

GENERAL NOTES

GENERAL

1. Dimensions and elevations shown on the structural drawings are obtained from the architectural drawings available prior to release of Contract Documents. Layout of building foundations or other items shall be based on the Architectural, Civil and Structural Drawings.

2. errors, inconsistencies or omissions in dimensions shall be forwarded to the Architect in writing for resolution.

3. The structural design is based only on the structure in its completed state. The Contractor and his subs shall take whatever precautions are necessary in their opinion, including but not limited to temporary bracing, shoring and needling, to withstand all horizontal and vertical loadings that may be encountered during the construction and prior to completion.

4. All unit dimensions shall take precedence over the scale shown on plans, sections, and details. Do not scale the drawings.

5. Typical details and notes on these sheets shall apply unless specifically shown or noted otherwise. Construction details not fully shown or noted shall be similar to details shown for similar conditions. Typical details are not cut on drawing plan sheets, but shall apply at all applicable locations. Typical details also apply to items not shown on the structural drawings, which include but are not limited to mechanical openings for which structural typical detail framing applies and top of Cold wall tracing for CMU walls shown on the architectural drawings. Contractor shall coordinate between trades and make provision to obtain and install structural features per the typical details as required by other trades.

6. All work or construction shall comply with all applicable building codes, regulation and safety requirements.

7. Principle curbs, slabs, and openings are shown on the structural drawings. See architectural, mechanical, plumbing, and electrical drawings for sleeves, curbs, inserts, other openings, and slab depressions not shown. The contractor shall provide for all openings, curbs, and slab depressions, whether shown on the structural drawings or not. Size and location of openings shall be verified by the mechanical contractor. Any deviation from openings shown on the structural drawings shall be brought to the Structural Engineer's attention for approval prior to fabrication or installation of structural members.

8. Where specifications and drawings contradict, the more stringent shall govern.

9. It shall be the contractor's sole responsibility to design and provide adequate shoring, bracing, and framework, as required for the protection of life and property during the construction of this building. Excess load capacity of slab shall not exceed loads equivalent to the design superimposed loads less construction dead and live load, partition load, and any other load not in place at the time of shoring.

10. The contractor shall be solely responsible for all excavation procedure including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with all local, state and federal safety regulations and practices.

11. Cantilever and basement retaining wall(s) have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the wall(s) associated with their means and methods of construction.

12. Construction loads shall not exceed the design superimposed live load capacity of structural elements.

13. Design of crane foundations and crane openings in the structure are the responsibility of the Contractor. The design documents must bear the seal of a registered professional engineer in the state of Virginia and all necessary calculations shall be submitted to the Architect and Structural Engineer for review prior to fabrication. The Architect's review is not to imply acceptance of responsibility for design adequacy. This is the Contractor's responsibility.

14. In accordance with the geotechnical report recommendations, an underseal and perimeter drain system shall be installed to protect the completed floor slab against hydrostatic uplift from ground water. The underdrain system design shall be on the emergency generator. The structure is not designed to resist any hydrostatic pressures.

15. Information shown in the structural drawings that is not specifically designed by the structural engineer is shown schematically for information purposes only. The Contractor shall coordinate with the appropriate trades for the full intent of the information referenced.

16. Contractor shall supply all support necessary for attachment of hospital equipment to the structure shown herein. This includes but is not limited to patient lifts, testing equipment, and laundry equipment. Where additional hung support is required not shown on the structural drawings, contractor shall make provision for design and installation of supports required.

EXISTING CONDITIONS

1. All dimensions and elevations of existing structures shown on the drawings are obtained from available sources, and are not guaranteed to be true and exact. The General Contractor shall verify these dimensions and elevations by actual field measurements prior to fabrication of any materials and start of work, and report any discrepancies to the Architect-Structural Engineer.

2. Field verification measurements shall be completed sufficiently in advance of the fabrication and erection schedule so as not to impede the progress of work. All delays or costs caused by improper or late field verification shall be the Contractor's sole responsibility.

3. The Structural Engineer of Record will not review or approve shop drawings prior to the field verification of existing dimensions.

4. The structural design is based only on the structure in its completed state. The Contractor and his subs shall install any new structure in or attached to existing structure using whatever means and methods are necessary in his opinion. Because the documents show the structure in its completed state, means and methods of installation is the Contractor's sole responsibility. If the chosen installation methods require additional work not shown on the construction documents, it is the Contractor's responsibility to include it in his scope of work and/or bring it to the attention of the Architect-Structural Engineer for review at the time of pricing the work. This includes but is not limited to additional demolition and retaining required in order to place new structure.

5. Existing structural framing and foundations shall not be disturbed unless specifically noted otherwise on the drawings.

6. If field conditions differ from those shown on drawings, contractor shall notify architect-engineer before proceeding with installation/erection. Notification shall occur sufficiently in advance of the work to allow Structural Engineer to review.

7. Shoring required for demolition of existing structures or installation of new structures shall be the contractor's responsibility. Shoring calculations and drawings shall be signed and sealed by the Contractor's structural engineer in the state of Virginia and shall be submitted to the Structural Engineer of Record for review.

DEMOLITION

1. Remove existing construction, as shown on plans, or as required to install new construction. See sections and details for extent of structure to be removed. Rebuild beam bearing, jamps, etc. to match existing, and in accordance with architect's approval.

2. Existing structural framing shall remain unless specifically noted on plan to be removed.

3. All shoring, needling, underpinning, etc., shall be as required to support the existing structure. The Contractor shall examine the existing structure to determine the extent of necessary shoring, needling, and underpinning. The capacity and method used for shoring, needling and underpinning shall be the responsibility of the Contractor.

4. If field conditions differ from those shown on drawings, notify architect-engineer before proceeding with demolition. Notification shall occur sufficiently in advance of the work to allow Engineer to review.

5. Shoring required for demolition of existing structures or installation of new structures shall be the contractor's responsibility. Shoring calculations and drawings shall be signed and sealed by the Contractor's engineer and shall be submitted to the Structural Engineer of Record for review.

FOUNDATIONS [SPREAD FOOTINGS]

1. Foundation design and subsurface information is based on the geotechnical recommendations prepared by Draper Aden Associates, dated August 6, 2014. Contractor shall review and comply with the recommendations in the geotechnical report, regardless if such recommendations are explicitly stated within the documents.

2. All surface fill materials, consisting of gravel, brick fragments, concrete chips and wood chips shall be removed in the regions of all foundations in accordance with the geotechnical recommendations.

3. Slab-on-grade shall rest on a minimum of 6" of granular fill, compacted to at least 95% of the maximum density as defined by the ASTM D698 Standard Proctor Test. Fill under the slab-on-grade should be placed only after unsuitable existing fill has been removed and the subgrade proof rolled under the direction of the inspection Agency. All fill material shall be placed in 3" lifts and compacted to 95%-98% maximum density as defined by the ASTM D698 Standard Proctor Test.

4. All footings have been designed as spread footings to bear on undisturbed soil or controlled structural fill on minimum net allowable bearing capacity of 3,500 PSF. The Testing and Inspection Agency shall verify soil bearing capacity at each footing prior to installation of footing. Notify the Engineer if any variation from anticipated bearing capacity is observed or requires redesign of foundation.

5. The bottoms of all exterior footings shall be at least 2'-0" minimum below finished grade unless rock of specified bearing capacity is encountered at a higher elevation, in which case footing may be raised if approved by the Engineer. The top of all interior footings shall be 0'-0" minimum below finished floor level.

6. Edges of footings shall not be placed at a greater than 1' (vertical) to 2' (horizontal) slope with respect to any adjacent footing or excavation.

7. All adjacent column footings that abut shall be separated by a paper joint.

8. Backfilling against walls shall be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum) and walls are properly shored and/or braced. Backfilling against basement walls shall not be done until the floor slabs at top and bottom of walls have been placed and have cured. Backfill foundation walls with earth on both sides of the wall with alternately placing backfill on each side so that height of backfill does not exceed by more than 1'-6" from either side.

9. The contractor shall safeguard and protect all excavations and shall be kept free of accumulated water.

10. Maximum length of foundation wall placed in one operation shall not exceed 60 feet.

11. No horizontal joints shall be placed in walls except as shown on the drawings without approval of the Engineer.

12. The contractor shall refer to the Architectural, Plumbing, Mechanical and Electrical Drawings for all locations of trenches, pits, conduits, etc. not shown on the Structural Drawings.

13. The contractor may encounter conditions requiring temporary dewatering during excavation. Do not allow water to accumulate and/or pond in excavations. Temporary dewatering system shall be to be used during construction shall be designed and installed in accordance with the geotechnical report.

RETAINING WALLS

1. Retaining walls shall be either "Braced" or "Cantilevered" retaining walls.

2. "Braced" retaining walls are supported with lateral supports at the bottom and top of the wall. The contractor shall provide temporary bracing to support the wall until the final braced condition is met. The Contractor shall assume all walls are designed as "braced" walls unless specifically noted otherwise on the contract documents. Bracing shall not be done until concrete and/or masonry has been cured and shoring and/or braced.

3. "Braced" retaining walls have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the walls associated with their means and methods of construction.

CONCRETE MATERIALS AND PROPORTIONS

1. All concrete work shall comply with ACI 301, ACI 318, and ACI 315.

2. Cement shall comply with ASTM C 150, Type I or II.

3. Aggregates shall comply with ASTM C 33, ASTM C330, ACI 304, and ACI 211.1.

4. Coarse Aggregates - Size #4.

5. Concrete shall be normal weight concrete or light weight concrete as noted on Drawings. The minimum compressive strength at 28 days shall be as noted in General Notes, Specifications and on Drawings.

6. The water/cement ratio shall not be exceeded.

7. All concrete shall have slump in accordance with ACI 211.1 and the Specifications, except slabs on earth shall have a 3 1/2" maximum slump.

8. Minimum steel protection, unless otherwise shown, shall be 1" for exterior face of walls, 2" for footings and other structural concrete deposited against bedrock, 2" for concrete permanently exposed to earth or weather.

9. All concrete, except footings, shall contain water reducer per manufacturer's recommendations.

10. No concrete shall be placed until concrete design mixes have been submitted for each class of concrete and have been approved by the Structural Engineer. Mix designs shall indicate where each mix is to be used in the work.

11. Welded wire reinforcement shall conform to ASTM A108. All welded wire reinforcement shall be spliced so that the overlap between outermost cross wires of each sheet is not less than the spacing of the cross wires plus 2 inches, unless otherwise shown on drawings.

12. Reinforcing steel shall be deformed bars of intermediate grade new billet steel conforming to current requirements of ASTM A 615, Grade 60, unless noted otherwise.

13. Reinforcing steel to be welded shall conform to the current requirements of ASTM A 706.

14. Splice laps for all reinforcing shall be class "B," unless otherwise noted. Lap splices of continuous reinforcing shall be made over supports for bottom bars and at midspan for top bars, unless noted otherwise. All hooks shall be standard hooks, unless otherwise noted.

15. Refer to Architectural Drawings and/or Specifications for concrete finishes.

16. Structural normal weight concrete shall have a maximum dry unit weight of 150 PCF. Structural lightweight concrete shall have a maximum dry unit weight of 110 PCF.

FOUNDATION CONCRETE

1. All concrete shall be normal weight concrete having a minimum design compressive strength at 28 days as follows:

a. Footings

b. Piers

c. Slab-on-grade

d. Exposed exterior concrete

2. The following welded wire reinforcement shall be used for areas specified below, unless noted otherwise on the drawings:

a. 5 inch slab-on-grade

b. Minimum steel protection, unless otherwise shown, shall be 1" for interior face of walls, 2" for exterior face of walls, 3" for footings and other structural concrete deposited against bedrock, 2" for concrete permanently exposed to earth or weather.

3. All structural members shall be poured to their full depths in one operation. Construction joints, such as pour joints, shall be located in the middle third of the span, main reinforcing to run through the joint, key and roughen joints to expose aggregate. Contractor shall submit detailed construction joint locations for approval.

4. Excavations shall be kept free of accumulated water. No concrete shall be placed in water.

5. Slab-on-grade shall have thickening, depression, openings, slopes, etc. as shown or as required by various trades.

6. Provide vertical dowel inserts 2'-0" o.c. with anchors in all concrete surfaces faced with brick which are 1'-0" or greater in height.

7. For additional concrete work not shown on Structural Drawings, see Architectural Drawings. All concrete within the building footprint shall be reinforced, unless specifically noted otherwise. See typical details for concrete items/reinforcing not shown on structural plans. If no reinforcing detail is shown for an item, contact the Structural Engineer for review prior to work.

SUPERSTRUCTURE CONCRETE (supported by Metal Deck)

1. All concrete on metal deck shall be lightweight structural concrete having a minimum design compressive strength of 3500 PSI at 28 days.

2. Provide external w/e welded wire reinforcement in all concrete slabs on metal deck unless noted otherwise.

3. Mean shall be draped.

4. The contractor shall allow for 3/4" additional concrete during placing due to deflection of structure.

5. The contractor shall deposit all concrete, during placing in such a manner as not to overload the metal deck.

6. All slabs shall have thickenings, depressions, openings, slopes, etc. as shown herein or on Architectural, Mechanical, Electrical & Plumbing Drawings.

7. Horizontal units of placement for concrete on metal deck shall not exceed 80 feet in any direction.

MISCELLANEOUS-CONCRETE

1. Contractor shall verify conditions in the field and immediately notify engineer or architect of any conditions not as assumed. He shall take field measurements as required and be responsible for same.

2. Contractor shall coordinate with all related trades for detailing, fabrication and erection prior to submitting shop drawings for approval.

3. All Structural work shall be coordinated with Architectural, Mechanical, Electrical, Plumbing, etc. requirements.

4. General Contractor to provide appropriate number of copies of coordinated drawings showing all sleeves, conduit boxes, duct openings, etc. as required for all trades for Structural Engineers approval. This shall be done a minimum of two weeks prior to pouring affected slabs, beams, columns or footings.

5. No openings shall be made in any structural member unless specifically shown on the structural drawings approved by the Structural Engineer.

6. Conduits in concrete slabs must be spaced such that the distance between conduits,

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Construction  
and Facilities  
Management**



**Department of  
Veterans Affairs**

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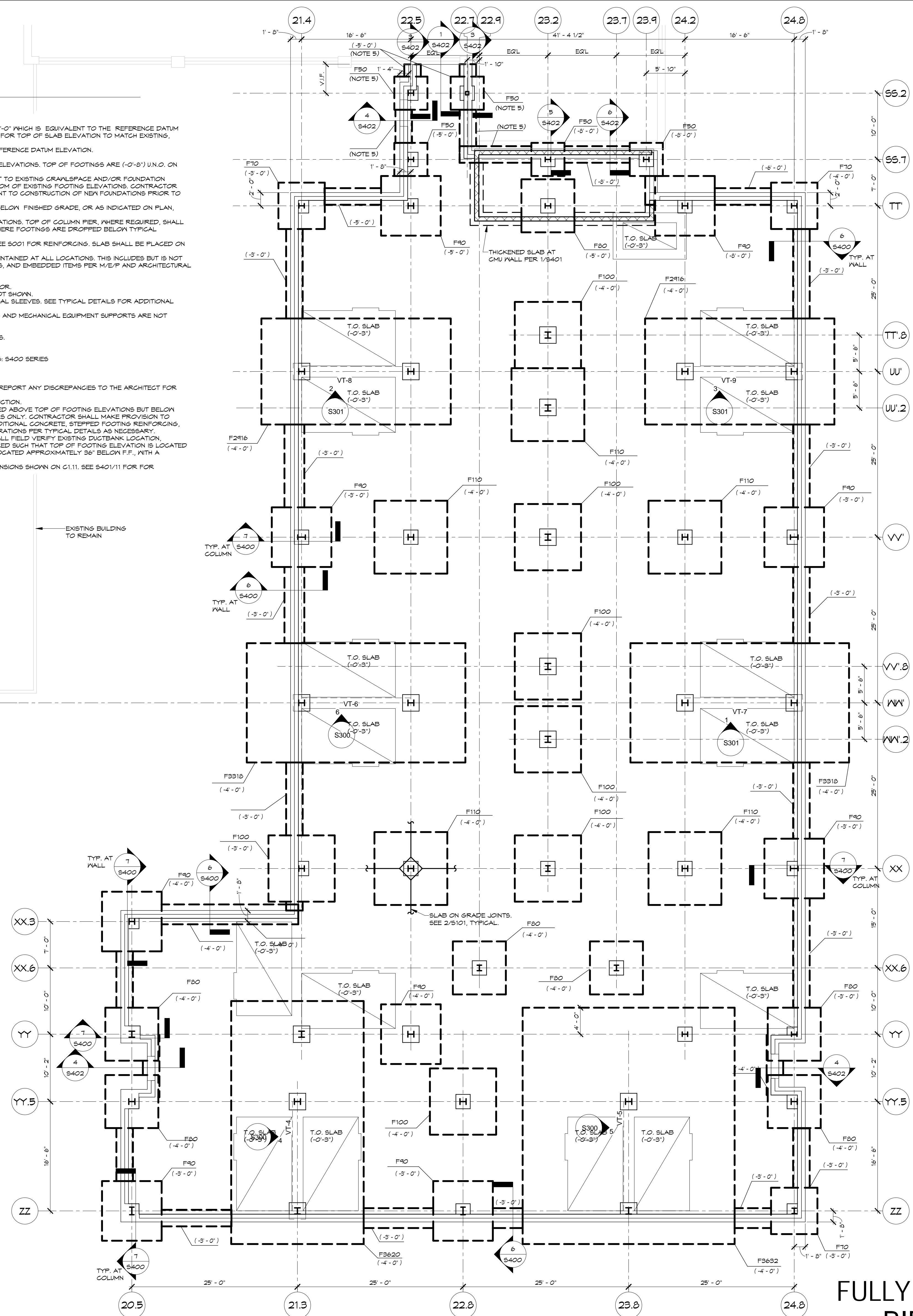
NOTES:  
1. ALL JOINTS ARE CONTRACTION JOINTS, TYPICAL U.N.O. SEE 2/S401.

① FOUNDATION PLAN - LEVEL ONE  
1/8" = 1'-0"

FOUNDATION AND LEVEL ONE NOTES:

1. ELEVATION TOP OF FINISHED LEVEL. 1 SLAB EQUALS ELEVATION 0'-0" WHICH IS EQUIVALENT TO THE REFERENCE DATUM ELEVATION OF 148.89 FOR CIVIL FIELD SURVEY. DESIGN INTENT IS FOR TOP OF SLAB ELEVATION TO MATCH EXISTING, COMBINED WITH THE FOLLOWING:
  2. ALL ELEVATIONS NOTED ON PLAN ARE WITH RESPECT TO THE REFERENCE DATUM ELEVATION.
  3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
  4. ELEVATIONS ARE TO TOP OF FOOTING (0'-0" TO 1'-0") IN PLAN.
  5. ELEVATIONS NOTED BY THIS NOTE ARE IMMEDIATELY ADJACENT TO EXISTING GRAVELSPACE AND/OR FOUNDATION CONSTRUCTION. BOTTOM OF NEW FOOTINGS SHALL MATCH BOTTOM OF EXISTING FOOTING ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING FOUNDATION ELEVATIONS ADJACENT TO CONSTRUCTION OF NEW FOUNDATIONS PRIOR TO CONSTRUCTION.
  6. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM 18" BELOW FINISHED GRADE, OR AS INDICATED ON PLAN.
7. ELEVATIONS NOTED THIS 0'-0" ARE TOP OF COLUMN PER ELEVATIONS. TOP OF COLUMN PER, WHERE REQUIRED, SHALL BE 0'-0". TYPICAL U.N.O. PROVIDE PIERS AT ALL LOCATIONS WHERE FOOTINGS ARE DROPPED BELOW TYPICAL GRADE. FLOOR SLAB SHALL BE 5" THICK CONCRETE SLAB ON GRADE. SEE 5001 FOR REINFORCING. SLAB SHALL BE PLACED ON EXISTING GRADE. MINIMUM SLAB THICKNESS SHALL BE 5" INCHES SHALL BE MAINTAINED AT ALL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOOMS, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURE PER PLAN.
10. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
  - A. LOCATION OF FLOOR DRAINS AND SLAB OF FINISHED FLOOR.
  - B. SIZE AND LOCATION OF SLAB DEPRESSIONS AND RAMPS NOT SHOWN.
  - C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
  - D. EQUIPMENT PADS AND/OR SUPPORTS. HOUSEKEEPING PADS AND MECHANICAL EQUIPMENT SUPPORTS ARE NOT TO BE LOCATED ON THE STRUCTURAL DRAWING. SEE TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
  - E. BRICK Ledge/ELEVATIONS AND EXTENTS.
  - F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS.
11. WORK THIS DRAWING WITH:
  - A. GENERAL NOTES: 5001 AND 5002
  - B. FOUNDATION INFORMATION, INCLUDING FOOTING SCHEDULES: 5400 SERIES
  - C. SUPERSTRUCTURE INFORMATION: 5500 SERIES
  - D. VERTICAL TRUSS INFORMATION: 5600 SERIES
  - E. COLUMN SCHEDULE: 5600
12. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR CORRECTION.
13. SEE ARCHITECTURAL DRAWINGS FOR EXTENTS OF NEW CONSTRUCTION.




DESIGN INTENT IS FOR NEW OR EXISTING UTILITIES TO BE LOCATED ABOVE TOP OF FOOTINGS ELEVATIONS BUT BELOW EXISTING GRADE. CONTRACTOR SHALL VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAKE PROVISION TO STEP DOWN AND COLUMN FOOTINGS AS REQUIRED. PROVIDE ADDITIONAL CONCRETE, STEPPED FOOTING REINFORCING, PIER LENGTHS/REINFORCING AND REINFORCING AT WALL PENETRATIONS PER TYPICAL DETAILS AS NECESSARY.
14. ELEVATIONS ARE TO TOP OF FOOTING (0'-0" TO 1'-0") IN PLAN. CONTRACTOR SHALL VERIFY EXISTING DRAINAGE LOCATION, DIMENSIONS, AND ELEVATIONS, AND DROP FOOTINGS AS REQUIRED SUCH THAT TOP OF FOOTING ELEVATION IS LOCATED WITHIN 1/8" OF EXISTING DRAINAGE LOCATION. SETTING SHALL BE LOCATED APPROXIMATELY 36" BELOW F.F., WITH A MAXIMUM 36" THICKNESS, CONTRACTOR TO FIELD VERIFY.
16. PROVIDE EXTERIOR GENERATOR PAD PER LOCATION AND DIMENSIONS SHOWN ON C-11. SEE 5401/11 FOR FOR CONCRETE.



# FULLY SPRINKLERED BID DOCUMENTS

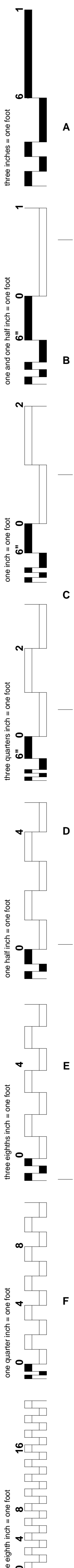
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<b>CONSULTANTS:</b>		<b>SEAL</b>	<b>ARCHITECTS/ENGINEERS:</b>	<div>Drawing Title STRUCTURAL - LEVEL ONE INTERSTITIAL - FRAMING PLAN</div> <div>Approved: Project Director</div>		<div>Project Title: H.H. MCGUIRE VAMC- CONSTRUCT SPINAL CORD ENHANCEMENT CENTER</div> <div>Location: 1201 Broad Rock Boulevard, Richmond, VA 23249</div> <div>Date: 09/11/2017</div> <div>Checked: SLS</div> <div>Drawn: MTH</div>		<div>Project Number 652-314</div> <div>Building Number 500</div> <div>Drawing Number S102</div>	<div>Office of Construction and Facilities Management</div> <div>Department of Veterans Affairs</div>
<div><div>Structural Design and Consulting for Architectural Projects 501 Fairmount Avenue - Towson, MD 21286 700 East Beaver Avenue - State College, PA 16801 t: 410.550.4874    www.hfurrer.com</div><div>HOPE FURRER Associates, Inc.</div></div>		<div></div>	<div><div>AE WORKS</div><div>AE Works Project Number: 13030</div></div>						



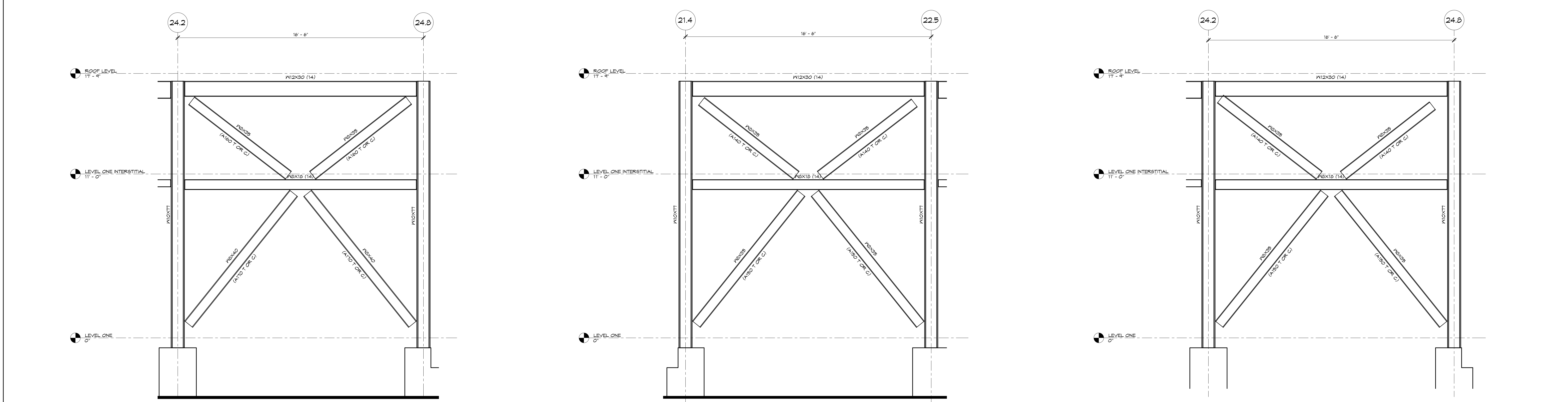




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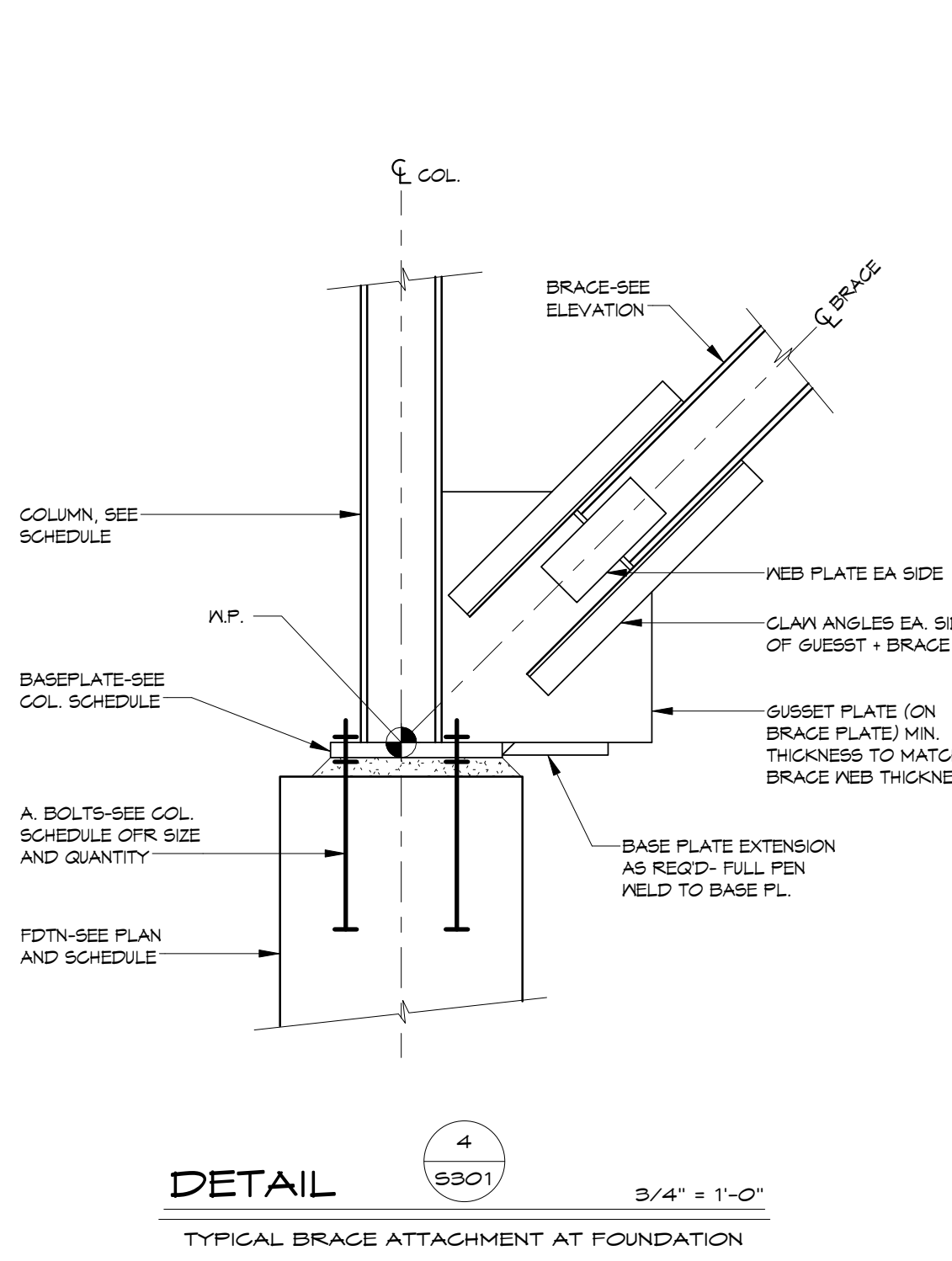
three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



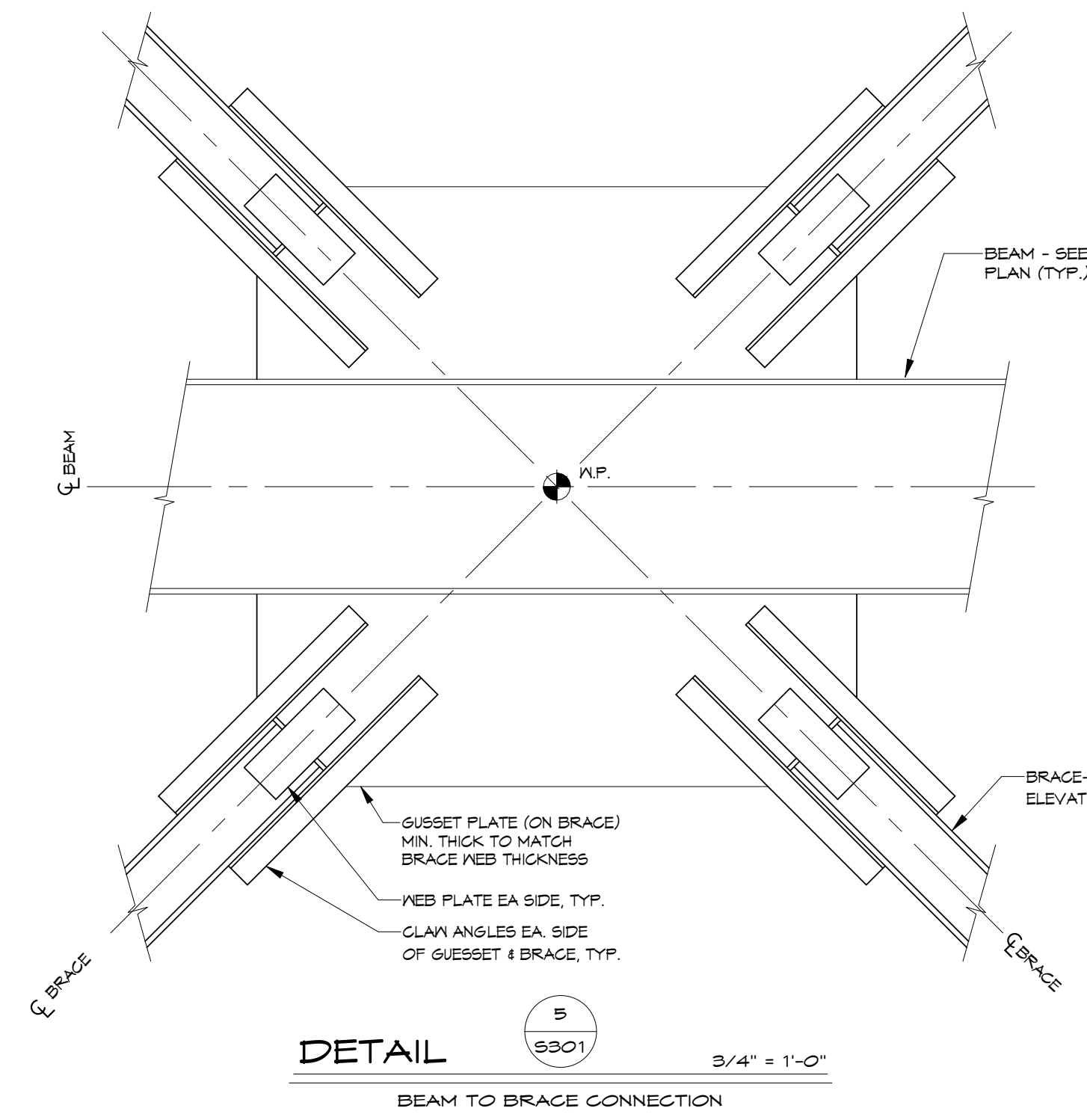
1 VERTICAL TRUSS VT-7 (LINE WW)  
3/8" = 1'-0"

2 VERTICAL TRUSS VT-8 (LINE UU)  
3/8" = 1'-0"

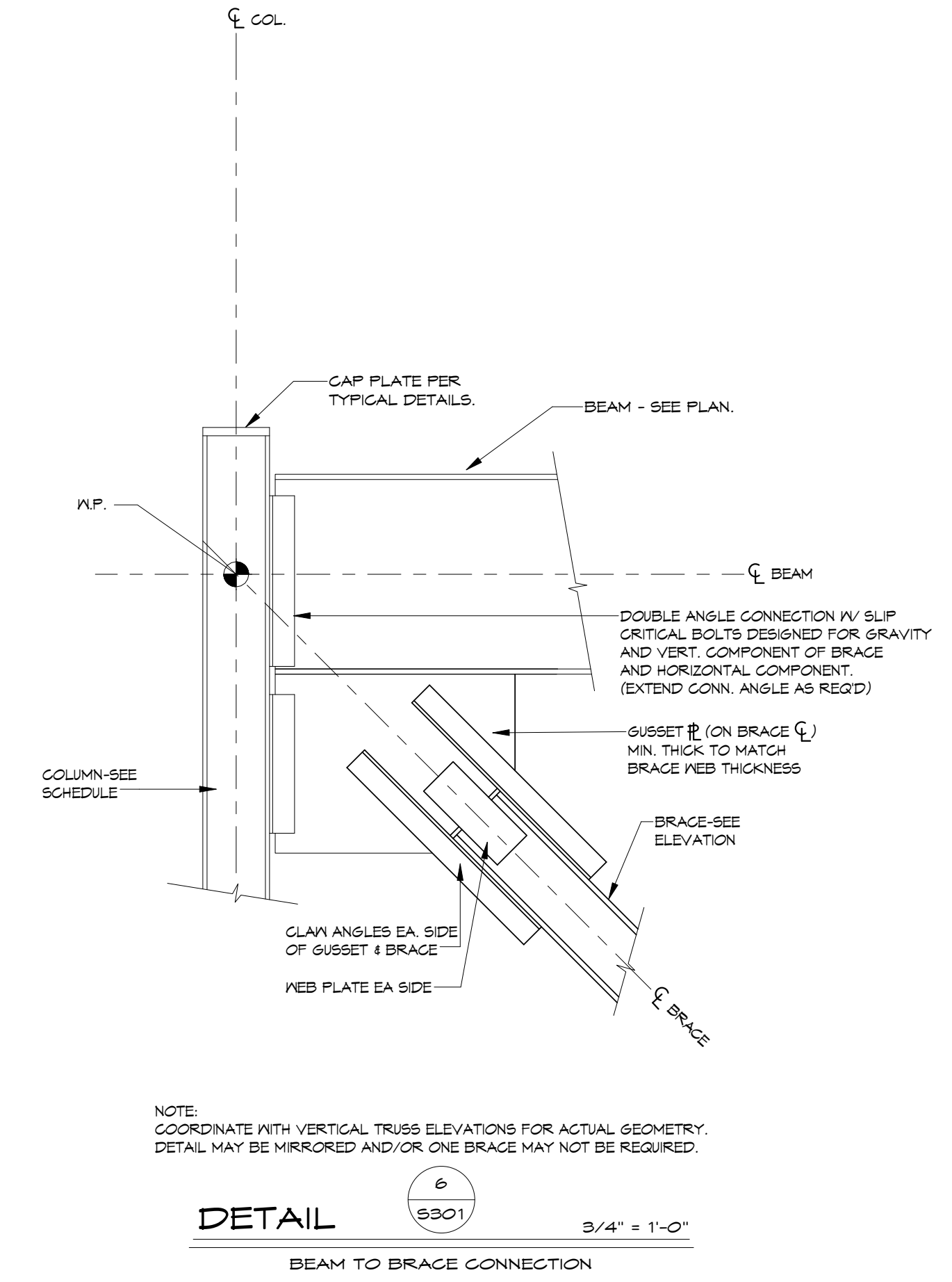
3 VERTICAL TRUSS VT-9 (LINE WW)  
3/8" = 1'-0"



4  
S301  
3/4" = 1'-0"  
TYPICAL BRACE ATTACHMENT AT FOUNDATION



5  
S301  
3/4" = 1'-0"  
BEAM TO BRACE CONNECTION



6  
S301  
3/4" = 1'-0"  
BEAM TO BRACE CONNECTION

LATERAL BRACING NOTES:  
1. BRACING CONNECTIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VIRGINIA FOR THE FORCES NOTED ON ELEVATIONS AND DETAILS. SIGNED AND SEALED CALCULATIONS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS FOR REVIEW. VERTICAL TRUSS SHOP DRAWINGS WILL NOT BE REVIEWED PRIOR TO THE RECEIPT OF SIGNED AND SEALED BRACING CALCULATIONS.  
2. FORCES SHOWN IN THE PLANS, ELEVATIONS, AND DETAILS ARE MAXIMUM LOADS FROM ASD LOAD COMBINATIONS IN SECTION 1605.3.1 OF THE INTERNATIONAL BUILDING CODE. ALL APPROPRIATE LOAD COMBINATIONS HAVE BEEN ACCOUNTED FOR IN THE DETERMINATION OF THESE LOADS. STRESS INCREASES FOR LOAD COMBINATIONS INCLUDING WIND AND GRAVITY ARE NOT PERMITTED UNLESS ALLOWED PER CODE. ASSUME LOADS ACT IN EITHER TENSION OR COMPRESSION. CONNECTIONS OF HORIZONTAL MEMBERS MUST ALSO BE DESIGNED FOR SHEAR PER THE GENERAL NOTES.  
3. BOLT SIZE SHALL MATCH THAT SHOWN ON THE GENERAL NOTES. PROVIDE ONLY ONE GRADE OF BOLT FOR EACH BOLT DIAMETER TO BE USED IN THE CONNECTIONS.  
4. THE NET AREA (REFER TO AISC MANUAL OF STEEL CONSTRUCTION, CHAPTER B) AT THE CONNECTION OF ANY BRACING MEMBER SHALL NOT BE LESS THAN 85 PERCENT OF THE GROSS CROSS SECTIONAL AREA OF THE MEMBER. ADDITIONAL PLATES SHALL BE ADDED AS REQUIRED TO MAINTAIN THE MINIMUM NET CROSS SECTIONAL AREA. PLATES SHALL EXTEND A MINIMUM DISTANCE EQUAL TO THE DEPTH OF THE MEMBER PAST THE LAST ROW OF BOLTS.  
5. CONNECTIONS SHALL BE SYMMETRICAL ABOUT THE AXIS OF THE MEMBER CONNECTED.  
6. STRENGTH OF BEAM CONNECTIONS SHALL BE DETAILED PER S301, UNLESS NOTED (VAV) ON THE ELEVATION. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM AXIAL FORCE OF 10 KIPS, UNLESS NOTED (AKK) ON ELEVATION.  
7. FORCES SHOWN IN ELEVATIONS SHALL APPLY TO CONNECTIONS AT EACH END OF MEMBER.  
8. ALL VERTICAL TRUSS BEAMS AT THE INTERSTITIAL LEVEL SHALL HAVE 3/4" DIA. x 3 1/2" LONG STUDS.

Revisions:	Date	CONSULTANTS:  Structural Design and Consulting for Architectural Projects 501 Fairmount Avenue - Towson, MD 21206 700 East Beaver Avenue - State College, PA 16801 t: 410.580.4874 www.hfurrer.com	SEAL 	ARCHITECTS/ENGINEERS:  6587 Hamilton Avenue Pittsburgh, Pennsylvania 15206 Ph: 412.287.7333 Fax: 412.287.7334 www.ae-works.com AE Works Project Number: 13030	Drawing Title VERTICAL TRUSS ELEVATIONS	Project Title: H.H. MCGUIRE VAMC- CONSTRUCT SPINAL CORD ENHANCEMENT CENTER	Project Number 652-314	Office of Construction and Facilities Management 
Approved: Project Director						Location: 1201 Broad Rock Boulevard, Richmond, VA 23249	Building Number 500	Department of Veterans Affairs
						Date: 09/11/2017	Checked: SLS	
							Drawn: MTH	
							Drawing Number S301	









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DETAIL 1 S402 3/4" = 1'-0"

DETAIL 3 S402 3/4" = 1'-0"

DETAIL 4 S402 3/4" = 1'-0"  
TYPICAL SECTION AT DOOR


DETAIL 5 S402 3/4" = 1'-0"

DETAIL 6 S402 3/4" = 1'-0"

Revisions:


Date

CONSULTANTS:




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SEAL



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AE Works Project Number: 13030

Drawing Title  
FOUNDATION DETAILS

Approved: Project Director

Project Title:  
H.H. MCGUIRE VAMC-  
CONSTRUCT SPINAL CORD  
ENHANCEMENT CENTER

Location:  
1201 Broad Rock Boulevard, Richmond, VA 23249

Date:  
09/11/2017

Checked:  
SLS


Drawn:  
MTH

Project Number  
652-314

Building Number  
500

Drawing Number  
S402

Office of  
Construction  
and Facilities  
Management

 Department of  
Veterans Affairs

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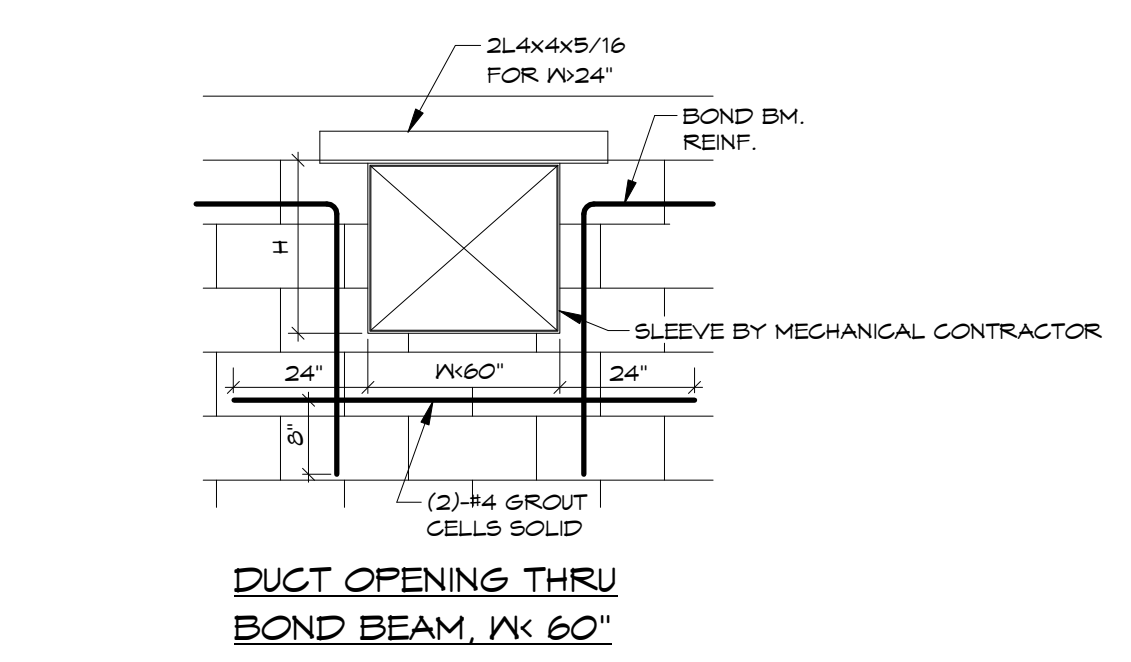
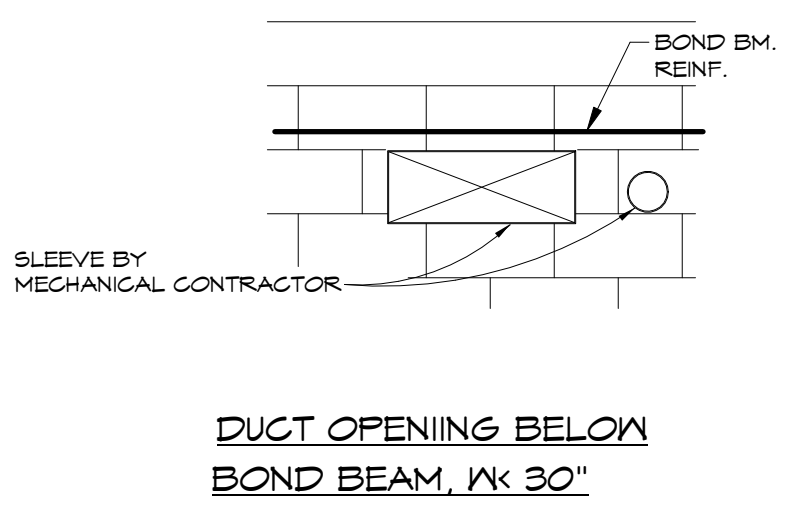
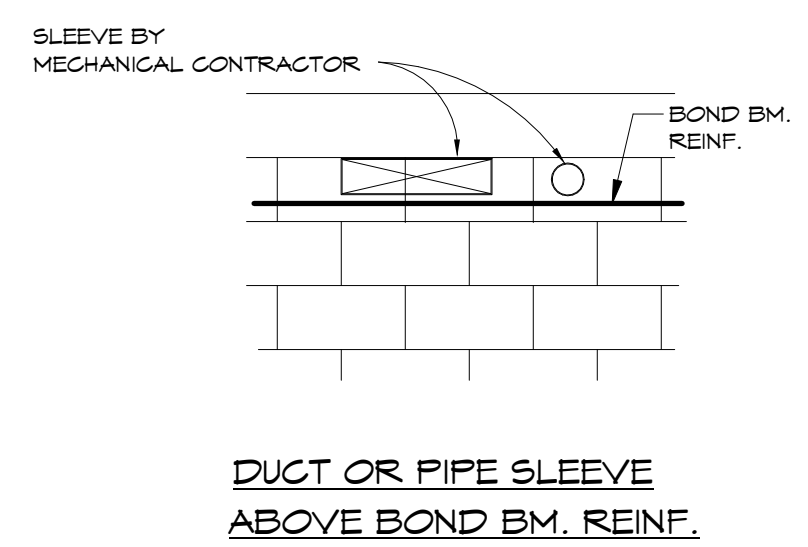








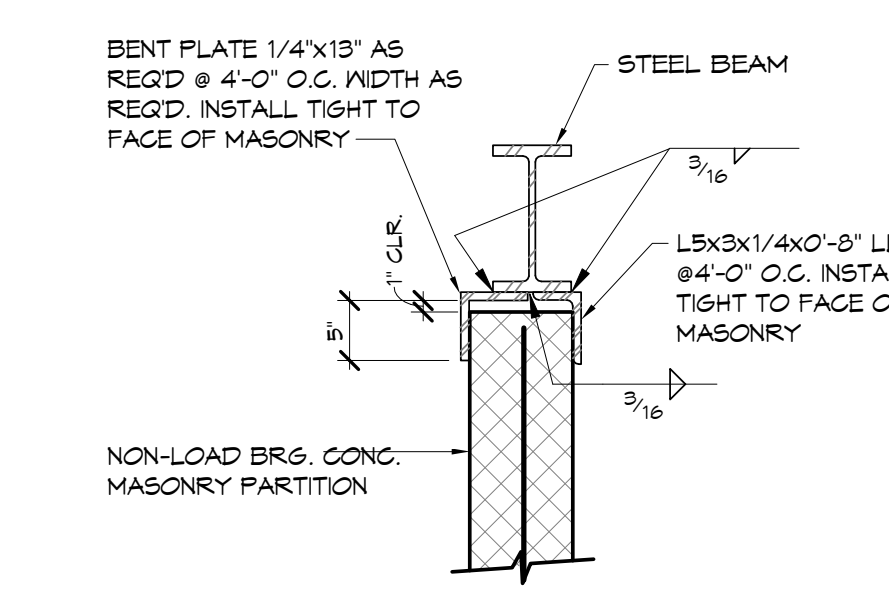
three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



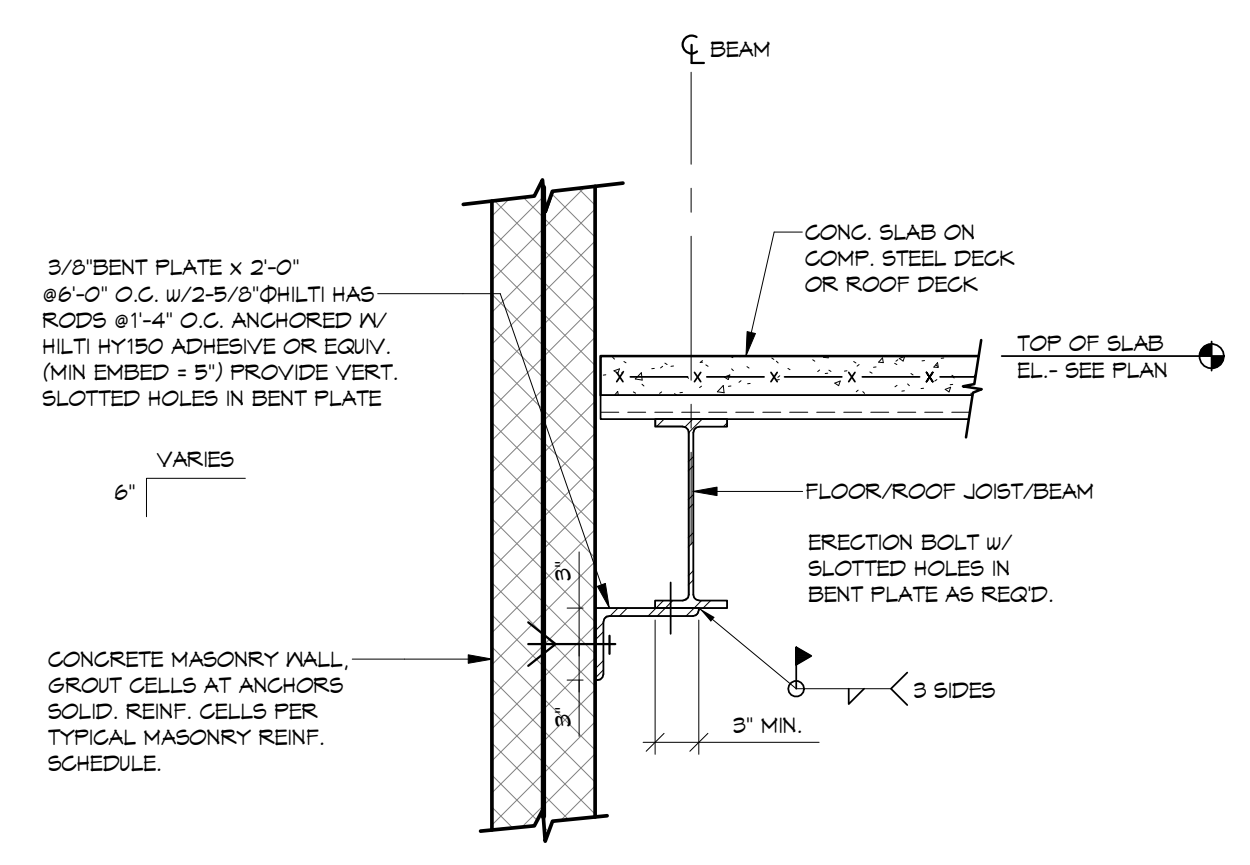
PIPE & DUCT PENETRATIONS  
THRU MASONRY WALLS

NOTE:  
1. PROVIDE 12" OF MASONRY BETWEEN ADJACENT DUCT PENETRATIONS.  
2. MECHANICAL OPENINGS IN MASONRY WALLS LARGER THAN 60" NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL NOT BE PLACED WITHOUT WRITTEN PERMISSION/TRAINING RECOMMENDATIONS FROM THE STRUCTURAL ENGINEER NOT SHOWN ON THE STRUCTURAL DRAWINGS.

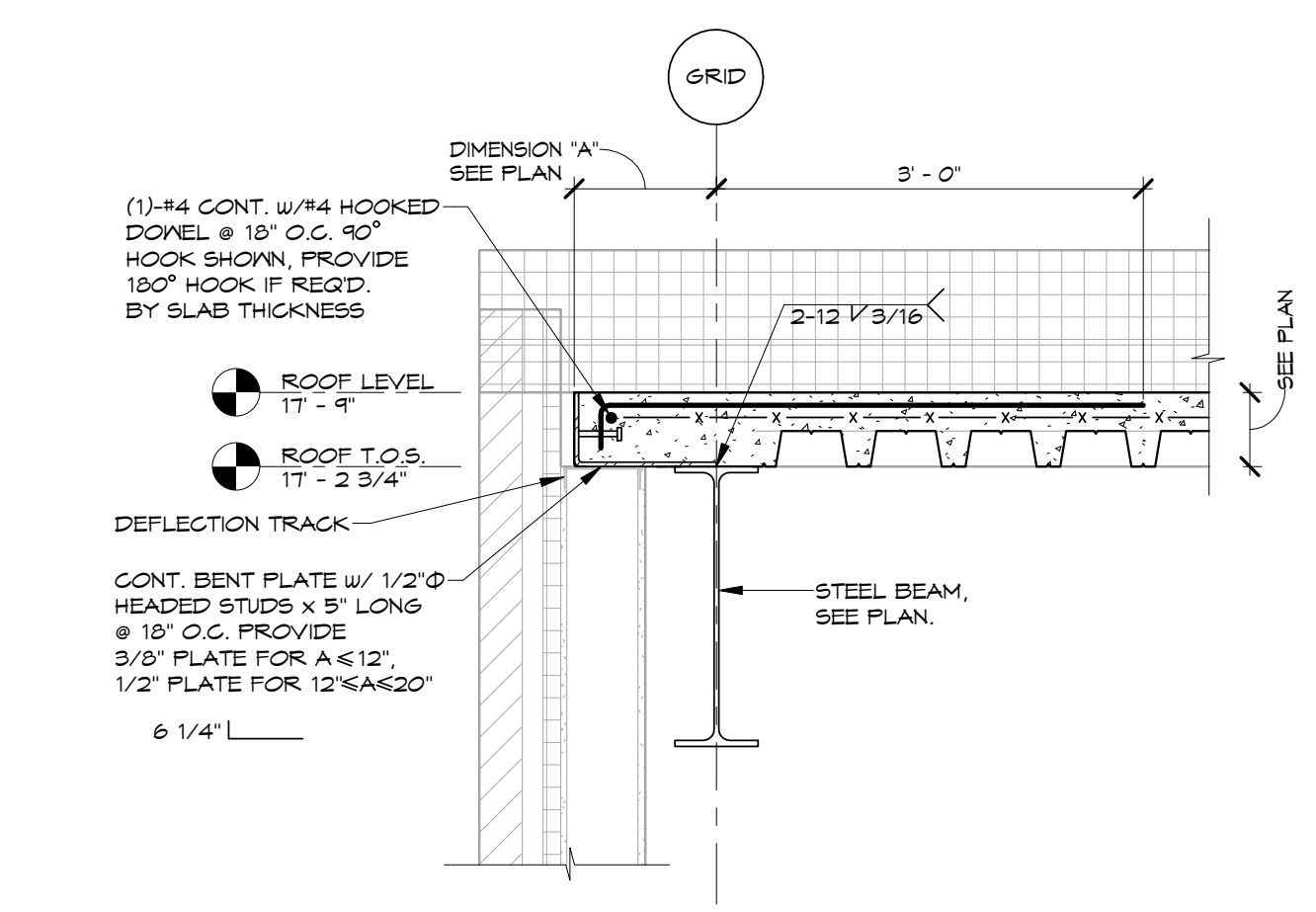
DETAIL 1  
PENETRATIONS THROUGH MASONRY WALLS  
3/4" = 1'-0"



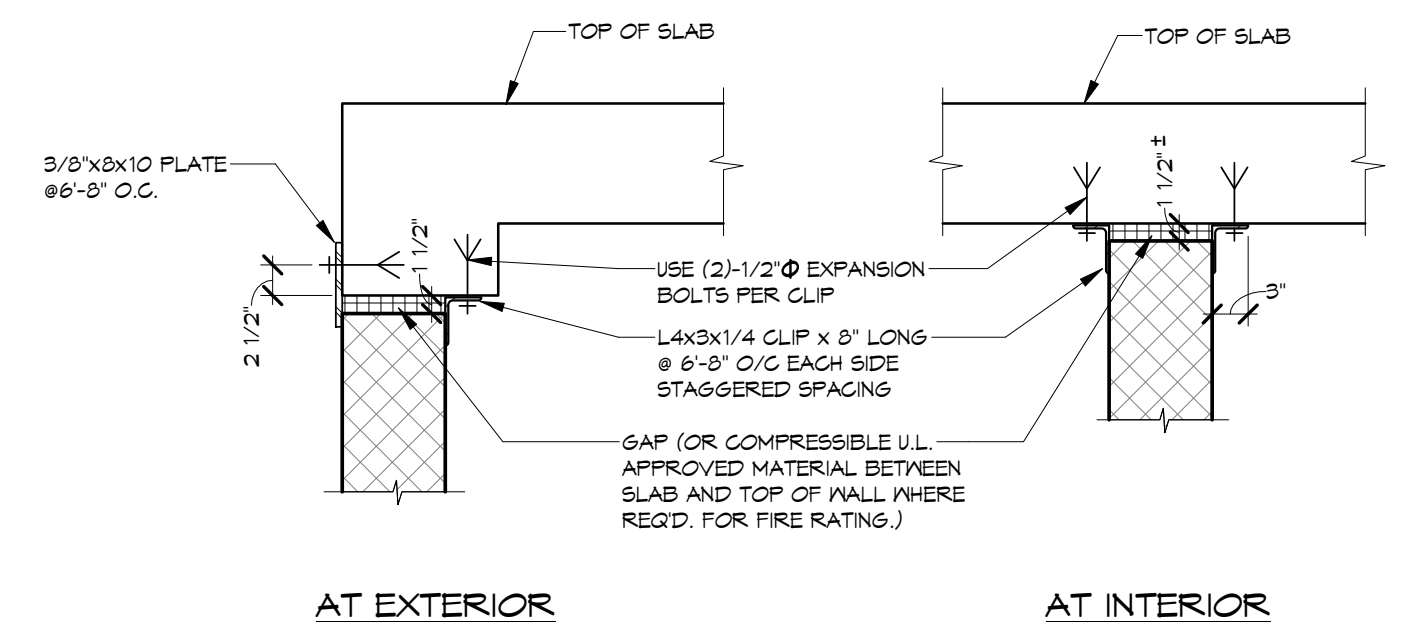
DETAIL 4  
TYPICAL MASONRY PARTITION BRACING AT  
STEEL BEAM DETAIL  
3/4" = 1'-0"



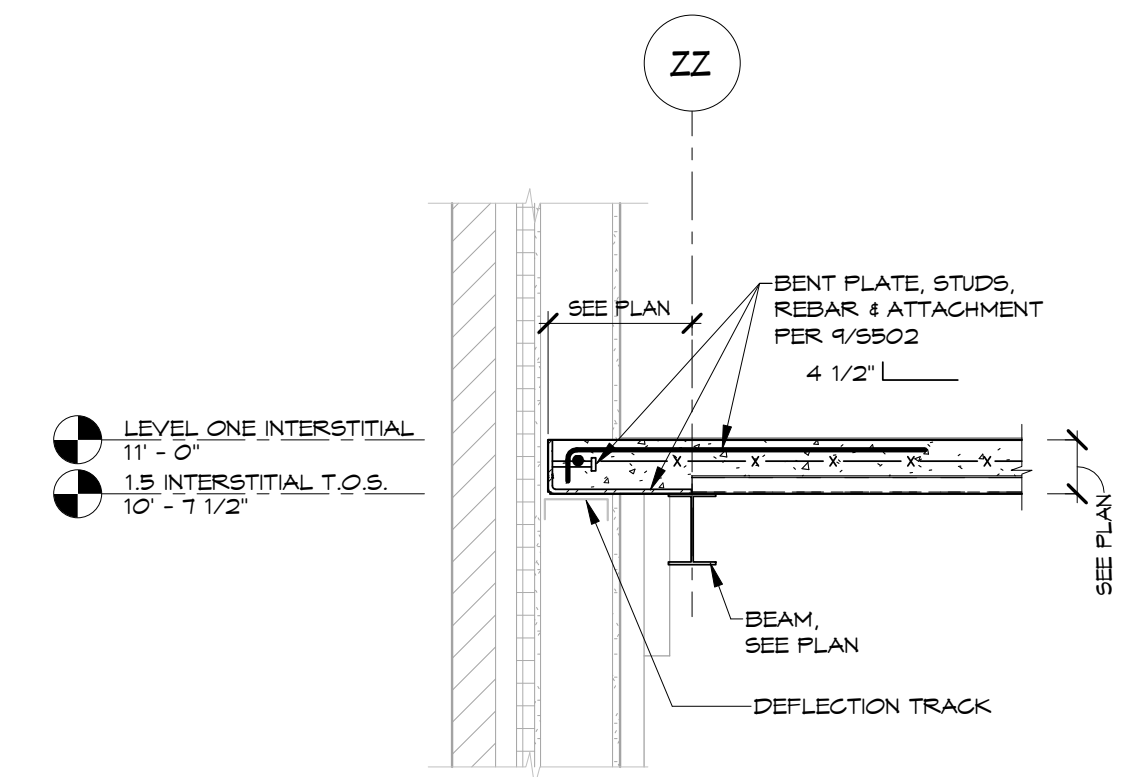
DETAIL 5  
TYPICAL STEEL JOIST/BEAM PARALLEL TO  
MASONRY WALL DETAIL  
3/4" = 1'-0"



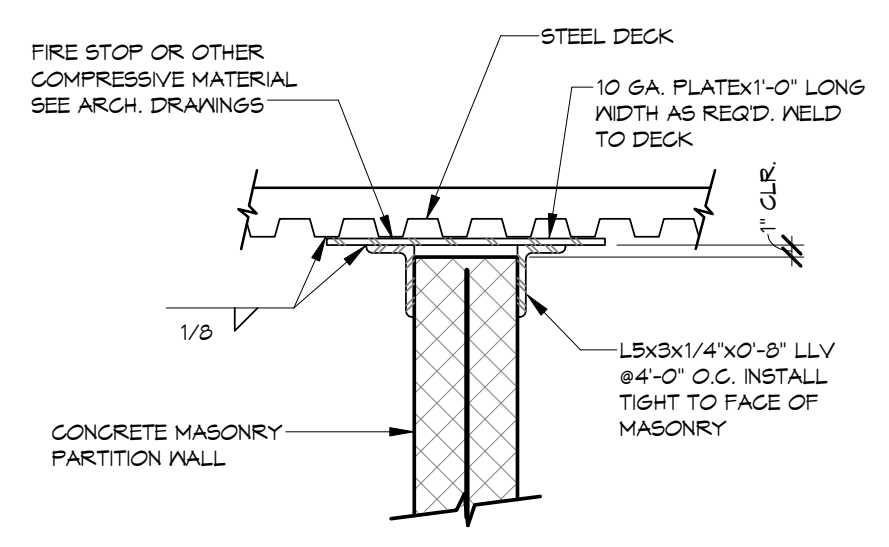
DETAIL 6  
TYPICAL PERIMETER SLAB EDGE AT ROOF  
3/4" = 1'-0"



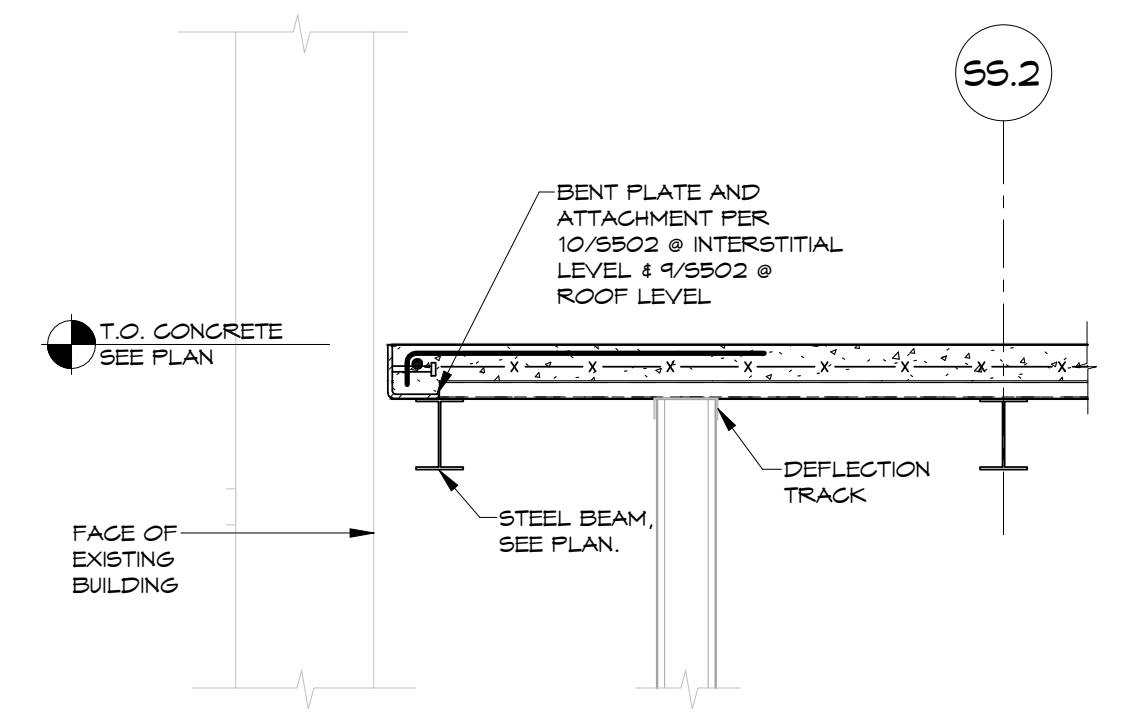
DETAIL 7  
PARTITION WALL BRACING TO SLAB  
3/4" = 1'-0"



DETAIL 8  
TYPICAL PERIMETER SLAB EDGE AT  
INTERSTITIAL  
3/4" = 1'-0"



DETAIL 9  
TYPICAL MASONRY PARTITION BRACING AT  
ROOF DECK DETAIL  
3/4" = 1'-0"



DETAIL 10  
TYPICAL DETAIL AT ELEVATED SLAB EXPANSION  
JOINT  
3/4" = 1'-0"

## FULLY SPRINKLERED BID DOCUMENTS

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