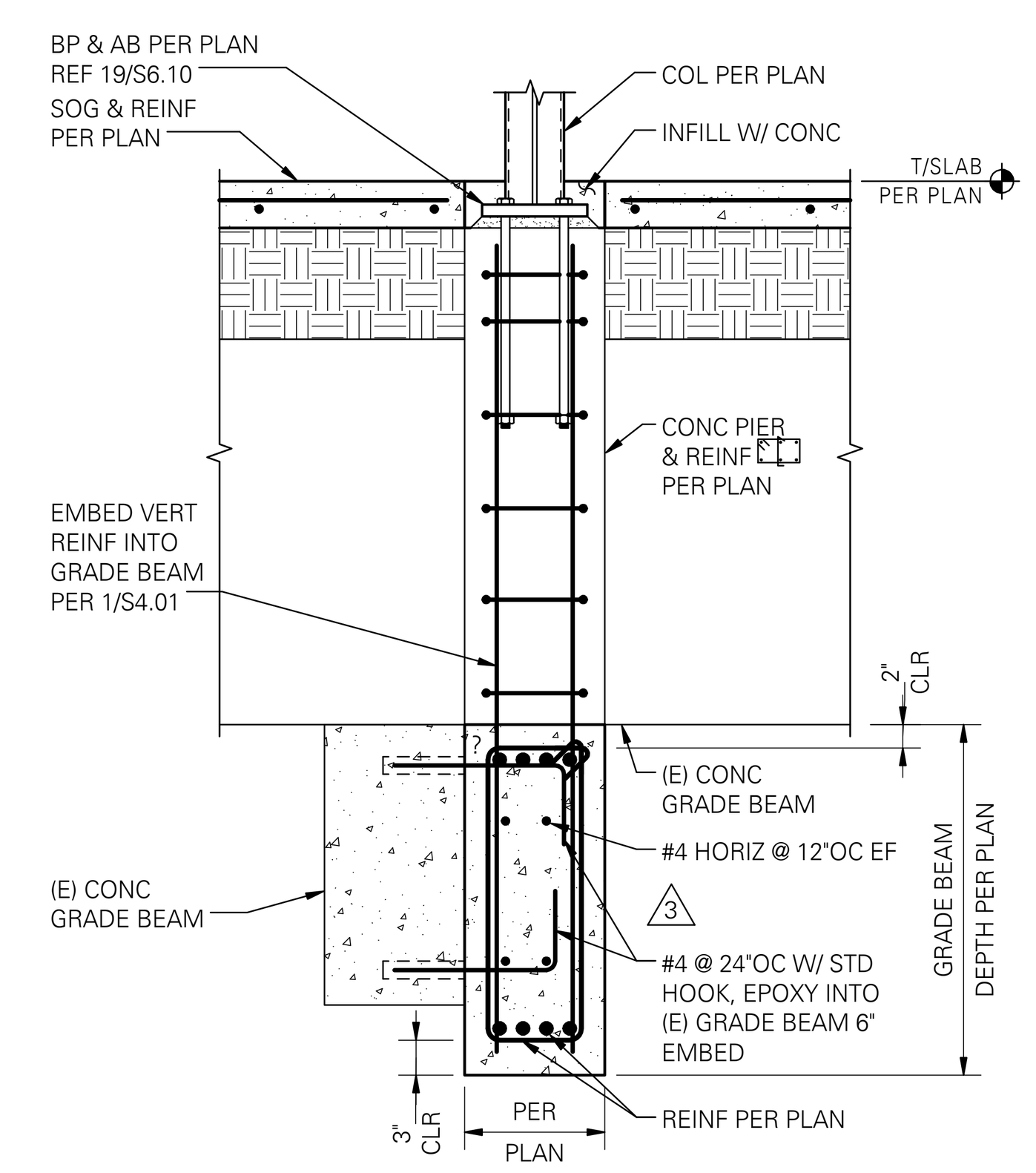


17 COLUMN TO EXISTING WALL AT GRID 6 AND GRID K
SCALE: 1" = 1'-0"

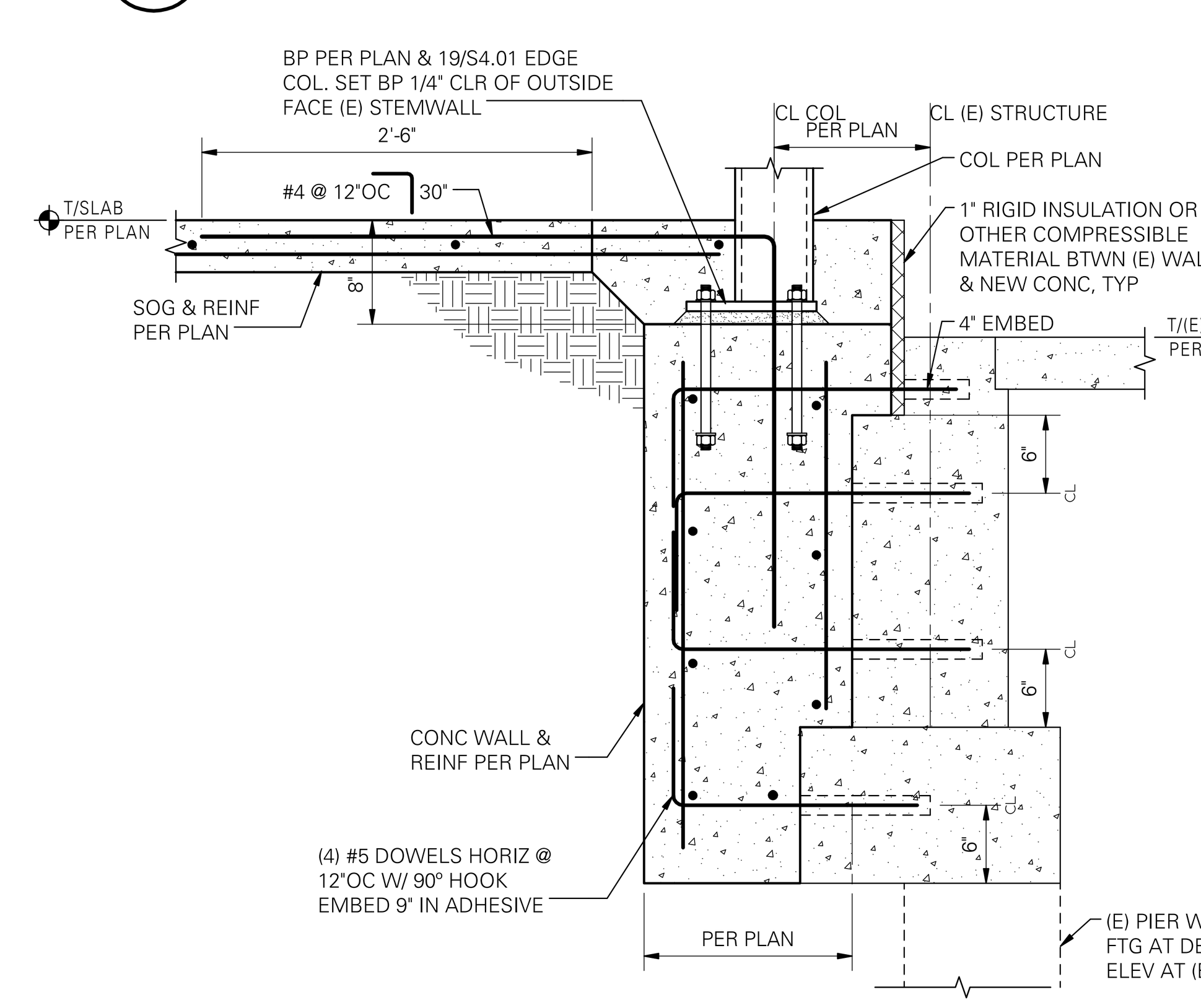


NOTE:
ADDITIONAL INFORMATION PER 16/S4.03.

18 TYPICAL EMBED PLATE
SCALE: 1" = 1'-0"



19 GRADE BEAM TO EXISTING GRADE BEAM
SCALE: 3/4" = 1'-0"



20 COLUMN AT EXISTING WALL
SCALE: 1" = 1'-0"

REVISIONS
3 ADDENDUM 3 02-19-16
4 ADDENDUM 4 03-02-16

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SPOKANE PUBLIC SCHOOL DISTRICT NO. 81
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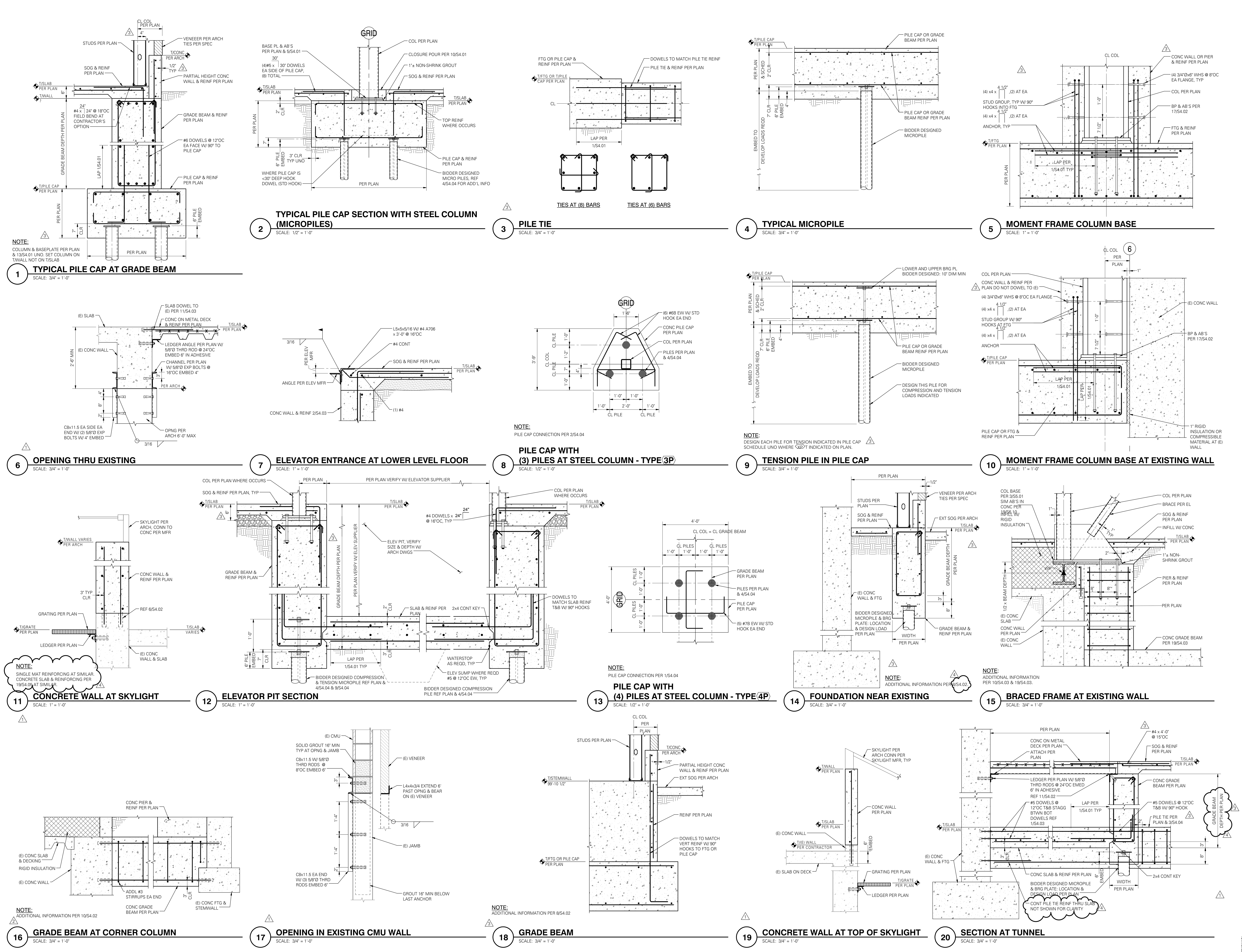
CHECKED LMB
DATE 02/19/16

FOUNDATION DETAILS
CD
S4.03


1 TYPICAL PILE CAP AT GRADE BEAM
SCALE: 3/4" = 1'-0"
NOTE:
COLUMN & BASEPLATE PER PLAN & 13/S4.01 UNO. SET COLUMN ON T/WALL NOT ON T/SLAB
2 TYPICAL PILE CAP SECTION WITH STEEL COLUMN (MICROPILES)
SCALE: 1/2" = 1'-0"
3 PILE TIE
SCALE: 3/4" = 1'-0"
TIES AT (8) BARS
TIES AT (6) BARS
4 TYPICAL MICROPILE
SCALE: 3/4" = 1'-0"
5 MOMENT FRAME COLUMN BASE
SCALE: 1" = 1'-0"
6 OPENING THRU EXISTING
SCALE: 3/4" = 1'-0"
7 ELEVATOR ENTRANCE AT LOWER LEVEL FLOOR
SCALE: 1" = 1'-0"
8 PILE CAP WITH (3) PILES AT STEEL COLUMN - TYPE 3P
SCALE: 1/2" = 1'-0"
NOTE:
PILE CAP CONNECTION PER 2/S4.04
9 TENSION PILE IN PILE CAP
SCALE: 3/4" = 1'-0"
NOTE:
DESIGN EACH PILE FOR TENSION INDICATED IN PILE CAP SCHEDULE UNO WHERE NOT INDICATED ON PLAN.
10 MOMENT FRAME COLUMN BASE AT EXISTING WALL
SCALE: 1" = 1'-0"
11 CONCRETE WALL AT SKYLIGHT
SCALE: 1" = 1'-0"
NOTE:
SINGLE MAT REINFORCING AT SIMILAR. CONCRETE SLAB & REINFORCING PER 19/S4.05 AT SIMILAR.
12 ELEVATOR PIT SECTION
SCALE: 1" = 1'-0"
13 PILE CAP WITH (4) PILES AT STEEL COLUMN - TYPE 4P
SCALE: 1/2" = 1'-0"
NOTE:
PILE CAP CONNECTION PER 1/S4.04
14 FOUNDATION NEAR EXISTING
SCALE: 3/4" = 1'-0"
NOTE:
ADDITIONAL INFORMATION PER 9/S4.02
15 BRACED FRAME AT EXISTING WALL
SCALE: 3/4" = 1'-0"
NOTE:
ADDITIONAL INFORMATION PER 10/S4.03 & 19/S4.03.
16 GRADE BEAM AT CORNER COLUMN
SCALE: 3/4" = 1'-0"
NOTE:
ADDITIONAL INFORMATION PER 10/S4.02
17 OPENING IN EXISTING CMU WALL
SCALE: 3/4" = 1'-0"
18 GRADE BEAM
SCALE: 3/4" = 1'-0"
NOTE:
ADDITIONAL INFORMATION PER 8/S4.02
19 CONCRETE WALL AT TOP OF SKYLIGHT
SCALE: 3/4" = 1'-0"
20 SECTION AT TUNNEL
SCALE: 3/4" = 1'-0"

REVISIONS

1	ADDENDUM 1	02-03-16
2	ADDENDUM 2	02-08-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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CHECKED	Checker
DATE	02/19/16

FOUNDATION DETAILS

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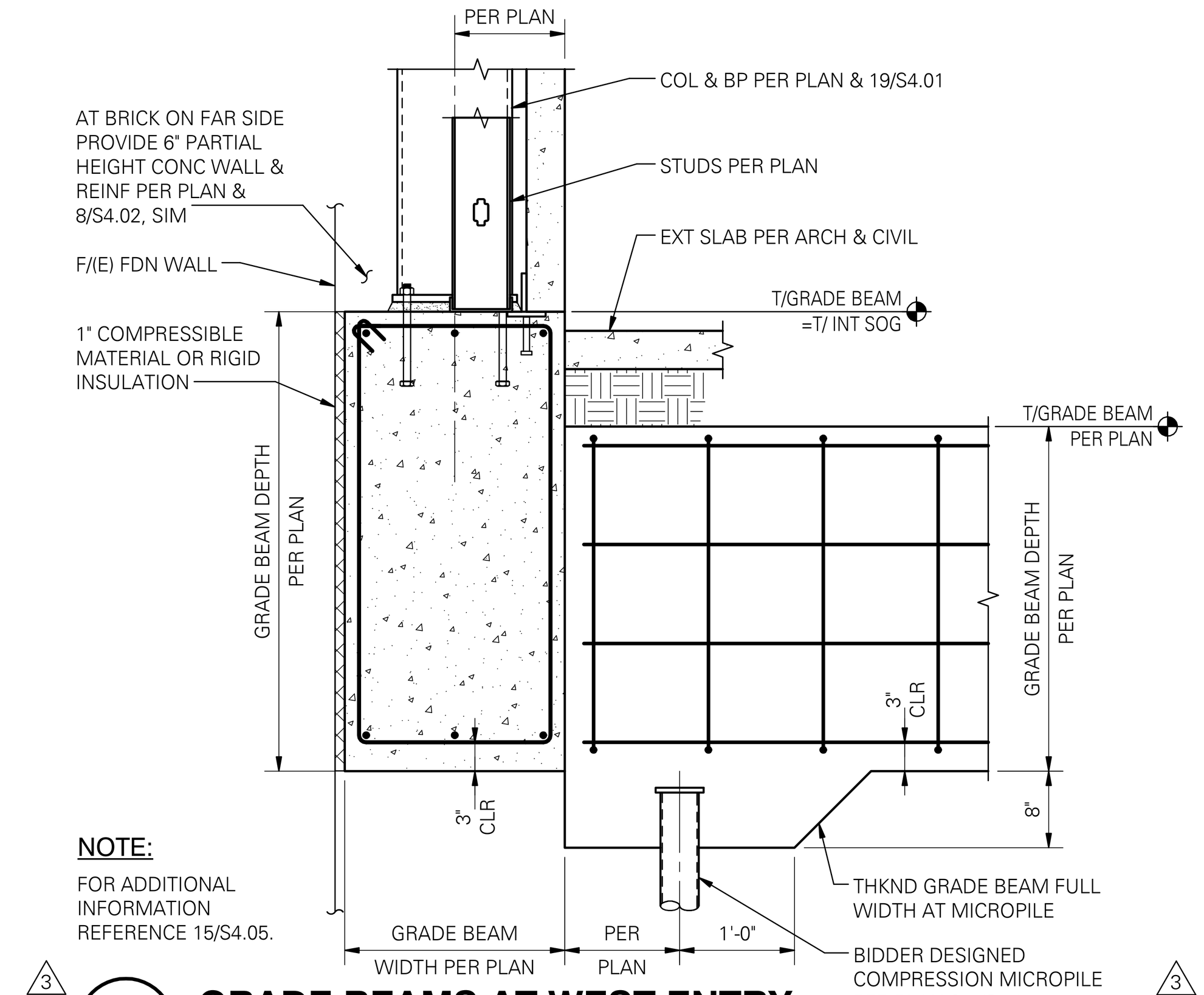
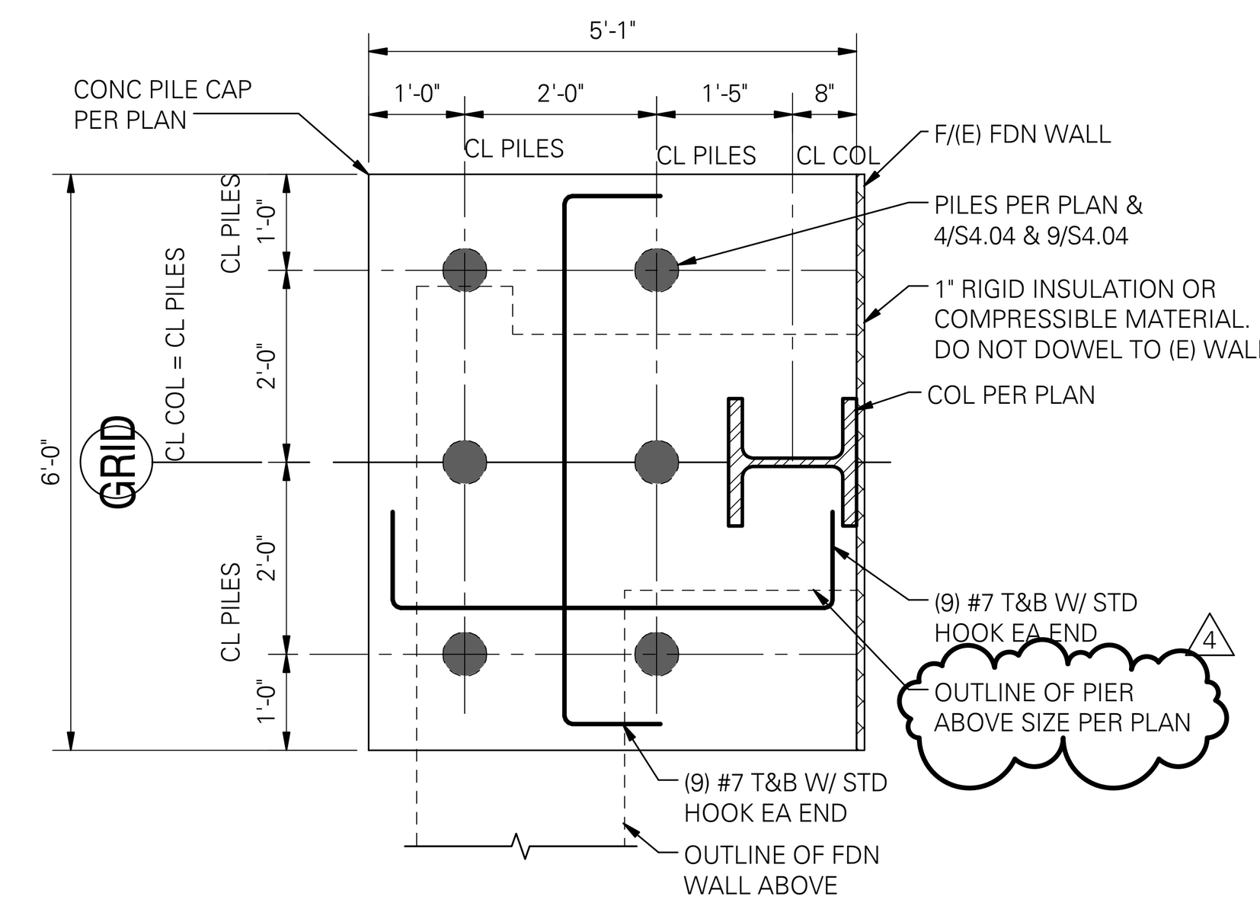


NOTE:
FOR ADDITIONAL INFORMATION REFERENCE 15/S4.05.

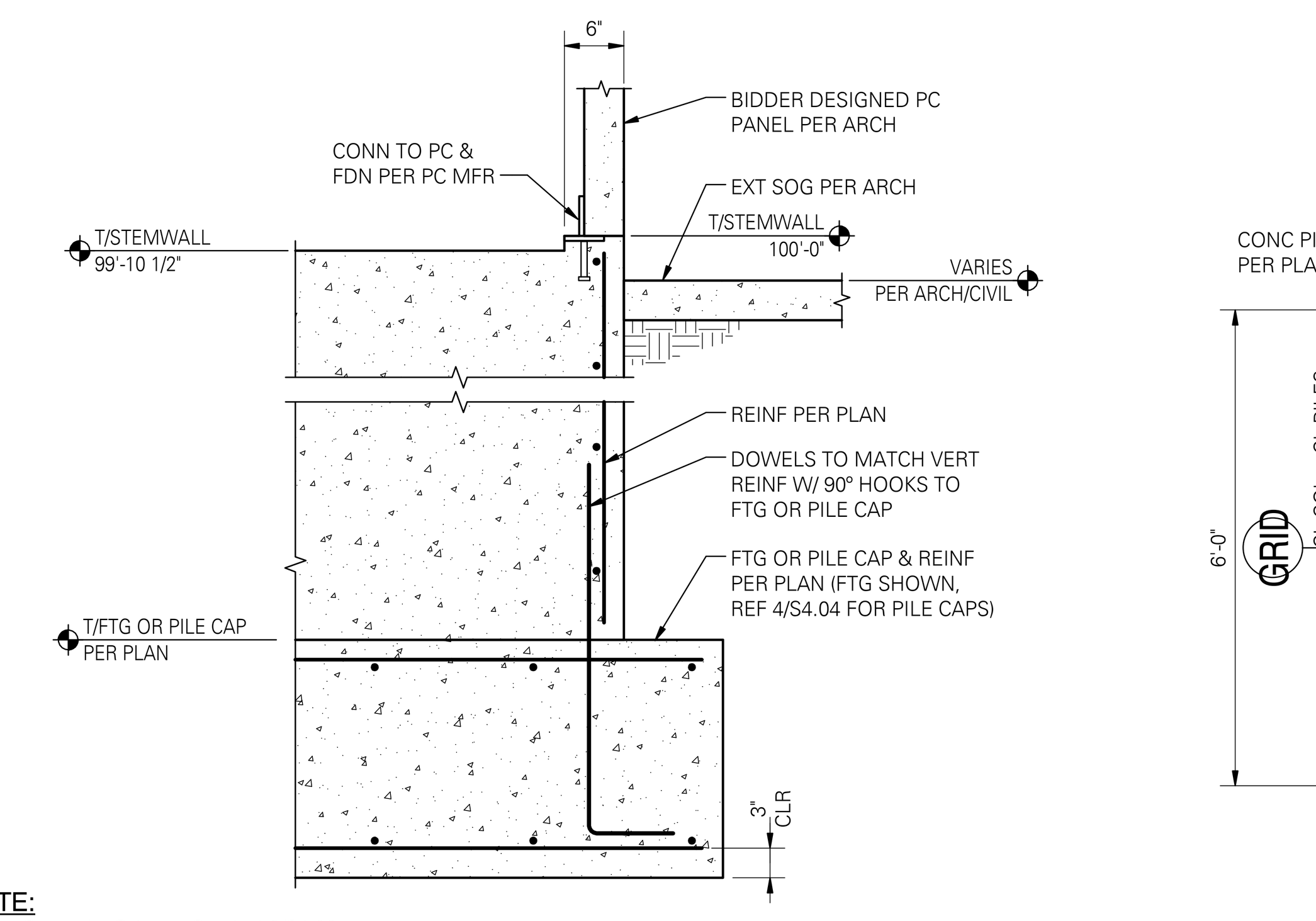
3

4 GRADE BEAMS AT WEST ENTRY
SCALE: 3/4" = 1'-0"



3

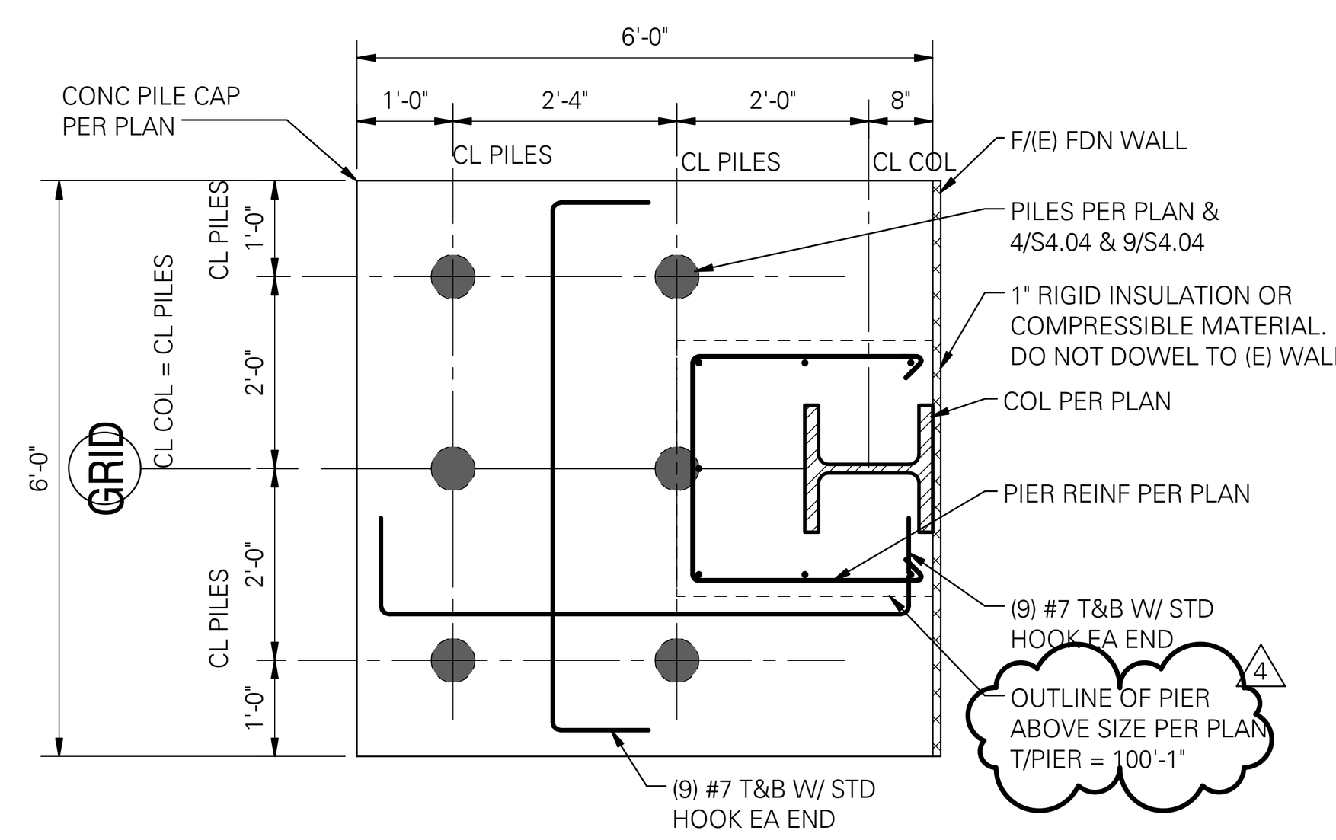
5 PILE CAP W/ (6) PILES AT STEEL COLUMN EAST ENTRY - TYPE 6P
SCALE: 1/2" = 1'-0"



NOTE:
ADDITIONAL INFORMATION PER 8/S4.02

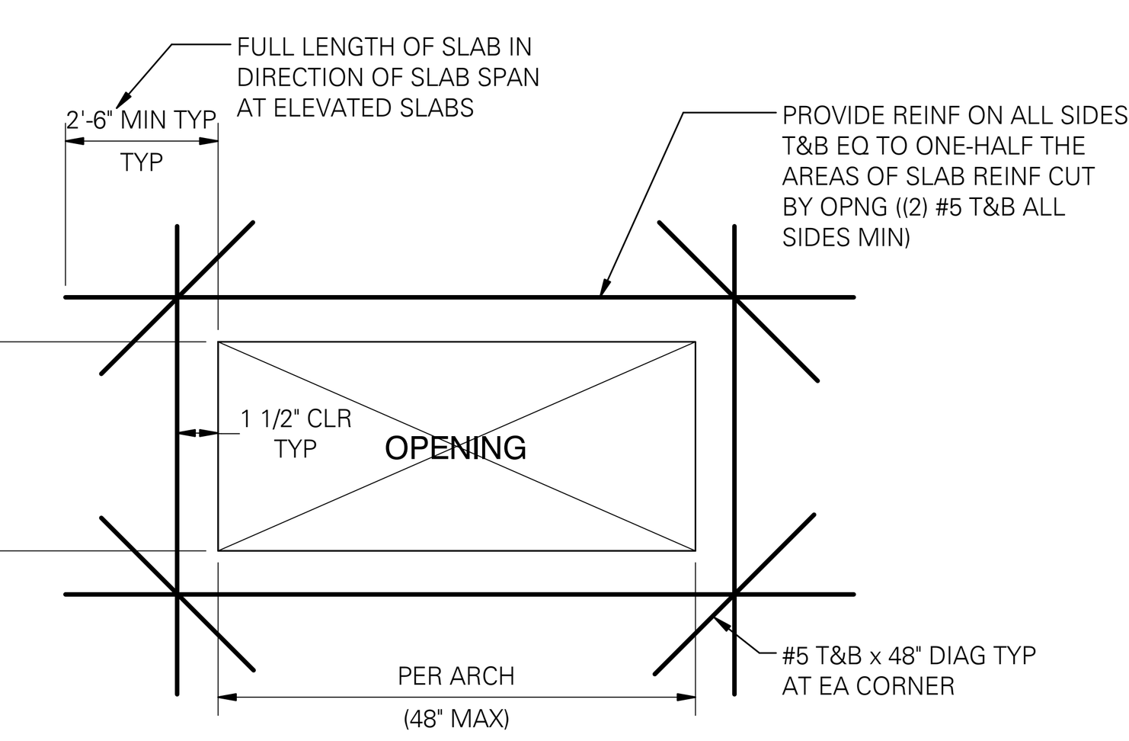
3

9 FOUNDATION WALL AT PRECAST
SCALE: 3/4" = 1'-0"



3

10 PILE CAP W/ (6) PILES AT STEEL COLUMN WEST ENTRY - TYPE 6PA
SCALE: 1/2" = 1'-0"

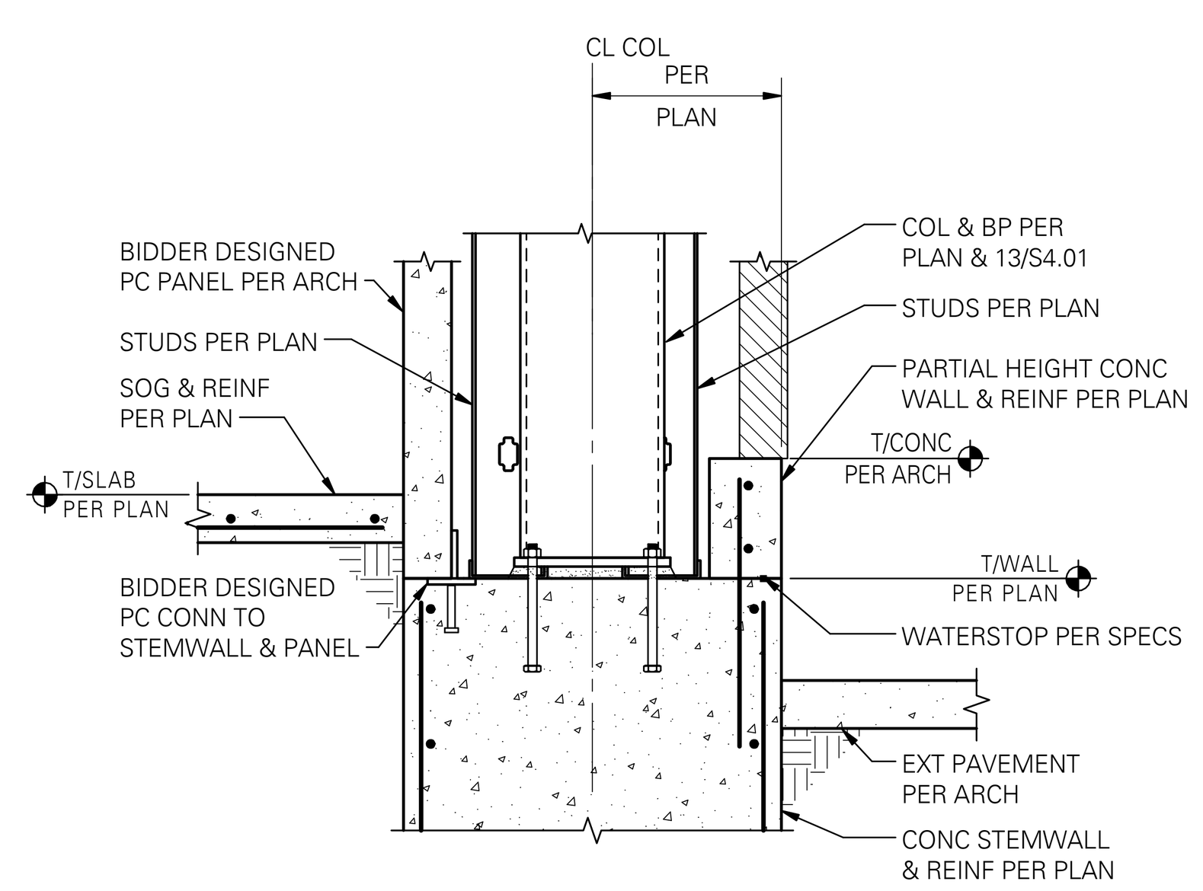


NOTES:

1. ALL OPENINGS WITH A DIMENSION OF 12" OR GREATER SHALL BE TRIMMED WITH REINFORCING.
2. REINFORCING IS IN ADDITION TO ANY REINFORCING INDICATED ON PLANS.
3. WHERE AN ADJACENT OPENING IS CLOSER THAN THE SMALLER OPENING DIMENSION, EXTEND TRIM REINFORCING TO 24" MINIMUM PAST ADJACENT OPENINGS.
4. HOOK REINFORCING AT SLAB EDGE AS REQUIRED.
5. BLOCKOUTS AROUND COLUMNS IN ELEVATED SLABS ARE TO BE TREATED AS A SLAB OPENING.

4

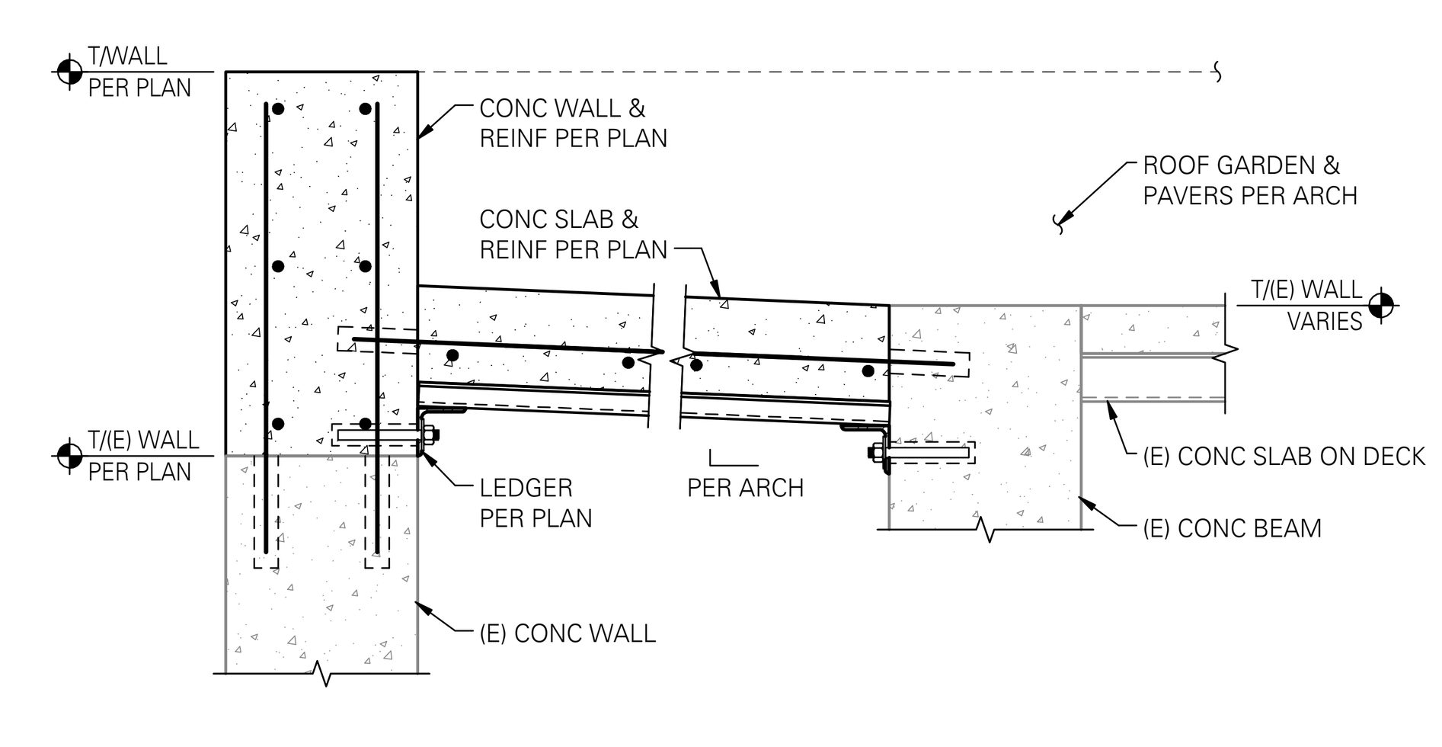
14 PLAN - TYPICAL SLAB OPENING REINFORCING AT REINFORCED SLAB
SCALE: 3/4" = 1'-0" (03220)



NOTE:
FOR ADDITIONAL INFORMATION REF 8/S4.02 INCLUDING AT FOOTING.

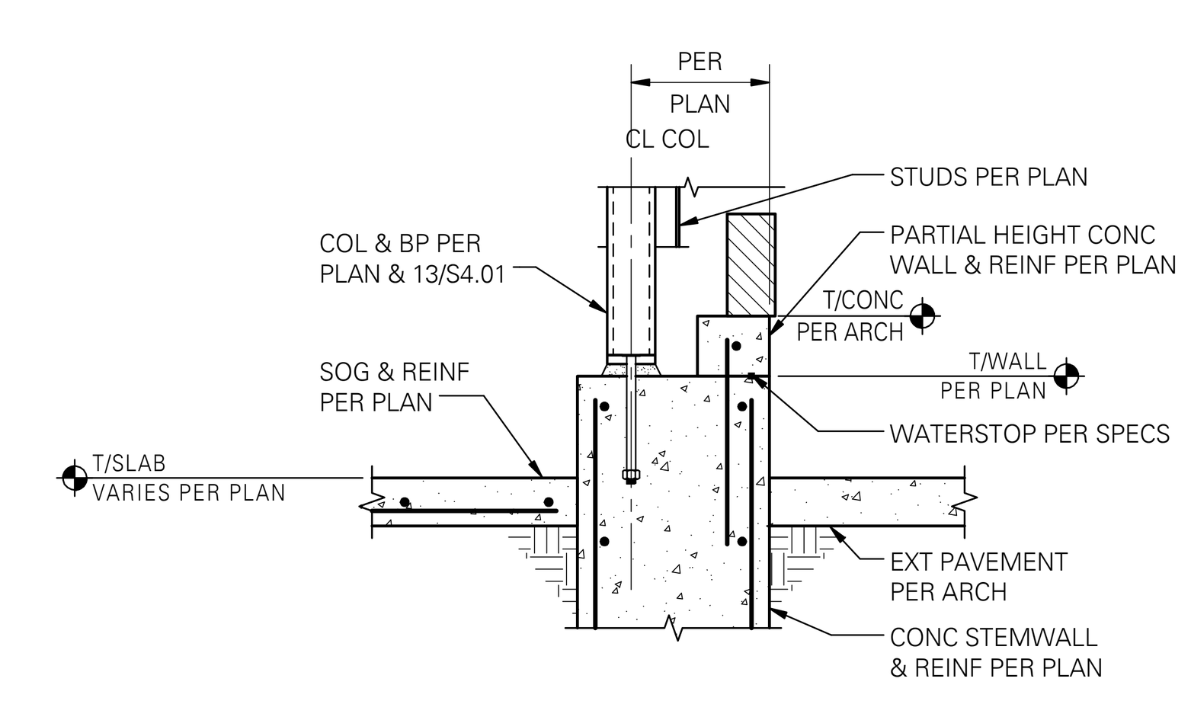
3

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



4

19 SLAB INFILL AT EXISTING
SCALE: 1" = 1'-0"



NOTE:
FOR ADDITIONAL INFORMATION REF 8/S4.02 INCLUDING AT FOOTING.

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

REVISIONS

3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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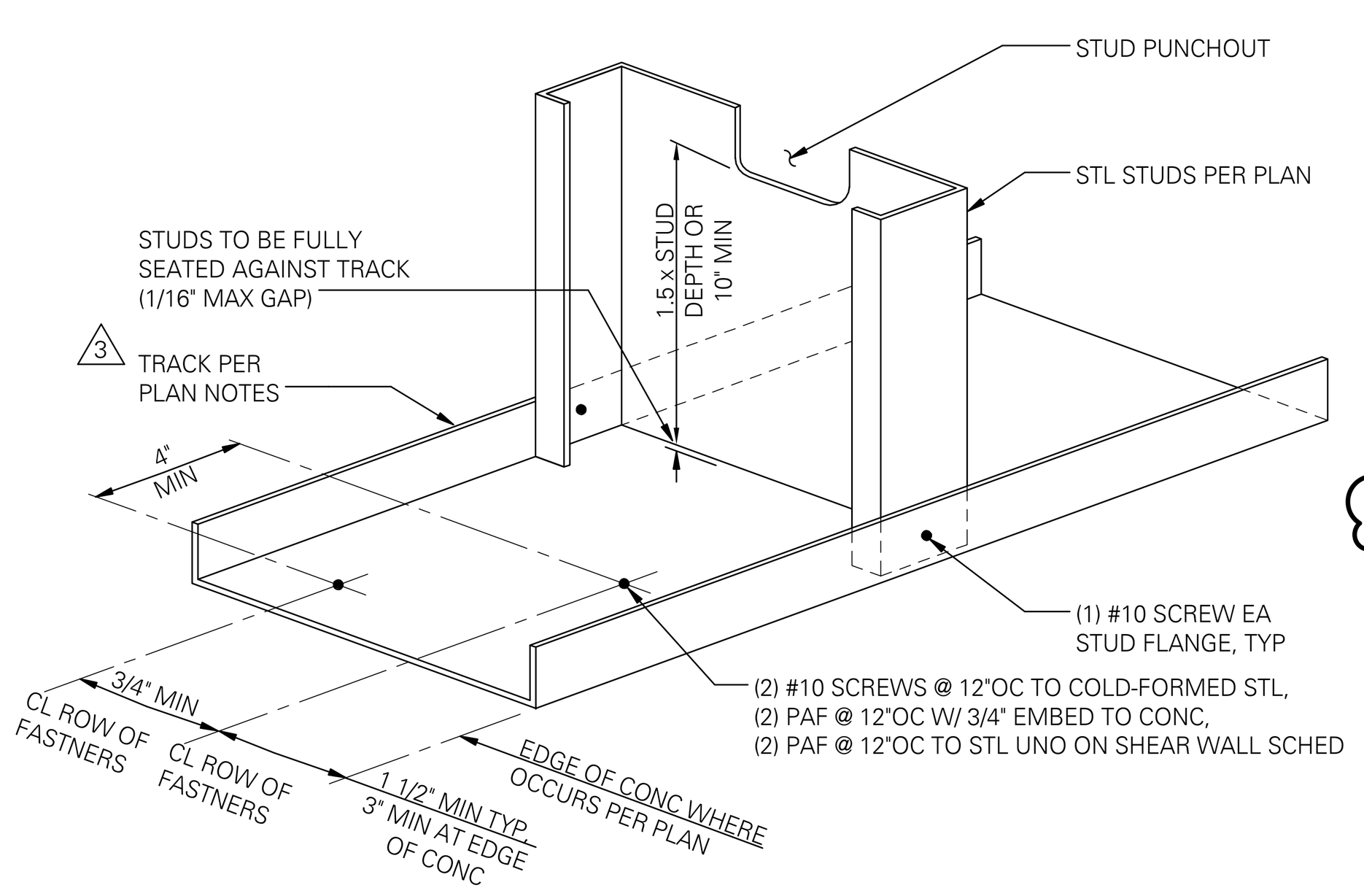
DRAWN	Author
CHECKED	Checker
DATE	02/19/16

FOUNDATION DETAILS

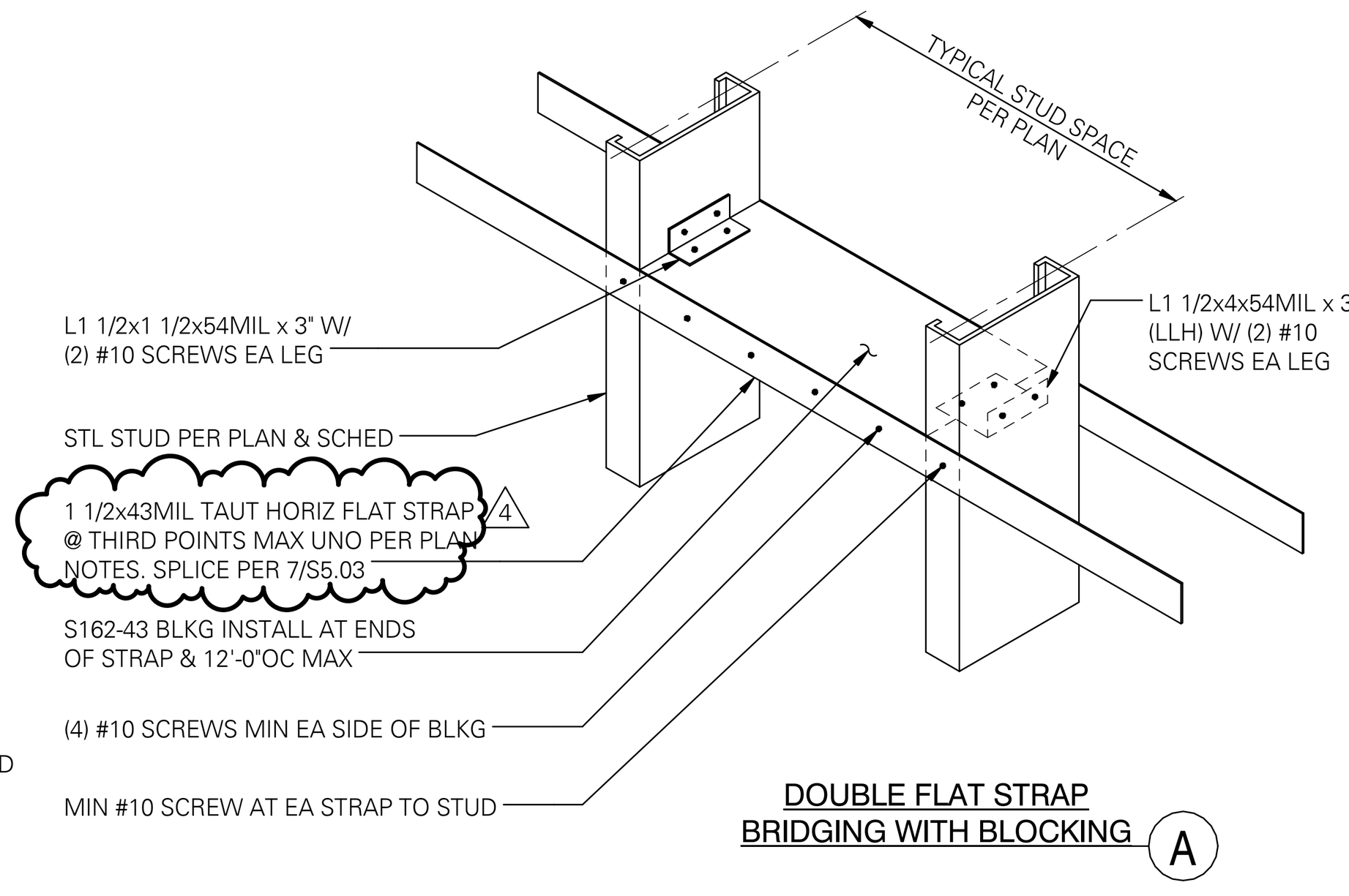
CD

S4.05



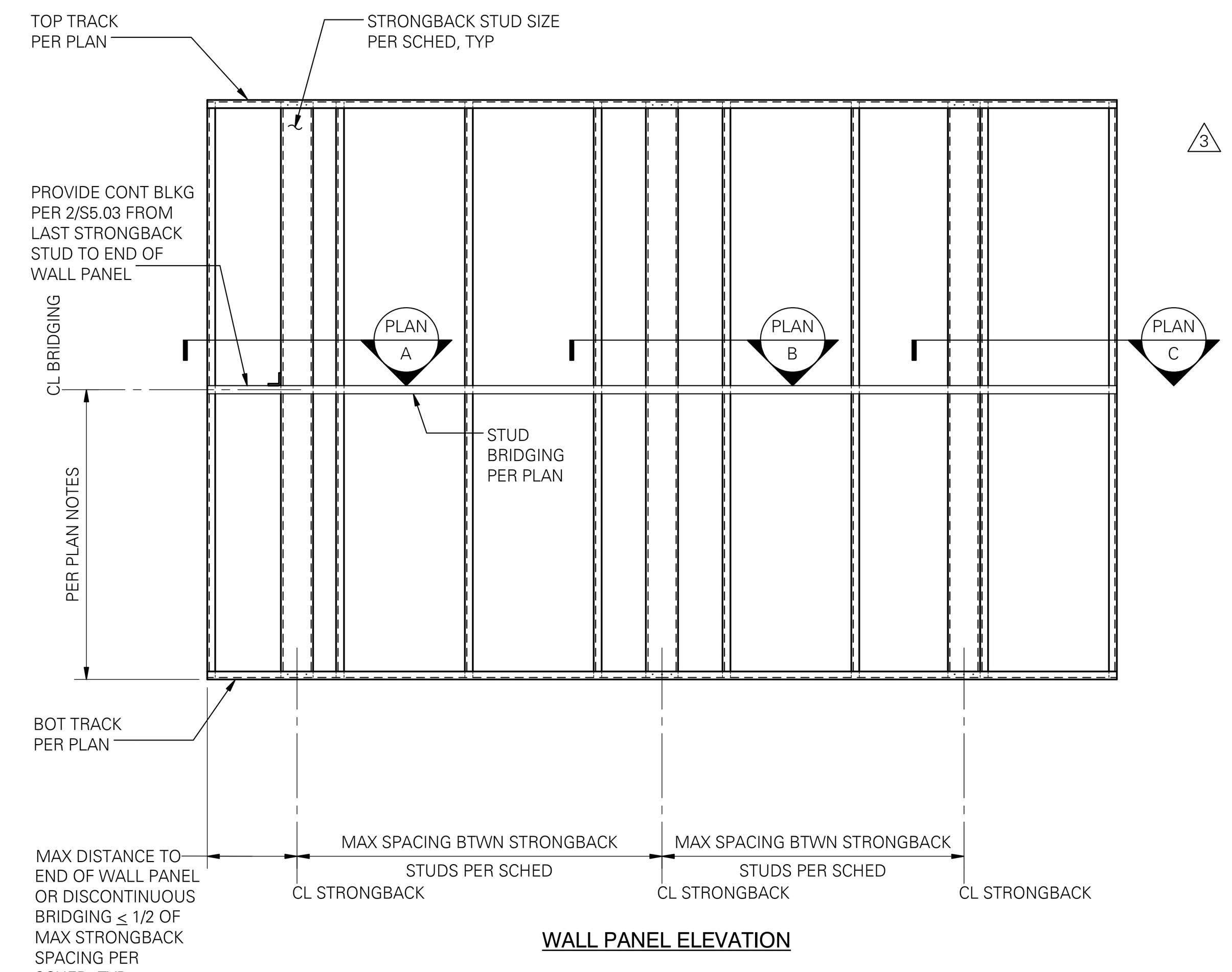
NOTE:
THIS DETAIL APPLIES TO TOP AND BOTTOM TRACKS OF ALL STRUCTURAL STEEL STUD WALLS UNO. AT NON-STRUCTURAL WALLS, USE TOP DEFLECTION TRACK PER 6/S5.03.

1 **TYPICAL TOP AND BOTTOM TRACK DETAIL**
SCALE: 1" = 1'-0" (07000)



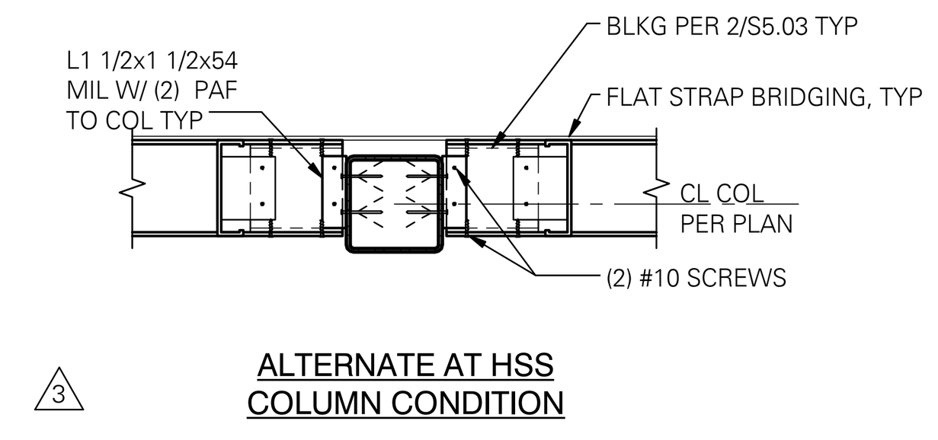
NOTES:
1. PROVIDE BRIDGING STUD DEPTHS 6" OR MORE.
2. BRIDGING SHALL BE INSTALLED AND ADEQUATELY ANCHORED PER 8/S5.03 PRIOR TO APPLYING AXIAL LOADING TO STUDS.

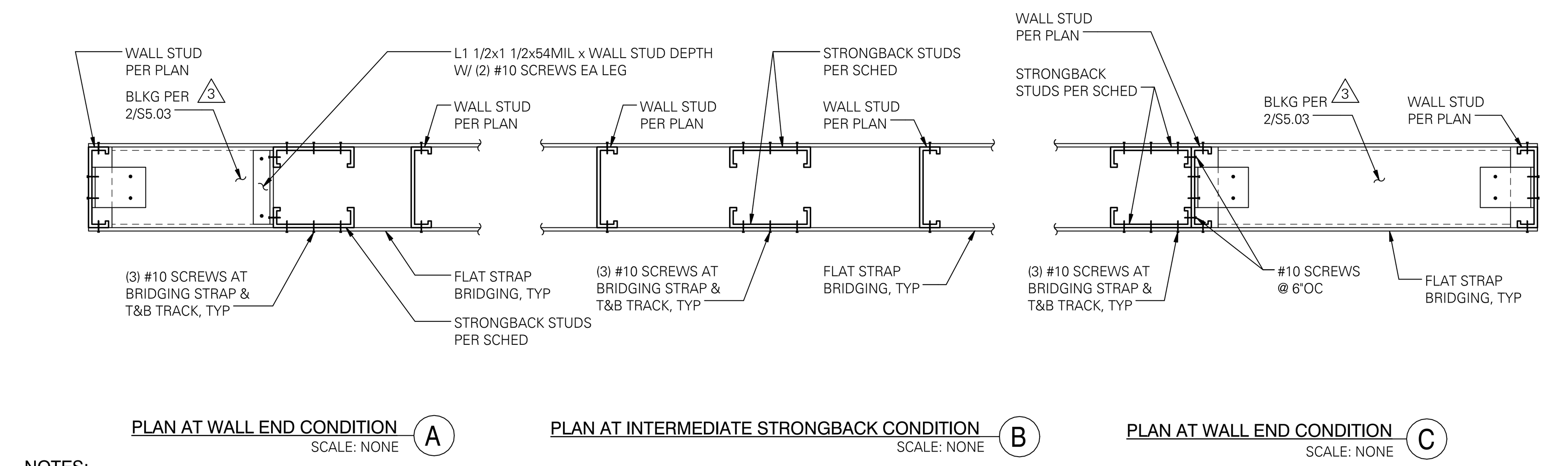
2 **TYPICAL STEEL STUD WALL BRIDGING**
SCALE: 1 1/2" = 1'-0" (07010M)



STRONGBACK SCHEDULE FOR BUILT-UP STUD ANCHORAGE		
STUD WALL TYPE	STRONGBACK STUD	MAX STRONGBACK SPACING
600S162-54 @ 16"OC	(2) 600S162-43	15'-0"

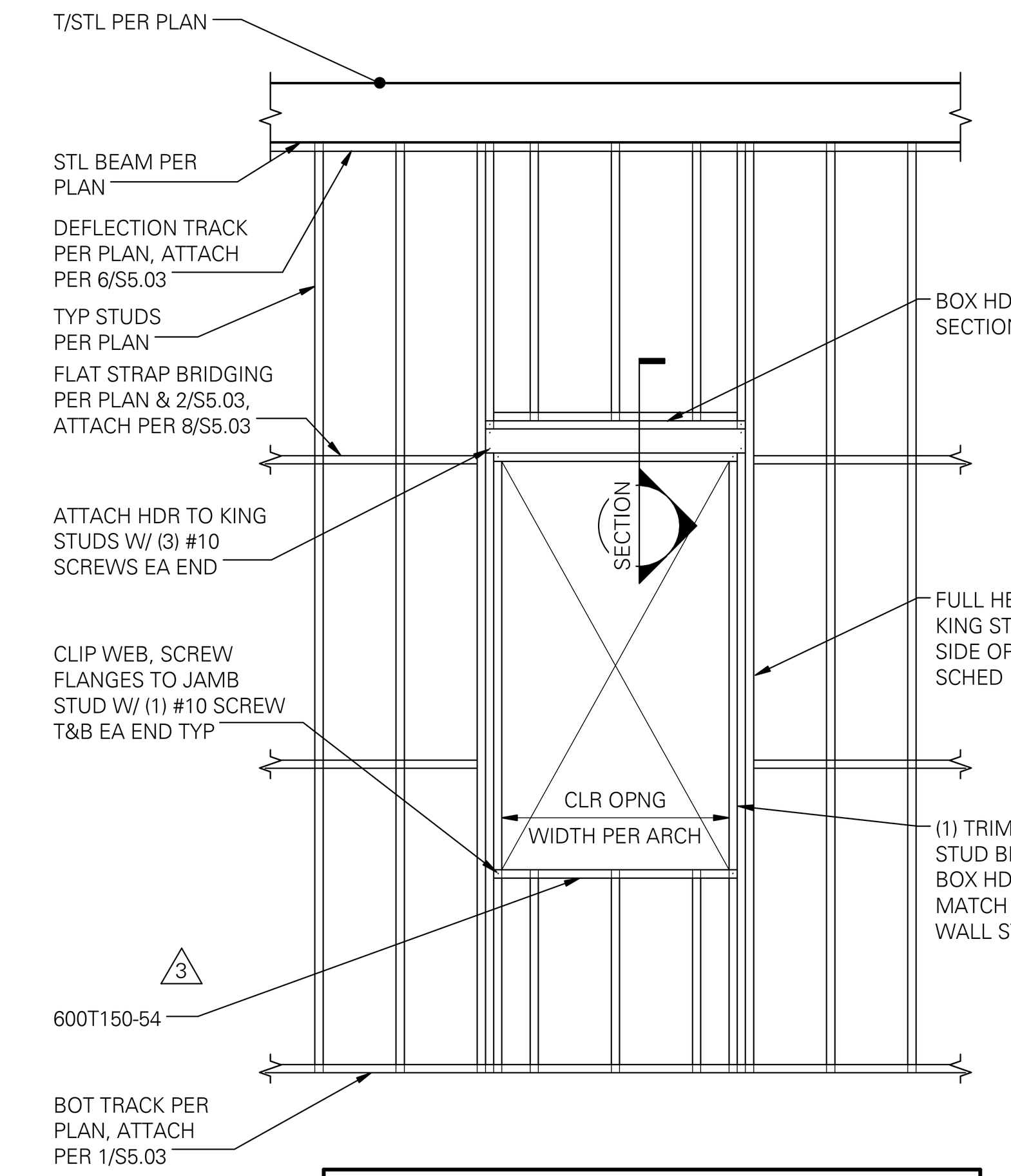
NOTES:
STRONG BACK ONLY REQUIRED WHERE BRIDGING DOES NOT TERMINATE AT STRUCTURAL STEEL POST.



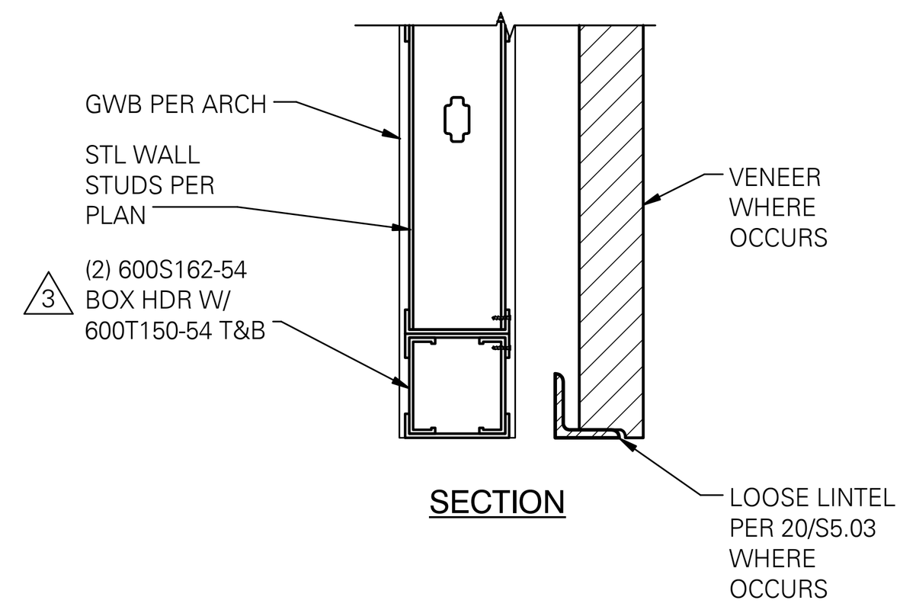


NOTES:
1. COORDINATE STRONGBACK LOCATIONS WITH LIGHT SWITCH AND ELECTRICAL BOXES.
2. STRONGBACKS MAY BE OMITTED ON THE SIDE OF SHEAR WALLS WITH SHEATHING IF SHEATHING IS INSTALLED PRIOR TO LOADING STUDS. BLOCKING IS STILL REQUIRED AS SHOWN.

8 **TYPICAL STEEL STUD BEARING/SHEAR WALL FLAT STRAP BRIDGING ANCHORAGE**
SCALE: 1/2" = 1'-0" (07020)

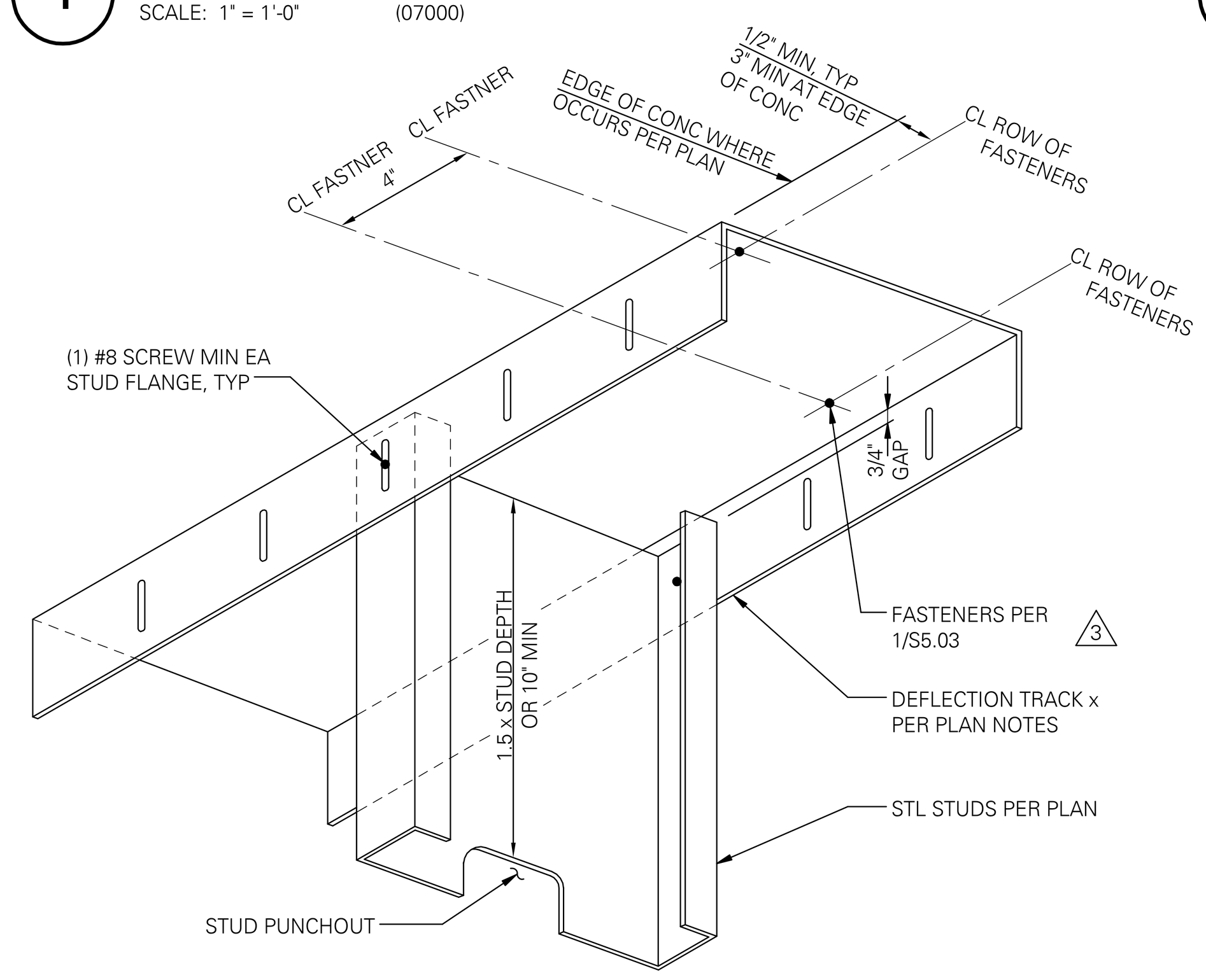


KING STUD SCHEDULE	
CLR OPNG WIDTH (W)	KING STUDS
W ≤ 10'-0"	(3) 600S162-54
W ≤ 8'-0"	(2) 600S162-54
W ≤ 4'-0"	(2) 600S162-54

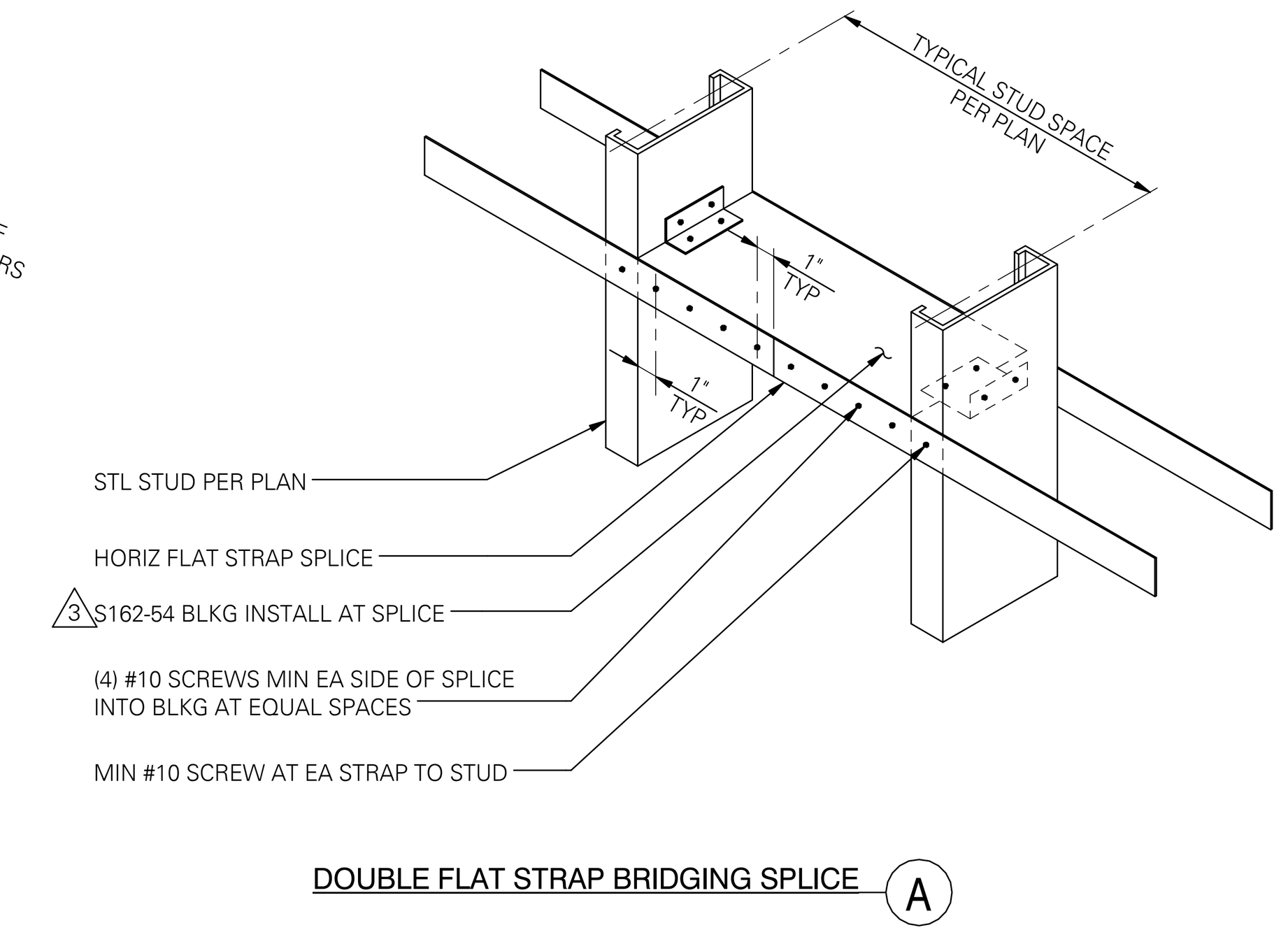


NOTE:
TYPICAL STEEL WALL STUDS PER PLAN. CONTINUE ABOVE AND BELOW OPENING.

10 **TYPICAL LOOSE BRICK VENEER LINTEL**
SCALE: 1" = 1'-0" (08001)

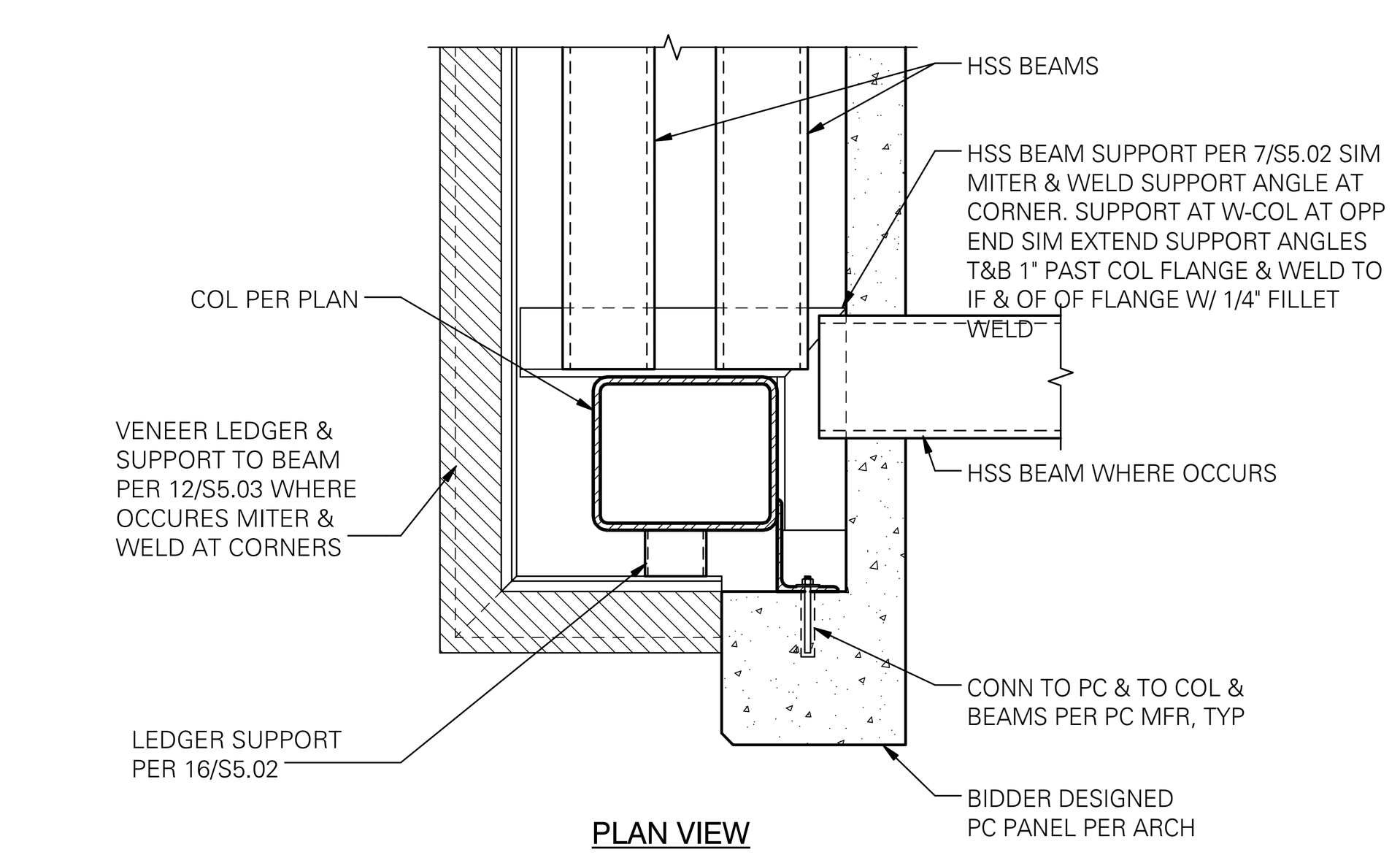


6 **TYPICAL NON-BEARING WALL TOP TRACK ATTACHMENT TO CONCRETE SLAB, METAL DECK OR STEEL BEAM**
SCALE: 1" = 1'-0" (07003)

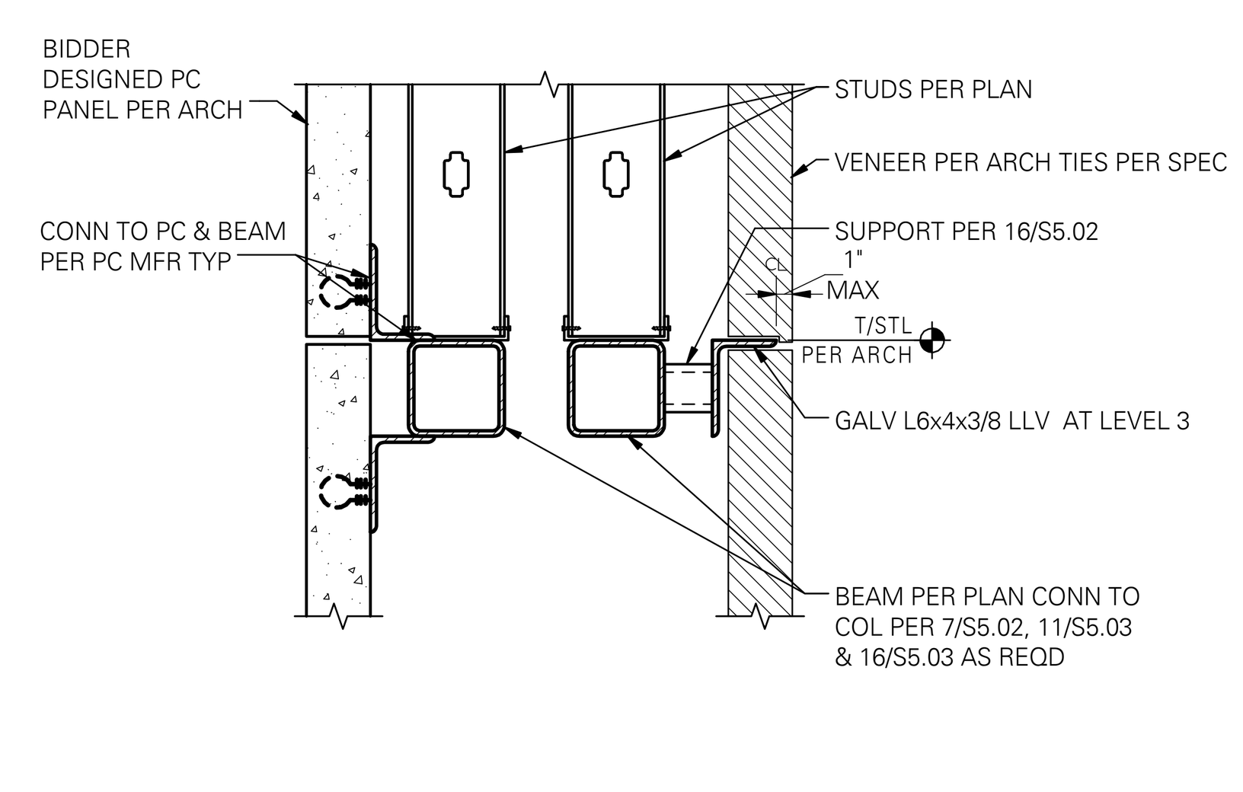


NOTE:
ATTACH BLOCKING/BRIDGING TO STEEL STUDS PER 2/S5.03.

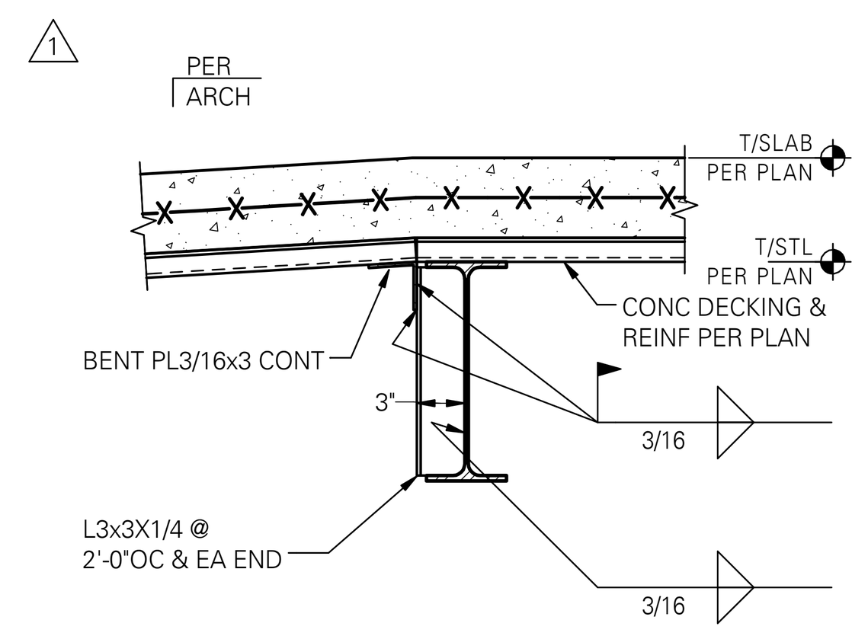
7 **TYPICAL STEEL STUD WALL BRIDGING SPLICE DETAIL**
SCALE: 1 1/2" = 1'-0" (07011M)



11 **PRECAST & VENEER SUPPORT AT COLUMN**
SCALE: 1" = 1'-0"

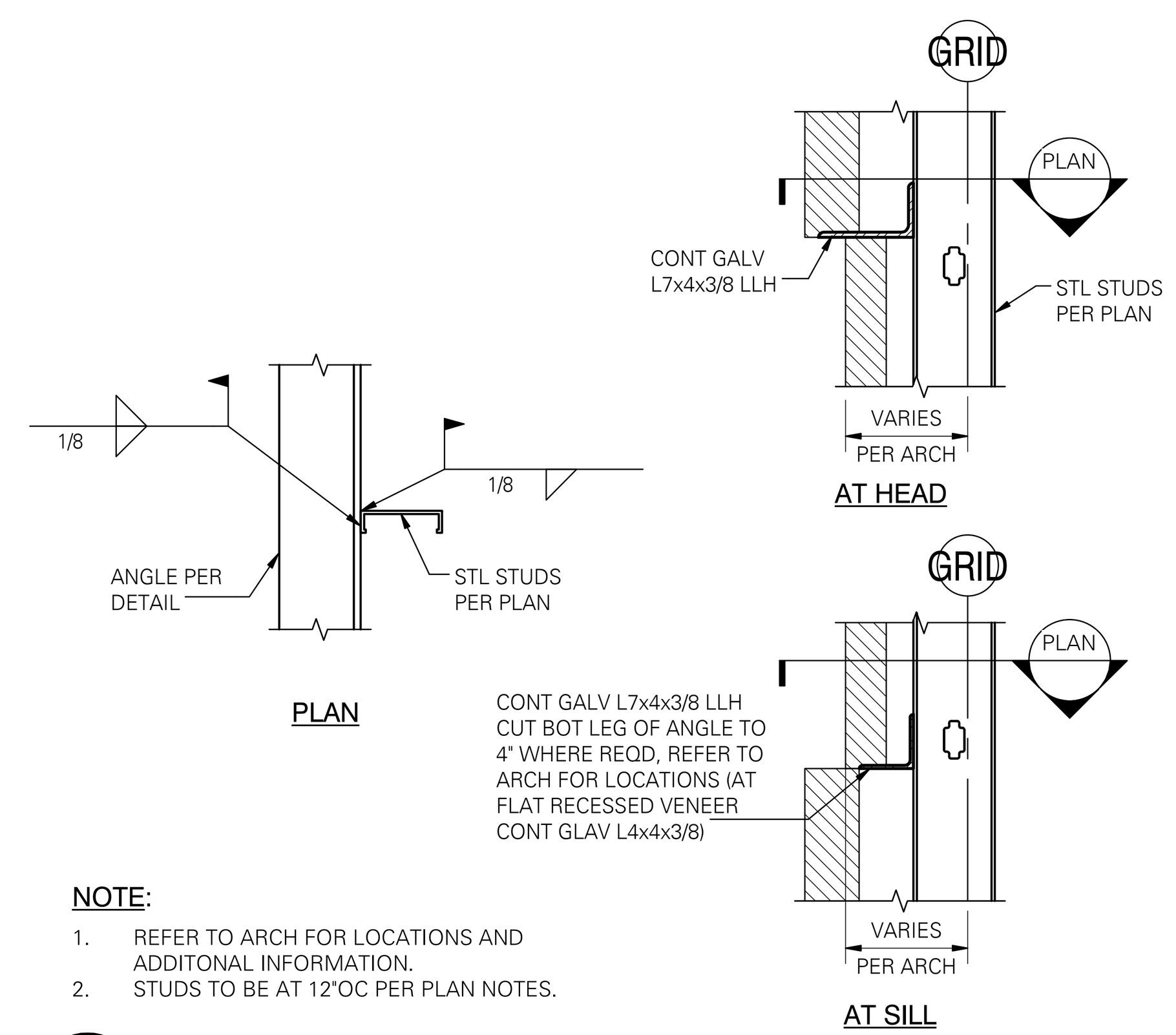


12 **PRECAST & VENEER SUPPORT**
SCALE: 1" = 1'-0"



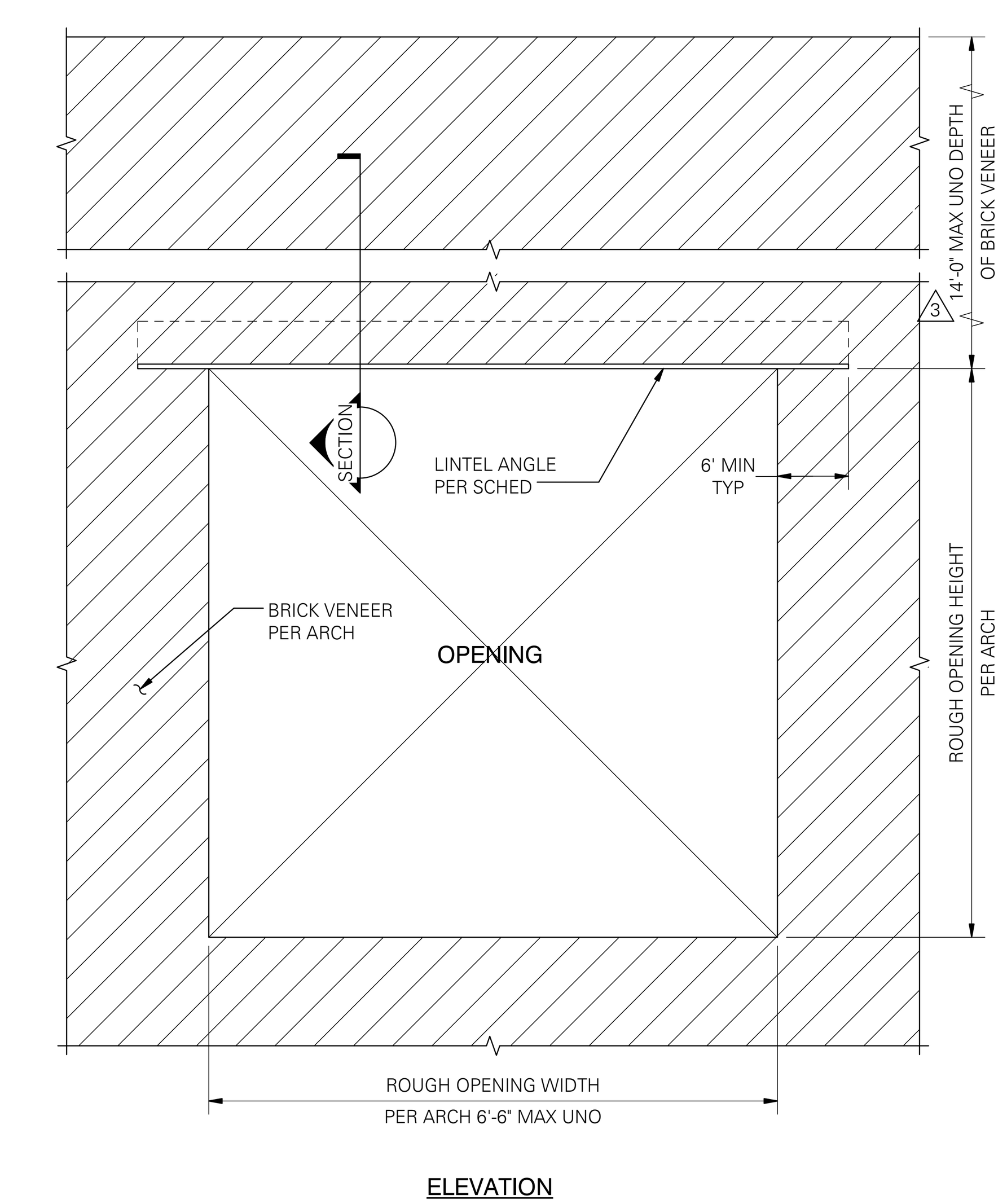
NOTE:
RAMP SLOPES UP AT SIMILAR CONDITION.

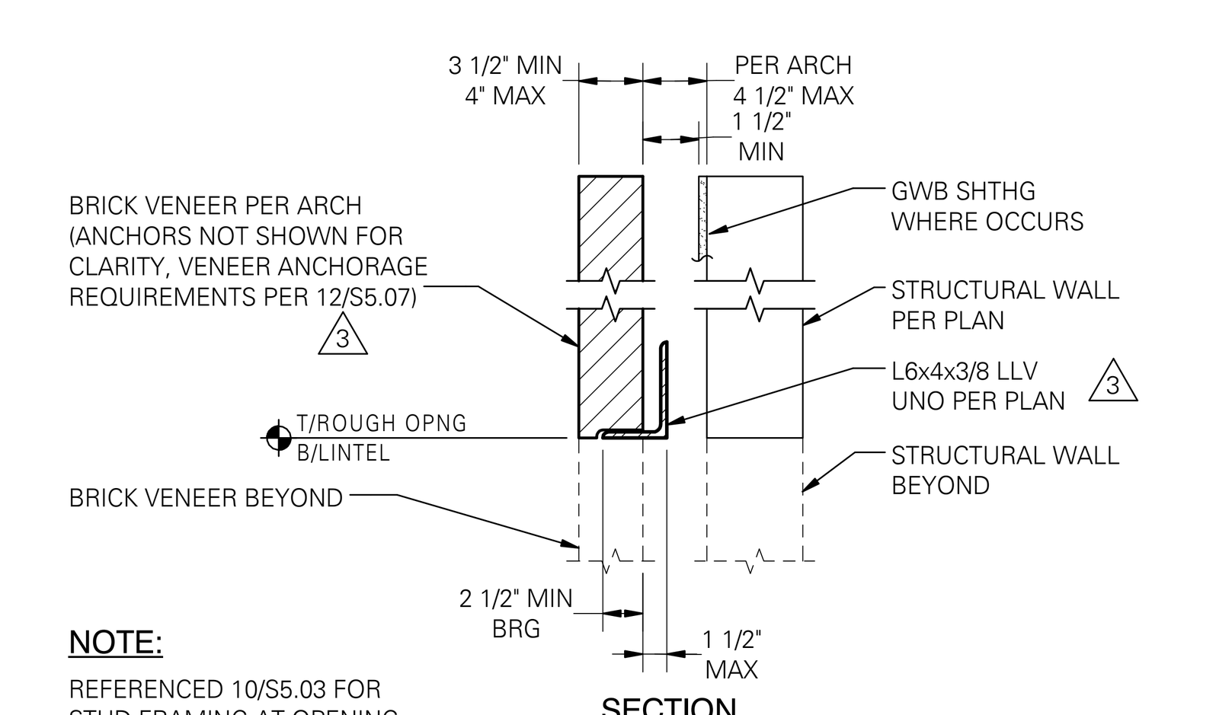
13 **FLOOR SLAB TO RAMP**
SCALE: 1" = 1'-0"



NOTE:
1. REFER TO ARCH FOR LOCATIONS AND ADDITONAL INFORMATION.
2. STUDS TO BE AT 12"OC PER PLAN NOTES.

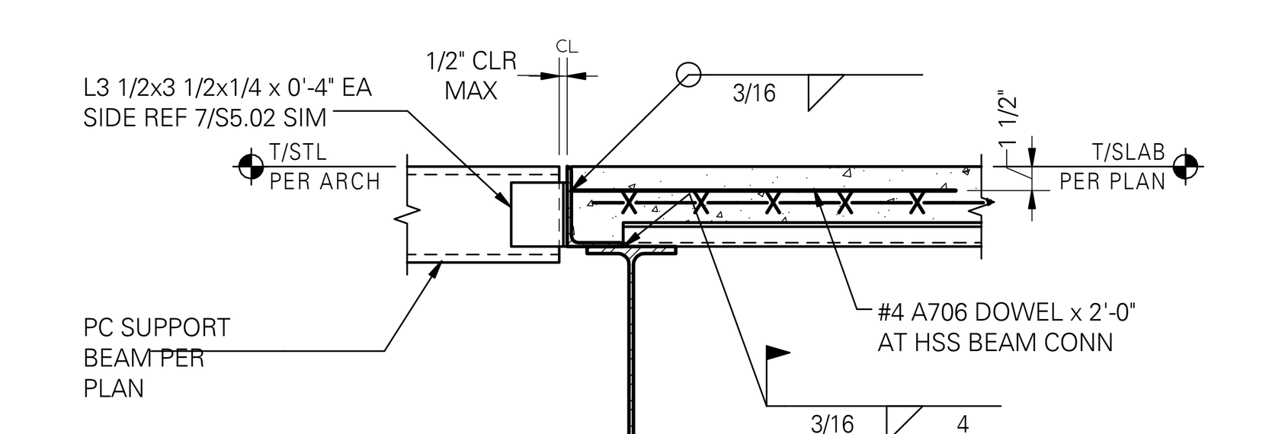
14 **BRICK TRANSITION SUPPORT**
SCALE: 1" = 1'-0"





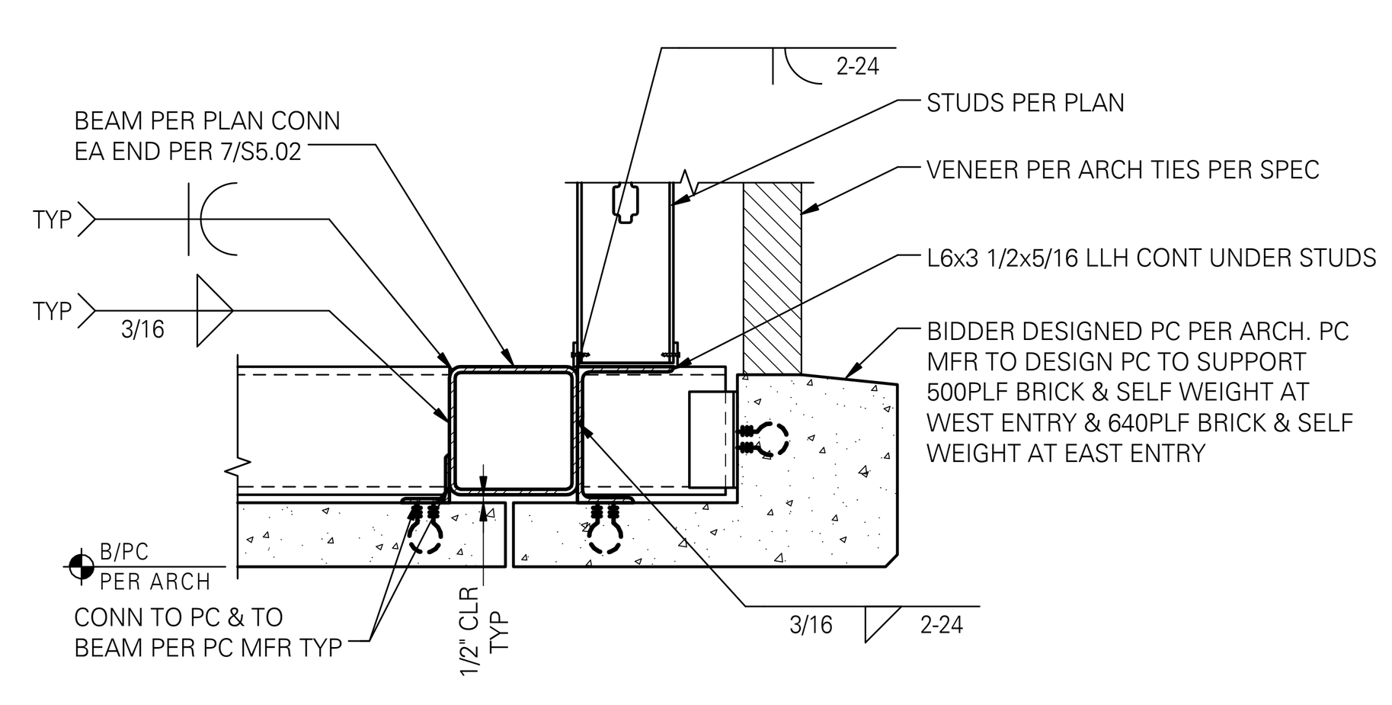
NOTE:
REFERENCED 10/S5.03 FOR STUD FRAMING AT OPENING.

20 **TYPICAL LOOSE BRICK VENEER LINTEL**
SCALE: 1" = 1'-0" (08001)

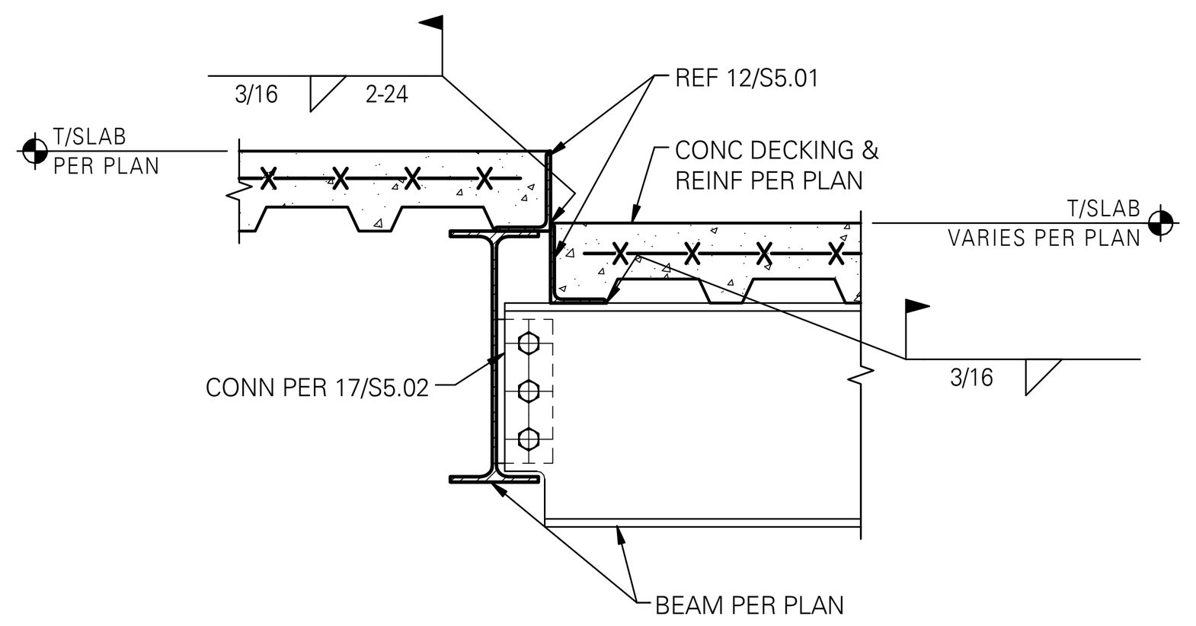


NOTE:
ADDITIONAL INFORMATION PER 12/S5.01.

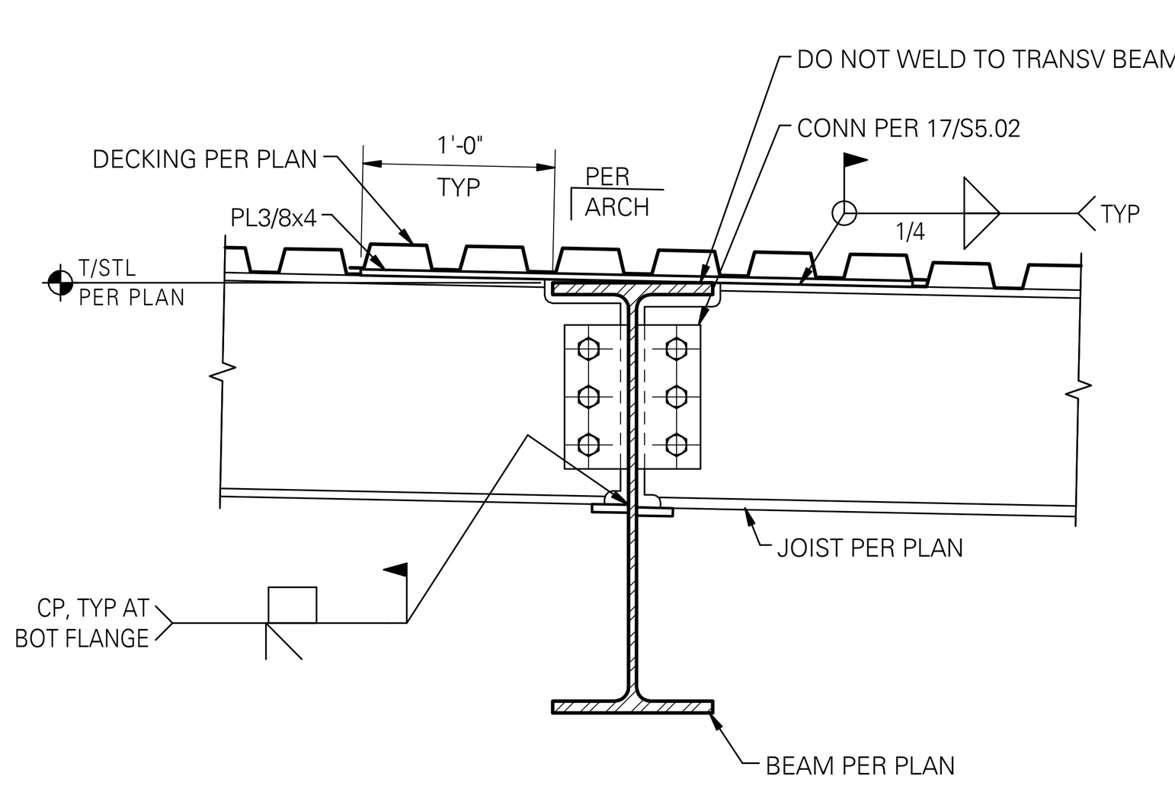
16 **PRECAST BEAM SUPPORT AT SLAB EDGE**
SCALE: 1" = 1'-0"



17 **PRECAST SOFFIT SUPPORT**
SCALE: 1" = 1'-0"



18 **RAMP EDGE**
SCALE: 1" = 1'-0"



19 **CANTILEVERED JOIST MOMENT CONNECTION**
SCALE: 1" = 1'-0"

REVISIONS
1 ADDENDUM 1 02-03-16
3 ADDENDUM 3 02-19-16
4 ADDENDUM 4 03-02-16

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NAC ARCHITECTURE
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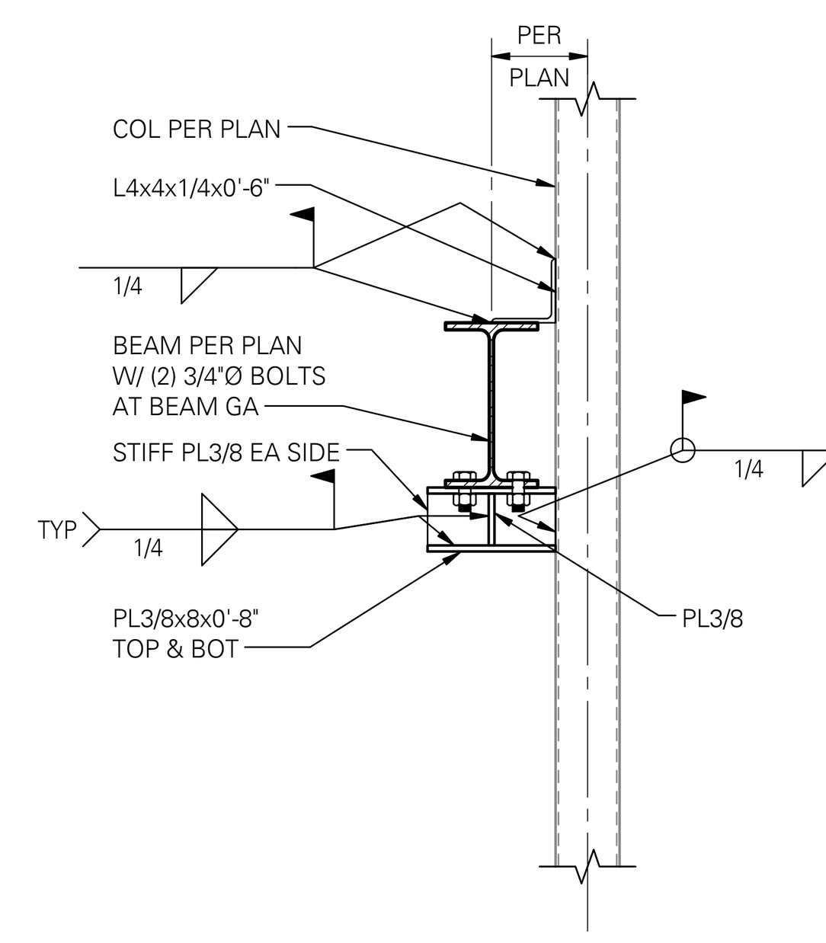
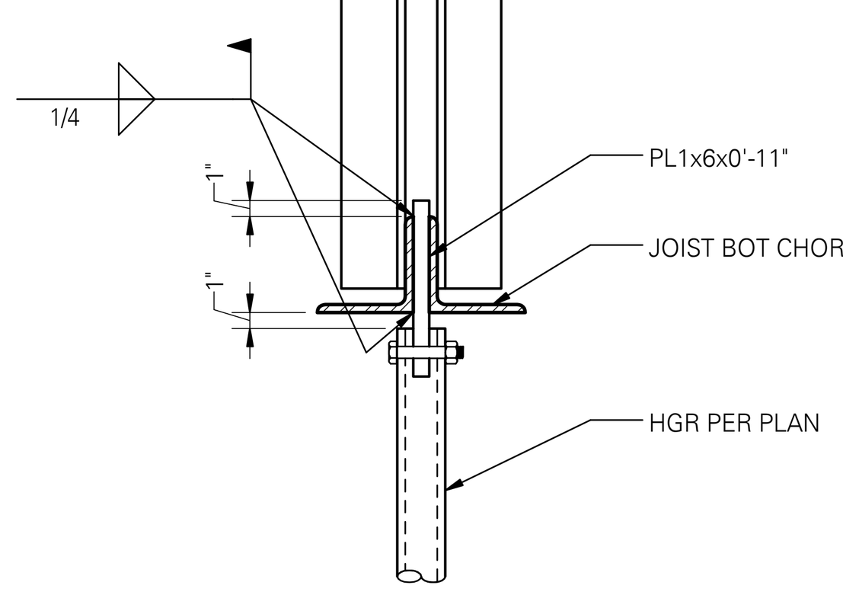
NACNO	111-15017
DRAWN	JLJ
CHECKED	LMB
DATE	02/19/16

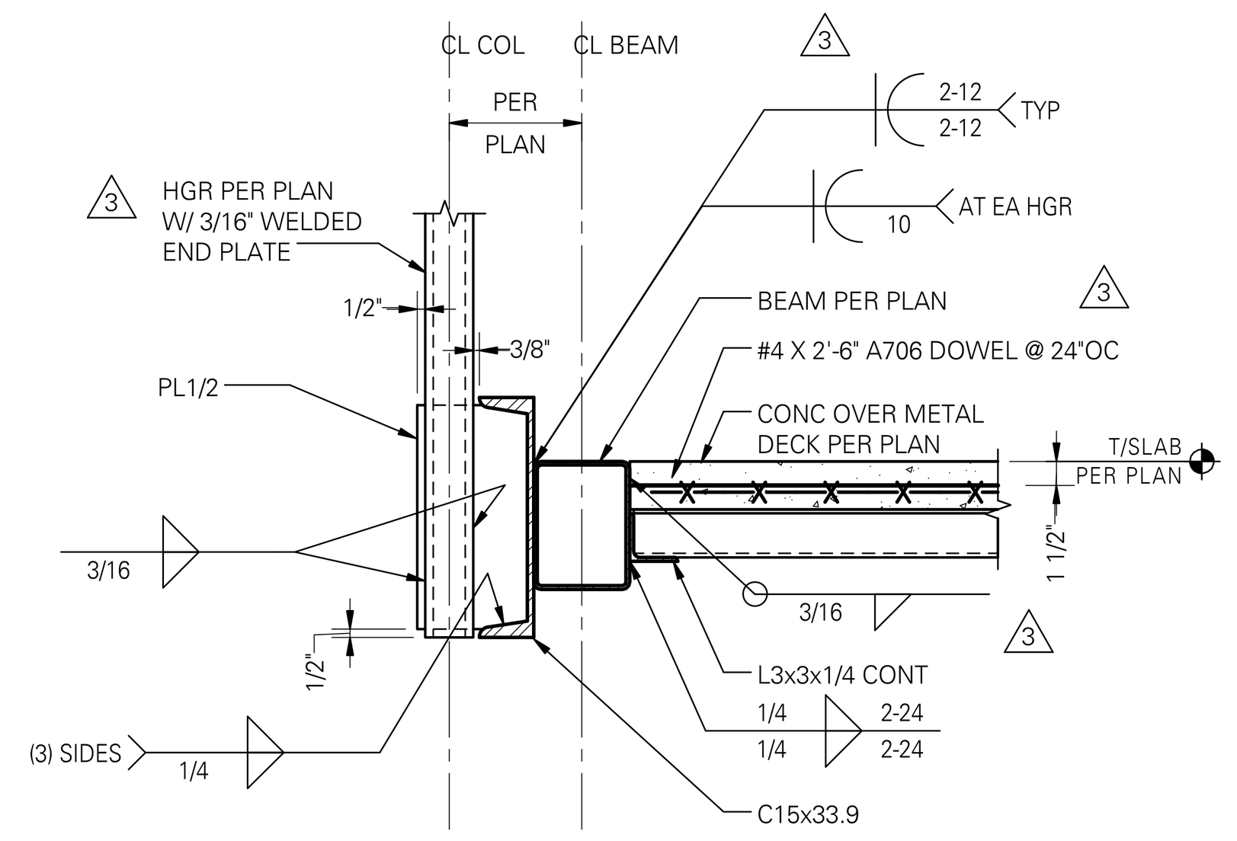
FRAMING DETAILS
CD
S5.03

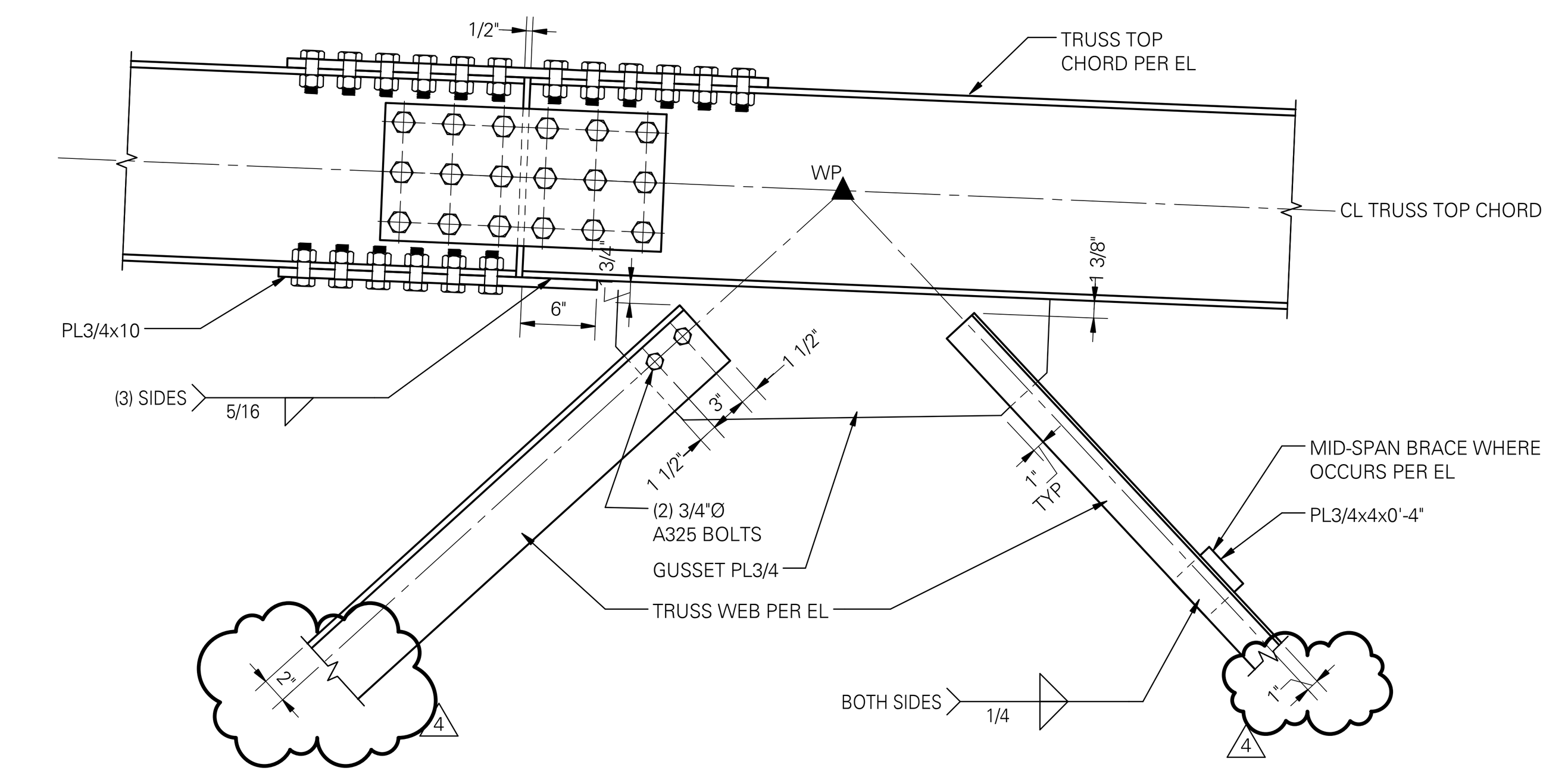




NOTE:

ADDITIONAL INFORMATION PER 15/S5.05.





NOTE:

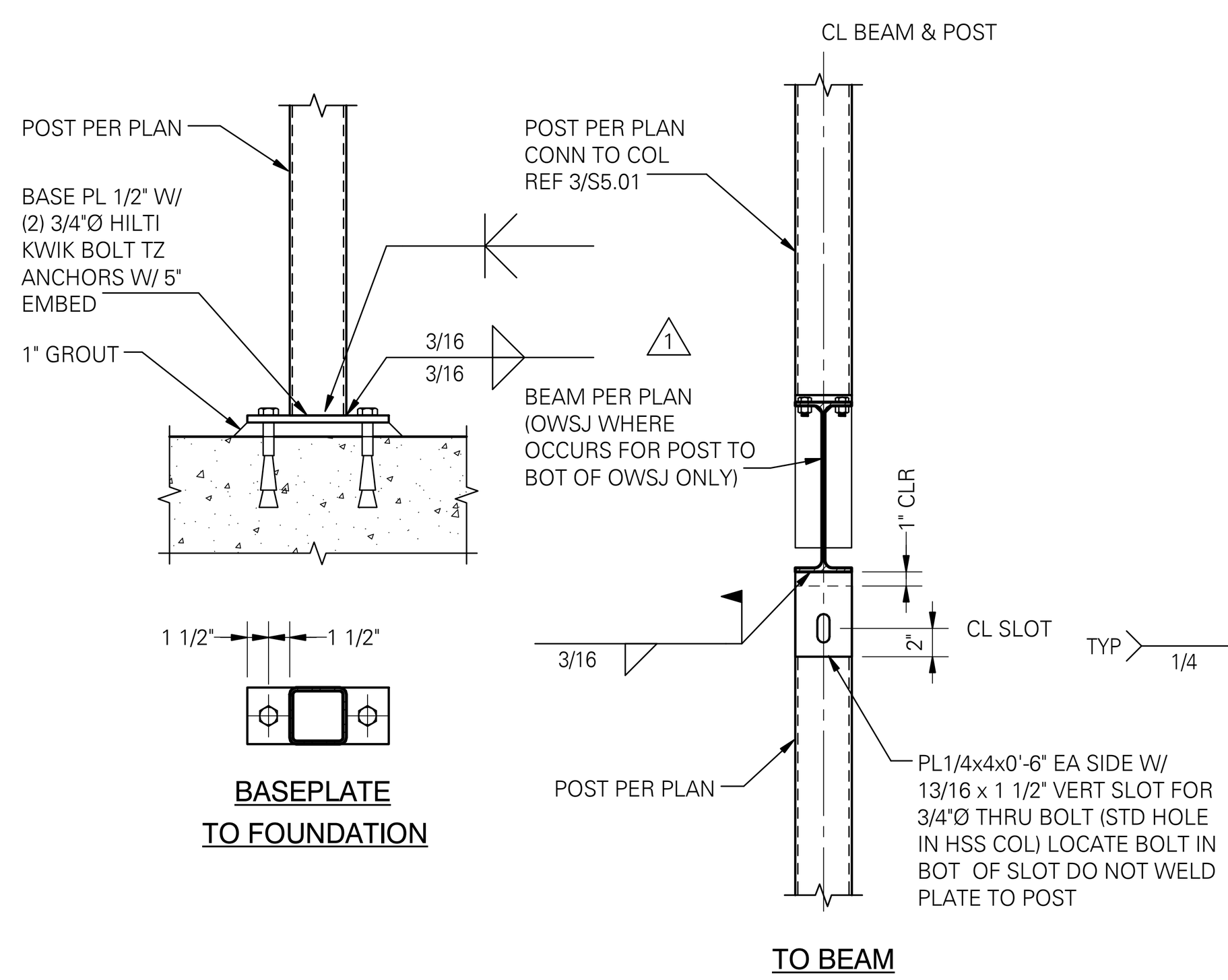
ADDITIONAL INFORMATION PER 10/S5.05 AND 19/S5.05.

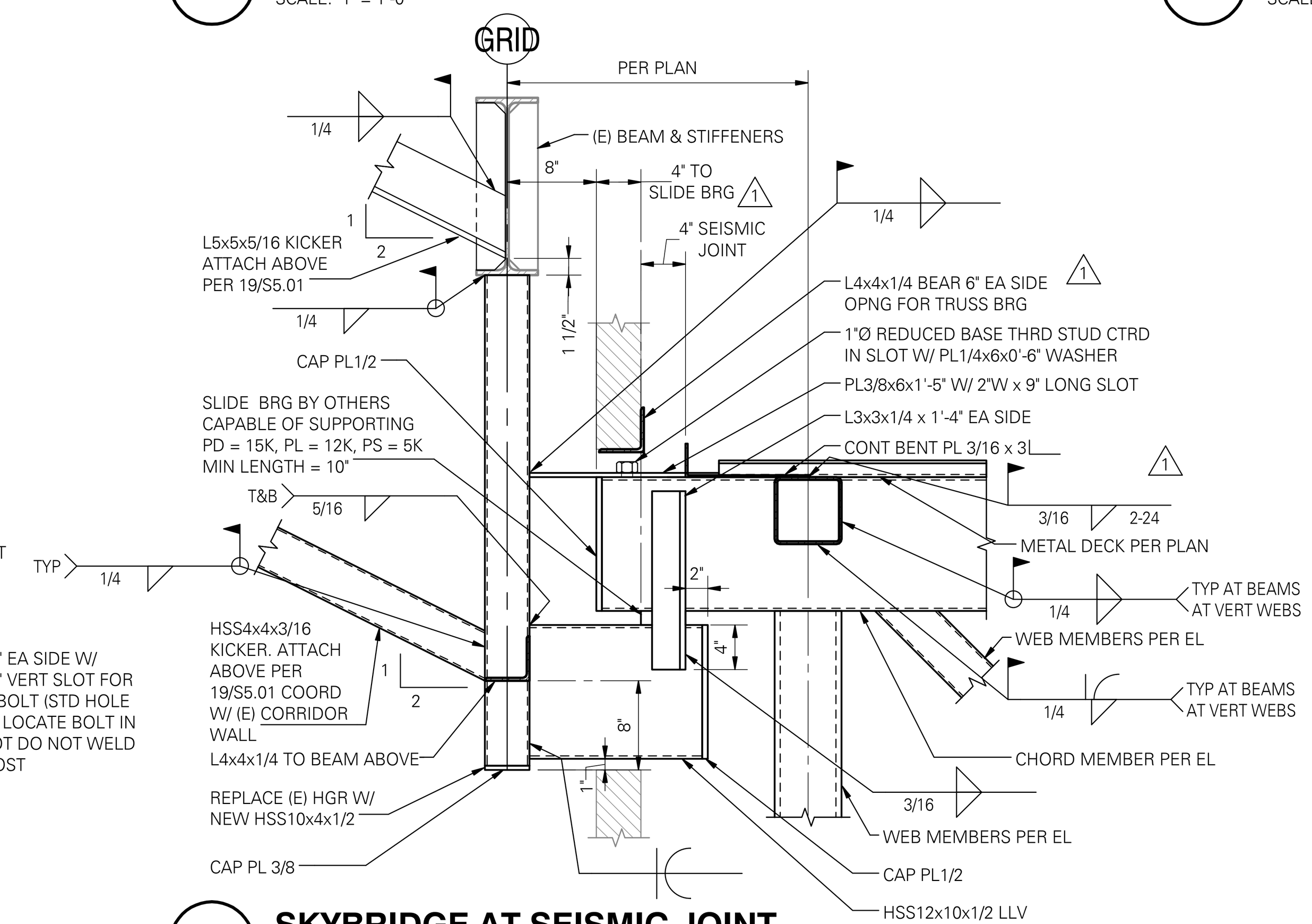
1 **OFFSET BEAM AT COLUMN**
SCALE: 1" = 1'-0"

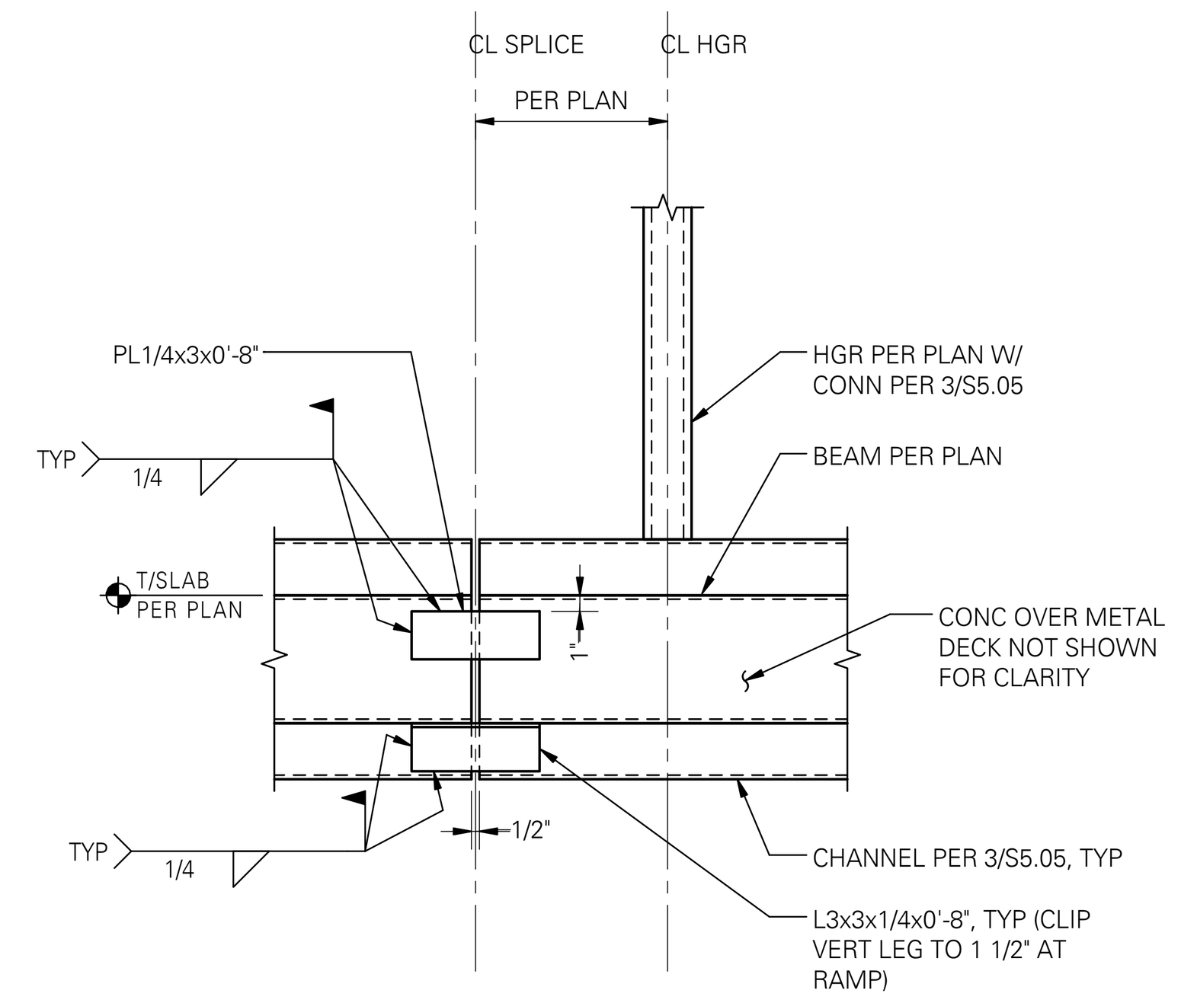
2 **HANGER AT OPEN WEB STEEL JOIST**
SCALE: 1" = 1'-0"

3 **BRIDGE HANGER CONNECTION**
SCALE: 1" = 1'-0"

4 **CUSTOM TRUSS TOP CHORD SPLICE**
SCALE: 1" = 1'-0"

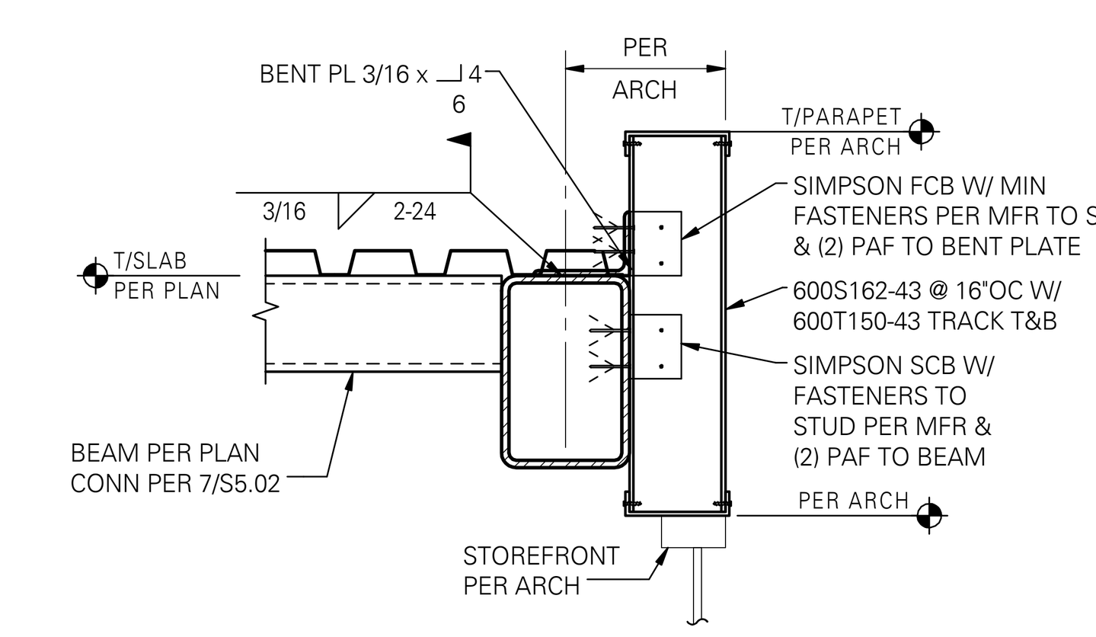


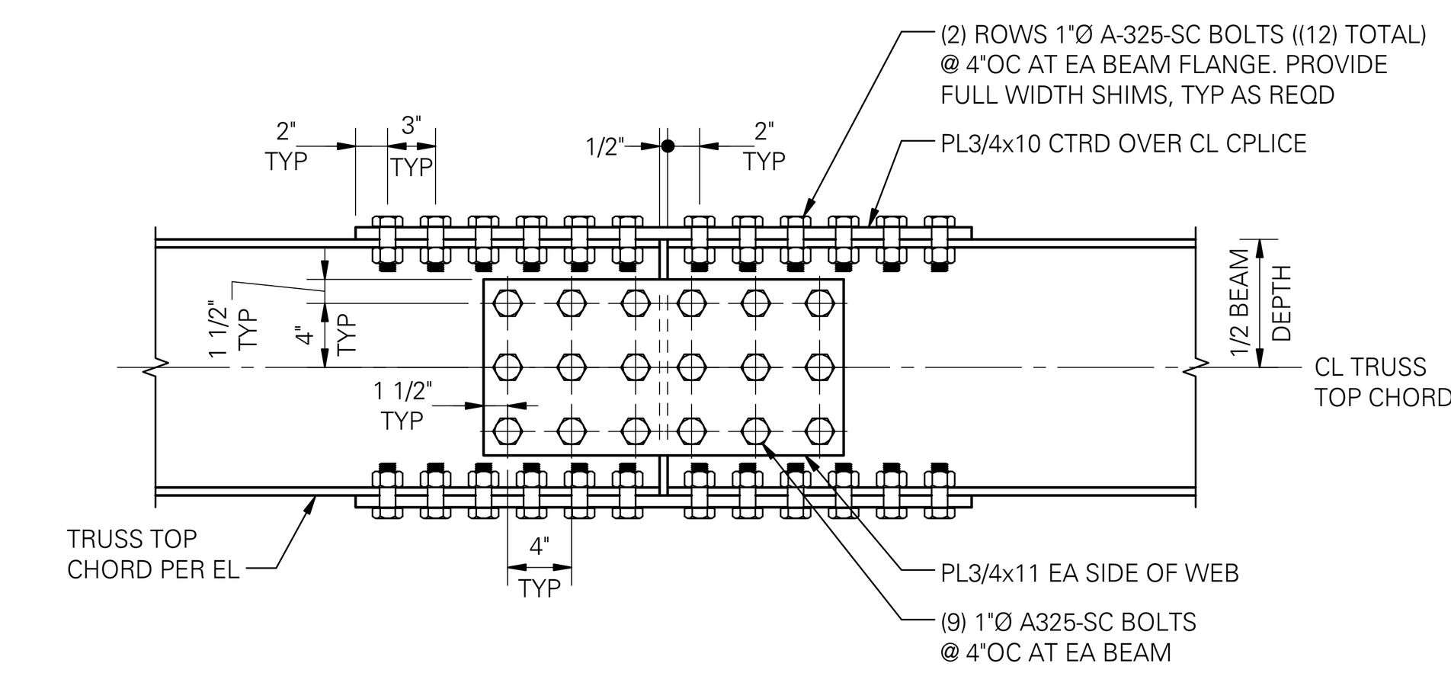




NOTE:

ADDITIONAL INFORMATION PER 3/S5.05.





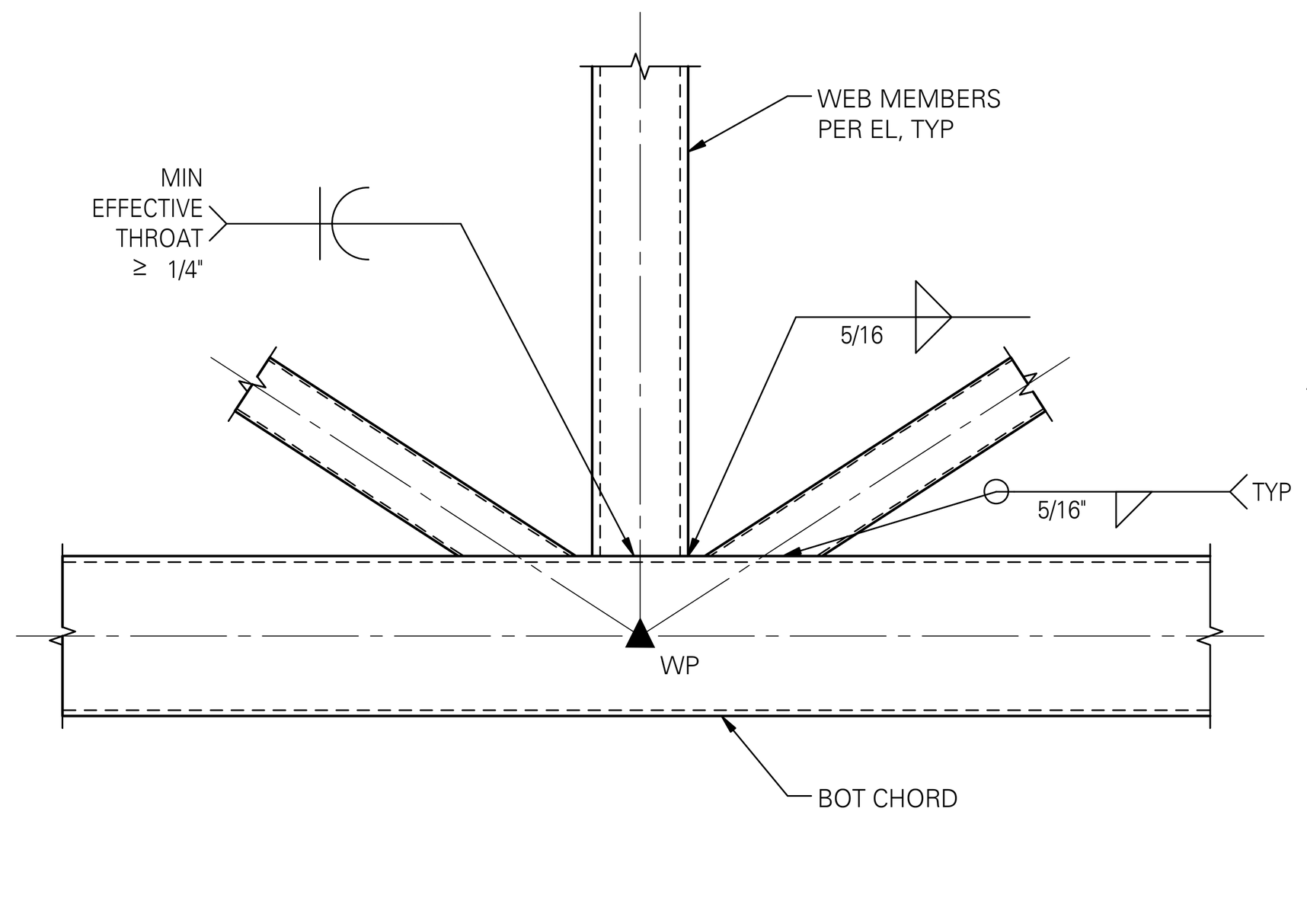
6 **POST CONNECTION**
SCALE: 1" = 1'-0"

7 **SKYBRIDGE AT SEISMIC JOINT**
SCALE: 1" = 1'-0"

8 **BRIDGE BEAM SPLICE**
SCALE: 1" = 1'-0"

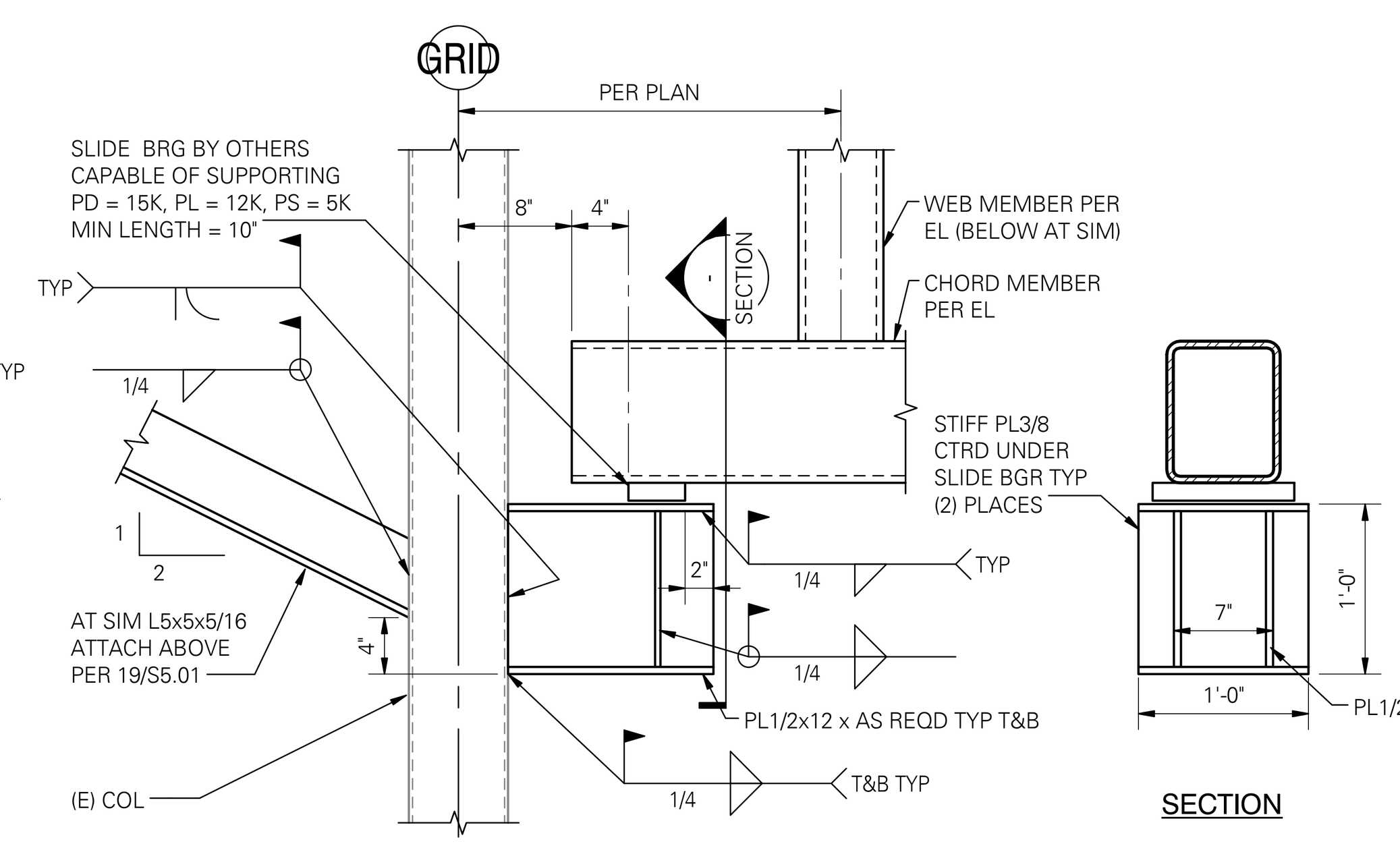
9 **SKYBRIDGE ROOF EDGE**
SCALE: 1" = 1'-0"

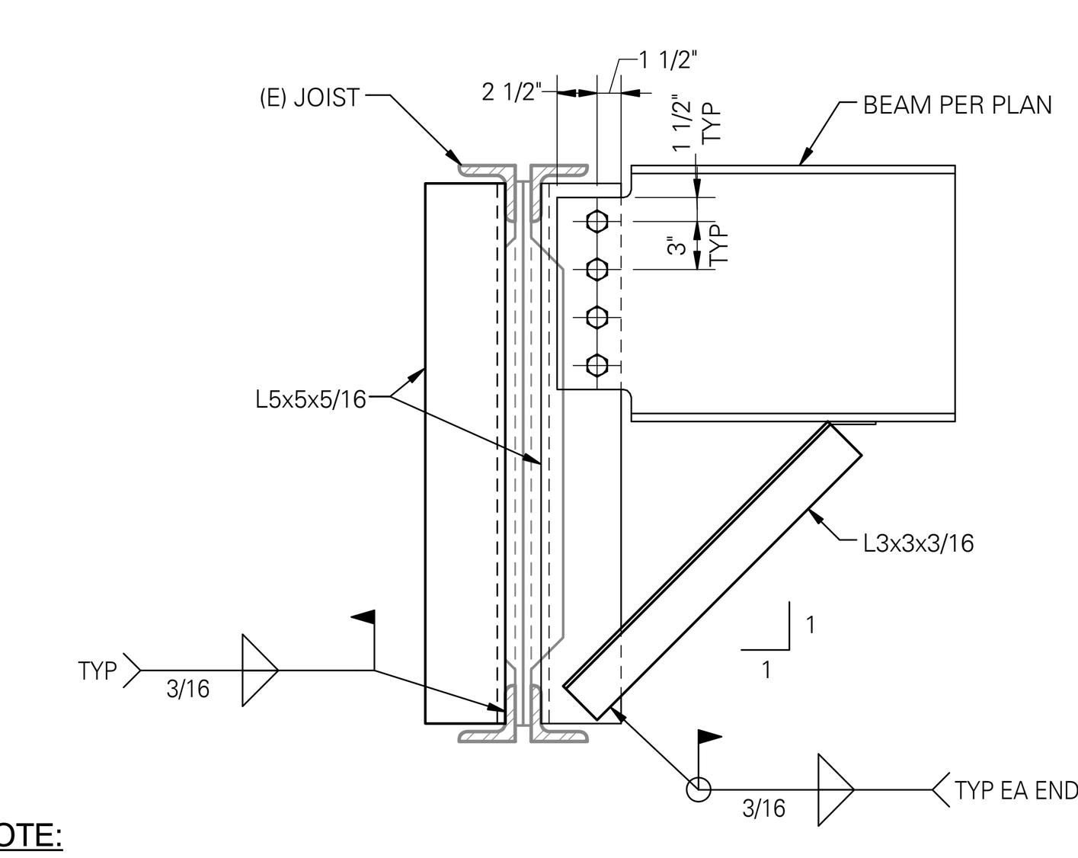
10 **CUSTOM TRUSS TOP CHORD SPLICE**
SCALE: 1" = 1'-0"



NOTE:

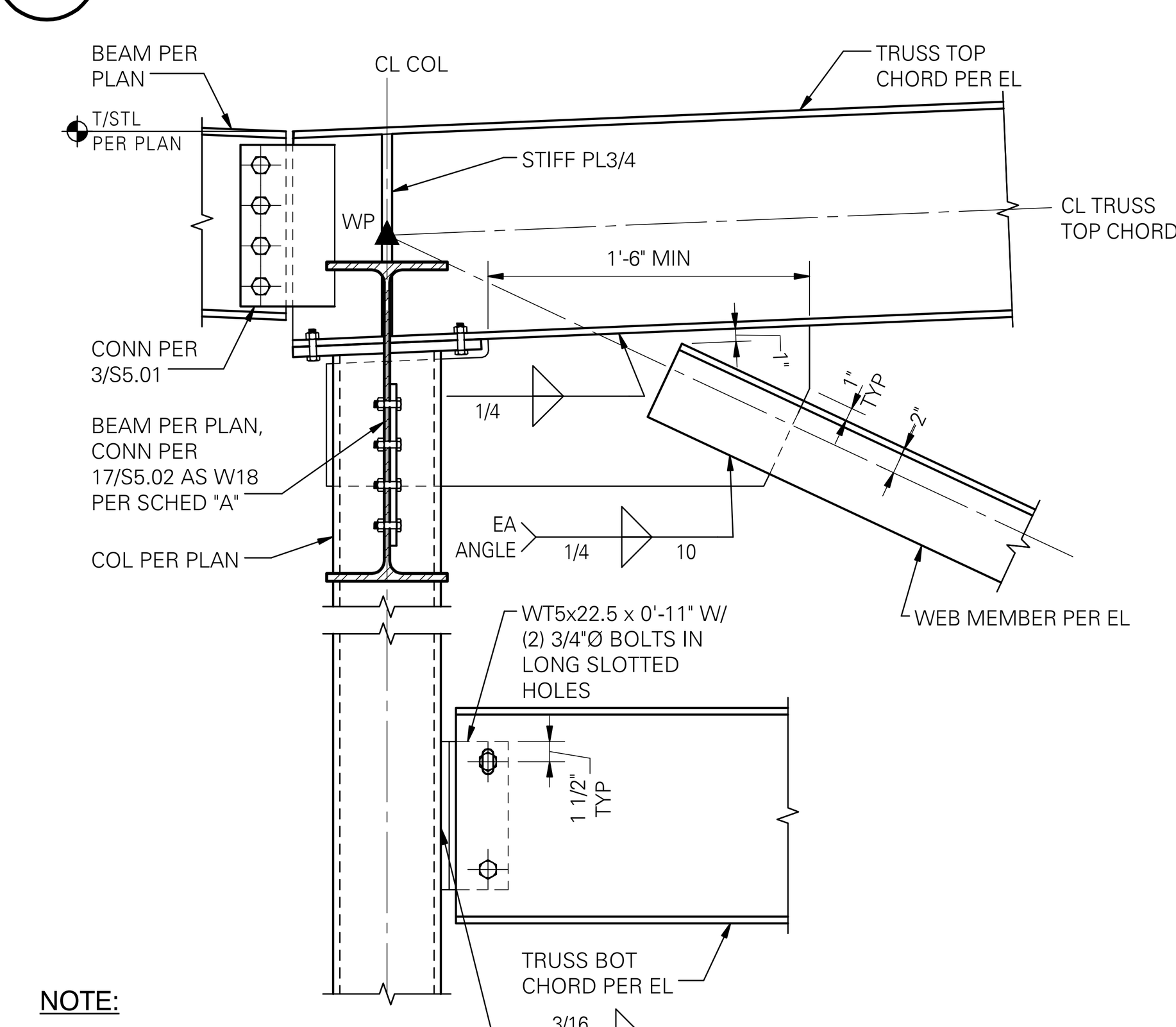
1. CUT WEB MEMBERS TO BEAR FLAT ON CHORD
2. NO INCLINED WEB MEMBERS AT SIMILAR





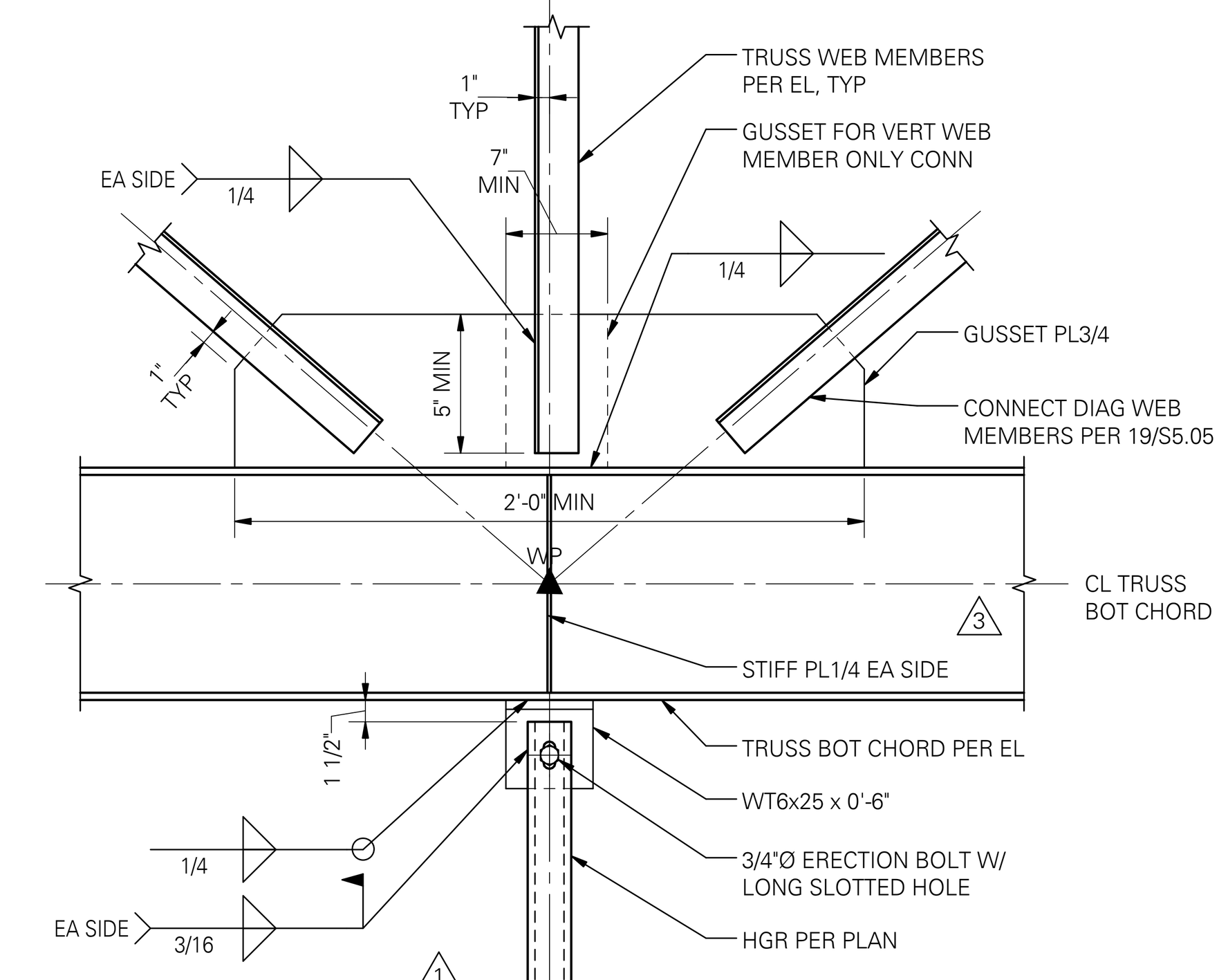
NOTE:

METAL DECK NOT SHOWN FOR CLARITY.



NOTE:

ADDITIONAL INFORMATION PER 3/S5.01.



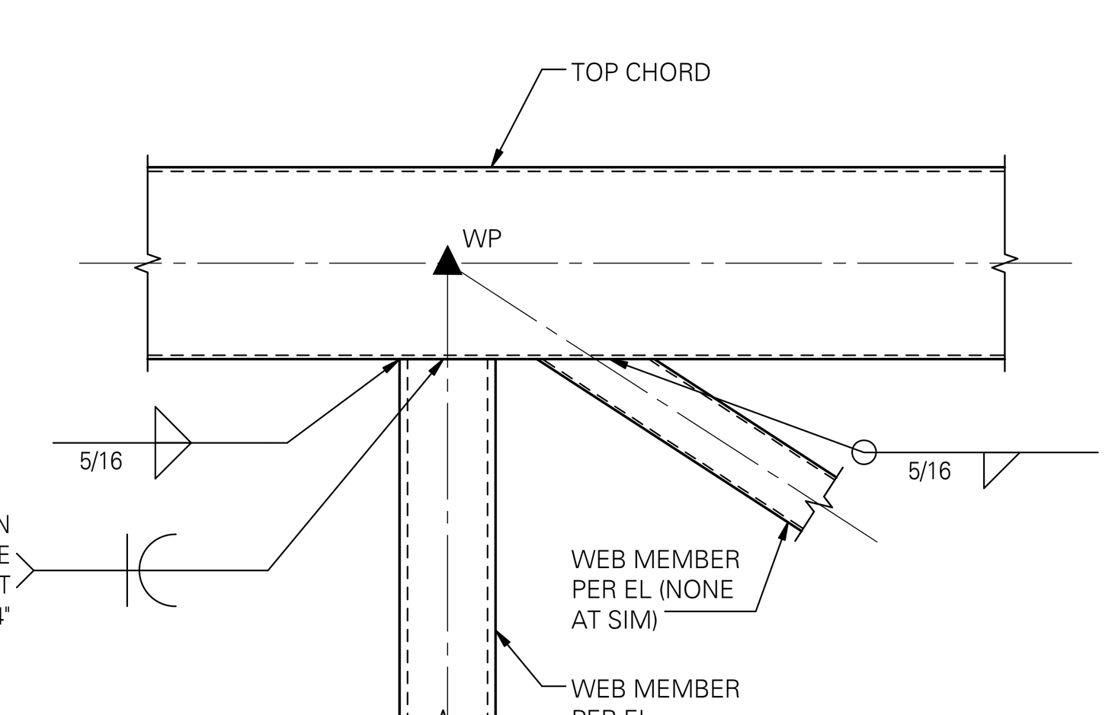
11 **WEB MEMBERS TO BOTTOM CHORD**
SCALE: 1" = 1'-0"

12 **SKYBRIDGE AT SEISMIC JOINT**
SCALE: 1" = 1'-0"

13 **BEAM DETAIL**
SCALE: 1" = 1'-0"

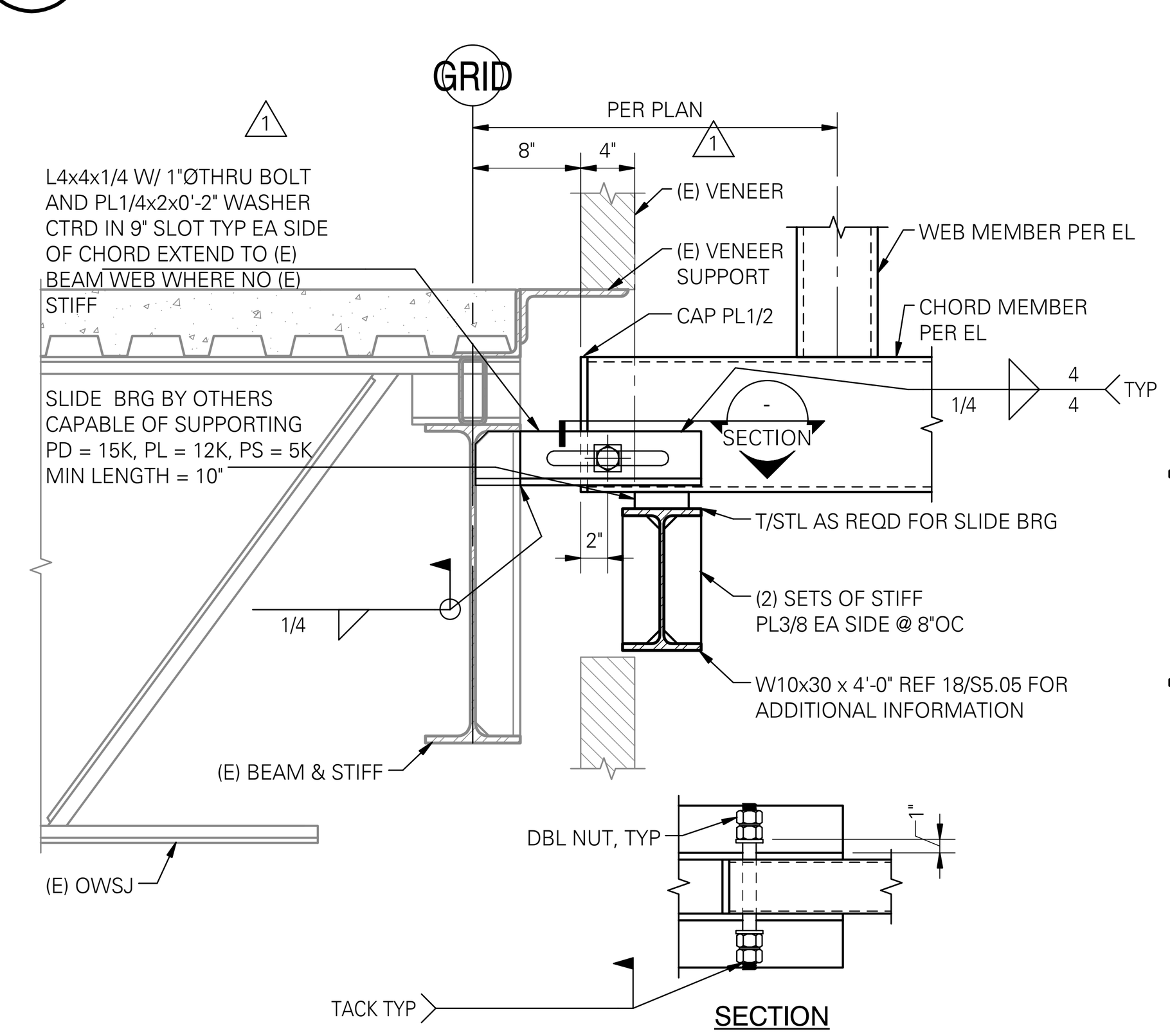
14 **CUSTOM TRUSS TO COLUMN**
SCALE: 1" = 1'-0"

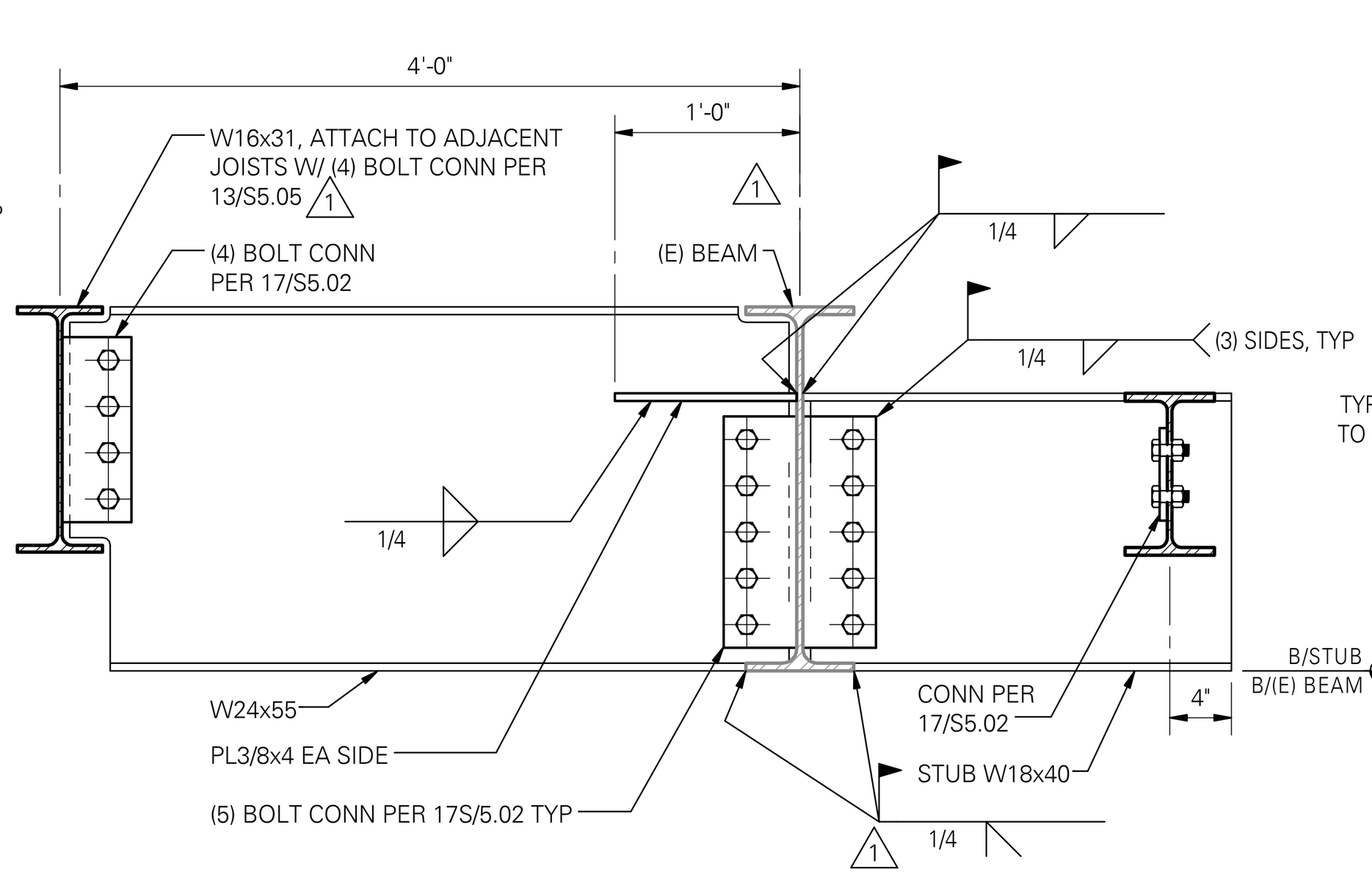
15 **CUSTOM TRUSS BOTTOM CHORD WEB MEMBERS AND HANGER CONNECTION**
SCALE: 1" = 1'-0"

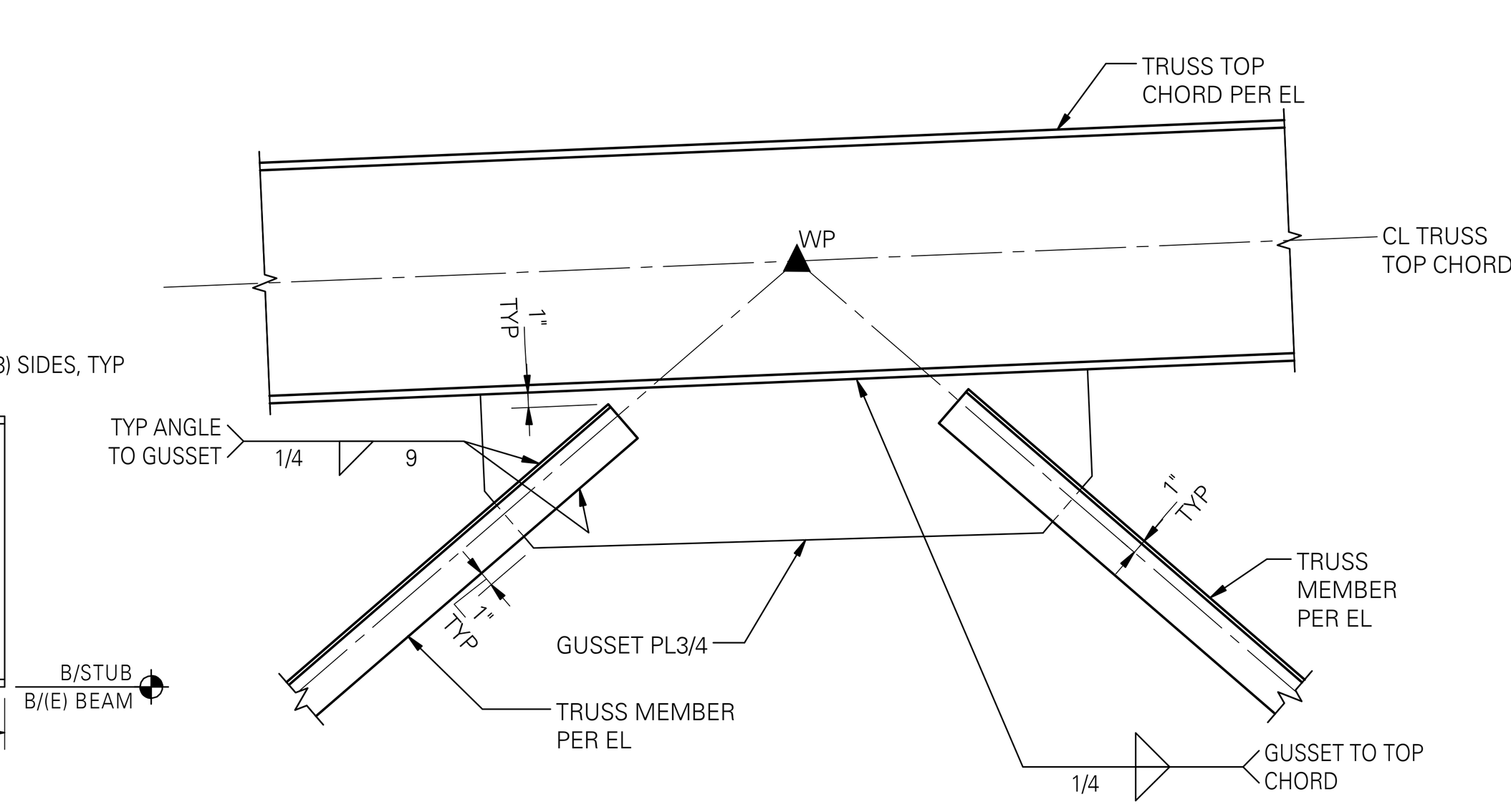


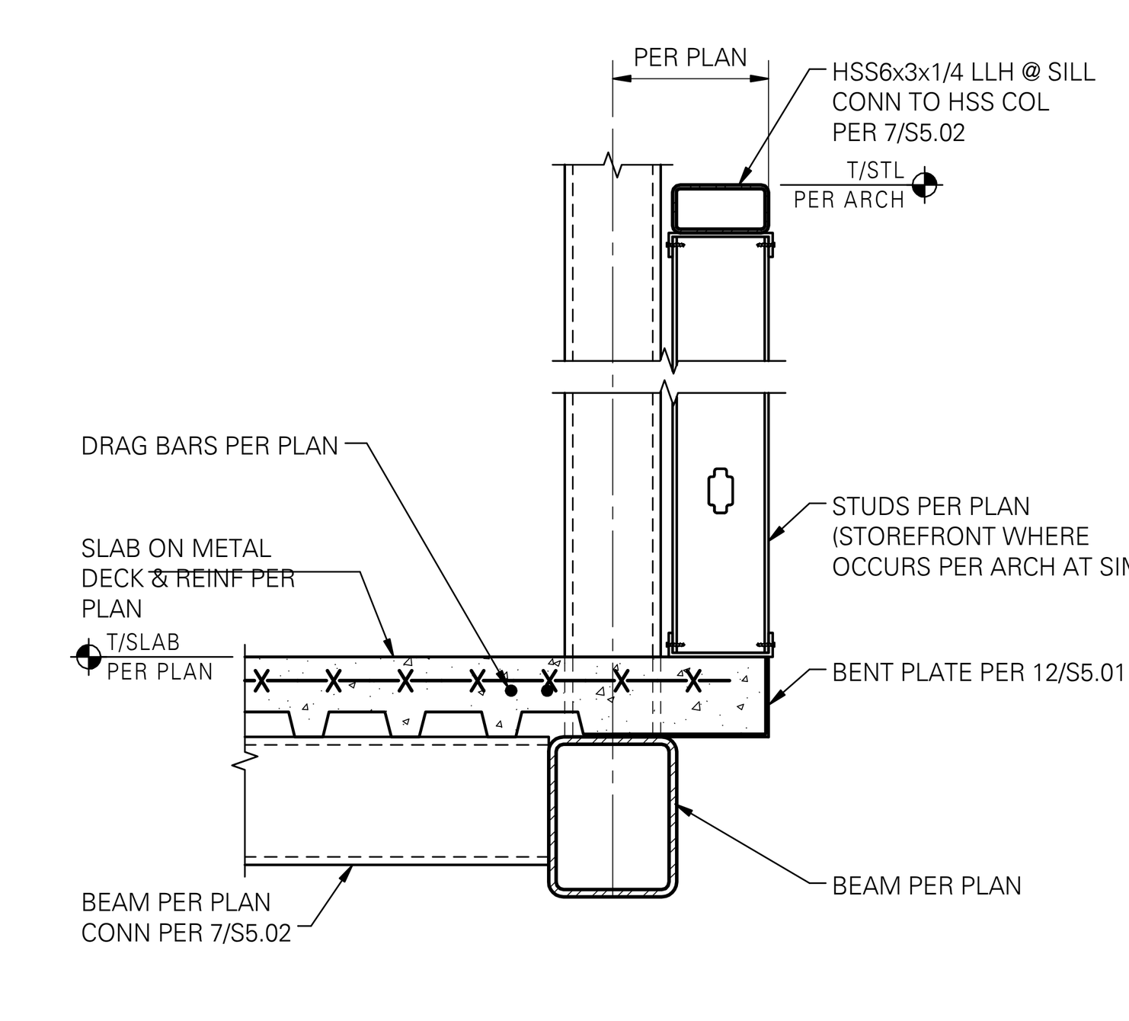
NOTE:

1. CUT WEB MEMBERS TO BEAR FLAT ON CHORD.









16 **WEB MEMBERS TO TOP CHORD**
SCALE: 1" = 1'-0"

17 **SKYBRIDGE AT SEISMIC JOINT**
SCALE: 1" = 1'-0"

18 **SECTION**
SCALE: 1" = 1'-0"

19 **CUSTOM TRUSS WEB MEMBERS TO TOP CHORD**
SCALE: 1" = 1'-0"

20 **SKYBRIDGE FLOOR EDGE**
SCALE: 1" = 1'-0"

REVISIONS

1	ADDENDUM 1	02-03-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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NAC NO	111-15017
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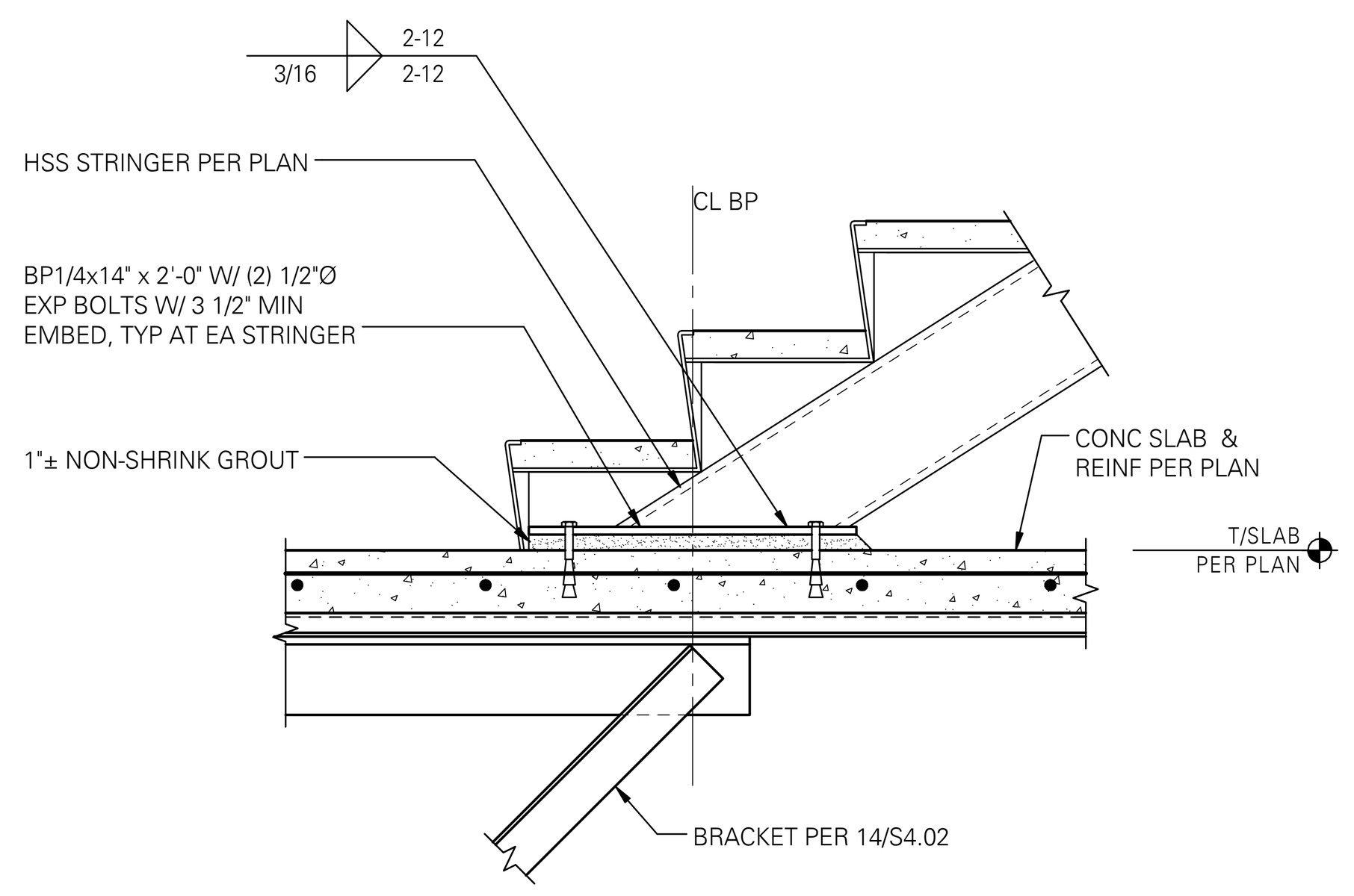
DATE	02/19/16

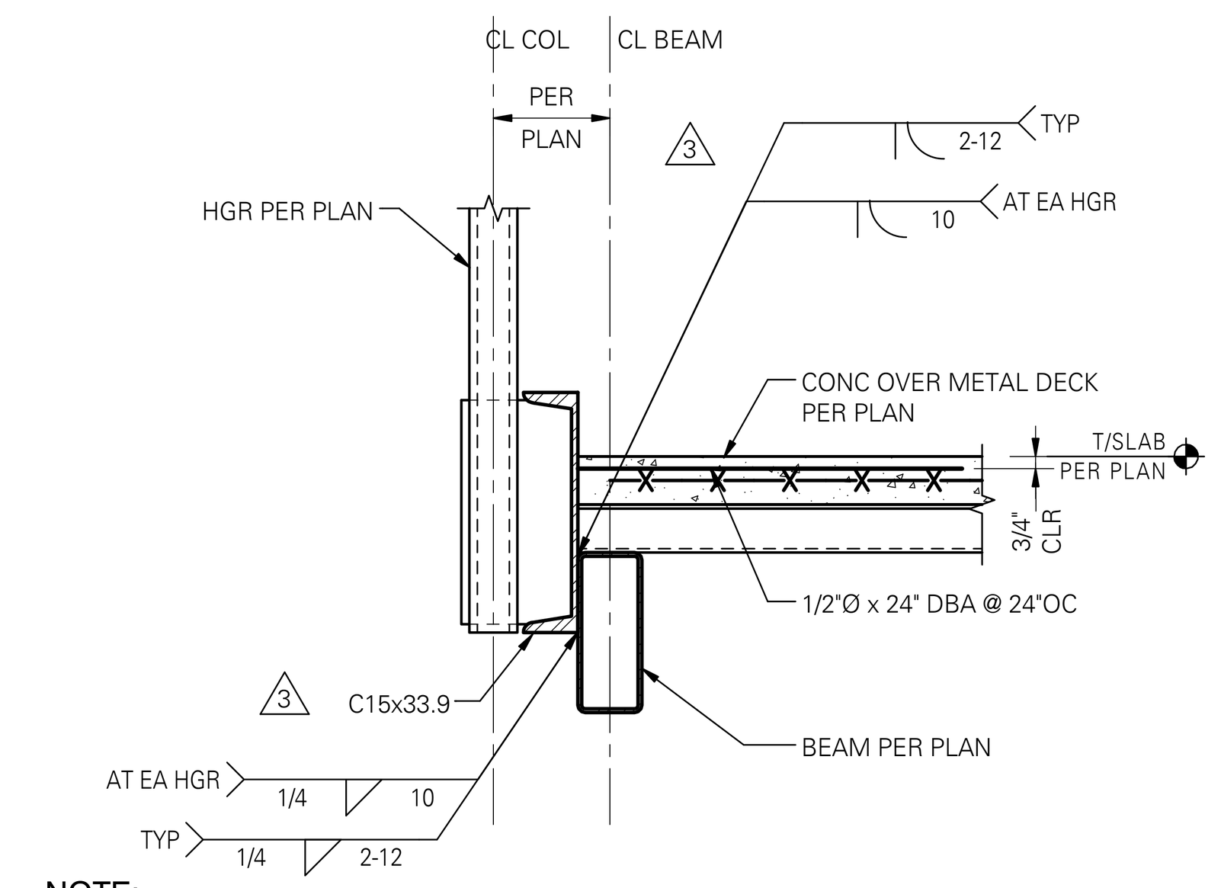
FRAMING DETAILS

CD

S5.05

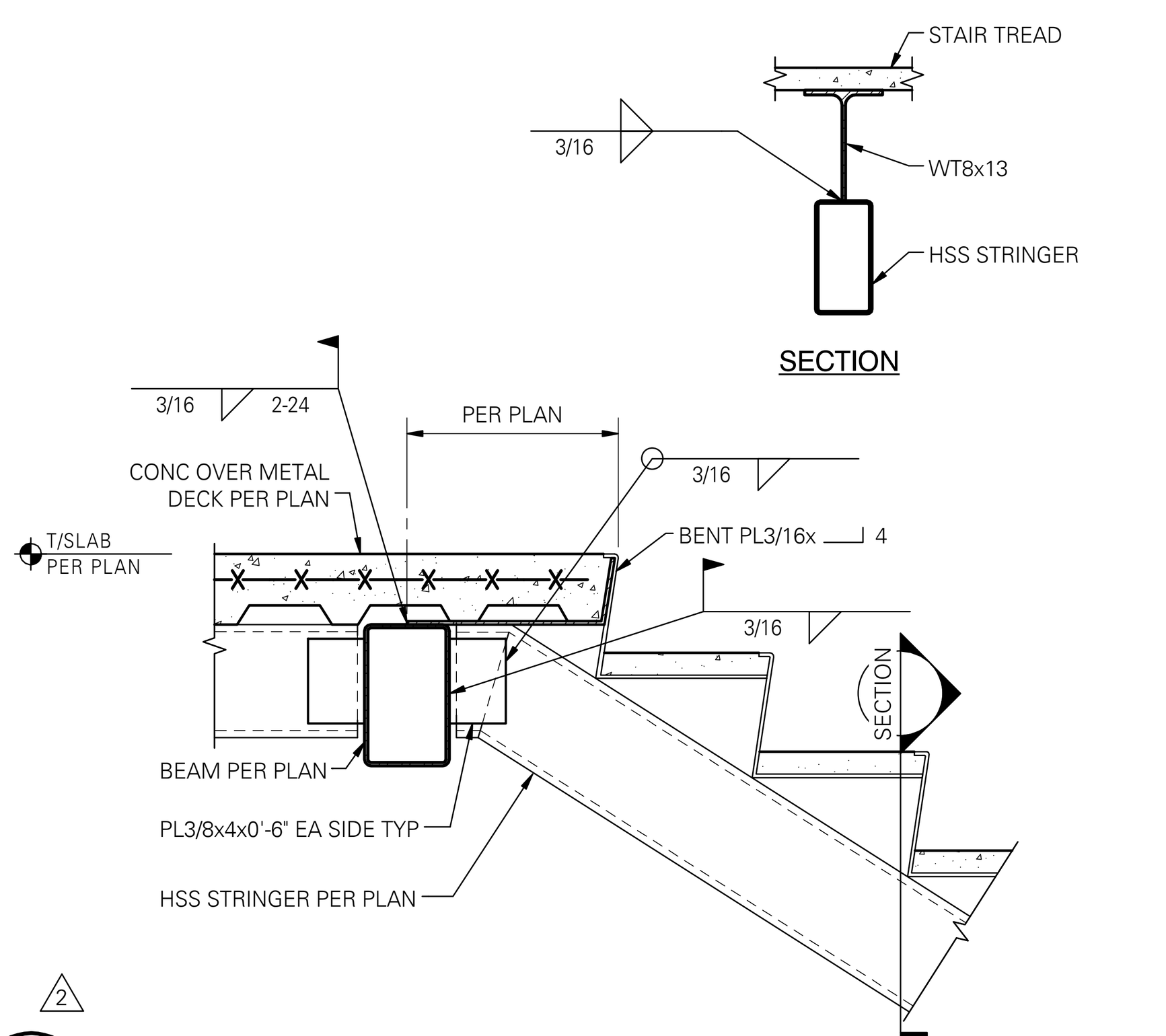


1 **STRINGER AT LOWER LANDING**
SCALE: 1" = 1'-0"

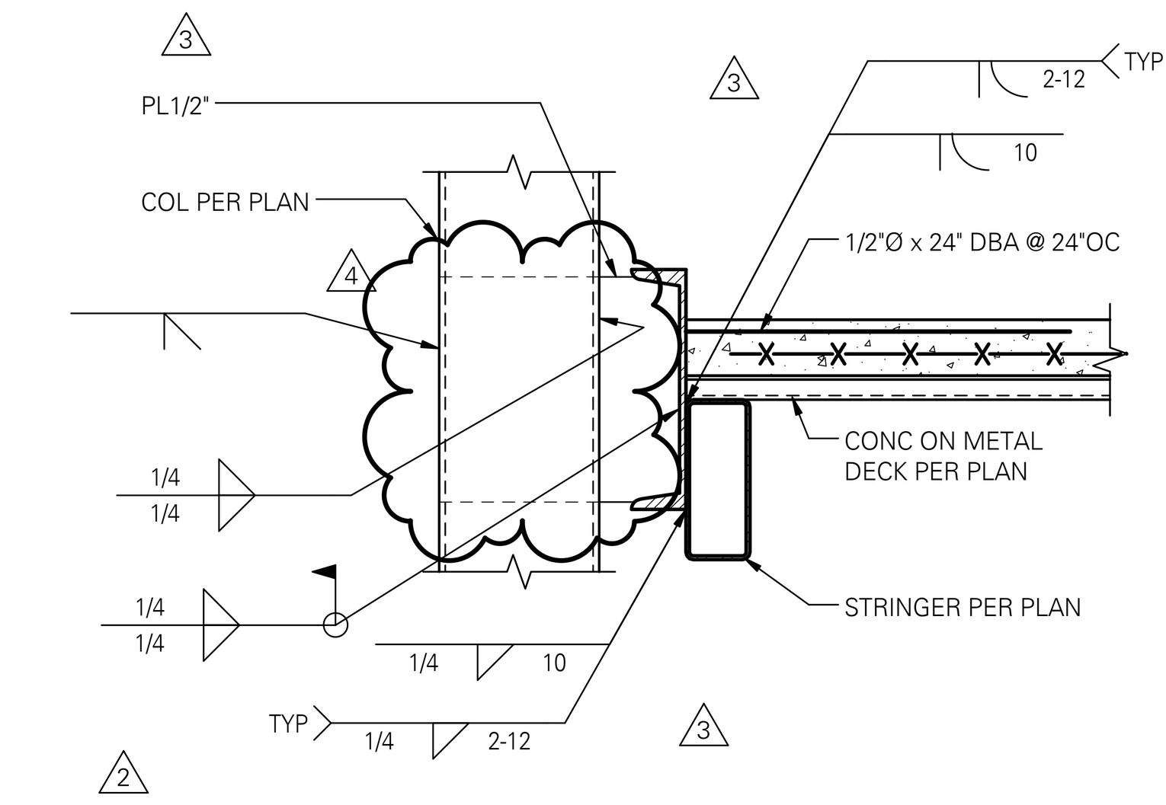


NOTE:
SEE 3/S5.05 FOR INFORMATION NOT SHOWN.

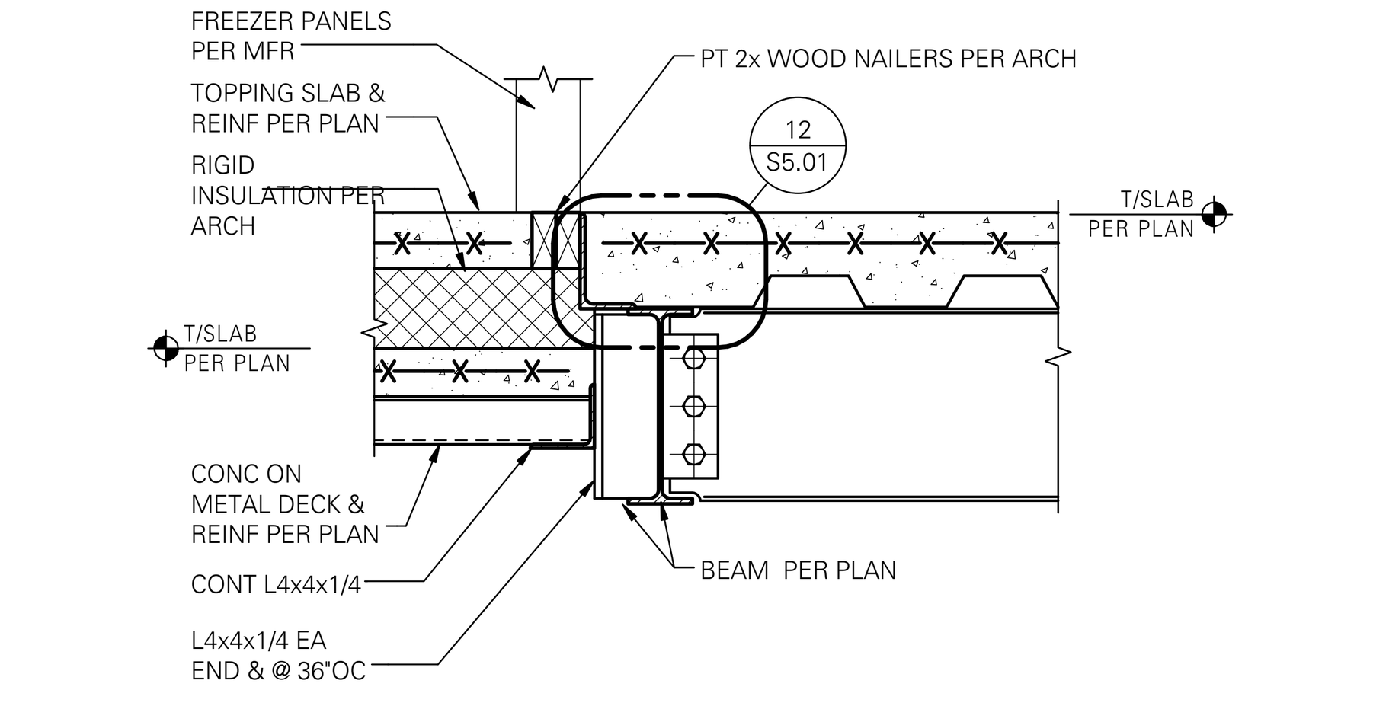
2 **STAIR HANGER CONNECTION**
SCALE: 1" = 1'-0"



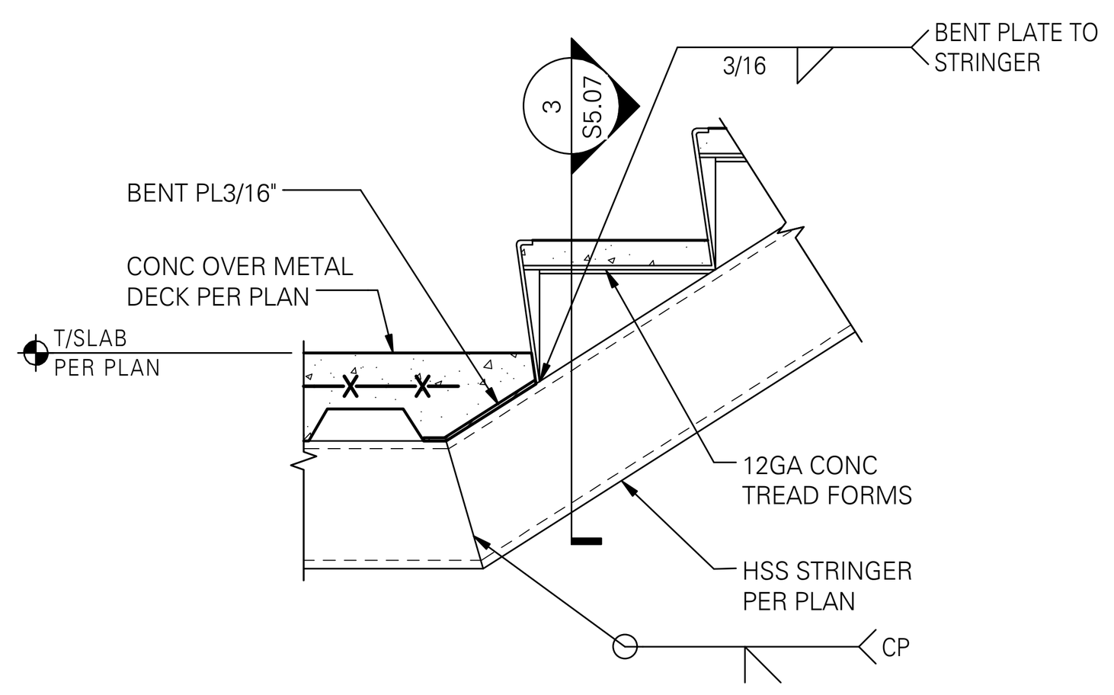
3 **STRINGER AT UPPER LANDING**
SCALE: 1" = 1'-0"



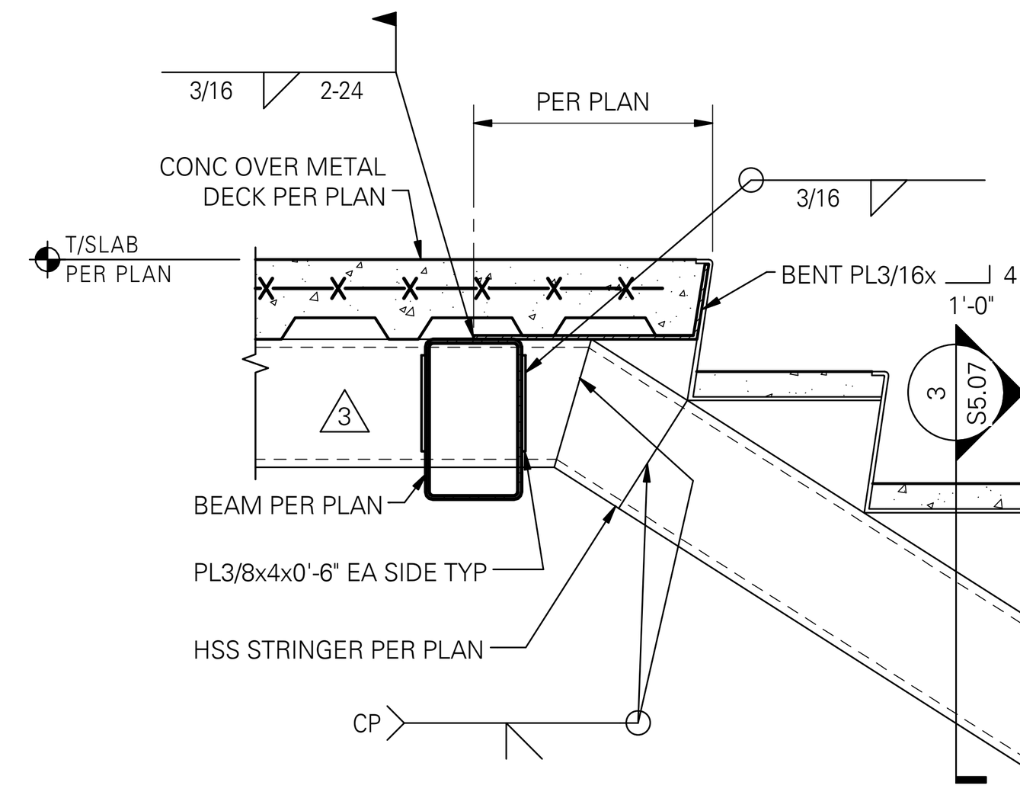
4 **SECTION**
SCALE: 1" = 1'-0"



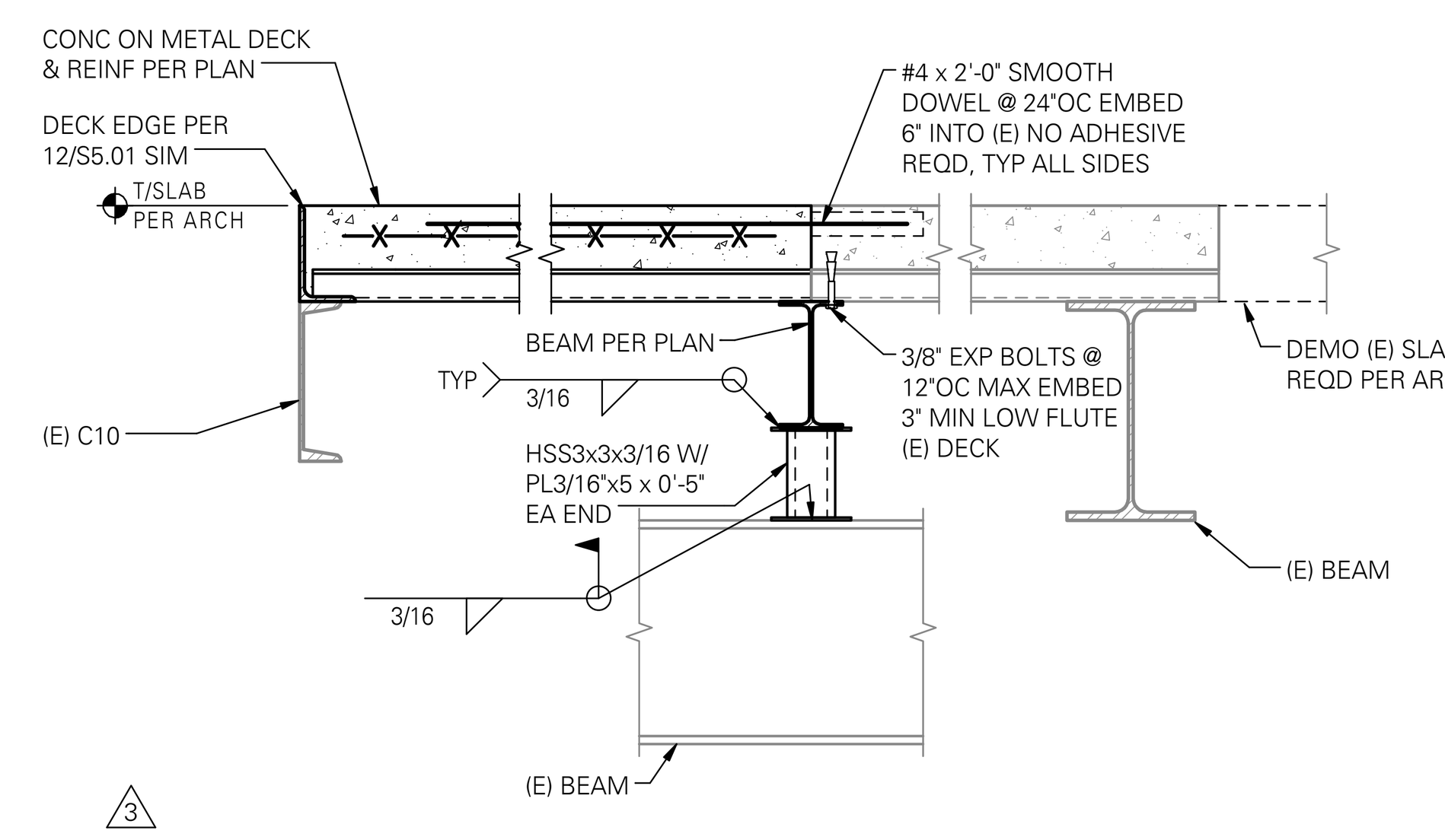
5 **RECESS SLAB AT FREEZER**
SCALE: 1" = 1'-0"



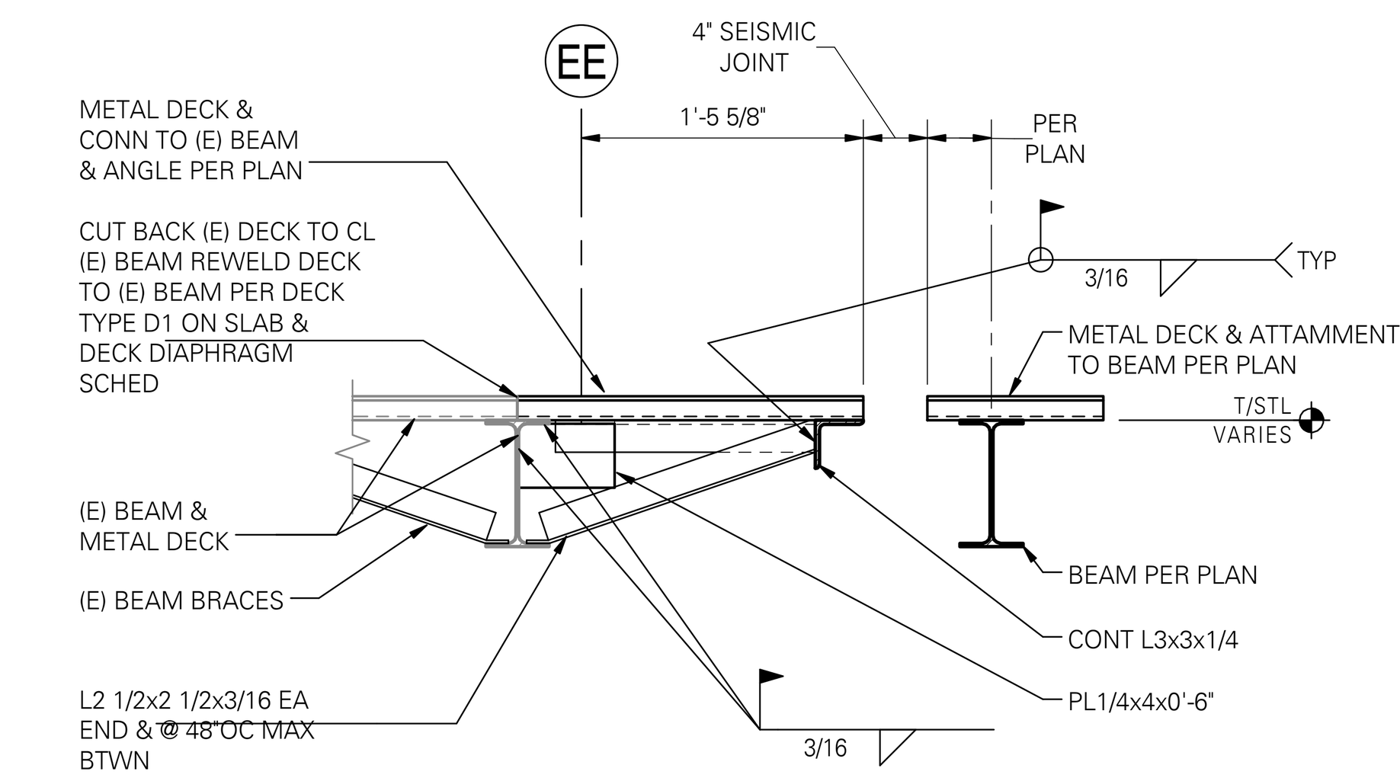
6 **STRINGER AT LOWER LANDING**
SCALE: 1" = 1'-0"



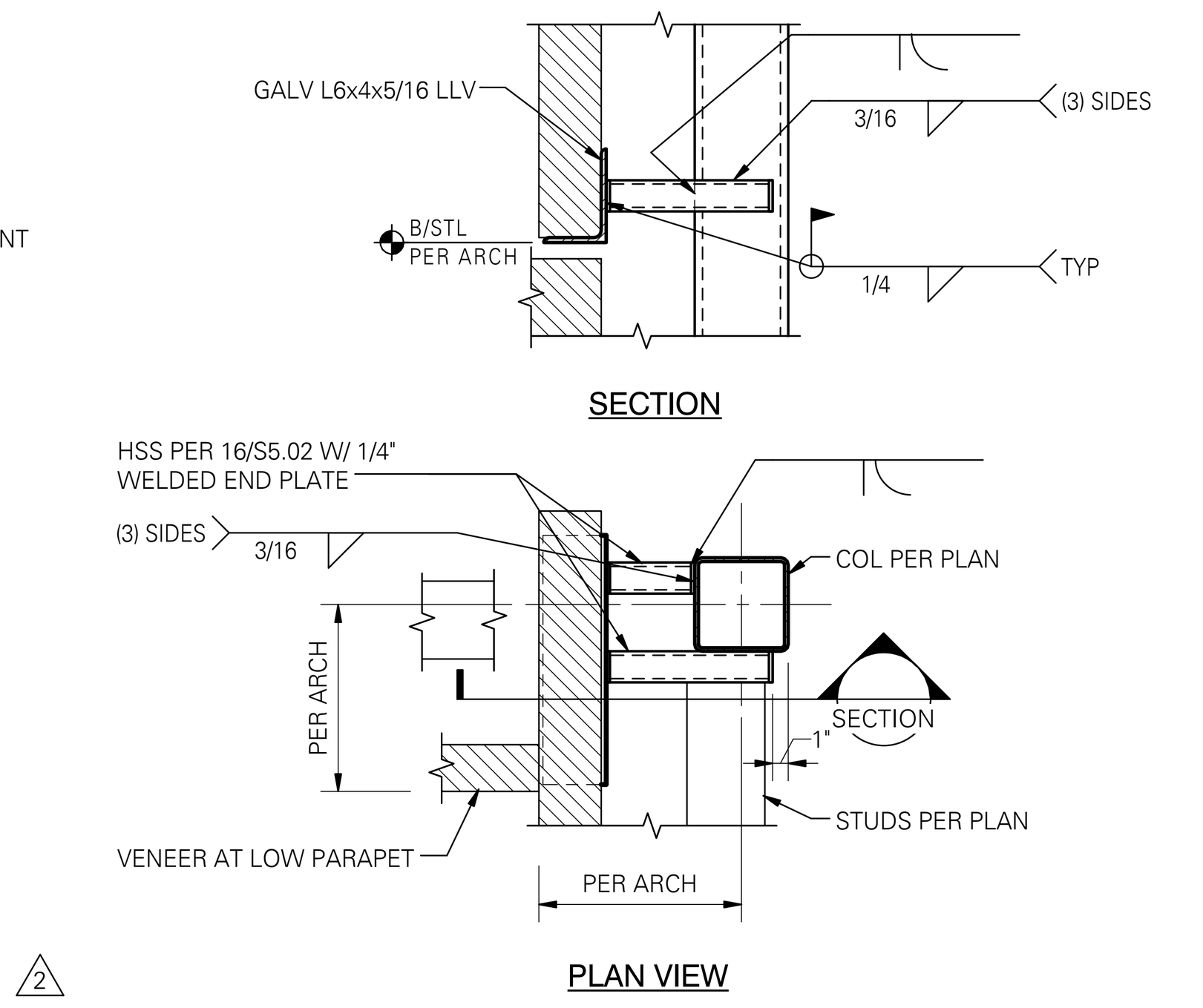
7 **STRINGER AT UPPER LANDING**
SCALE: 1" = 1'-0"



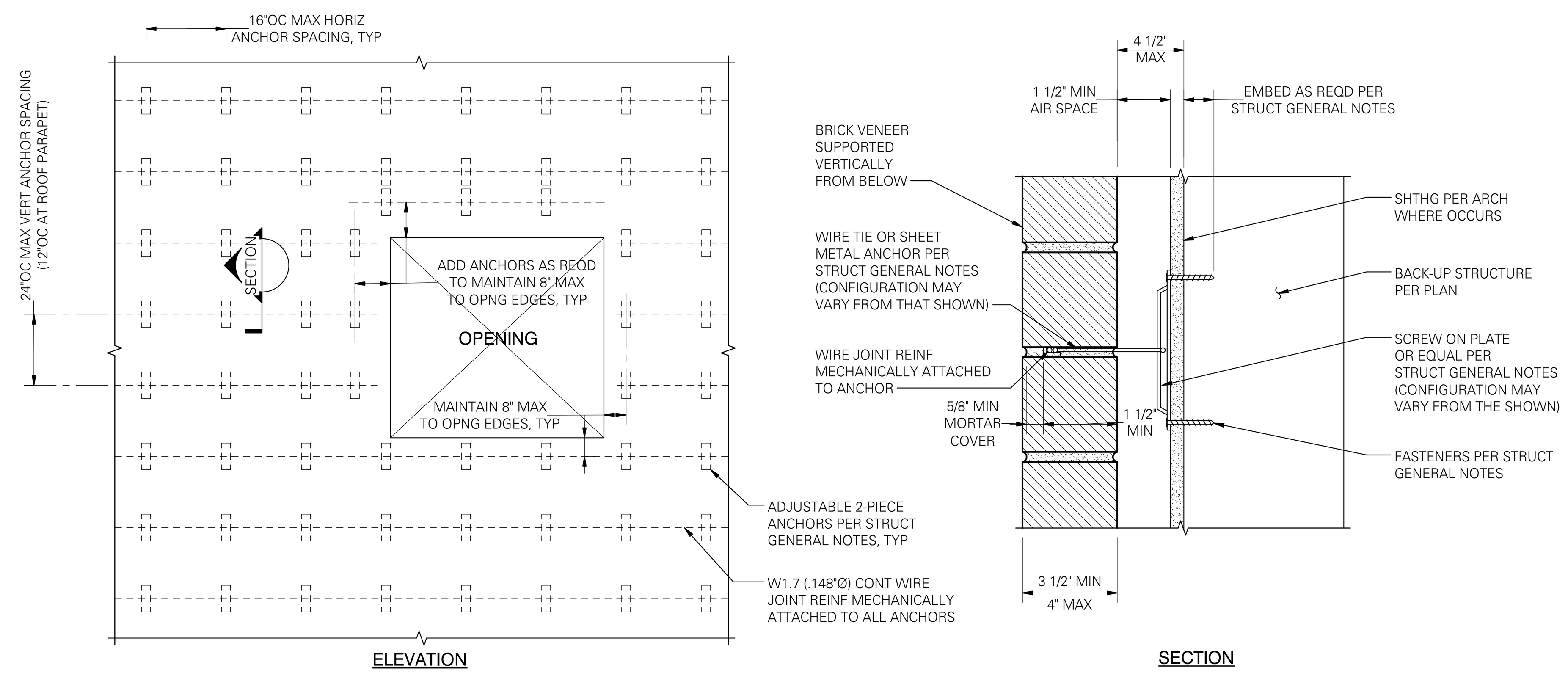
8 **INFILL AT EXISTING SLAB OPENING**
SCALE: 1" = 1'-0"



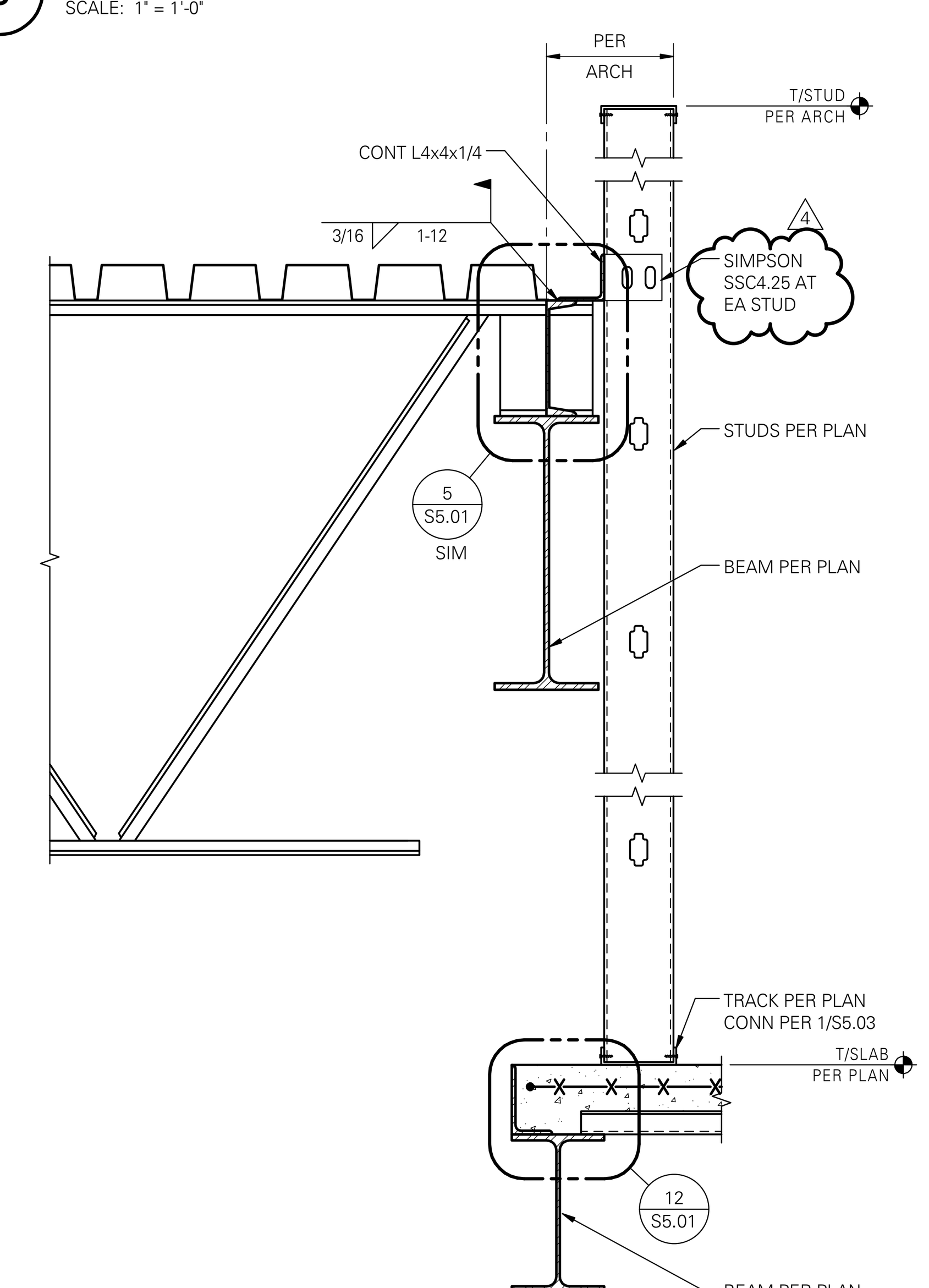
9 **ROOF SECTION AT SEISIMC JOINT**
SCALE: 1" = 1'-0"



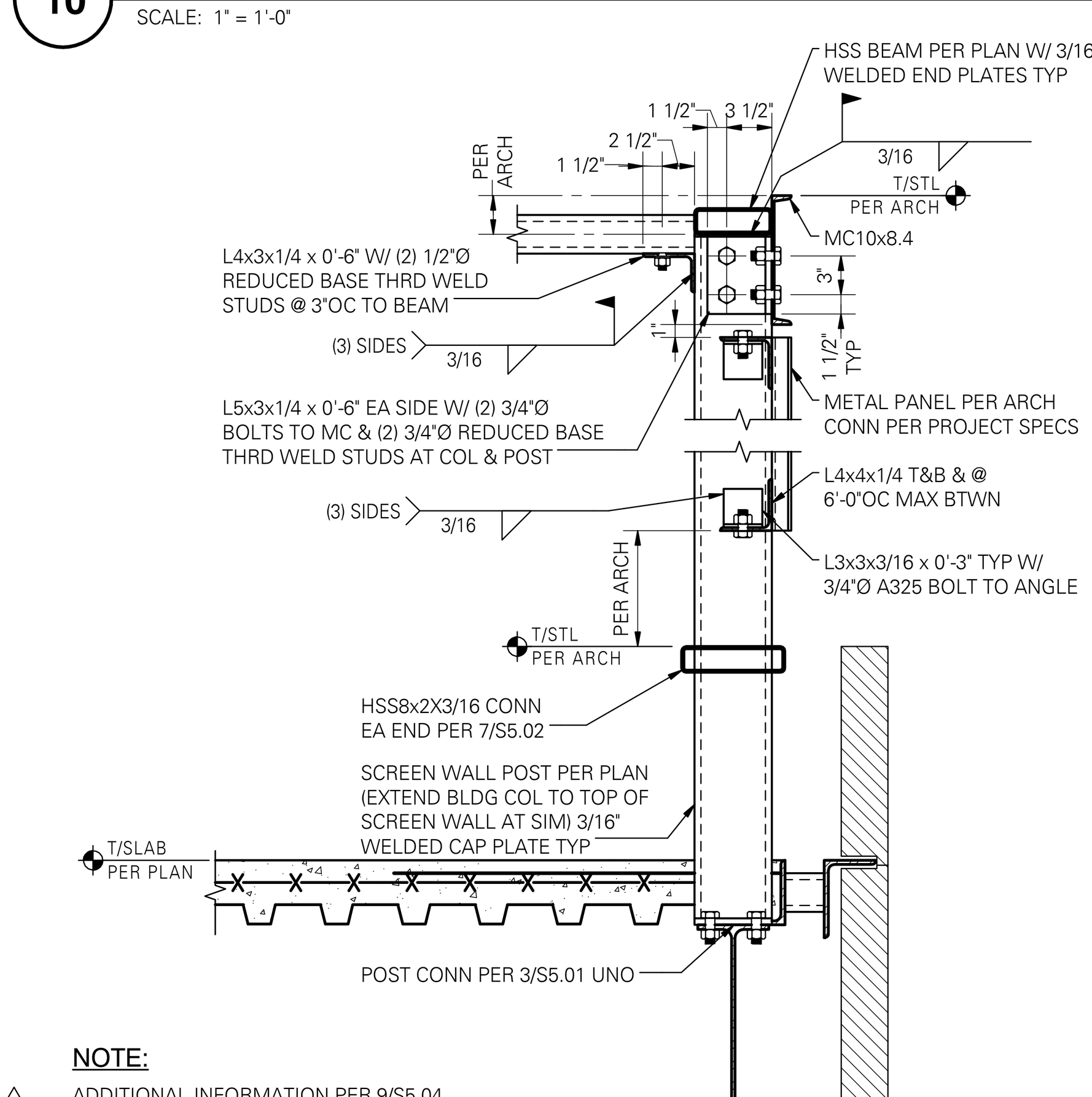
10 **VENEER SUPPORT OVER LOW PARAPET**
SCALE: 1" = 1'-0"



12 **TYPICAL BRICK VENEER ANCHORAGE**
SCALE: 3" = 1'-0" (08000M)

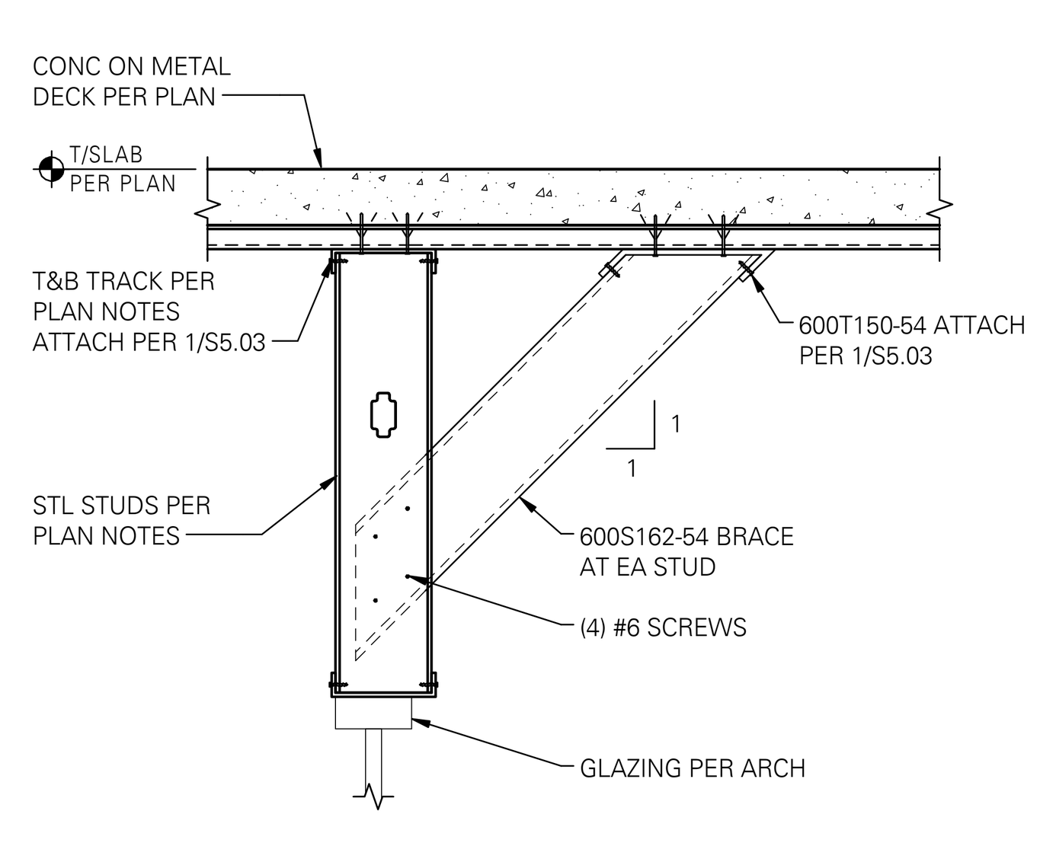


14 **ROOF WITH BYPASS STUDS**
SCALE: 1" = 1'-0"

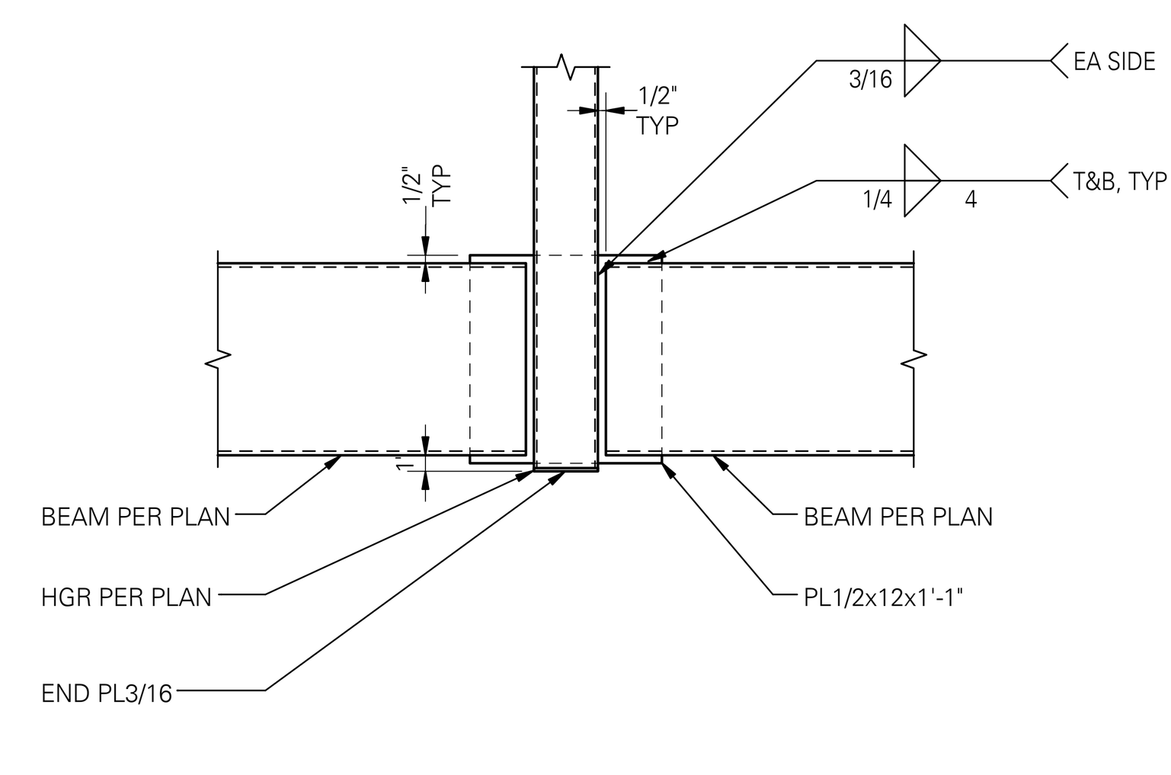


NOTE:
ADDITIONAL INFORMATION PER 9/S5.04.

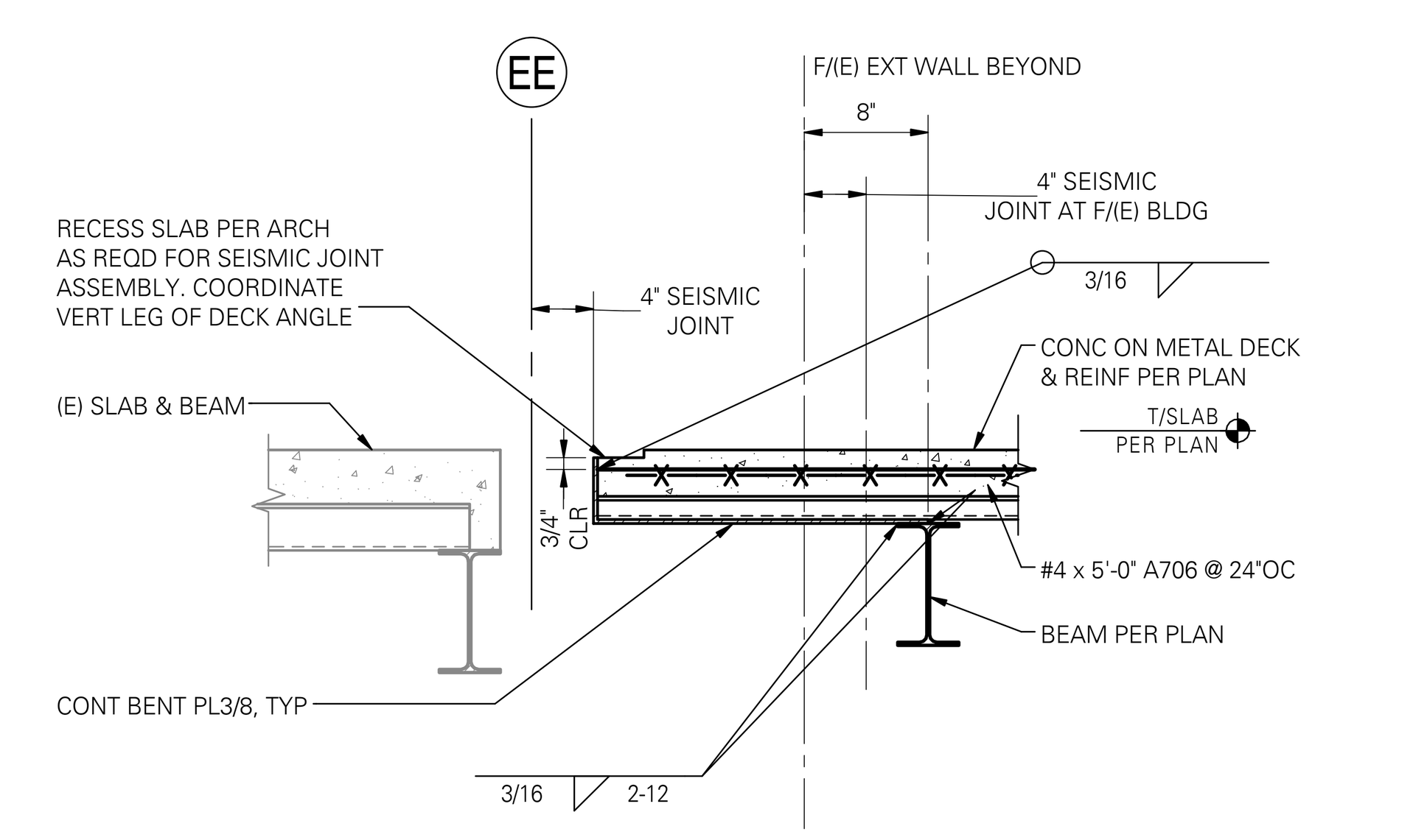
15 **SCREEN WALL GRID E4**
SCALE: 1" = 1'-0"



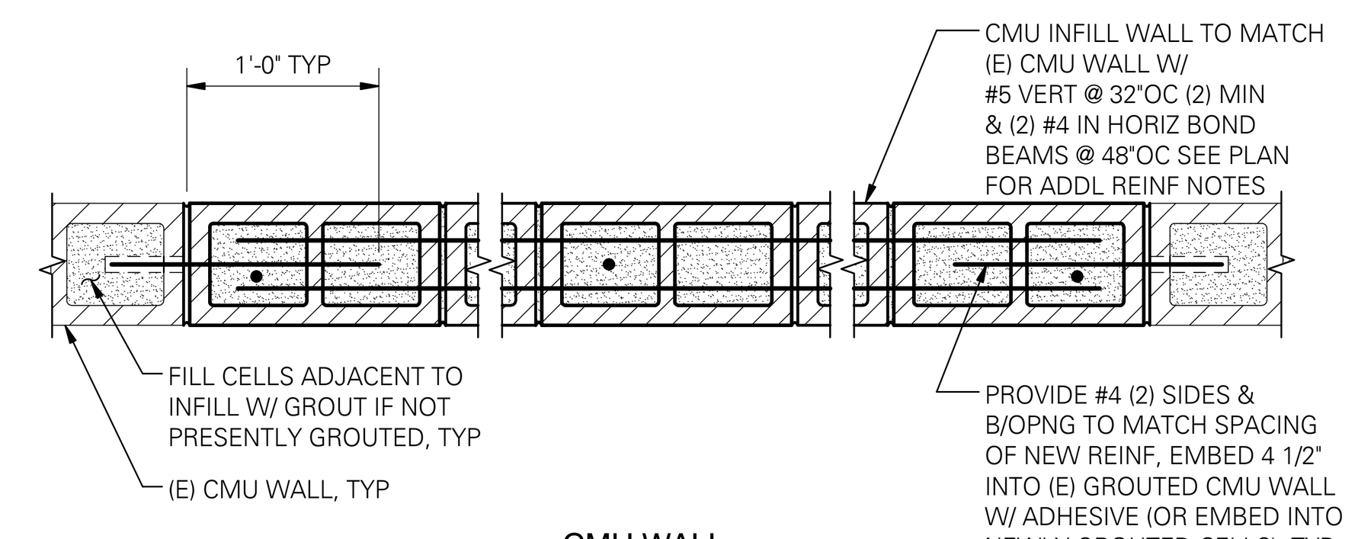
17 **DOOR HEADER BRACE**
SCALE: 1" = 1'-0"



18 **HANGER CONNECTION**
SCALE: 1" = 1'-0"



19 **SLAB AT SEISIMIC JOINT**
SCALE: 1" = 1'-0"



20 **PLAN -INFILL OF EXISTING OPENING**
SCALE: 1" = 1'-0" (04005)

REVISIONS

1	ADDENDUM 1	02-03-16
2	ADDENDUM 2	02-08-16
3	ADDENDUM 3	02-19-16
4	ADDENDUM 4	03-02-16

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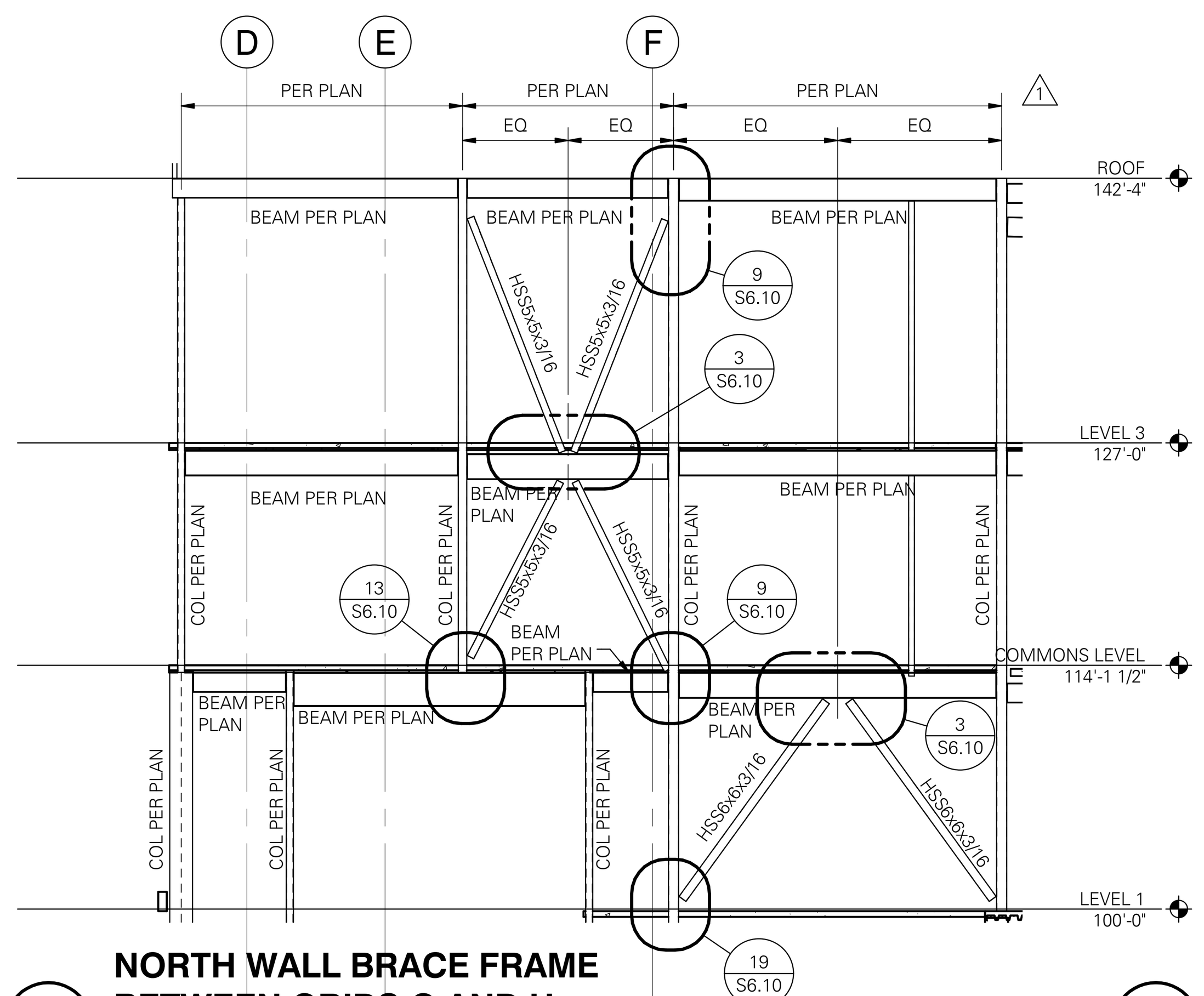
NAC NO.	111-15017
DRAWN	Author
CHECKED	Checker
DATE	02/19/16

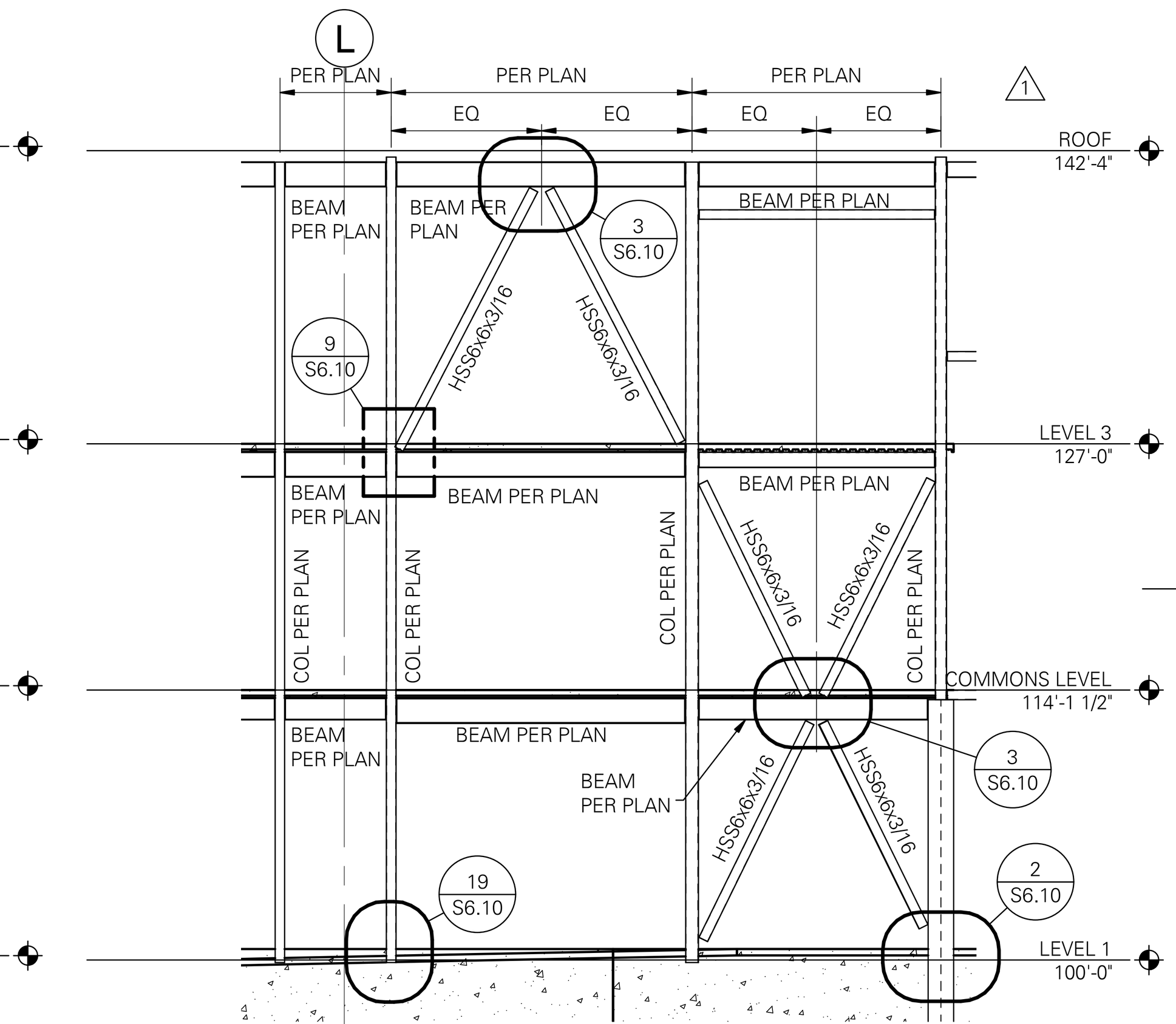
FRAMING DETAILS

CD

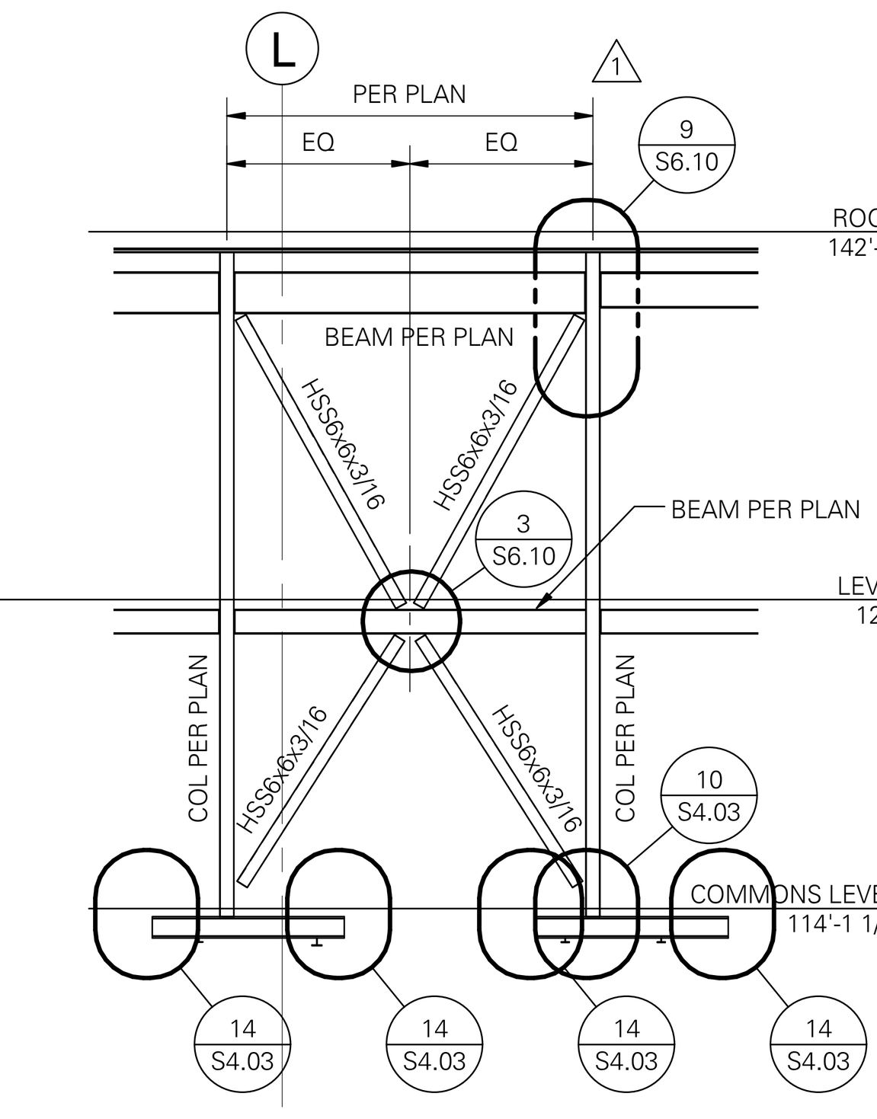
S5.07



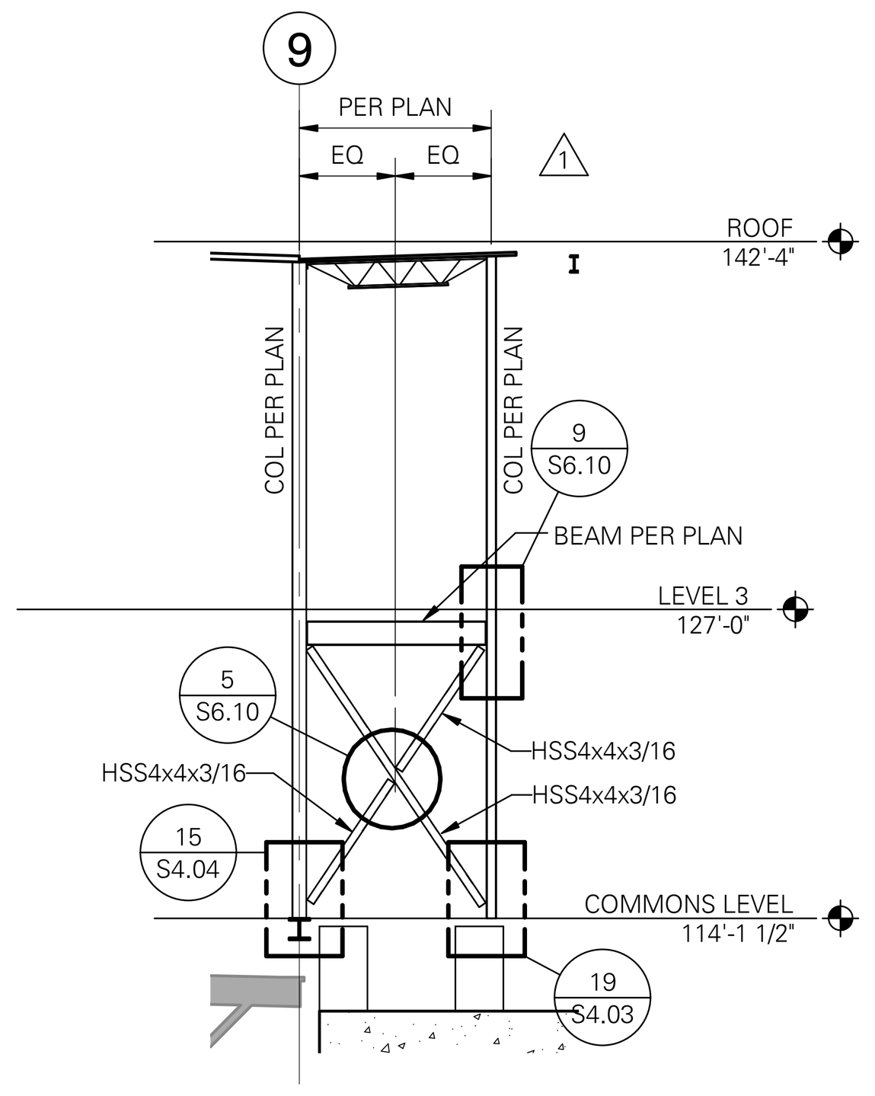
1 **NORTH WALL BRACE FRAME BETWEEN GRIDS G AND H**
SCALE: 1/8" = 1'-0"



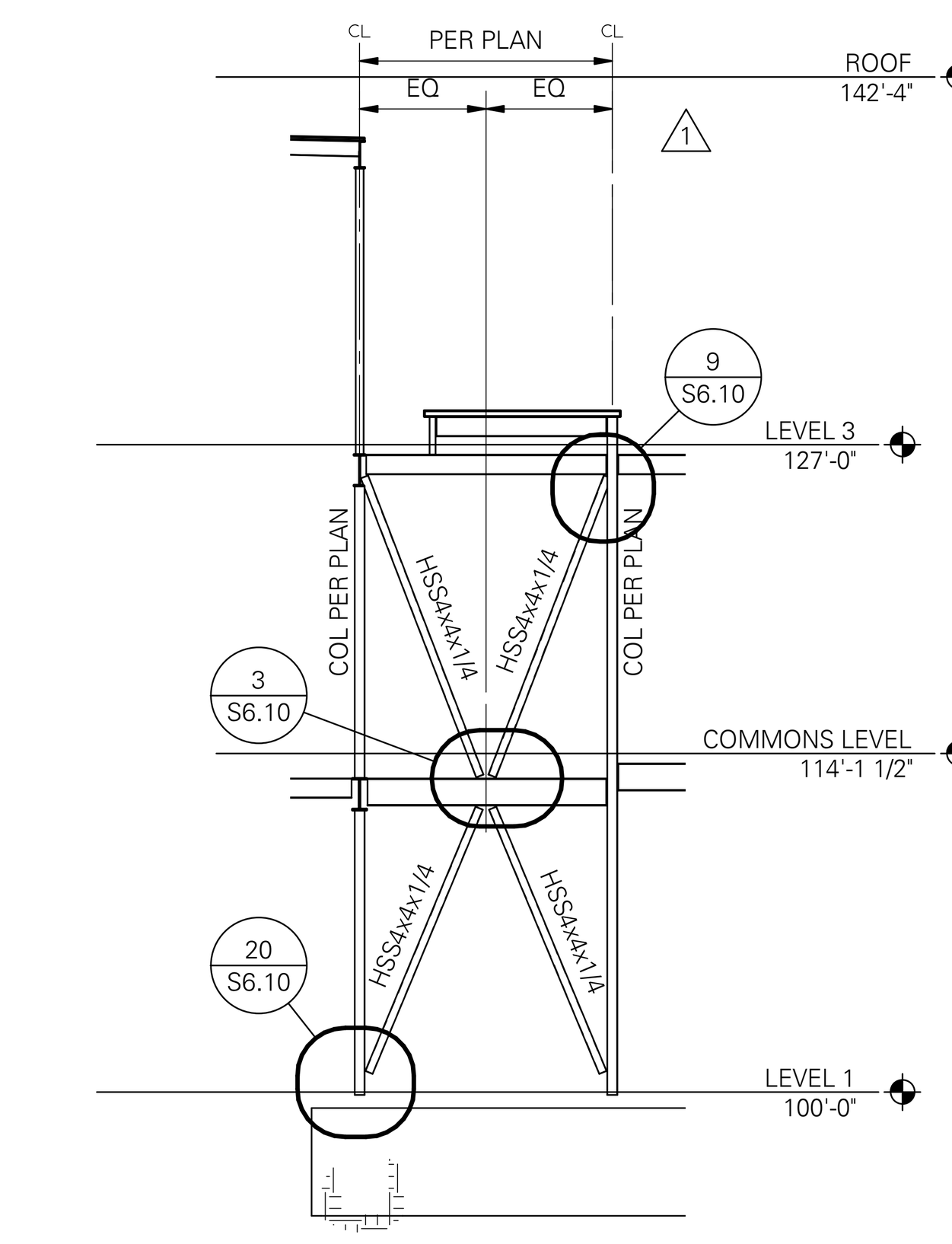
2 **NORTH WALL BRACE FRAME NORTH OF GRID 6**
SCALE: 1/8" = 1'-0"



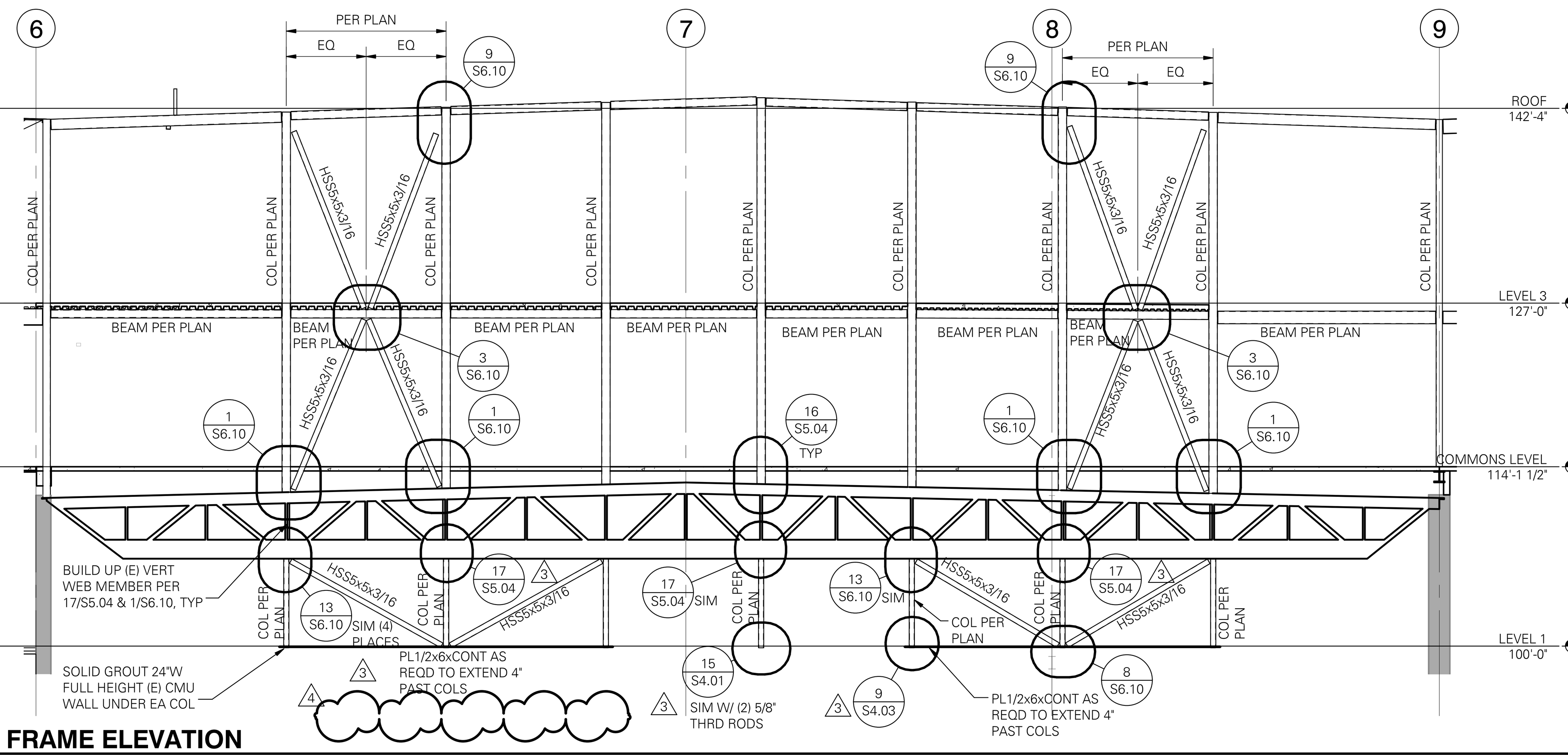
3 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



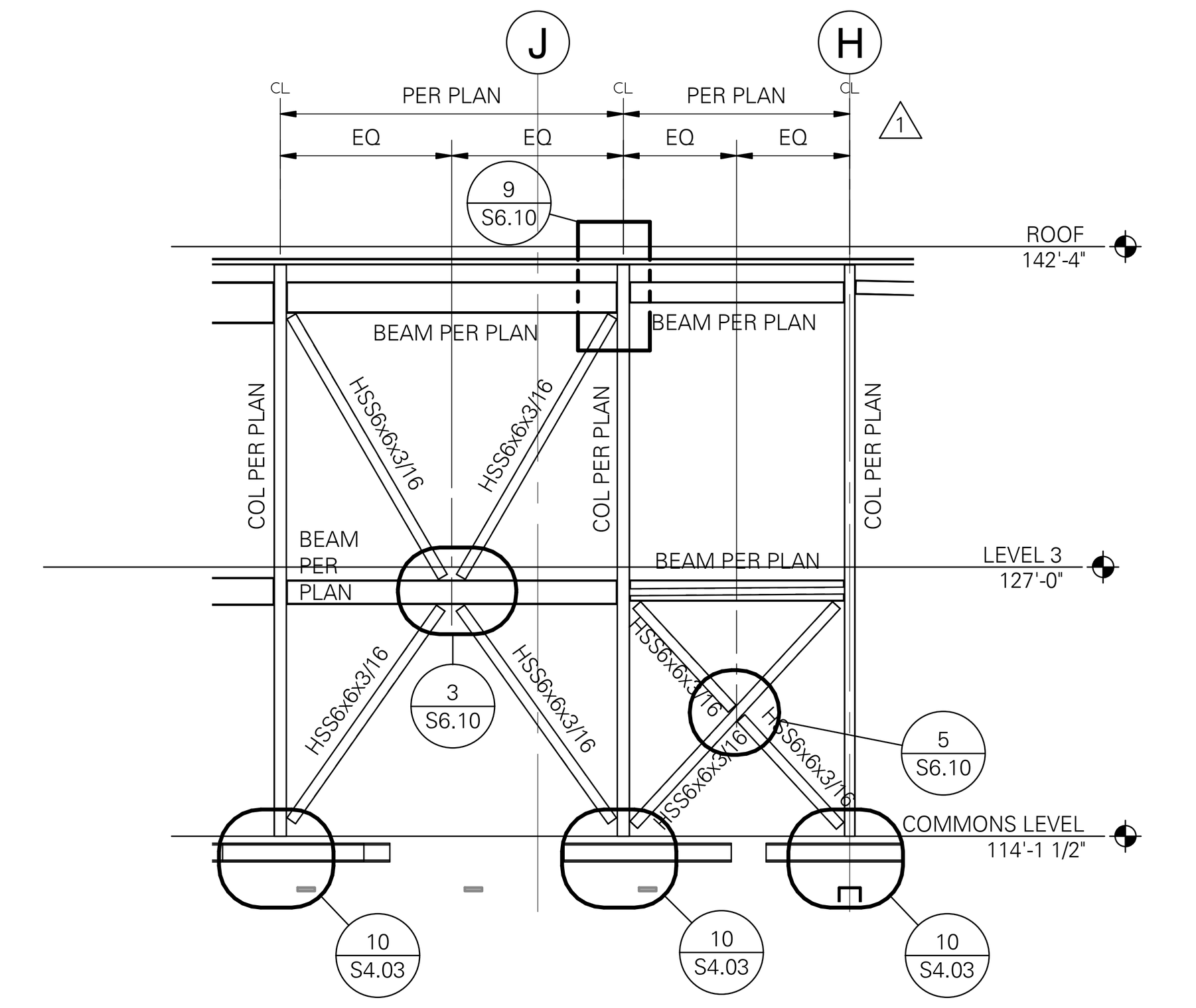
4 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



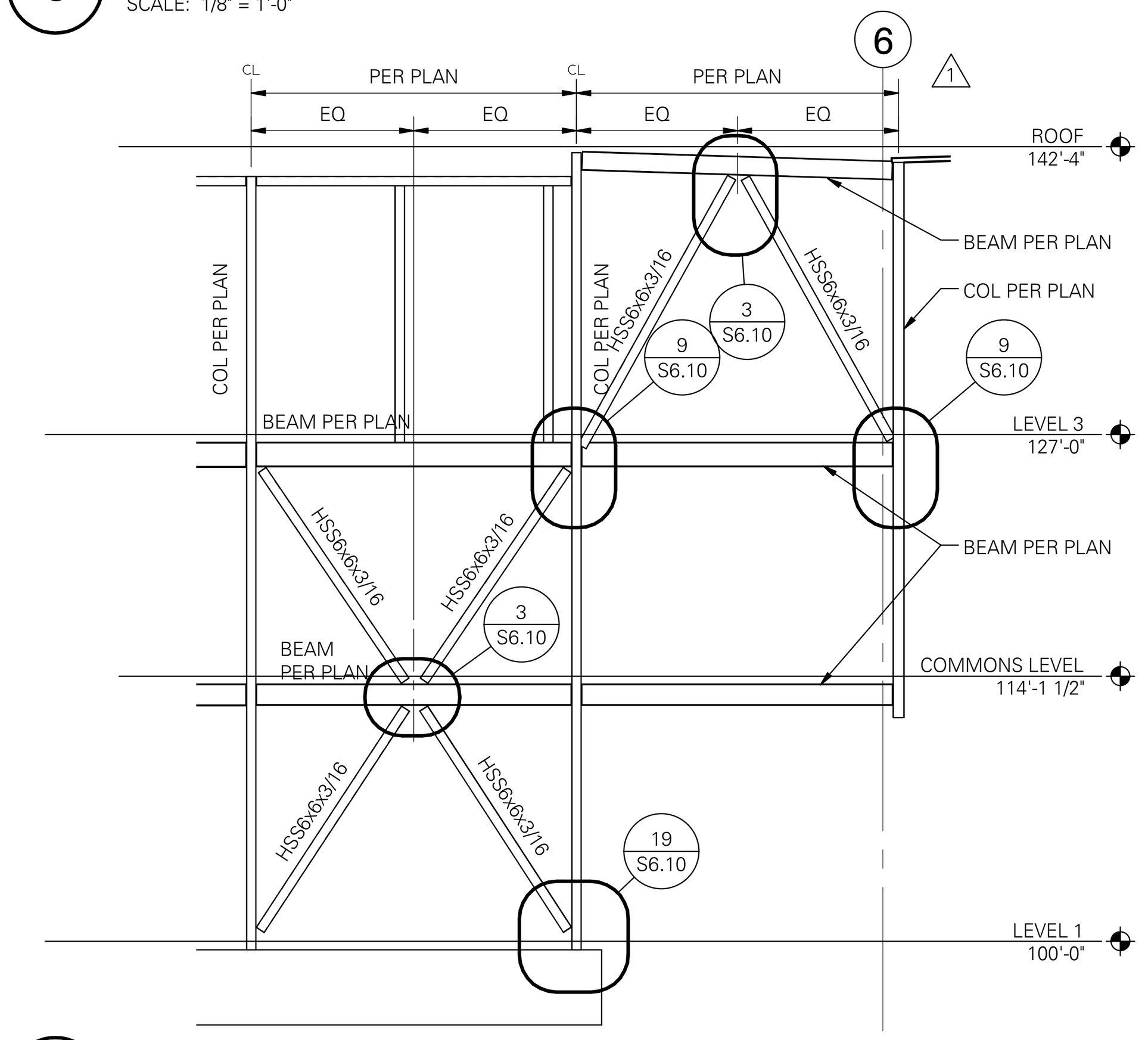
5 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



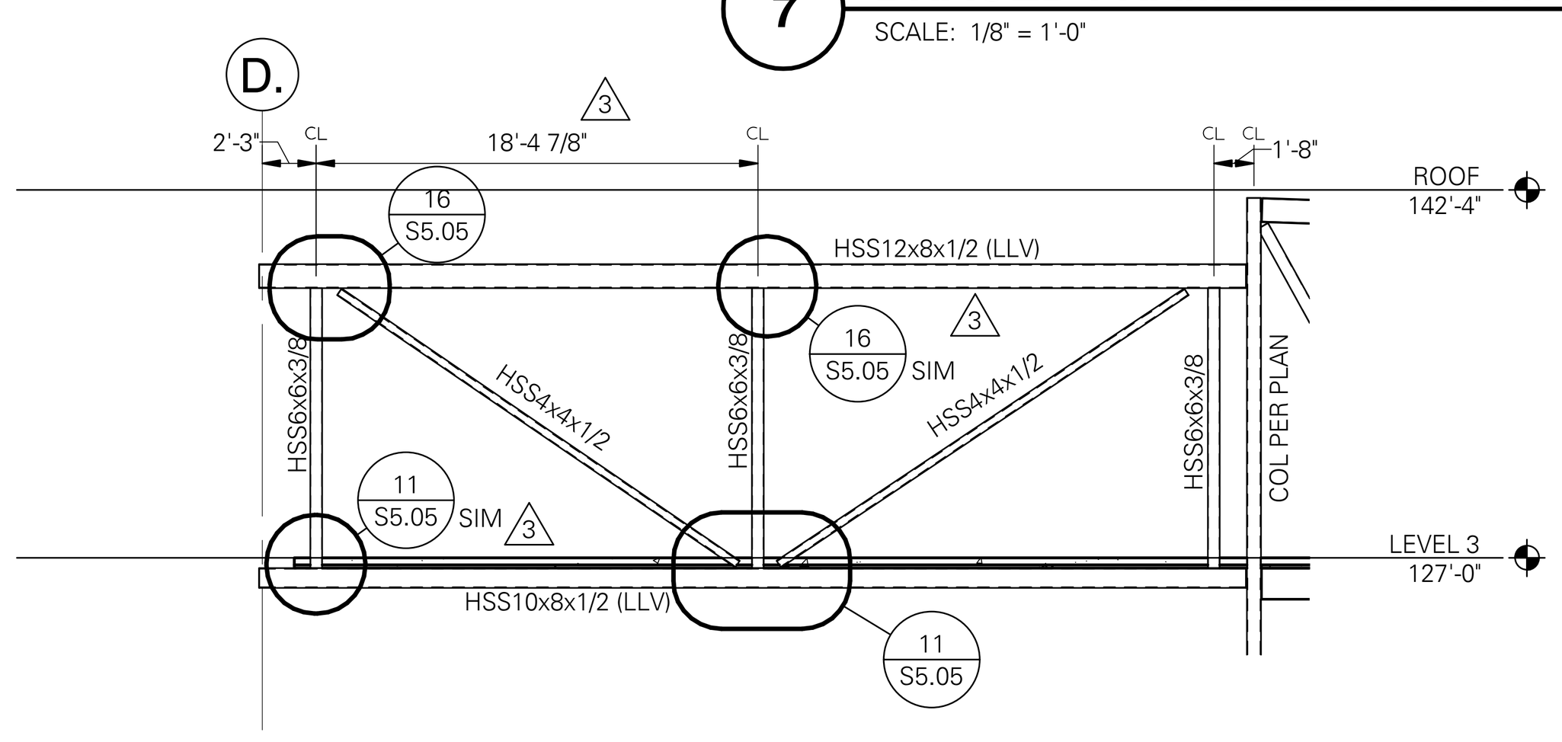
7 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



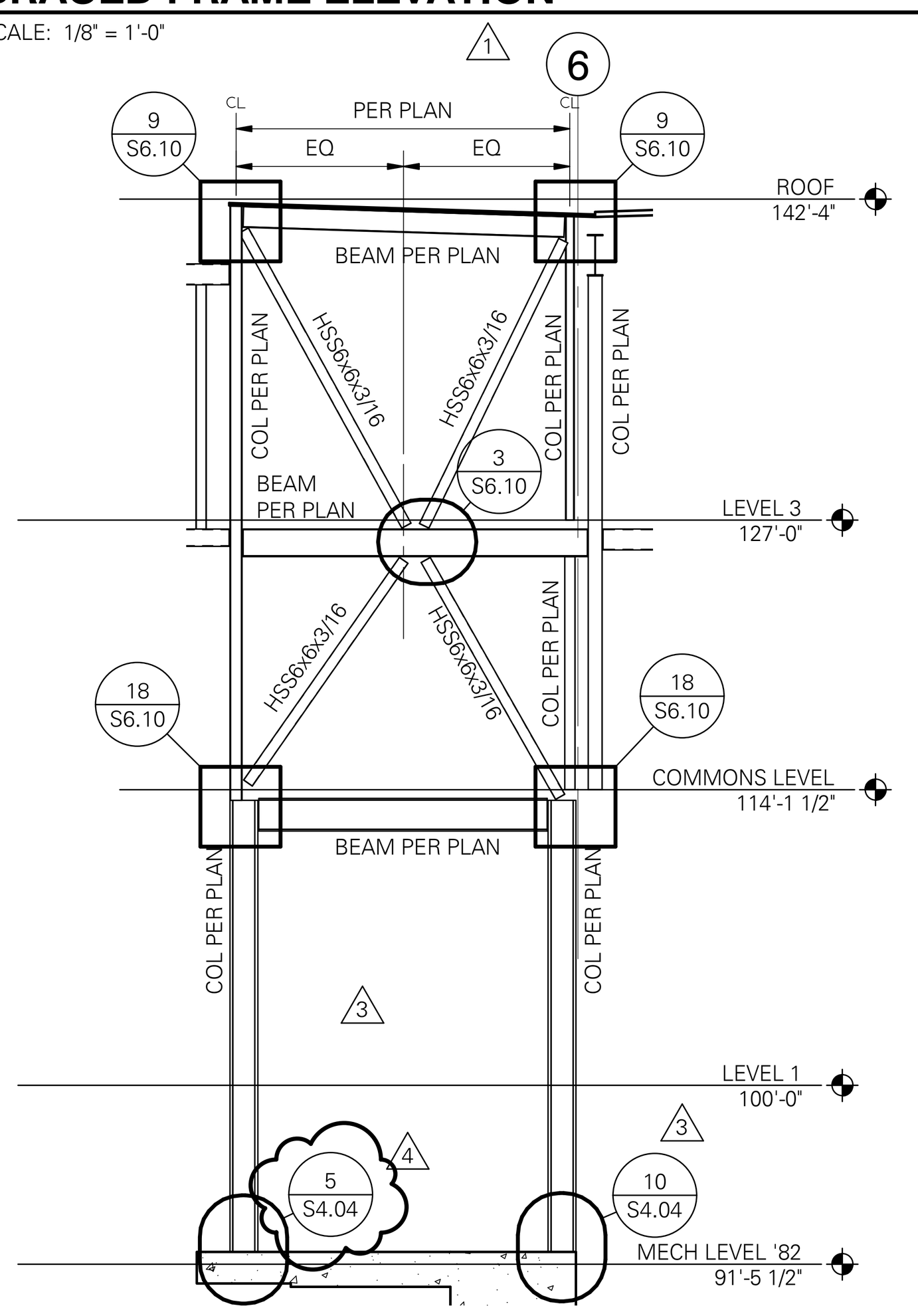
9 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



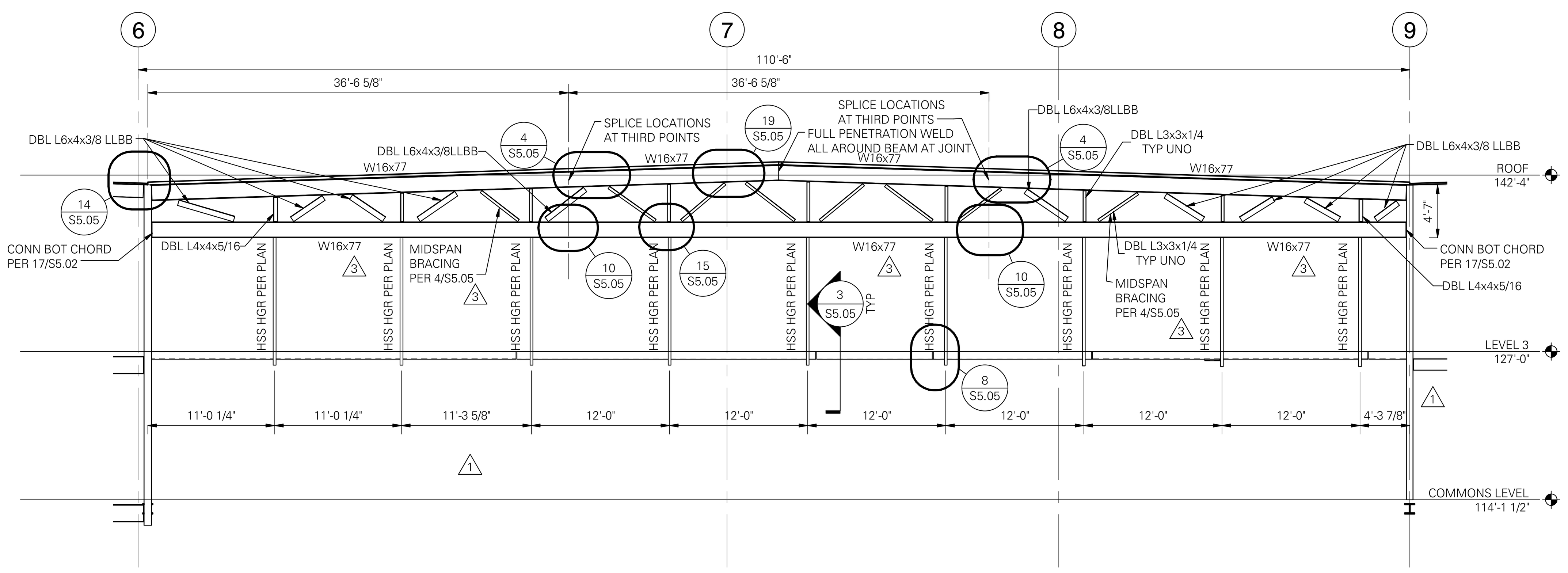
10 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



11 **SKYBRIDGE TRUSS ELEVATION**
SCALE: 1/8" = 1'-0"

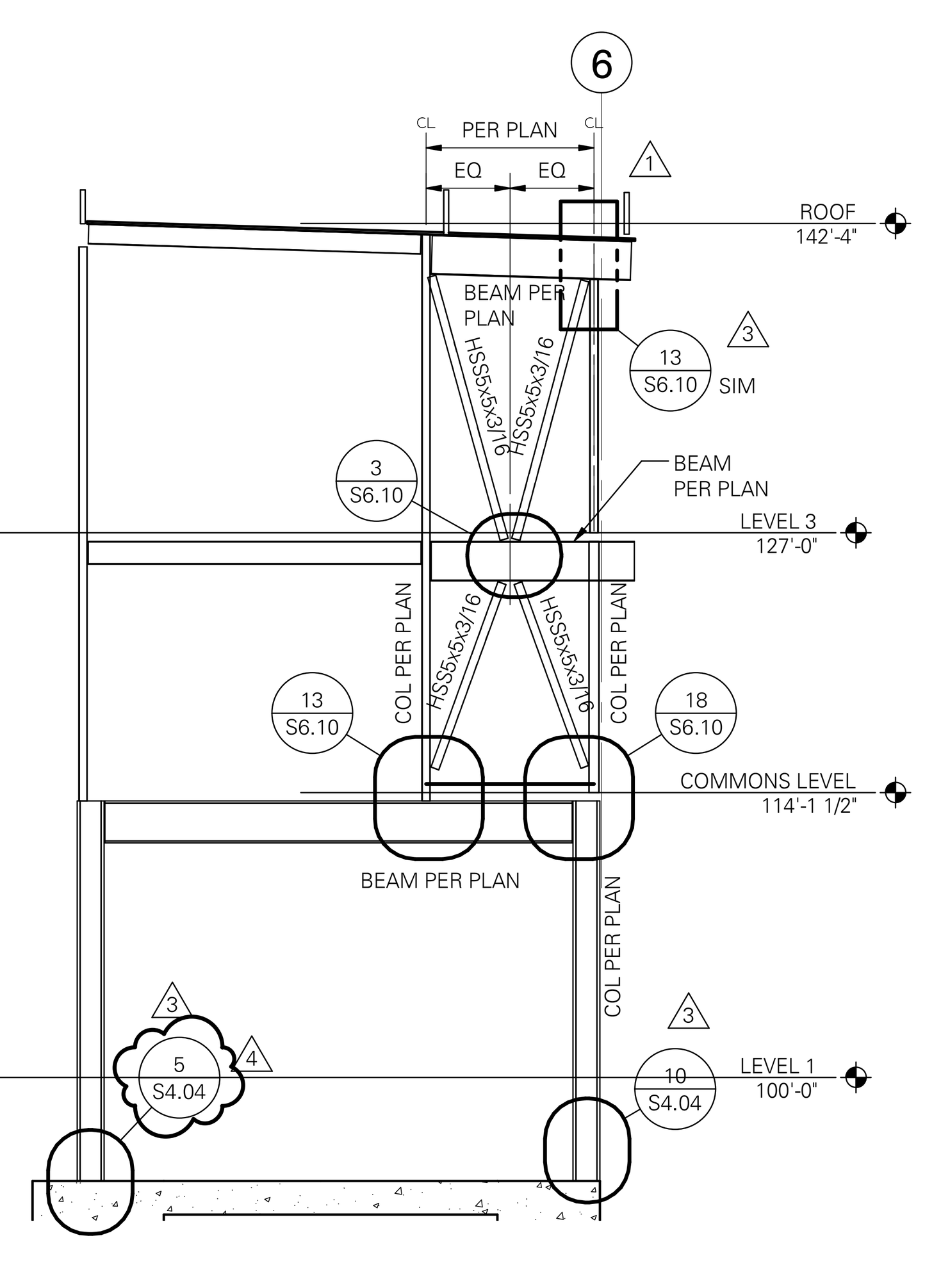


15 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"

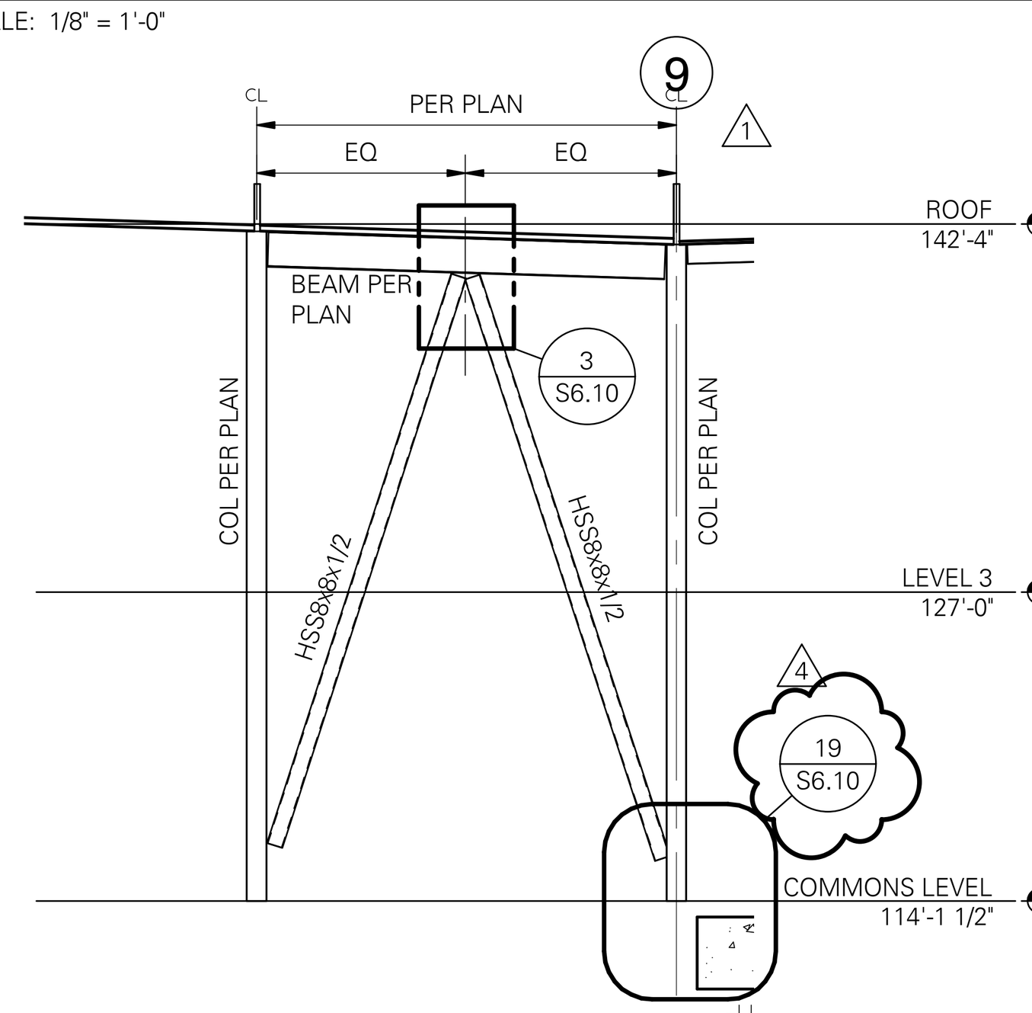


NOTE:
COMPLETED TRUSS TO HAVE 2" CAMBER AT MID-SPAN

16 **CUSTOM TRUSS**
SCALE: 1/8" = 1'-0"



19 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"



20 **BRACED FRAME ELEVATION**
SCALE: 1/8" = 1'-0"

REVISIONS
1 ADDENDUM 1 02-03-16
3 ADDENDUM 3 02-19-16
4 ADDENDUM 4 03-02-16

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707 W. 2ND AVENUE
SPOKANE, WASHINGTON 99201
CIVIL • STRUCTURAL

SPOKANE PUBLIC SCHOOL DISTRICT NO. 81
NORTH CENTRAL HS CAFETERIA/COMMONS ADDITION
1600 NORTH HOWARD STREET, SPOKANE, WA 99205

NAC ARCHITECTURE
nacarchitecture.com

NAC NO	111-15017
DRAWN	JLJ
CHECKED	LMB
DATE	02/19/16

BRACED FRAME ELEVATIONS

CD

S6.01

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