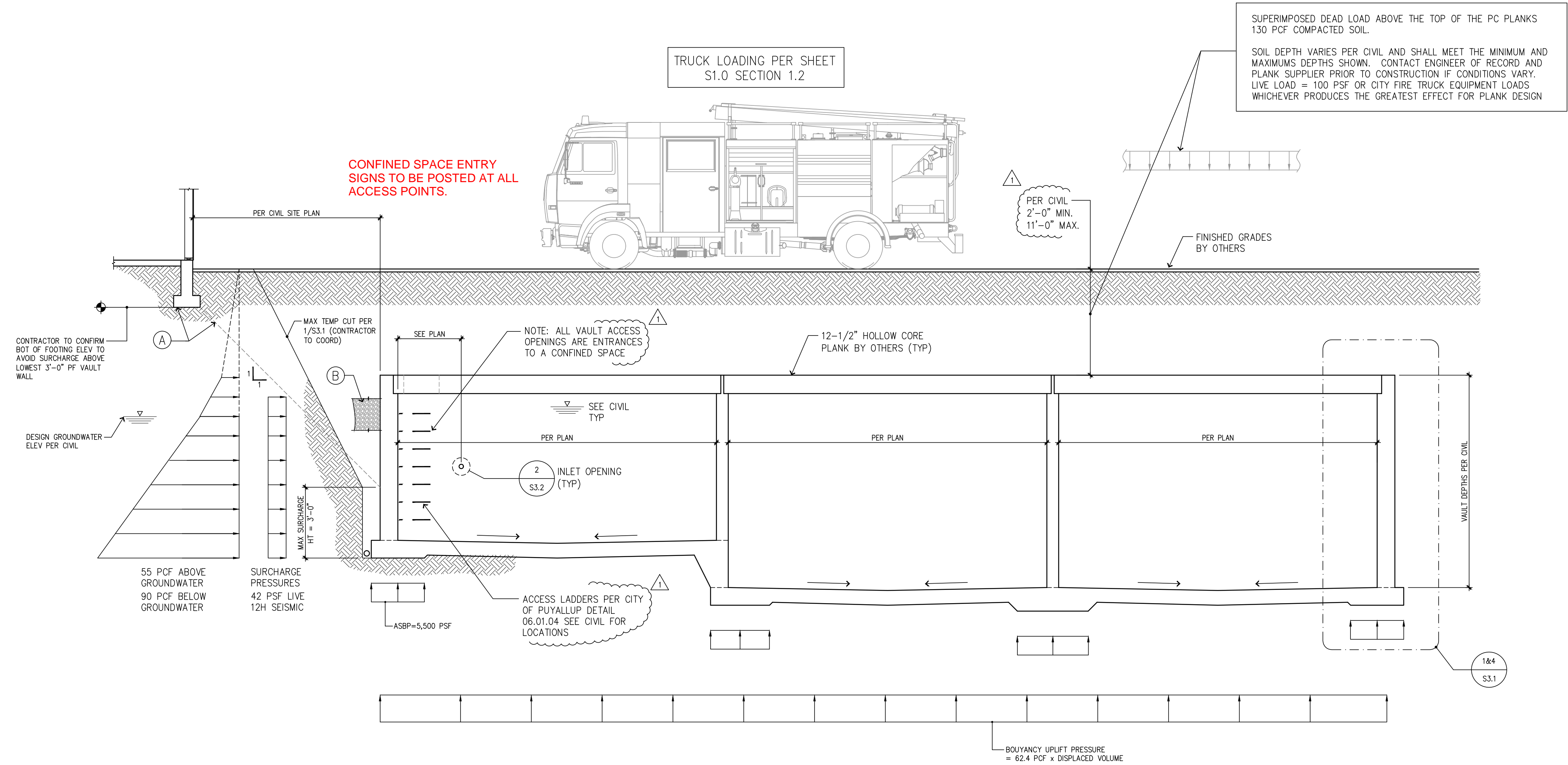






CAD FILE: F:\Projects\2023 Projects\Bradley Heights\Drawings\Detention Vault\S1.1.dwg PLOT DATE/TIME: 3/26/2025 - 3:15pm THANK YOU FOR USING SOLUTIONS 4 STRUCTURES

- (A) TEMPORARY SLOPES PER SOILS ENGINEER. SEE DETAIL 10/S3.1 FOR EXCAVATION NOTES AND MINIMUM BUILDING OFFSETS.
- (B) COMPLETION OF BACKFILL SHALL NOT BEGIN UNTIL AFTER PLANKS ARE PLACED AND GROUTED PER SECTION 1/S3.1 METHODS AND MATERIALS SHALL BE COORDINATED BETWEEN THE SOILS ENGINEER AND THE CONTRACTOR AND SHALL NOT RESULT IN OUT OF PLANE PRESSURES EXCEEDING THE LIMITS NOTED.
- (C) DE-WATERING REQUIRED DURING CONSTRUCTION SHALL REMAIN UNTIL FINAL GRADE MATERIAL HAS BEEN PLACED ABOVE THE PLANKS.



### Vault Design Loading

NTS

City of Puyallup Development & Permitting Services ISSUED PERMIT			
Building	Planning	Engineering	Public Works
Fire	Traffic		

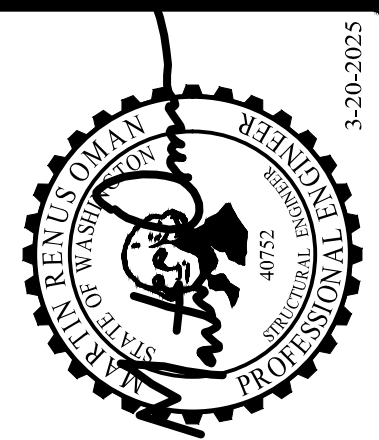
PROJECT NO. : 23-007  
DESIGNED BY : MRO  
DRAWN BY : RSO  
ISSUE DATE : 8-16-24  
LATEST REV. OF DWG. SET : 3-20-25

SUBMITTAL SET ONLY NOT FOR CONSTRUCTION  
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**Bradley Heights Apartments**  
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Puyallup, Washington  
PRRWF20250235

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www.solutions4structures.com

**Revisions to this sheet:**  
3-20-2025 REVISIONS PER CITY REVIEW COMMENTS



THOMAS L. CHASE, PE  
MARTIN R. OMAN, PE, SE  
OLEG G. KONDRATYUK, PE  
3-20-2025

# S1.1

CAD FILE: F:\Projects\2023 Projects\23.007 Bradley Heights\Drawings\Detention Vault\S2.1.dwg PLOT DATE/TIME: 5/12/2025 - 2:54pm THANK YOU FOR USING SOLUTIONS 4 STRUCTURES

### Plank Framing Notes - Vault 3

1. TOW = TOP OF WALL ELEVATION (ALSO BOTTOM OF PLANKS)  
= 384.30'
2. TOF = VARIES SEE CIVIL
3. TOP OF VAULT FRAMING TYPICALLY CONSISTS OF SIMPLE SPAN 12-1/2" PRECAST PRE-STRESSED HOLLOW CORE PLANKS TO BE DESIGNED BY OTHERS TO CARRY ALL DESIGN LOADS AS SHOWN ON SHEET S1.1
4. FLOOR PLANK LOCATIONS ARE SCHEMATICALLY SHOWN ON THE PLANS. IT IS NOT THE INTENT OF THE STRUCTURAL PLANS TO GRAPHICALLY LOCATE ALL FRAMING MEMBERS. THE CONTRACTOR IS RESPONSIBLE FOR SPACING FRAMING MEMBERS AS NOTED ON THE PLANS AND GENERATING MEMBER LAYOUTS FOR SHOP DRAWINGS AND QUANTITY TAKEOFFS.
5. REFER TO SHEET S3.1 FOR TYPICAL PLANK CONNECTION DETAILS
6. CONTRACTOR SHALL VERIFY AND COORDINATE ALL OPENINGS THROUGH THE PLANK FRAMING ASSEMBLY. SEE SHEET S3.2 FOR RELATED DETAILS.
7. ALL BACKFILL SHALL NOT BEGIN UNTIL AFTER PLANKS ARE PLACED AND GROUTED. METHODS AND MATERIALS SHALL BE COORDINATED BETWEEN THE SOILS ENGINEER AND THE CONTRACTOR AND SHALL NOT RESULT IN OUT OF PLANE PRESSURES EXCEEDING THE LIMITS NOTED.
8. SEE THE GENERAL STRUCTURAL NOTES ON SHEET S1.0 FOR ADDITIONAL INFORMATION.

### CONTRACTOR NOTE

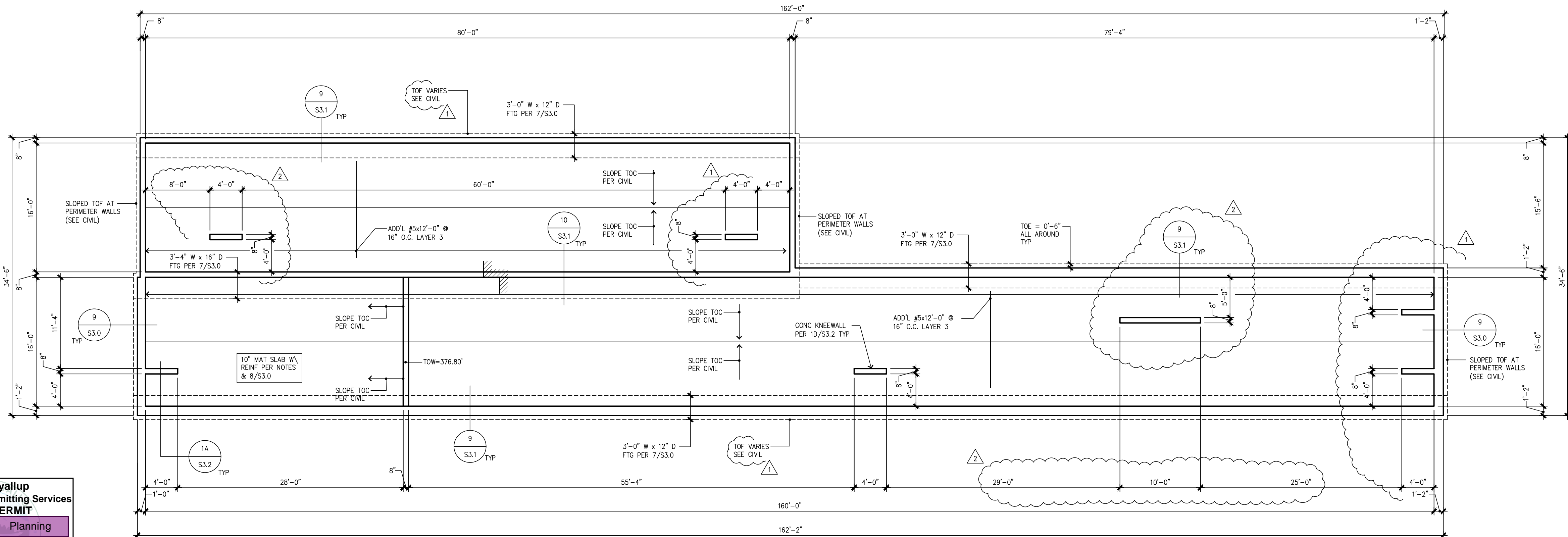
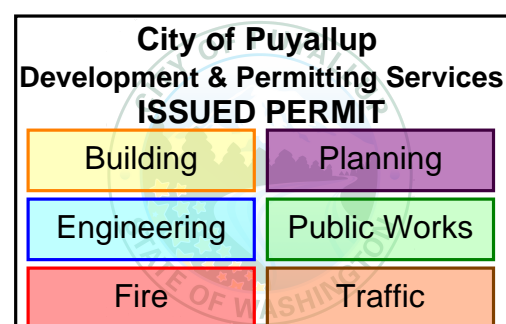
Engineer shall review and approve plank shop drawings prior to install. Engineer will provide a letter of approval of shop drawing prior to install. Engineer's letter will be present at time of inspection.

### NOTE:

Review Geotechnical Engineering Report regarding Temporary Excavations prior to commencement of work.

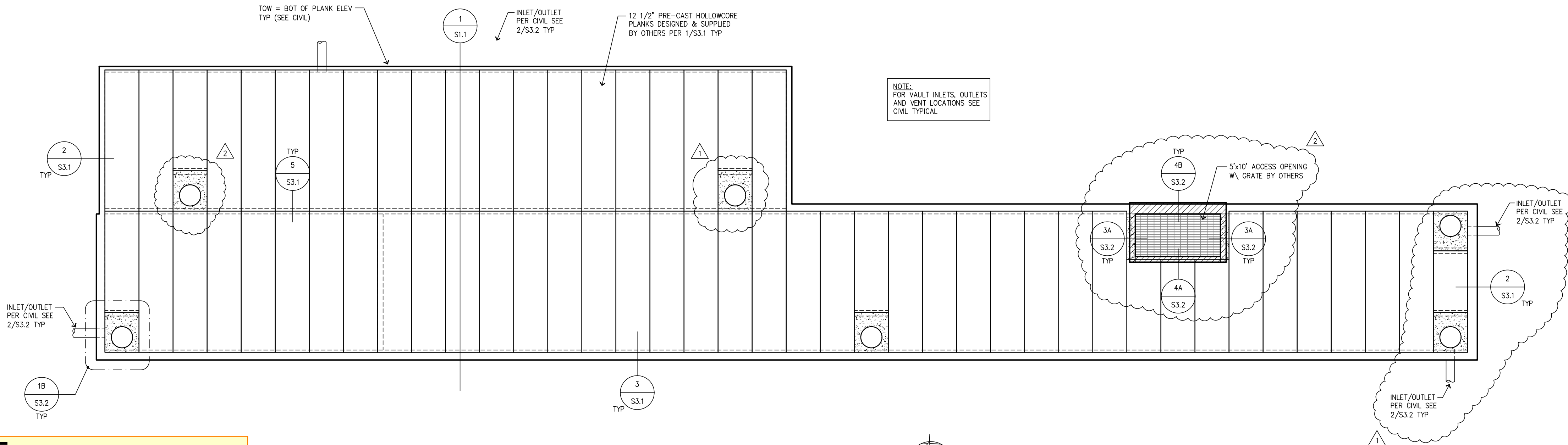
### Foundation Notes - Vault 3

1. TOF ELEVATIONS VARY (SEE PLAN)
2. TYPICAL DIMENSIONS ARE TO FACE OF WALL OR TO CENTERLINE OF COLUMN OR FOOTING. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECT.
3. PROVIDE MAT FOOTING SUBSTRATE PREPARATION PER THE SOILS REPORT.
4. ALL FOOTING DOWELS = SAME SIZE AND SPACING AS VERT WALL REINF TYPICAL
5. 10" THICK MAT SLAB W/ #5 @ 16" O.C. EA WAY PER 8/S3.0 & ADD'L REINFORCEMENT PER PLAN TYP.
6. PROVIDE 36"x36" CORNER BARS AT ALL WALL/FOOTING INTERSECTIONS AND CORNERS TO MATCH ALL HORIZONTAL REINFORCEMENT.
7. DO NOT BACKFILL PERIMETER CONC WALLS UNTIL PLANK ASSEMBLY HAS BEEN PLACED AND GROUTED.
8. SEE THE GENERAL STRUCTURAL NOTES ON SHEET S1.0 FOR ADDITIONAL INFORMATION.



### Foundation Plan - Vault 3

SCALE 1/8"=1'-0"



### Plank Layout Plan - Vault 3

SCALE 1/8"=1'-0"

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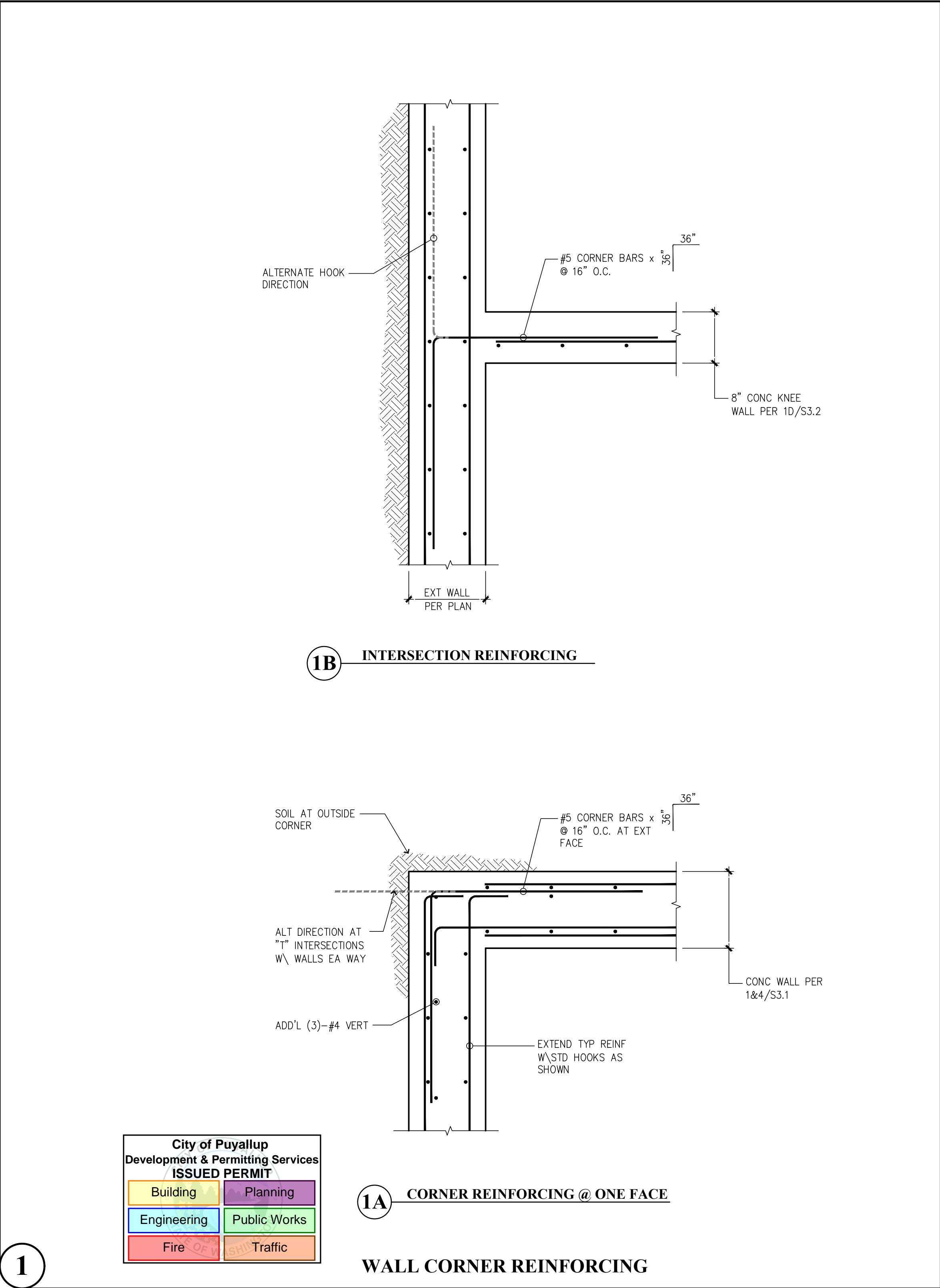
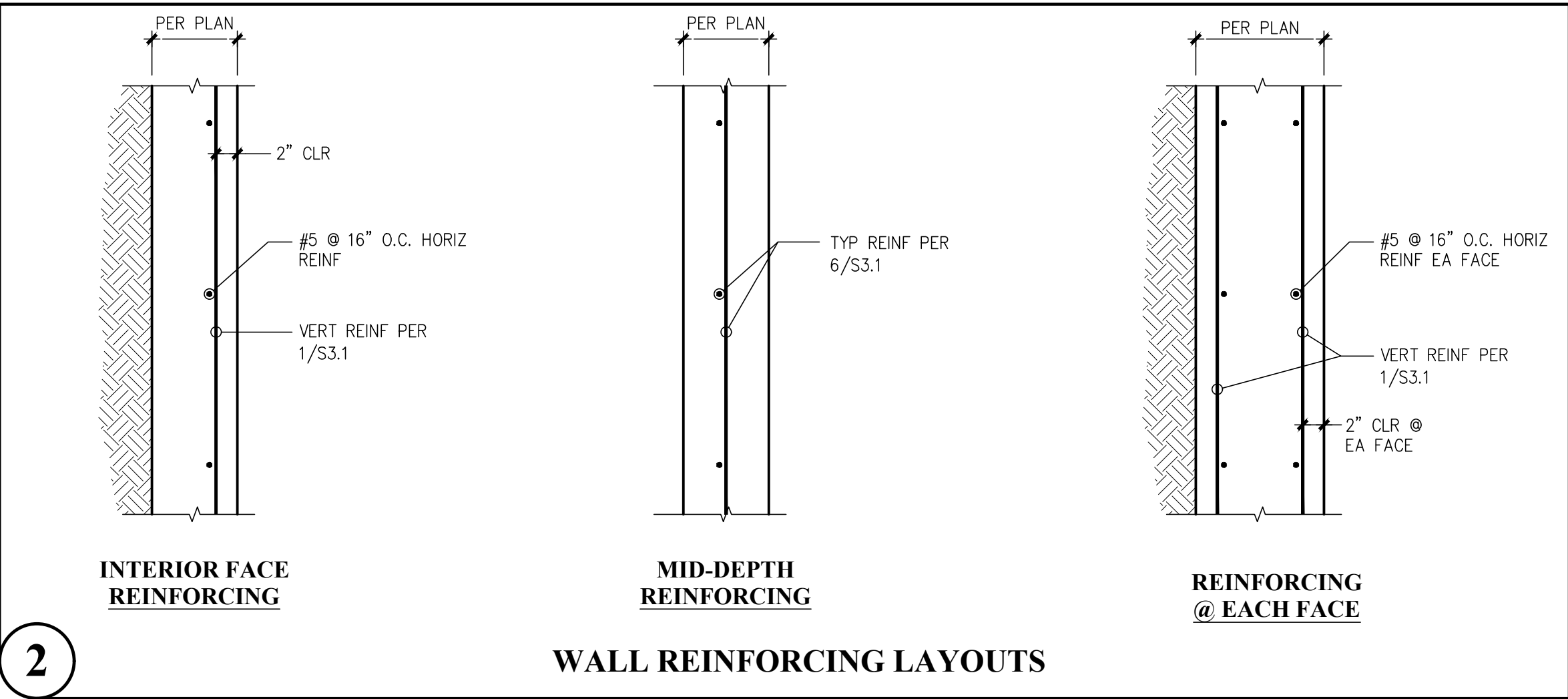
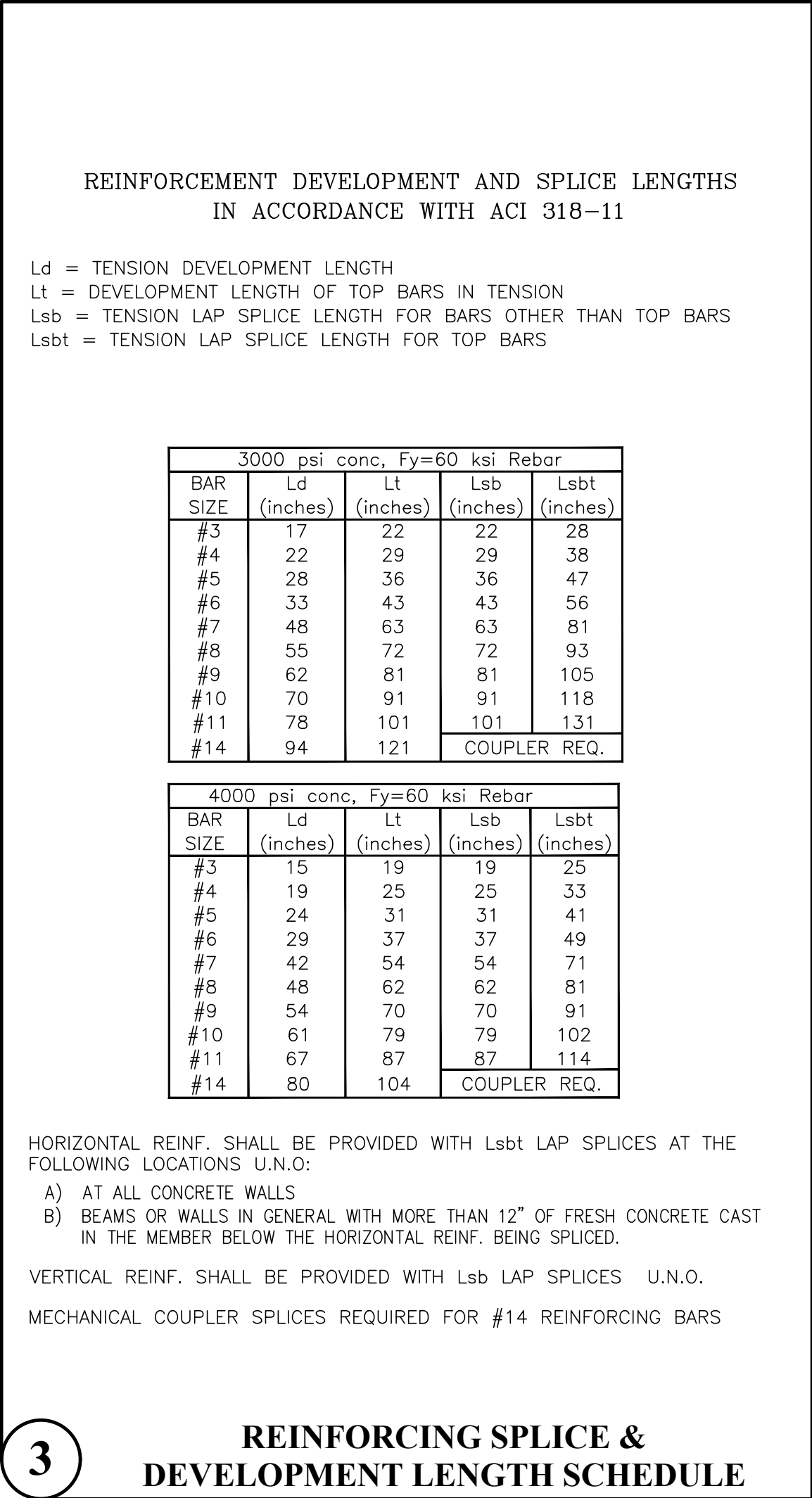
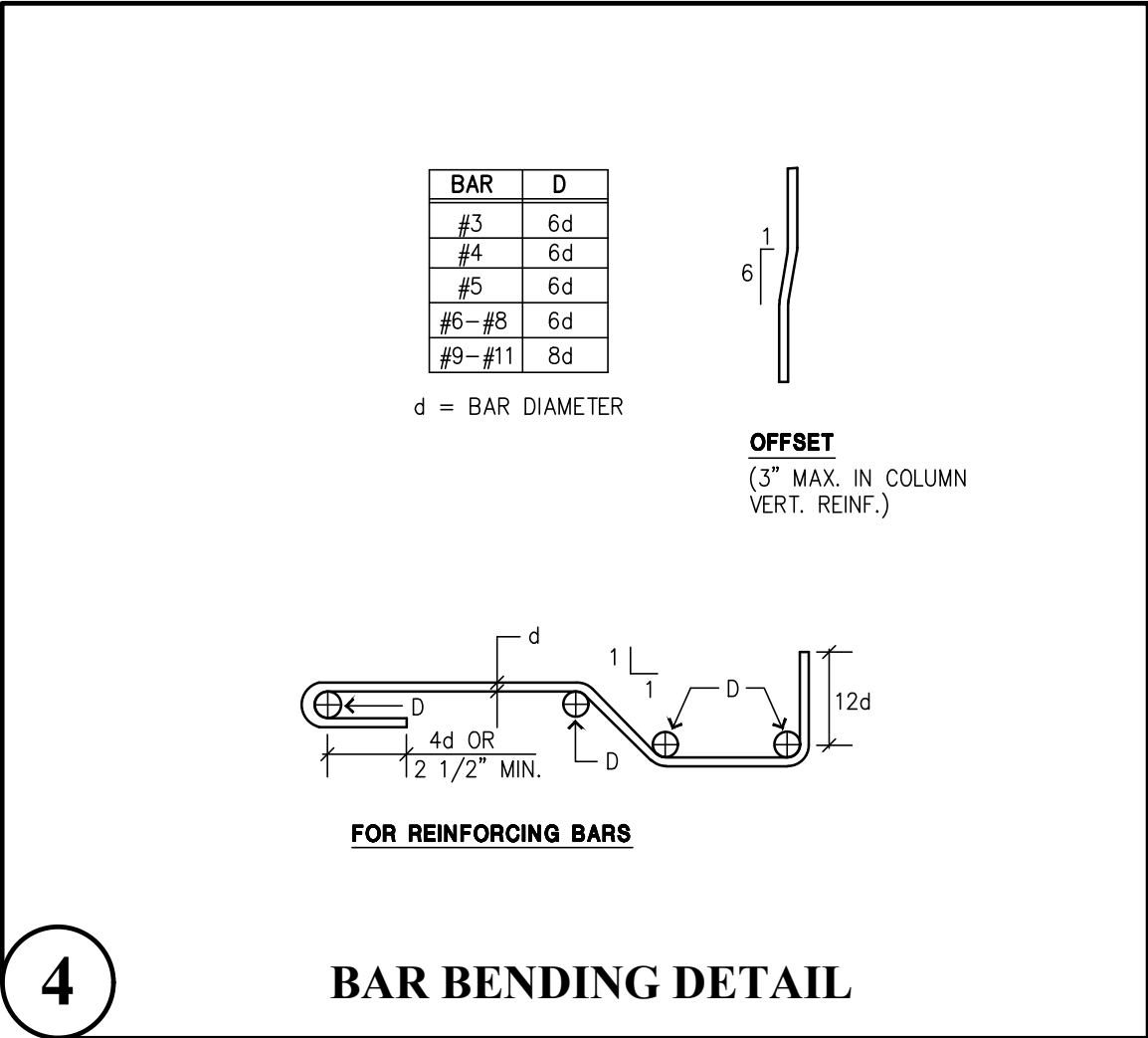
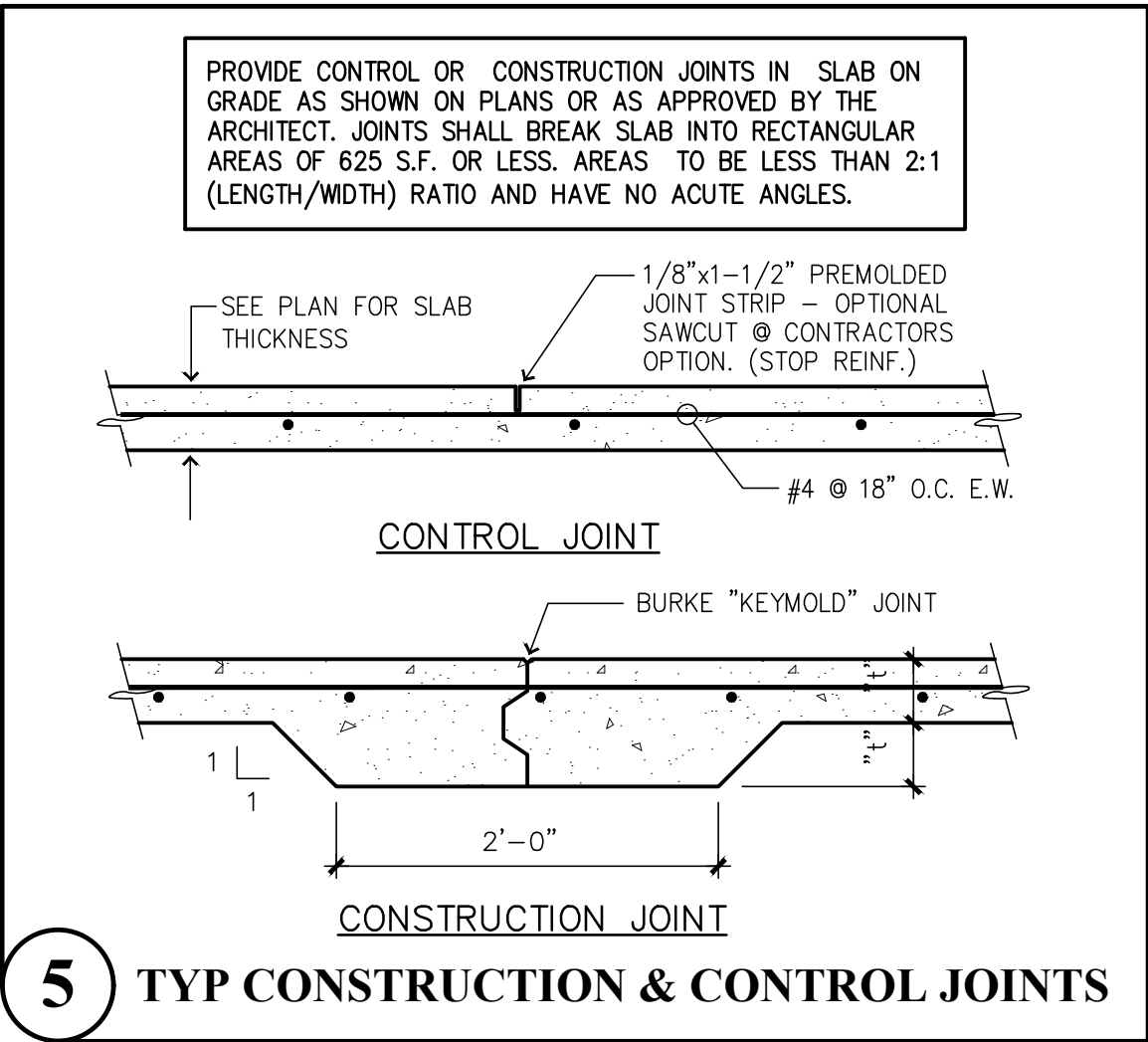
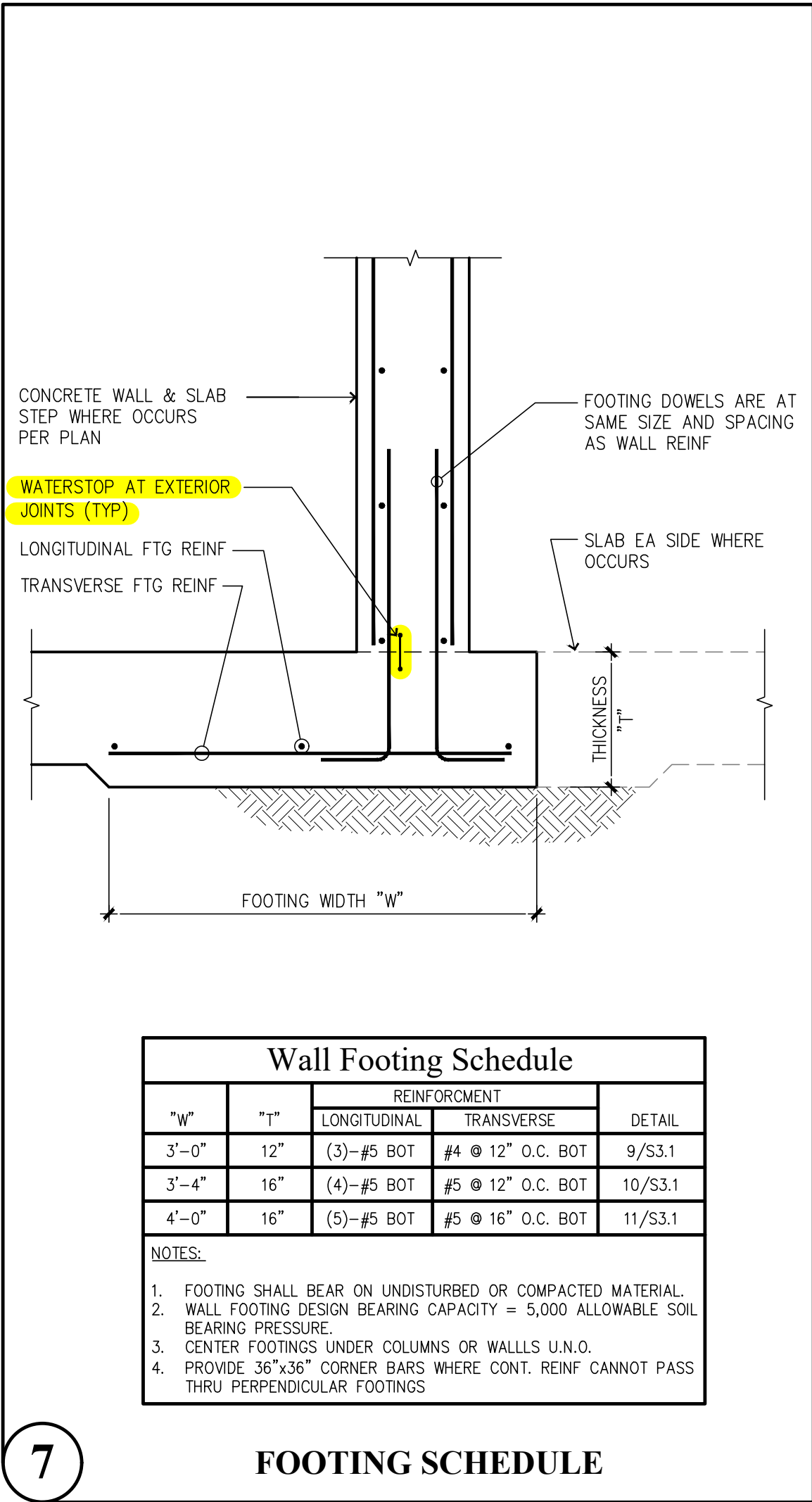
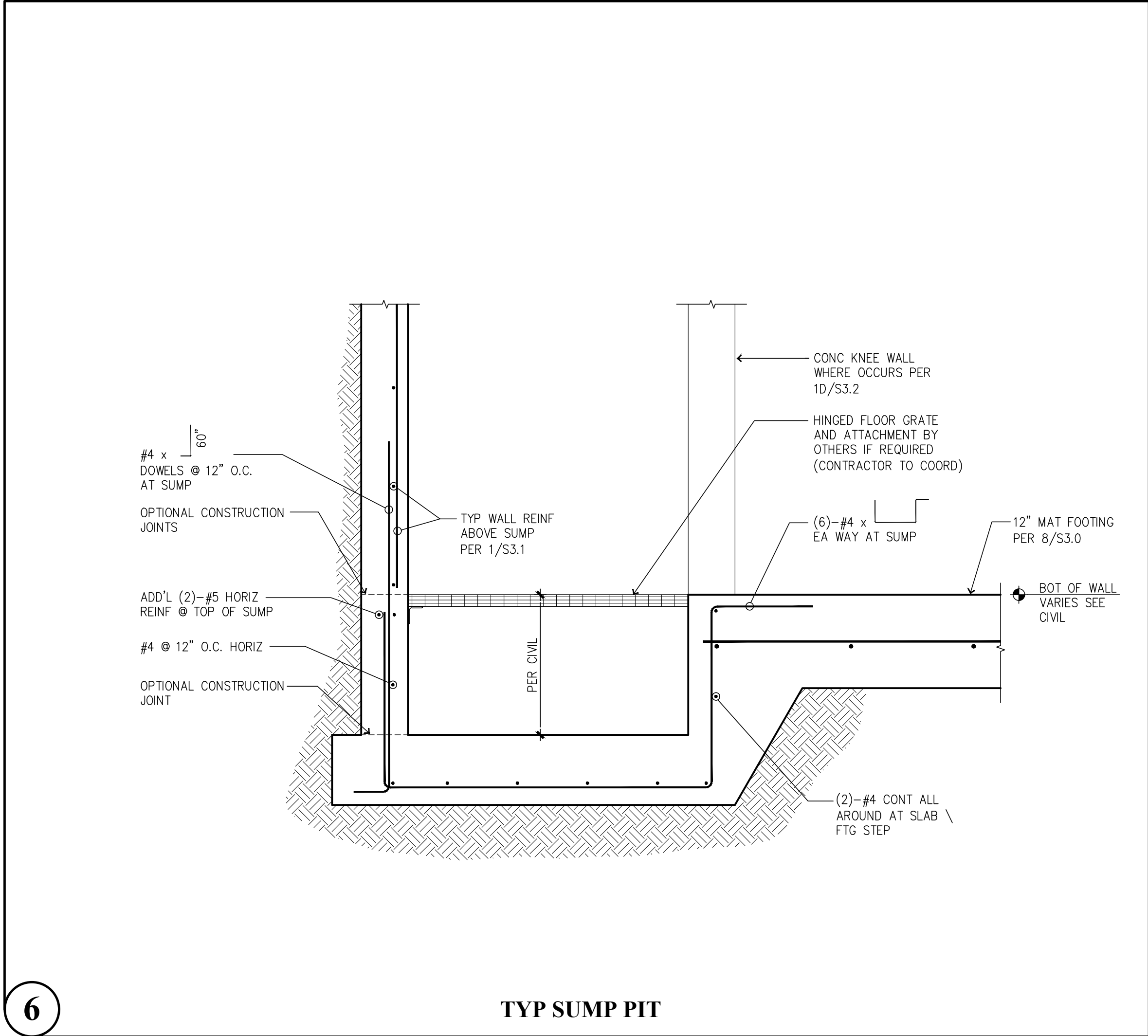
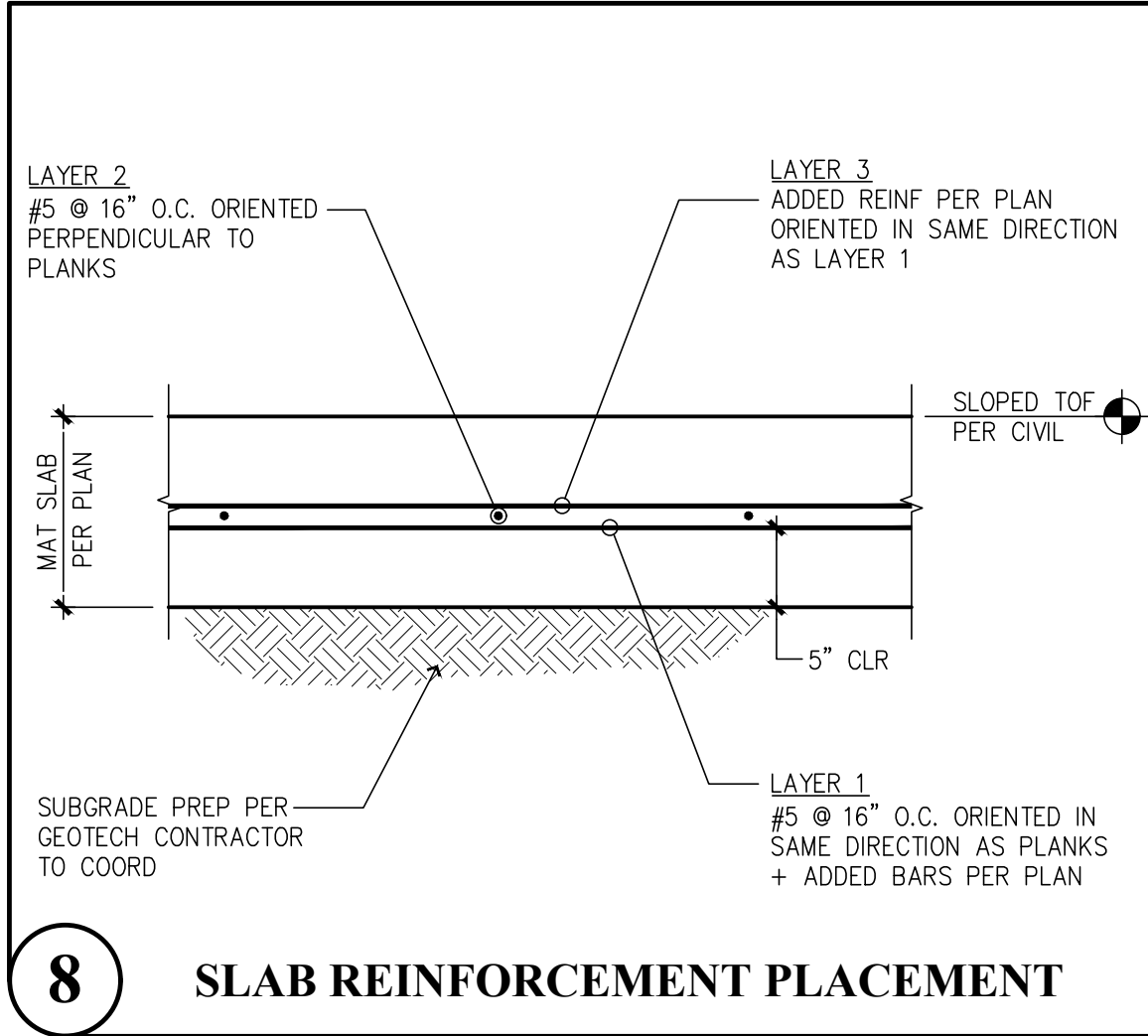
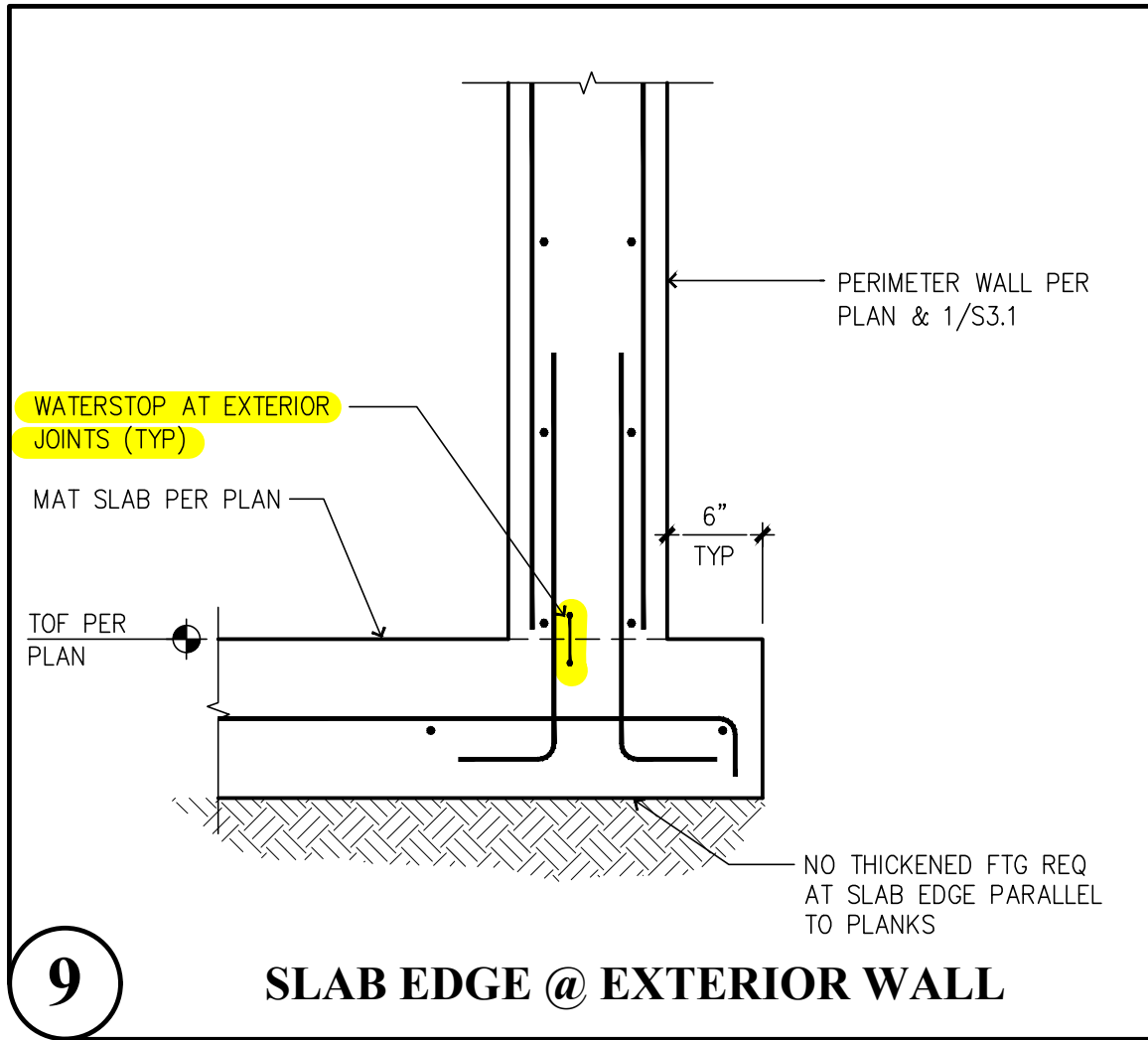
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DESIGNED BY : MRO  
DRAWN BY : RSO  
ISSUE DATE : 8-16-24  
LATEST REV. OF DWG. SET : 3-20-25

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S2.1



CAD FILE: F:\Projects\2023 Projects\Drawings\Bradley Heights\Detention Vault\S3.0.dwg PLOT DATE/TIME: 3/19/2025 - 4:18pm THANK YOU FOR USING SOLUTIONS + STRUCTURES



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**PRRWF20250235**

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S3.0

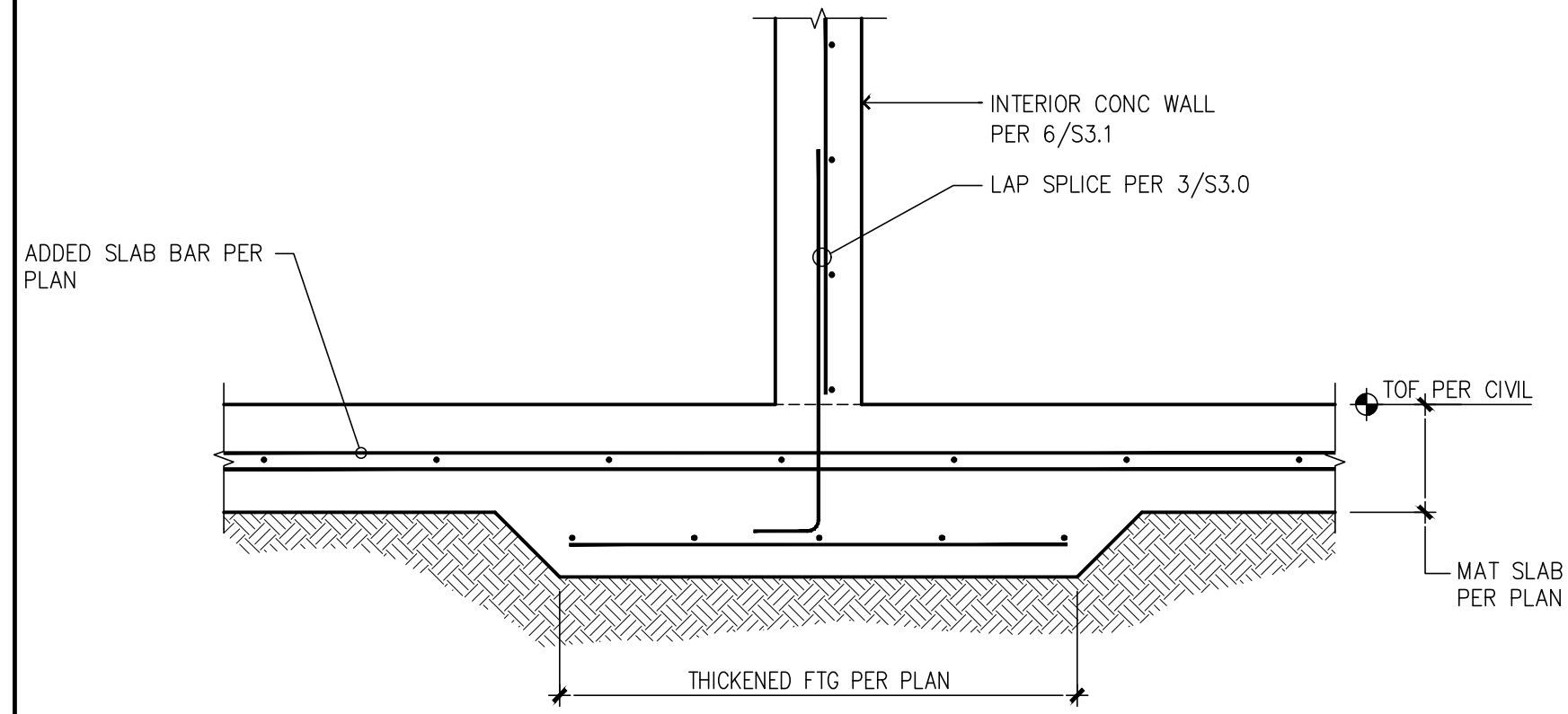


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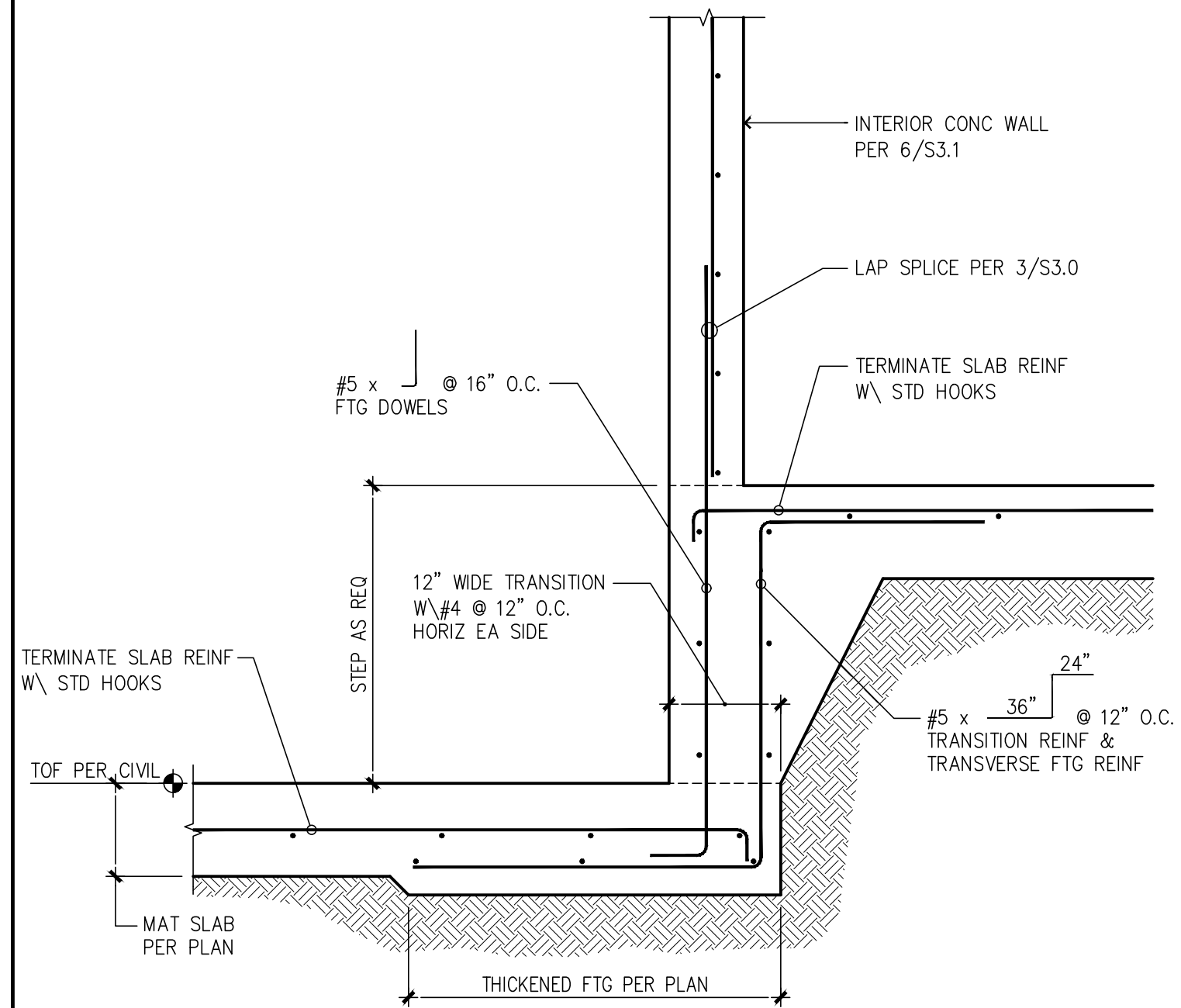
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### INTERIOR FOOTINGS



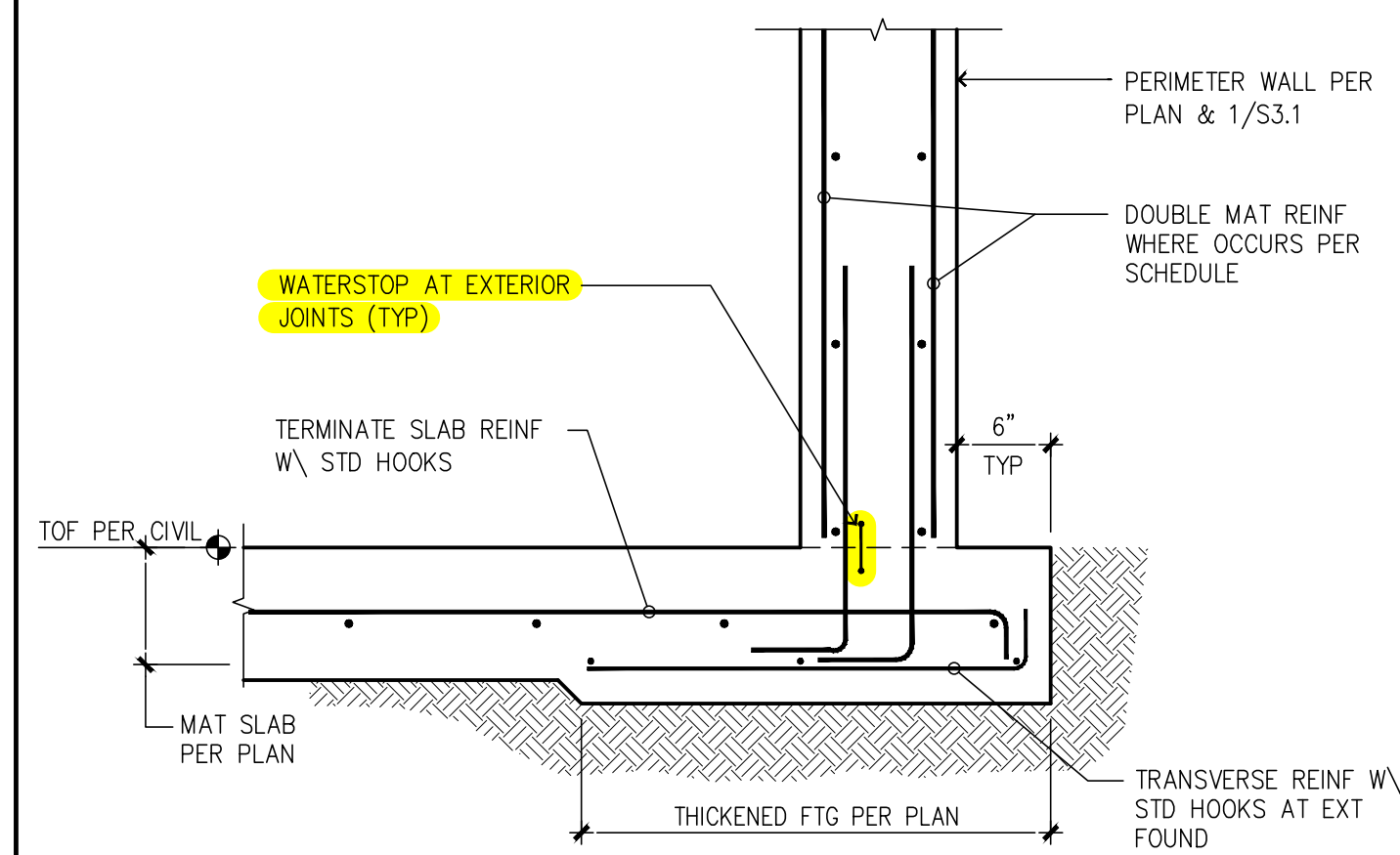
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### TYPICAL FOUNDATION STEP



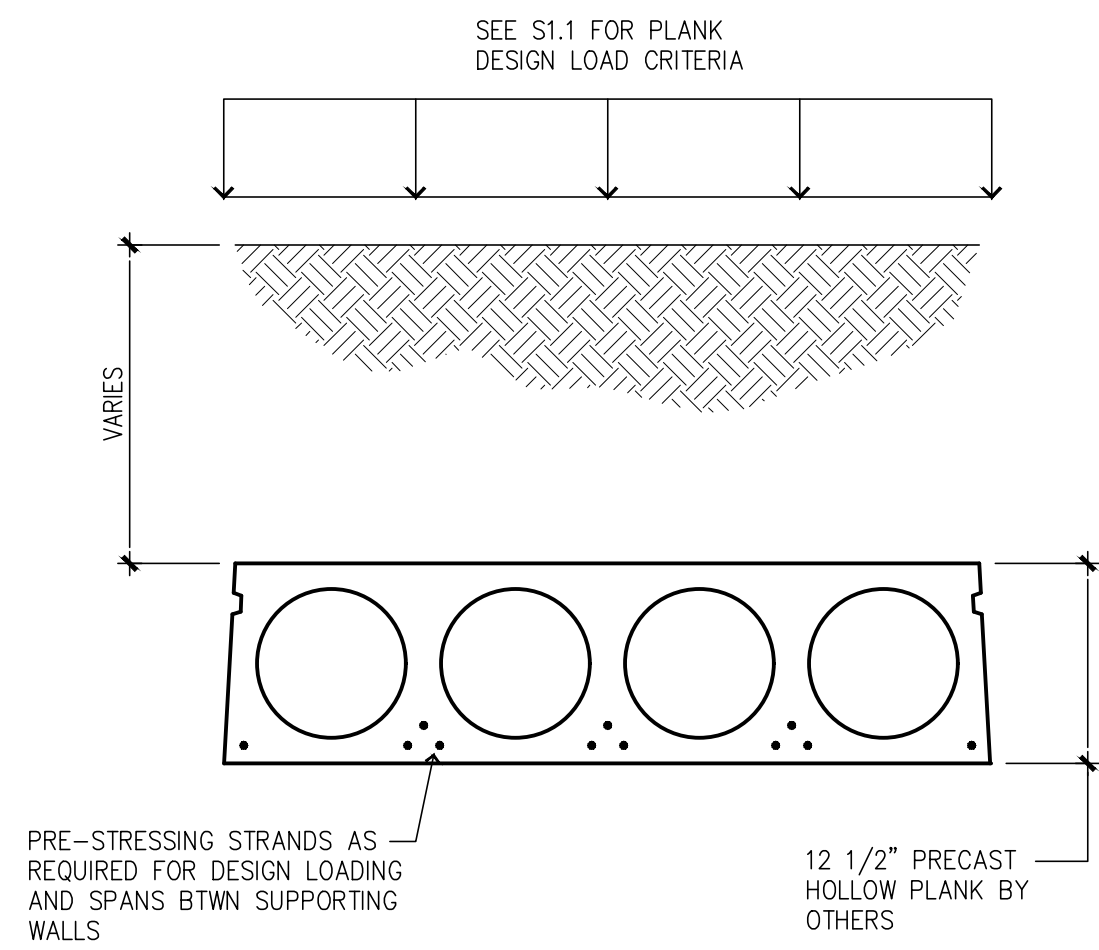
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### EXTERIOR FOOTINGS



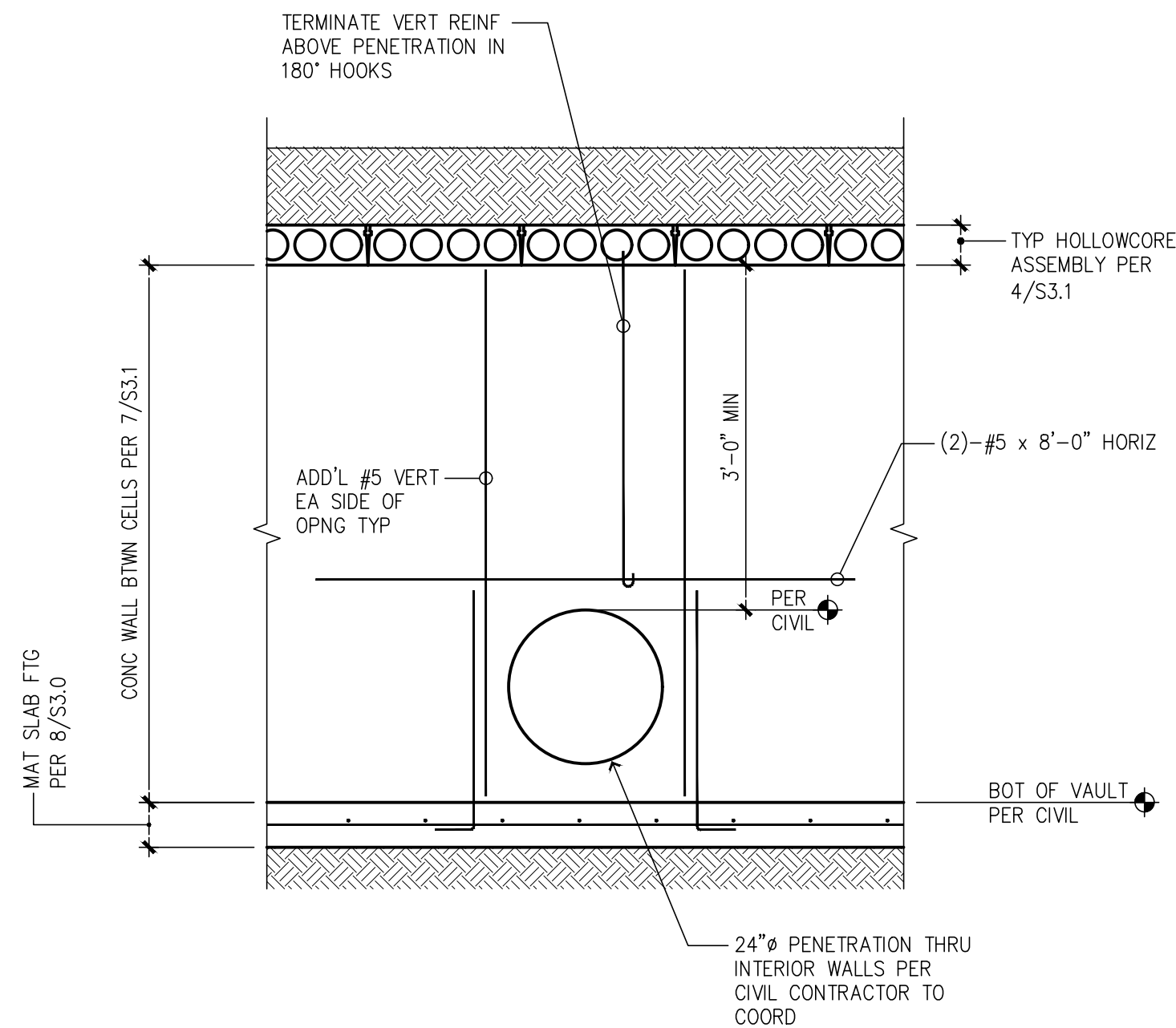
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### TYPICAL HOLLOWCORE PLANKS



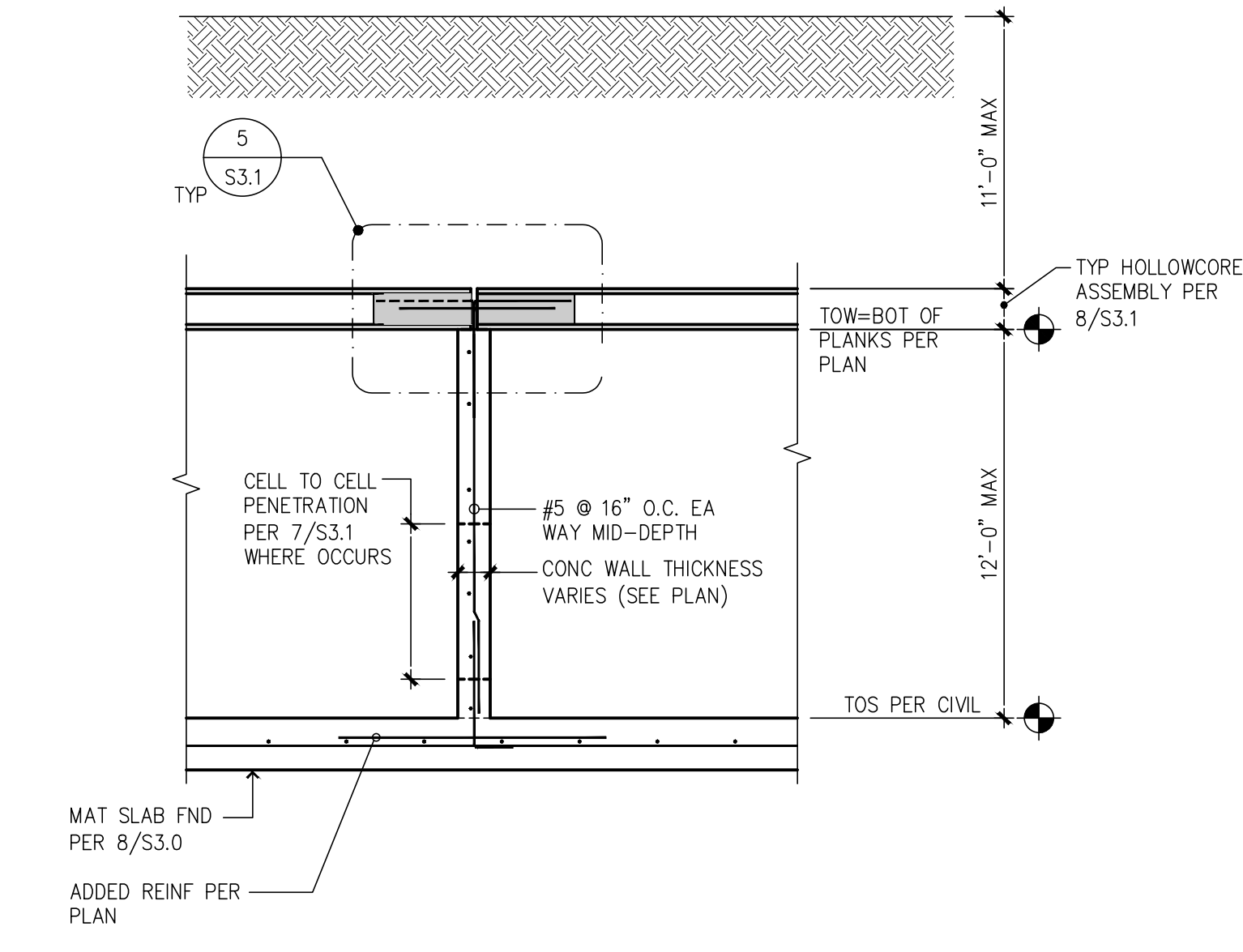
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### TYPICAL CELL TO CELL PENETRATION



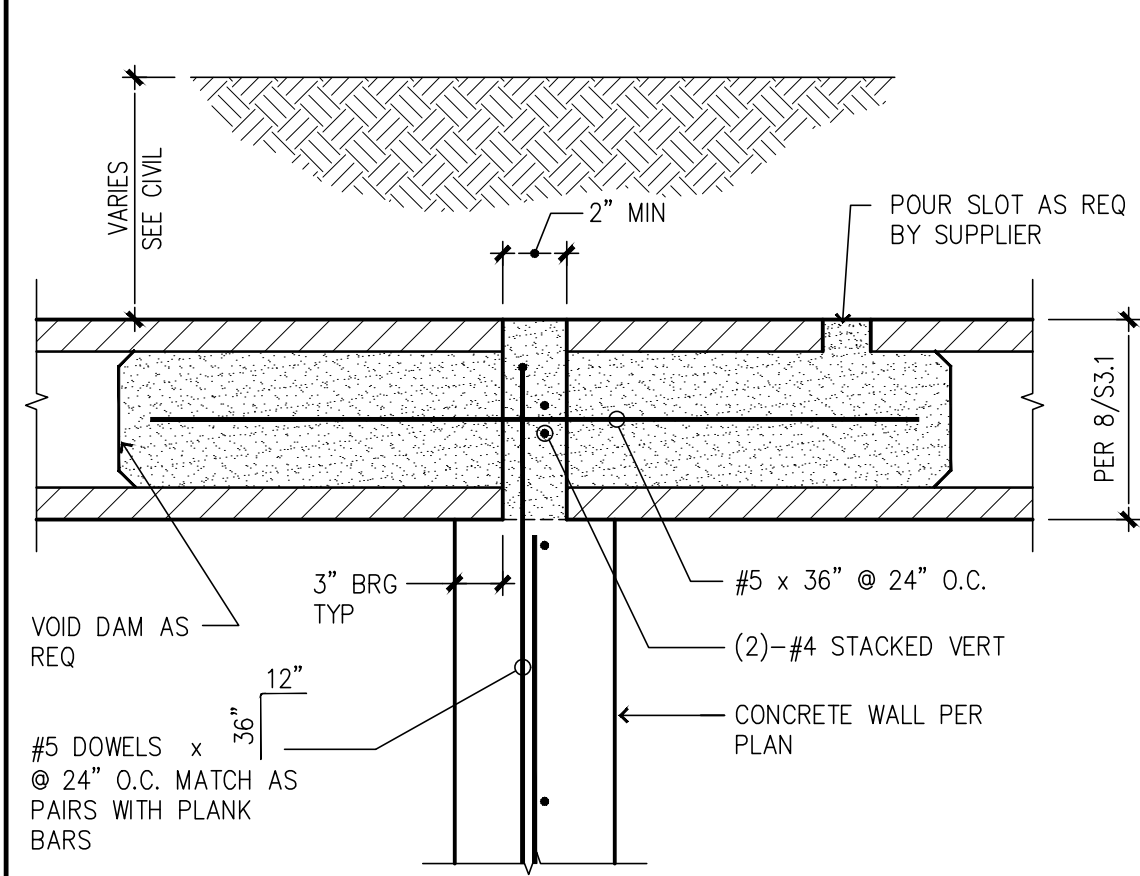
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### INTERIOR WALL SECTION



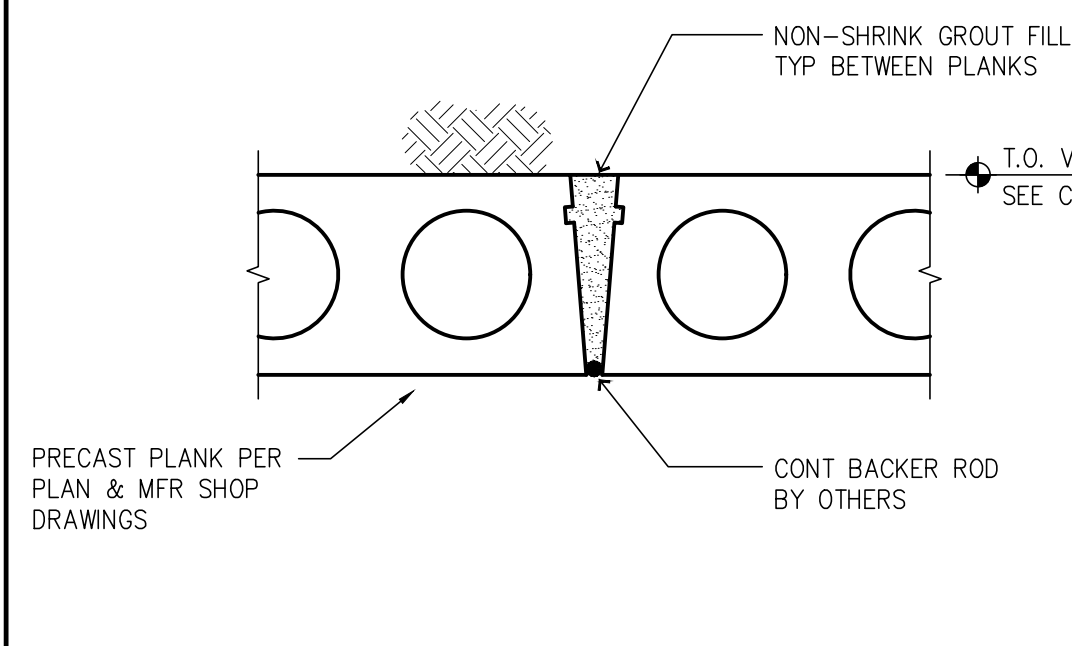
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### PLANK AT INTERIOR WALL OR BEAM



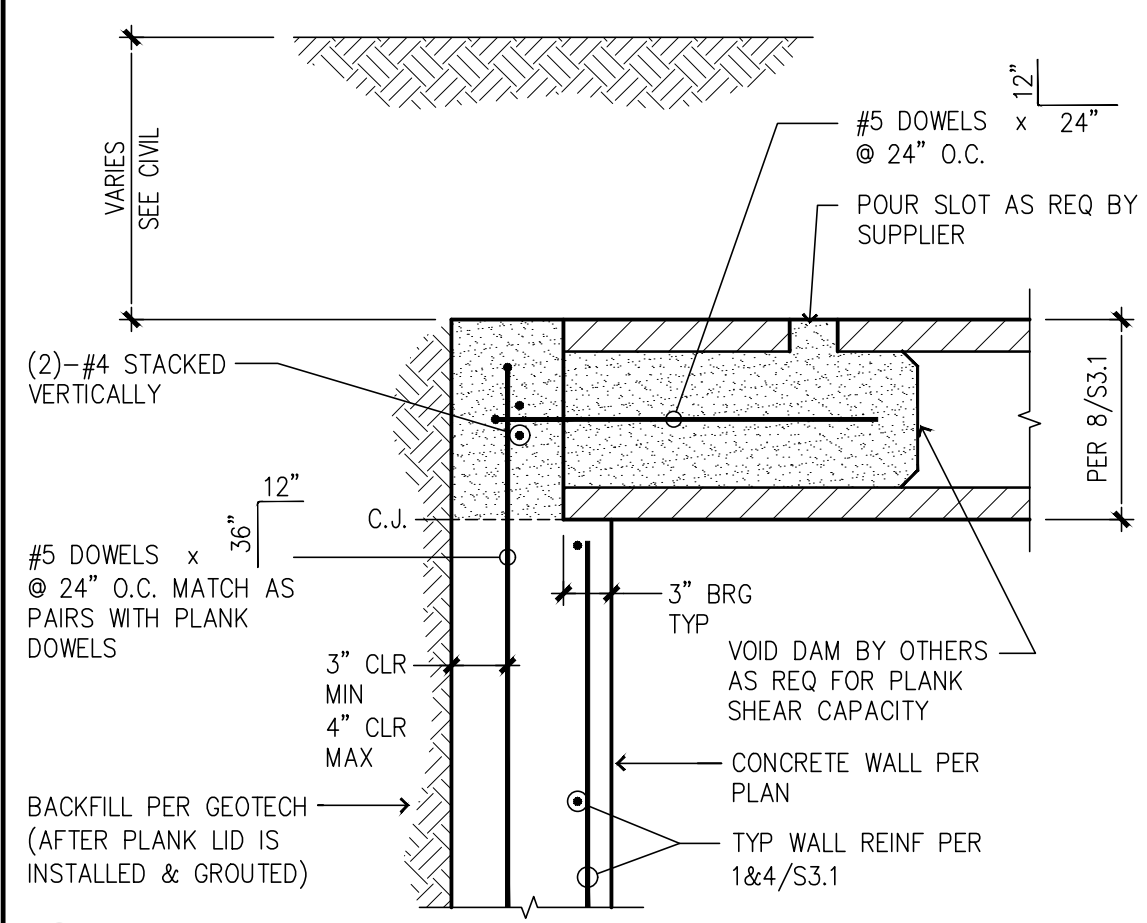
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### DETAIL BETWEEN PLANKS



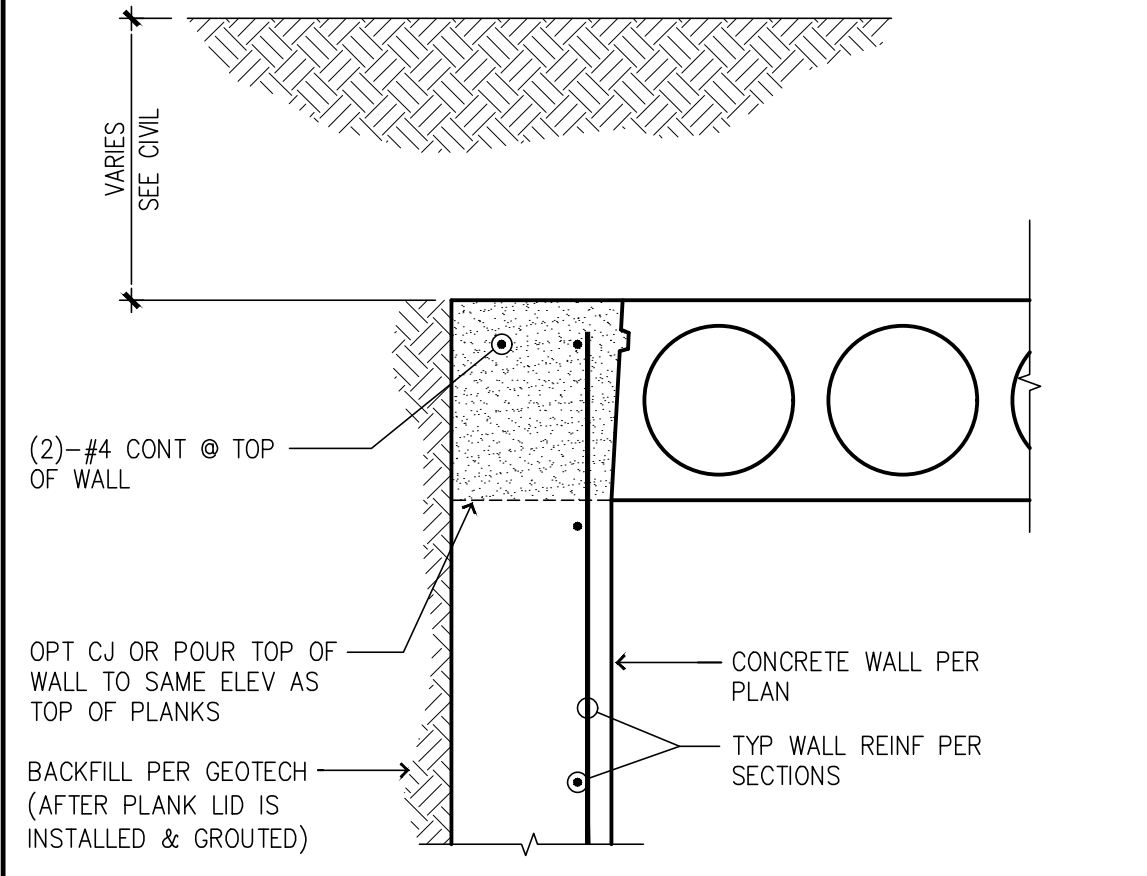
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### PLANK AT EXTERIOR WALL



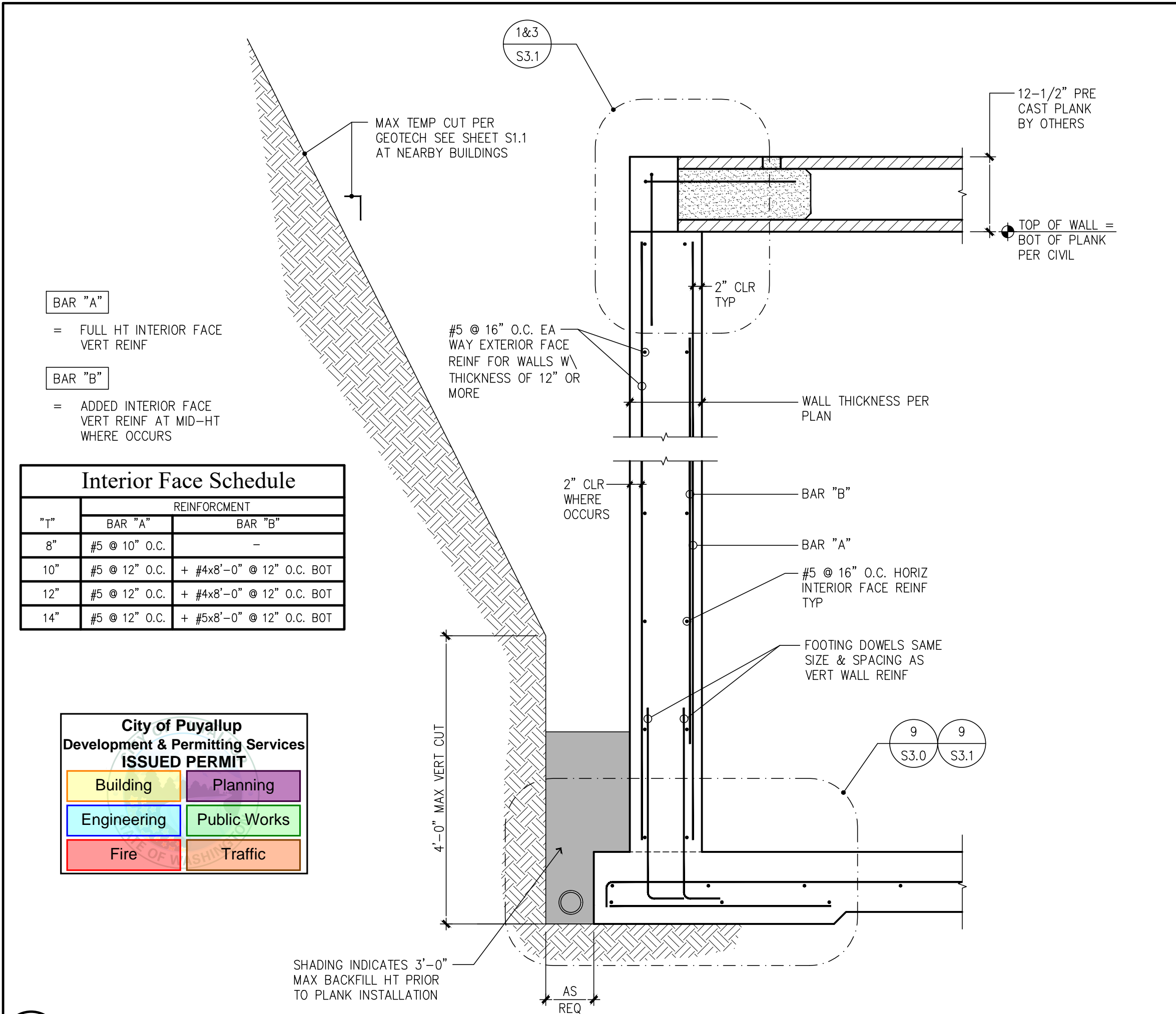
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### PLANK AT EXTERIOR WALL



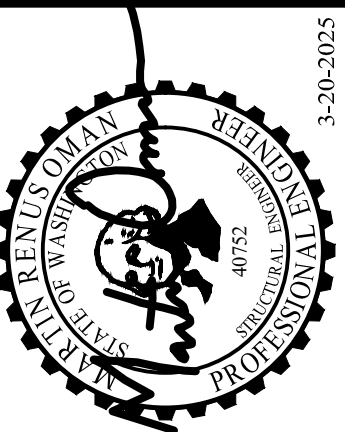
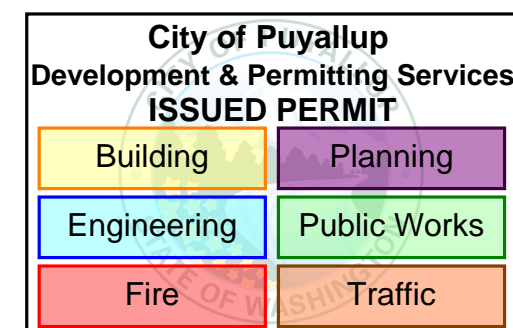
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### DETENTION VAULTS EXTERIOR WALLS



- BAR "A"  
= FULL HT INTERIOR FACE VERT REINF
- BAR "B"  
= ADDED INTERIOR FACE VERT REINF AT MID-HT WHERE OCCURS

TYP	REINFORCEMENT	
	BAR "A"	BAR "B"
8"	#5 @ 10" O.C.	-
10"	#5 @ 12" O.C.	+ #4x8'-0" @ 12" O.C. BOT
12"	#5 @ 12" O.C.	+ #4x8'-0" @ 12" O.C. BOT
14"	#5 @ 12" O.C.	+ #5x8'-0" @ 12" O.C. BOT



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A Structural Engineering Corporation

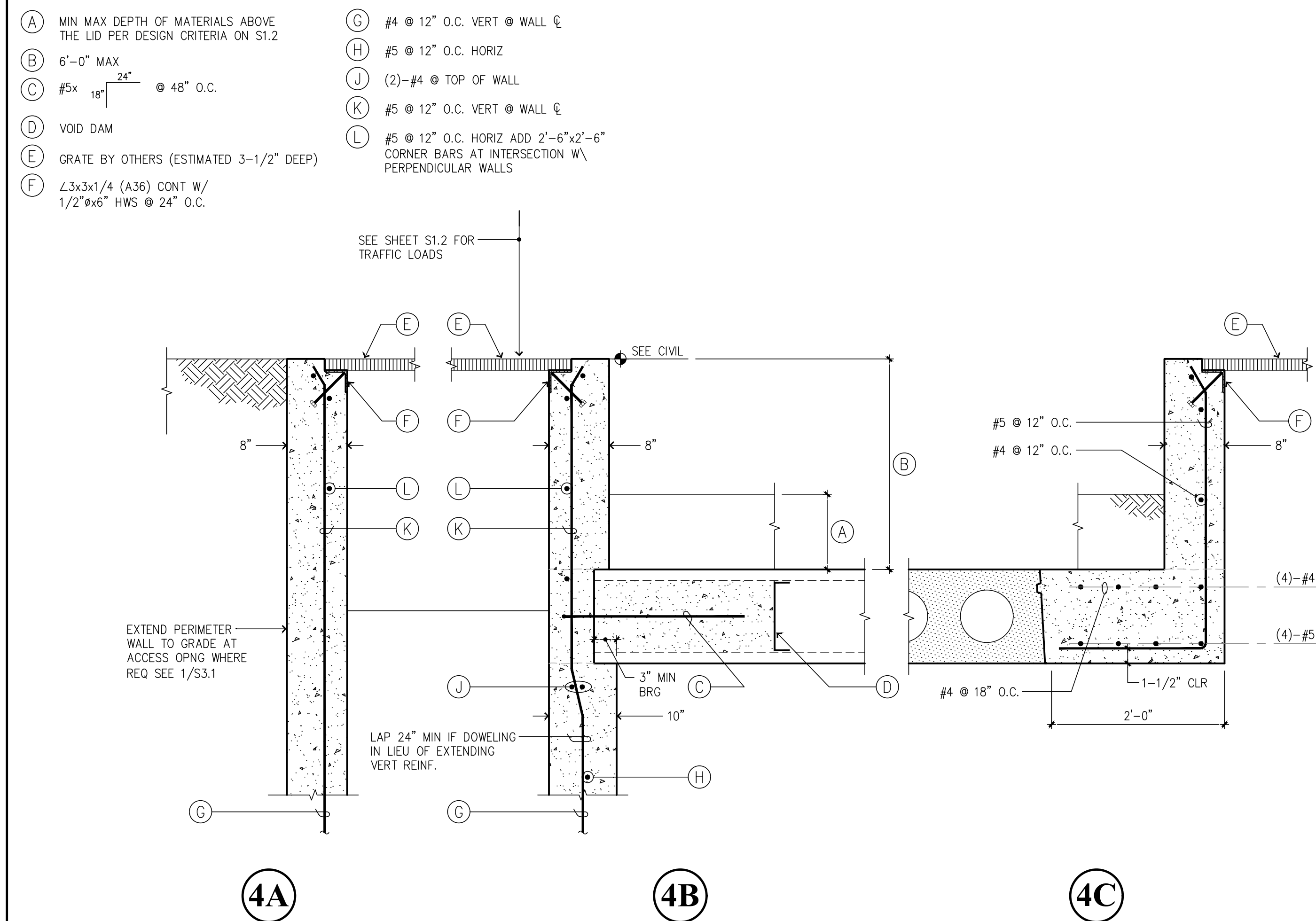
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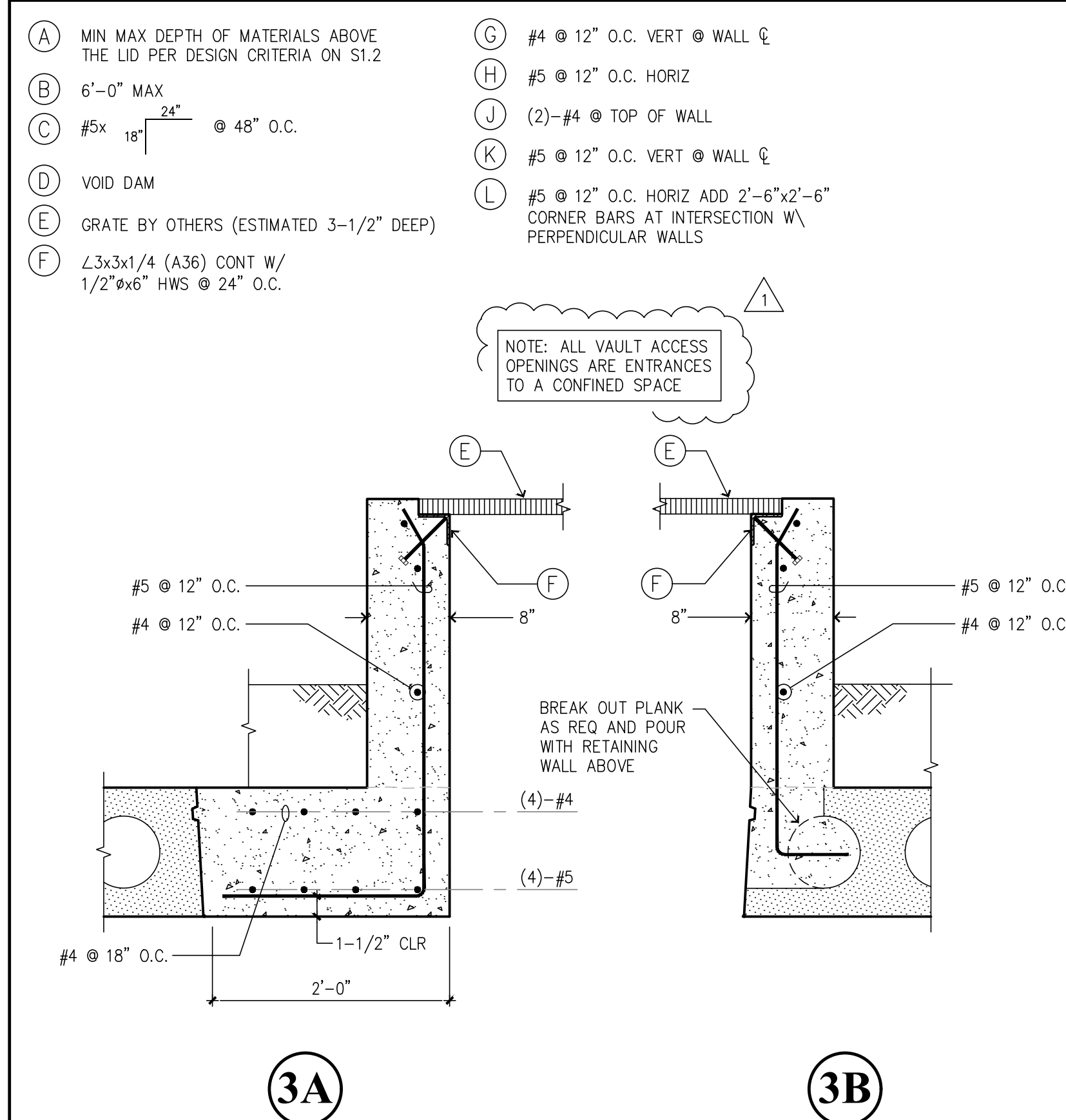
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**S3.1**

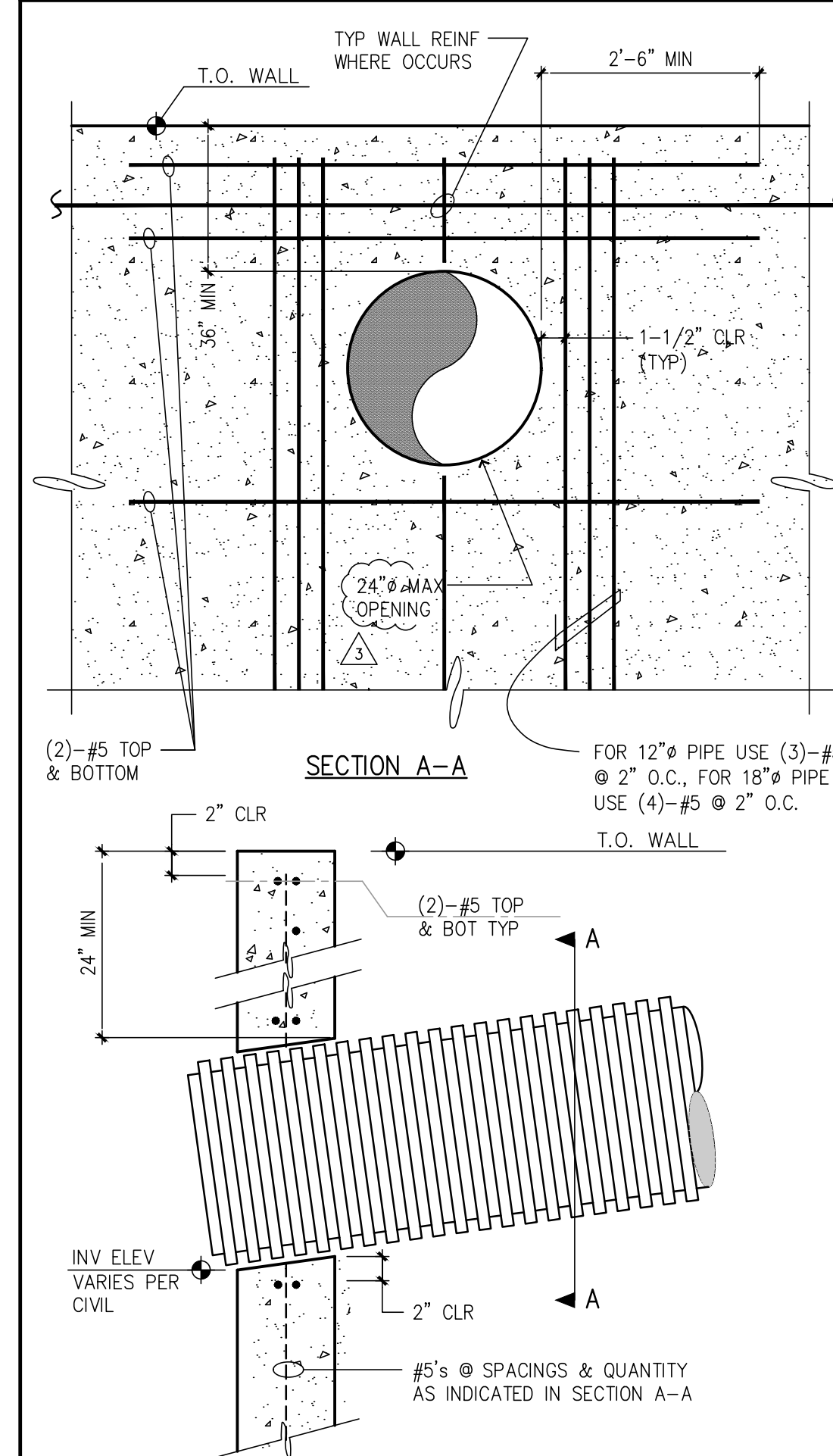




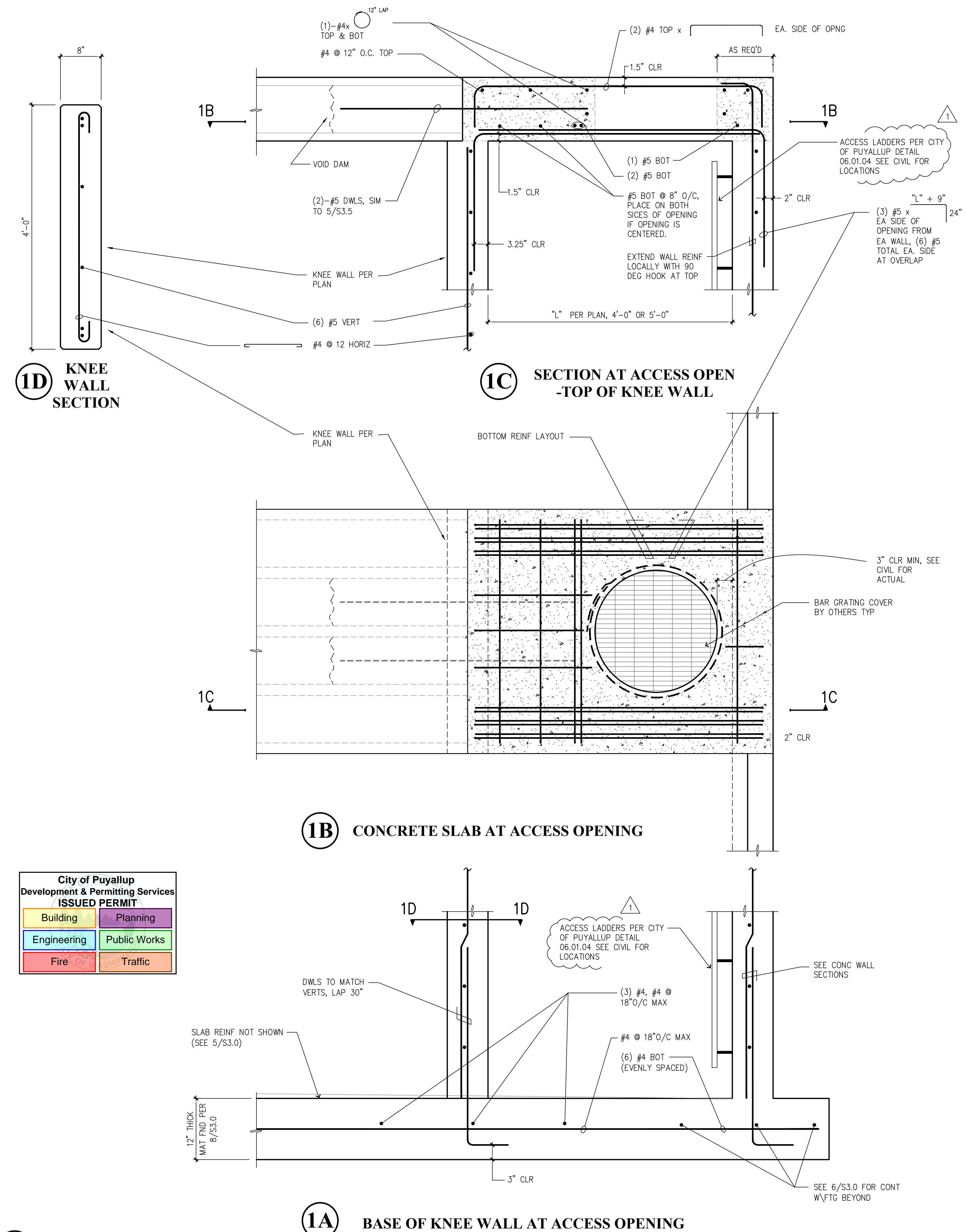
## ACCESS GRATE RETAINING WALLS



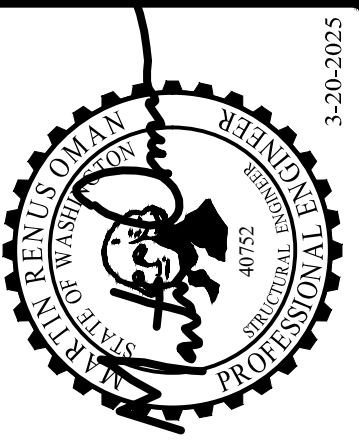
## ACCESS GRATE RETAINING WALLS



### TYPICAL PIPE PENETRATION REINFORCEMENT AT EXTERIOR WALLS



### BASE OF KNEE WALL AT ACCESS OPENING



THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet: 

1	3-20-2025	PLAN REVIEW COMMENTS
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## S3.2