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## STRUCTURAL NOTES

### 1. GENERAL:

- (A) THESE NOTES ARE NOT INTENDED TO REPLACE THE PROJECT SPECIFICATIONS OR CONSTRUCTION DRAWING NOTES AND DETAILS. IN CASE OF CONFLICT BETWEEN THE REQUIREMENTS OF THE SPECIFICATIONS/CONSTRUCTION DRAWINGS AND THESE NOTES, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- (B) PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM ALL DAMAGE. CONTRACTOR SHALL PROTECT THE WORK, ADJACENT PROPERTY, AND THE PUBLIC. CONTRACTOR IS SOLELY RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLIGENCE.
- (C) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY AND CONSTRUCTION PROCEDURES.
- (D) PRIOR TO CONSTRUCTION, FIELD VERIFY ALL DIMENSIONS IN THE DRAWINGS AND DETAILS AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
- (E) REFER TO THE ENGINEER FOR INSTRUCTION FOR ANY DIMENSION NOT GIVEN ON DRAWINGS. SCALING OF DRAWINGS SHALL NOT BE USED TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THE DRAWINGS.

### 2. CONCRETE:

- (A) ALL CONCRETE MATERIALS, PLACING AND HANDLING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301, ACI 318 AND ACI 350. CURING OF CONCRETE SHALL BE IN STRICT ACCORDANCE WITH ACI 301 PROVISIONS.
- (B) STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTH:
  - 1. FOUNDATIONS 5000 PSI
  - 2. TANK 5000 PSI
  - 3. SLAB-ON-GRADE 4000 PSI
- (C) USE NORMAL WEIGHT CONCRETE (135 PCF MIN.) FOR ALL STRUCTURAL MEMBERS. DO NOT USE CALCIUM CHLORIDE IN ANY CONCRETE.
- (D) PROVIDE 3 INCH ± 1 INCH SLUMP.
- (E) ALL CONCRETE TO HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.40. MINIMUM CEMENTITIOUS CONTENT SHALL BE 515 LBS/CY. FLY ASH SHALL BE TYPE F ONLY.
- (F) PROVIDE 3" CONCRETE COVER OVER REINFORCING BARS EXCEPT AS OTHERWISE NOTED.
- (G) FORM TIES AND REINFORCING BAR SUPPORTS SHALL BE OF NON-CORROSIVE MATERIAL INCLUDING, BUT NOT LIMITED TO, FIBERGLASS, PLASTIC, AND/OR PRECAST CONCRETE MEETING THESE SPECIFICATIONS.
- (H) CONCRETE FINISHES:
  - 1. FORMED SURFACE--SMOOTH FORM FINISH PER ACI 301.
  - 2. BROOM FINISH FOR SLAB ON GRADE SUCH AS DISCHARGE PIPING CONCRETE PAD AND TOP SLAB OF CENTRAL PUMP STATION
- (I) ALL GROUT SHALL BE NON-SHRINK, NON-METALLIC.
- (J) ALL CONCRETE CONSTRUCTION SHALL BE DONE IN THE DRY.
- (K) PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS OTHERWISE NOTED.
- (L) CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN AND CONSTRUCTION OF ALL FORMWORK AND SHORING. DESIGN SHALL BE PERFORMED BY A LICENSED FLORIDA PROFESSIONAL ENGINEER.
- (M) CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF SLEEVES, OPENINGS, EMBEDDED ITEMS, SLAB RECESSES, SLOPES, ETC. THESE ITEMS SHALL BE COORDINATED WITH OTHER TRADES AND INSTALLED PRIOR TO CONCRETE PLACEMENT.
- (N) A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING CONCRETE TESTS:
  - 1. CYLINDER STRENGTH TESTS - ASTM C39. ONE SET OF FIVE CYLINDERS FOR EACH 50 CUBIC YARDS OR FRACTION THEREOF PLACED. TEST ONE AT 3 DAYS, ONE AT 7 DAYS, TWO AT 28 DAYS, AND HOLD ONE.
  - 2. SLUMP TESTS - ASTM C143
- (O) ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ENGINEER, AND CONTRACTOR.
- (P) SUBMITTALS:
  - 1. SUBMIT PROPOSED CONCRETE MIX DESIGN PRIOR TO CONSTRUCTION
  - 2. SUBMIT DETAILED SHOP DRAWINGS OF REINFORCING BARS SHOWING NUMBER, SIZE, AND LOCATION. INCLUDE BAR LISTS AND BEND DIAGRAMS.

### 3. REINFORCEMENT:

- (A) REINFORCING STEEL SHALL BE A.S.T.M. A-615 WITH SUPPLEMENT, GRADE 60: MINIMUM WORKING STRESS - 24,000 PSI.
- (B) ALL REINFORCEMENT SHALL BE UNCOATED (BLACK).
- (C) ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING BARS ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
- (D) ACI STANDARD HOOKS SHALL BE USED UNLESS OTHERWISE NOTED.
- (E) ALL LAP AND SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318, ACI 350 AND CRSI STANDARD PRACTICES, EXCEPT AS OTHERWISE NOTED.

### 4. FOUNDATIONS:

- (A) A GEOTECHNICAL REPORT OF SUBSURFACE CONDITIONS HAS BEEN PREPARED BY ARDAMAN & ASSOCIATES (DATED SEPTEMBER 12, 2018, PROJECT # 17-7261). ANY ADDITIONAL GEOTECHNICAL WORK WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- (B) NOTIFY THE ENGINEER IMMEDIATELY OF ANY EXISTING FOUNDATION CONDITIONS OR DETAILS THAT ARE IN CONFLICT WITH THOSE INDICATED AND SHOWN IN THE DRAWINGS.
- (C) ADHERE TO THE RECOMMENDATIONS MADE IN THE SOIL PREPARATION SECTION OF THE GEOTECHNICAL REPORT.
- (D) ALL FILL AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
- (E) IN ACCORDANCE WITH THE RECOMMENDATION OF THE FEBRUARY 28, 2020 EMAIL FROM JERRY KUEHN, P.E. OF ARDAMAN AND ASSOCIATES TO KEVIN GERSZUNY OF KIMLEY-HORN AND ASSOCIATES, EMBANKMENT FILL SHALL BE PLACED DURING THE CONSTRUCTION OF THE PUMP STATION.

### DESIGN CRITERIA:


CODE: 2017 FLORIDA BUILDING CODE WITH SUPPLEMENTS  
 LIVE LOADS:  
 A. TANK ROOF SLAB 200 PSF  
 WIND LOAD:  
 BASIC WIND SPEED 150 MPH  
 EXPOSURE C  
 RISK CATEGORY II

No.	REVISIONS	DATE	BY



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KHA PROJECT 148400015
DATE 1/28/2020
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY ASR
CHECKED BY WEW



**SEWRF RECLAIMED  
PUMP BACK STATION**

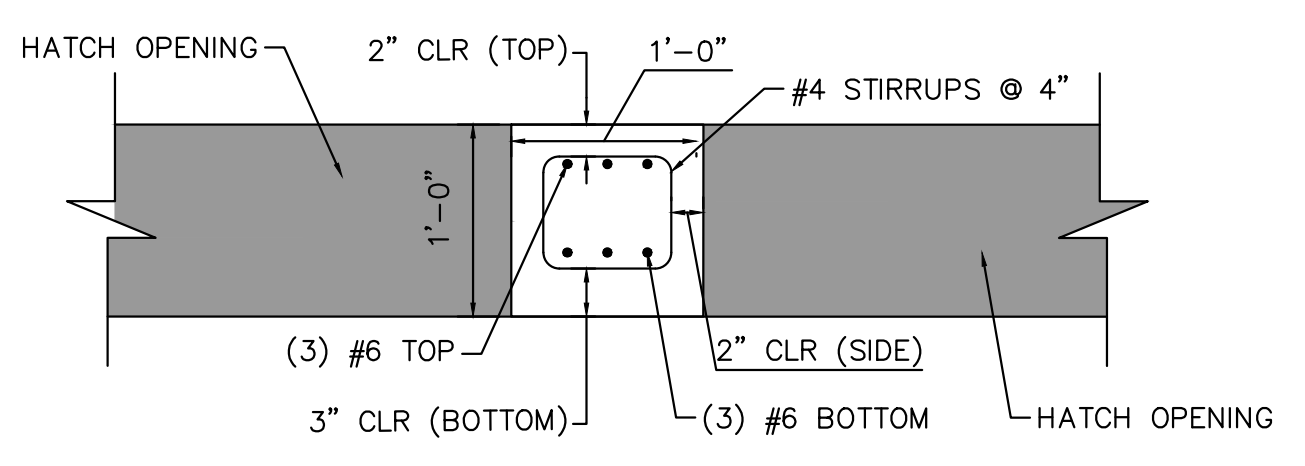
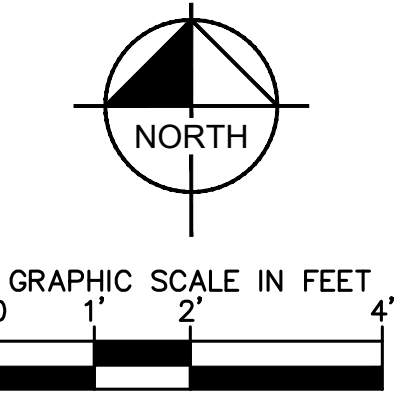
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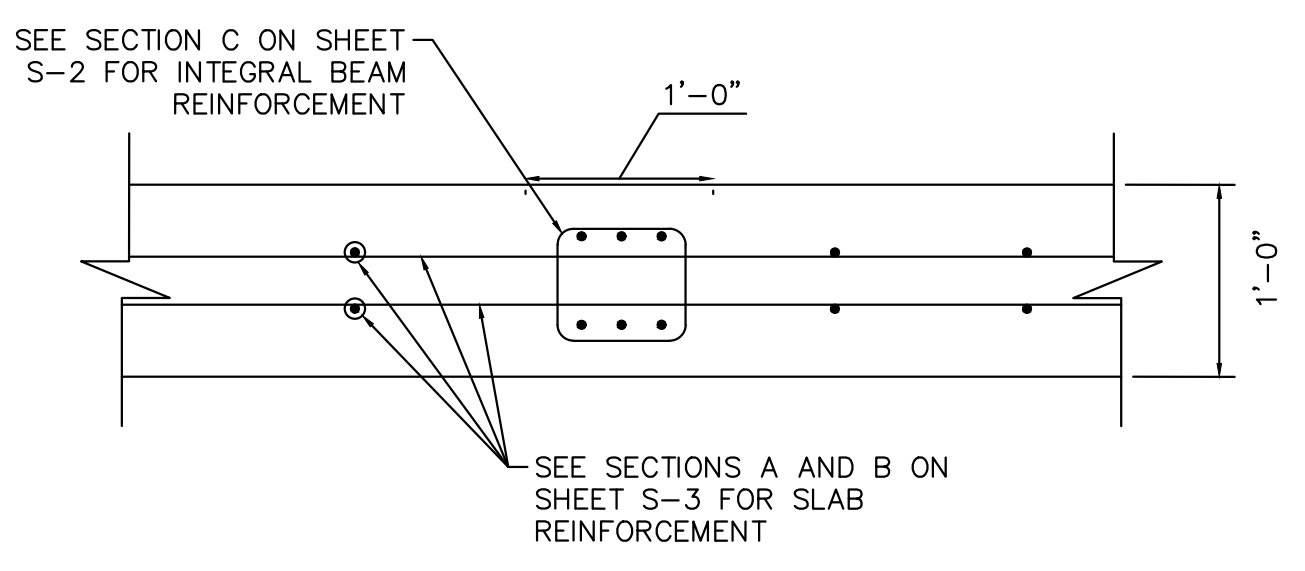
**STRUCTURAL GENERAL NOTES**

SHEET NUMBER
<b>S-1</b>

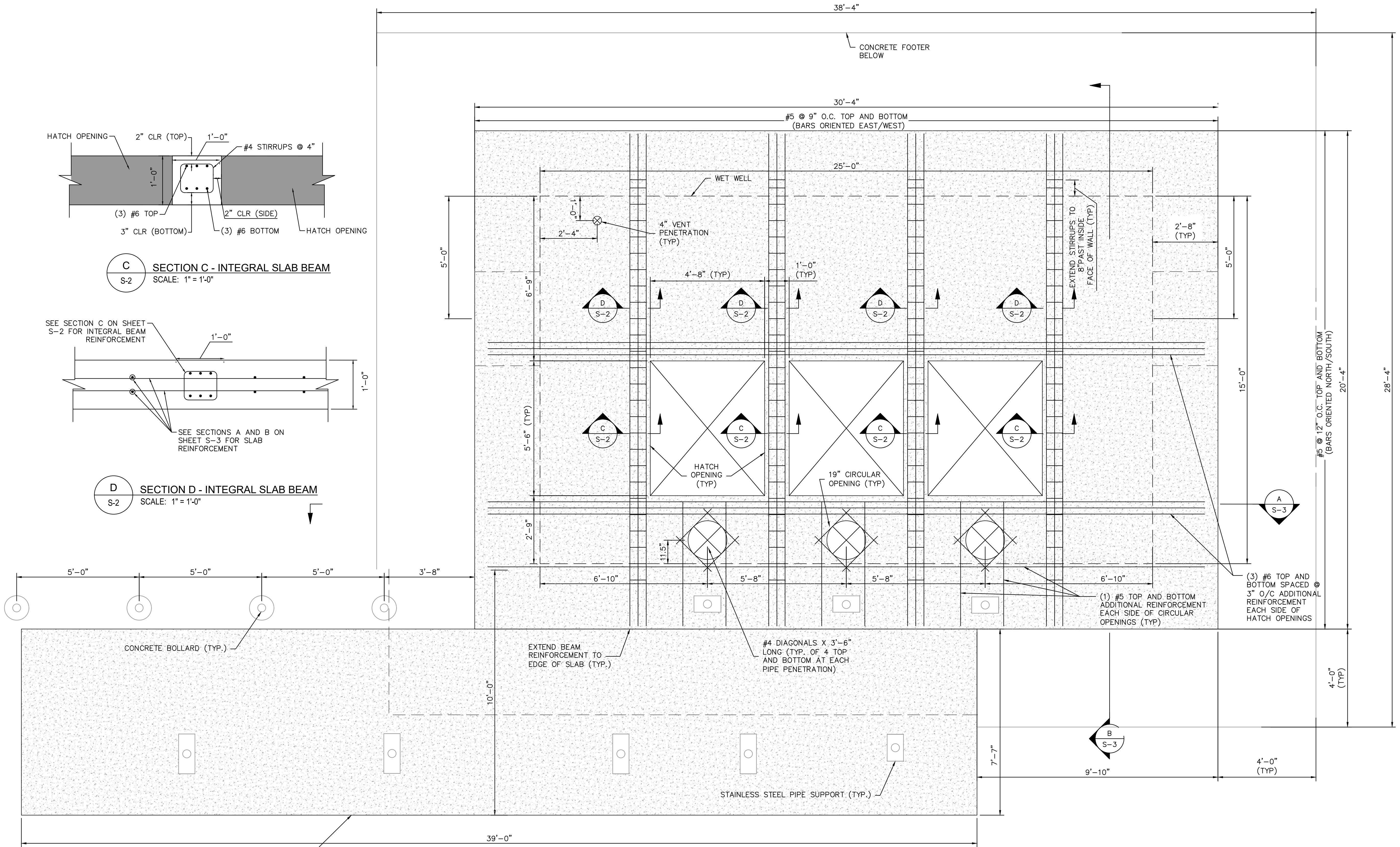
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**C** SECTION C - INTEGRAL SLAB BEAM  
S-2 SCALE: 1" = 1'-0"



**D** SECTION D - INTEGRAL SLAB BEAM  
S-2 SCALE: 1" = 1'-0"



NOTE: MAIN SLAB REINFORCEMENT NOT SHOWN FOR CLARITY

**1** CENTRAL PUMP STATION PLAN  
- SCALE: 1/2" = 1'-0"

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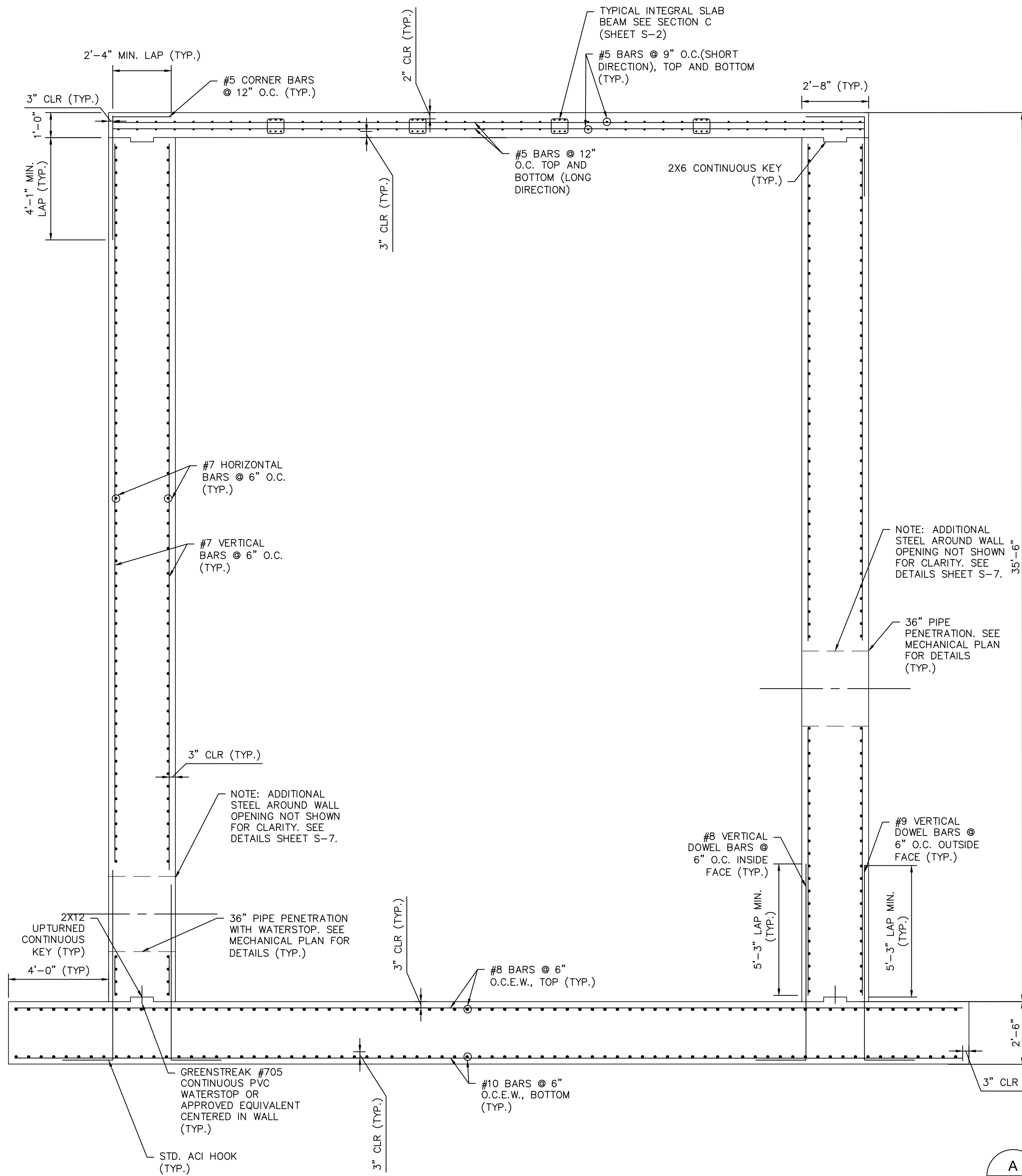
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**CENTRAL PUMP STATION  
PLAN**

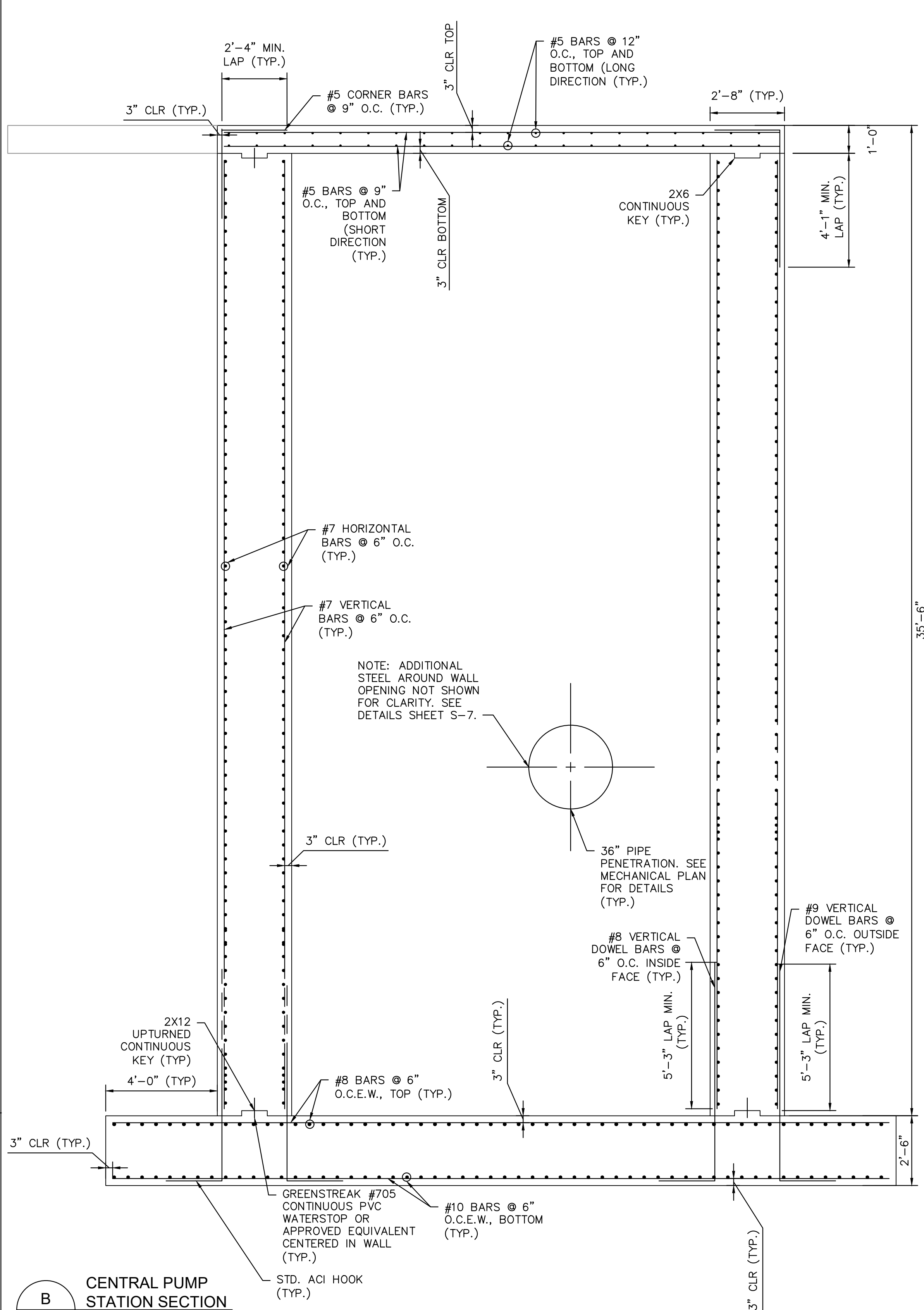
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**S-2**

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- NOTES:
1. SEE MECHANICAL SHEETS FOR ALL PIPE PENETRATION INSTALLATION DETAILS. FOR DETAILS AND ADDITIONAL REINFORCING NOT SHOWN, INCLUDING WALL OPENINGS AND TYPICAL WALL CORNER REINFORCEMENT, SEE DETAILS, SHEET S-7.
  2. ADDITIONAL VERTICAL REINFORCEMENT EITHER SIDE OF WALL OPENINGS SHALL EXTEND TO BASE OF WALL AND LAP ADDITIONAL WALL DOWELS ON EITHER SIDE OF OPENING. WALL DOWELS SHALL BE DEVELOPED IN THE FOUNDATION WITH STD ACI HOOKS.

**A**  
CENTRAL PUMP STATION SECTION  
SCALE: N.T.S.



**B**  
CENTRAL PUMP STATION SECTION  
SCALE: 3/8" = 1'-0"

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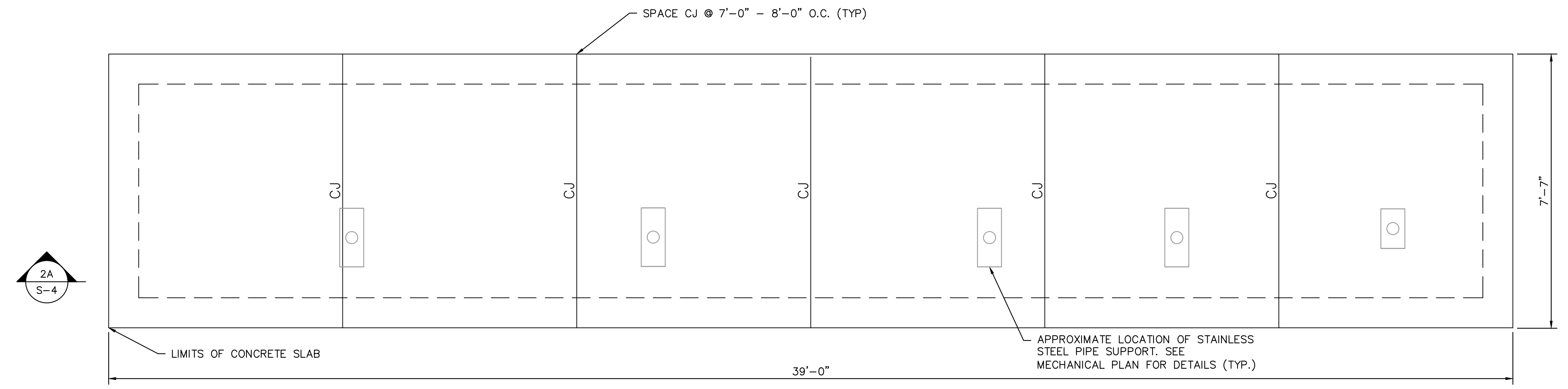
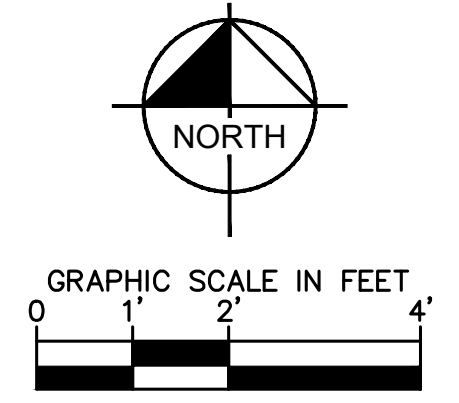
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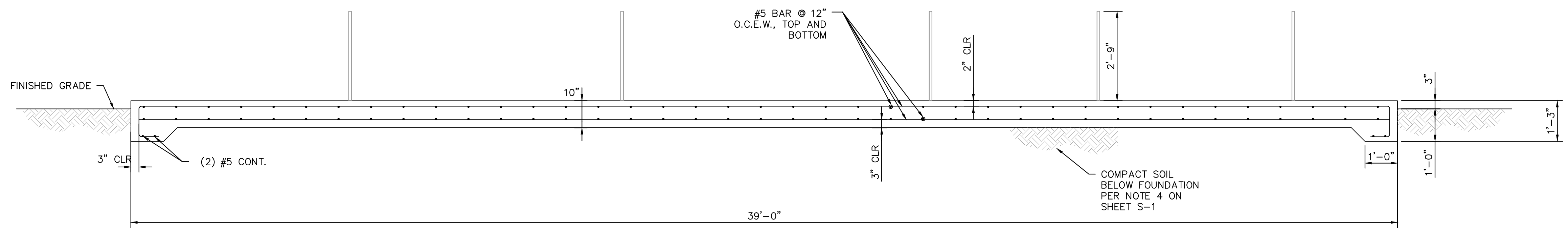
**CENTRAL PUMP STATION  
SECTIONS**

SHEET NUMBER <b>S-3</b>
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**2** DISCHARGE PIPING PAD FOUNDATION PLAN  
 -- SCALE: 1/2" = 1'-0"  
 NOTE: CJ = SAW CUT CONTROL JOINT. CUT 2" DEEP.



**2A** DISCHARGE PIPING PAD FOUNDATION SECTION  
 S-4 SCALE: 1/2" = 1'-0"

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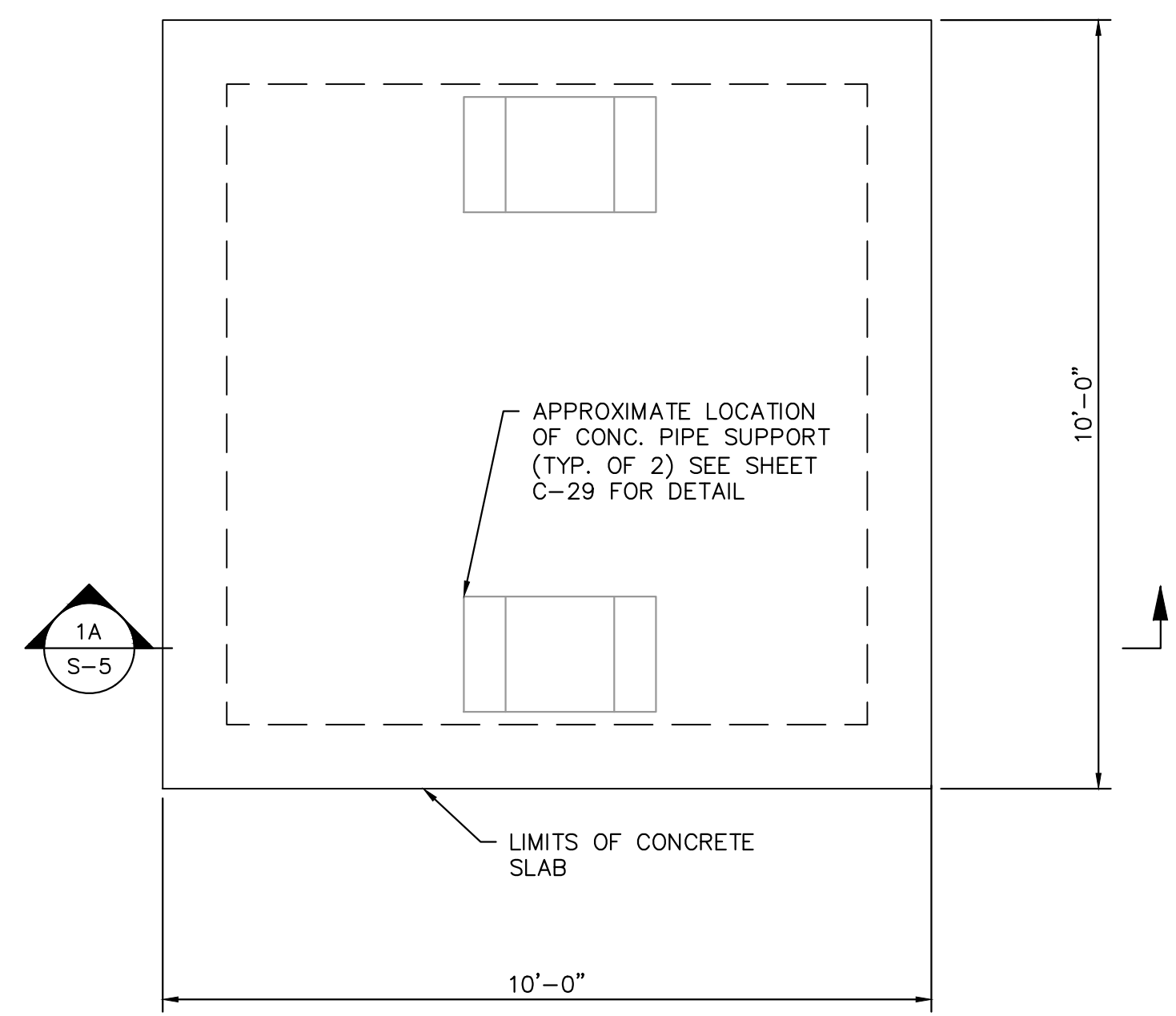
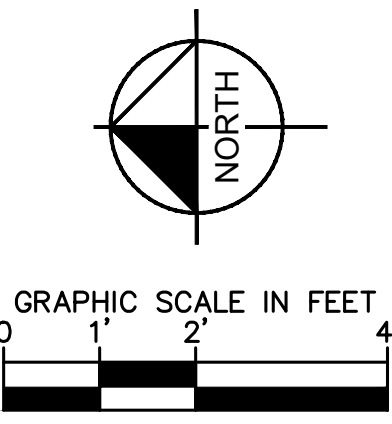
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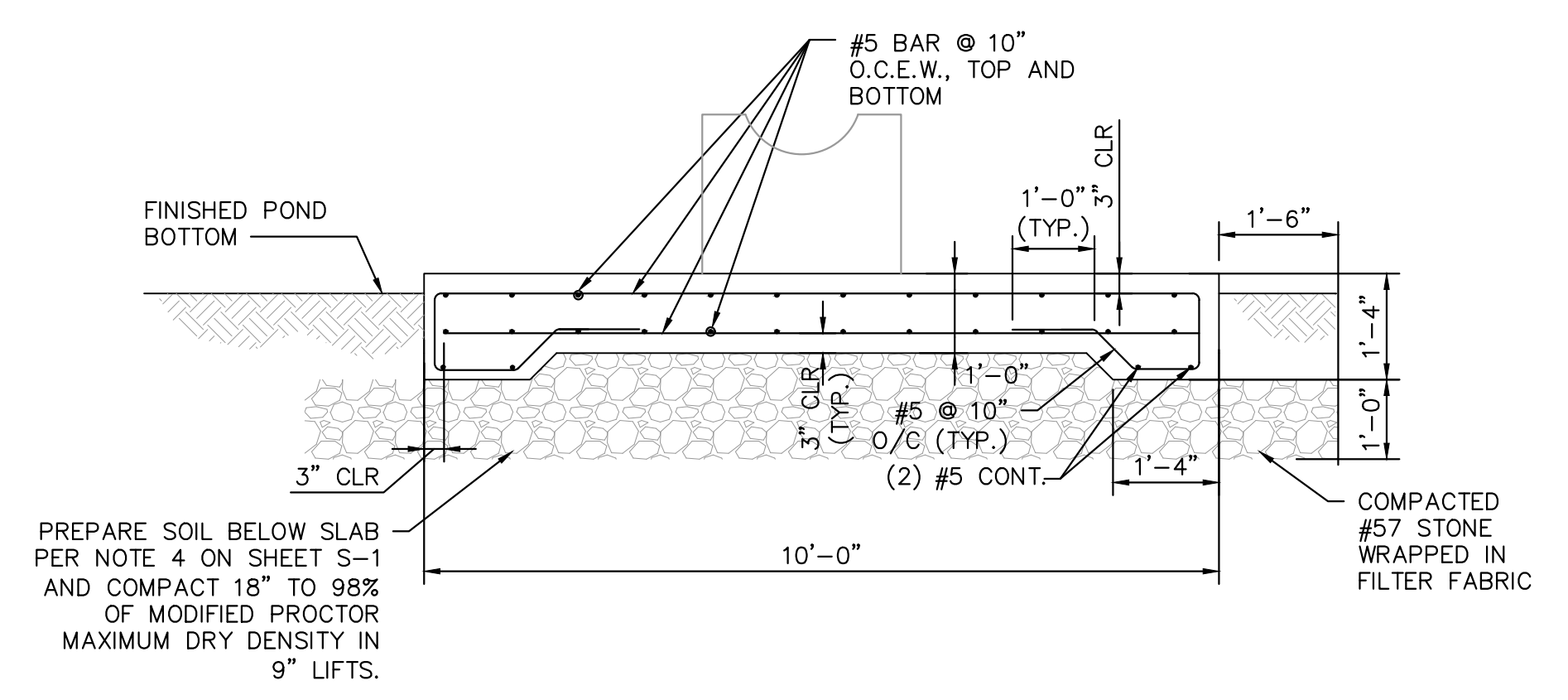
**DISCHARGE PIPING  
 FOUNDATION**

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<b>S-4</b>

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**1** INTAKE SCREEN PAD FOUNDATION PLAN  
SCALE: 1/2" = 1'-0"



**1A** INTAKE SCREEN PAD FOUNDATION SECTION  
**S-5** SCALE: 1/2" = 1'-0"


- NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN GEOTECHNICAL INVESTIGATION AT THE INTAKE STRUCTURE PRIOR TO AND DURING CONSTRUCTION.
  2. THE INTAKE STRUCTURE SHALL BE CONSTRUCTED IN DRY CONDITIONS.
  3. PREPARATION AND COMPACTION OF THE LAKE BOTTOM BELOW THE INTAKE STRUCTURE SHALL BE INSPECTED AND APPROVED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE #57 STONE

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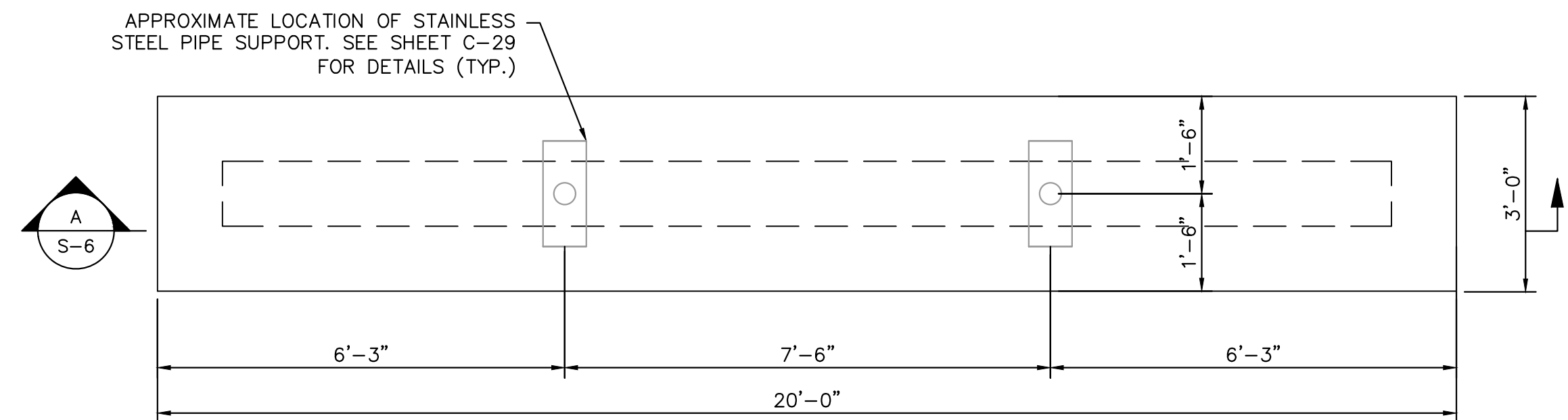
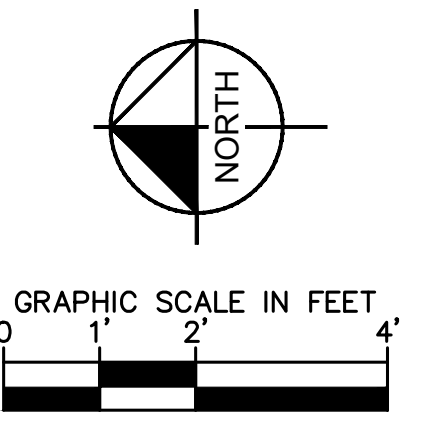
  
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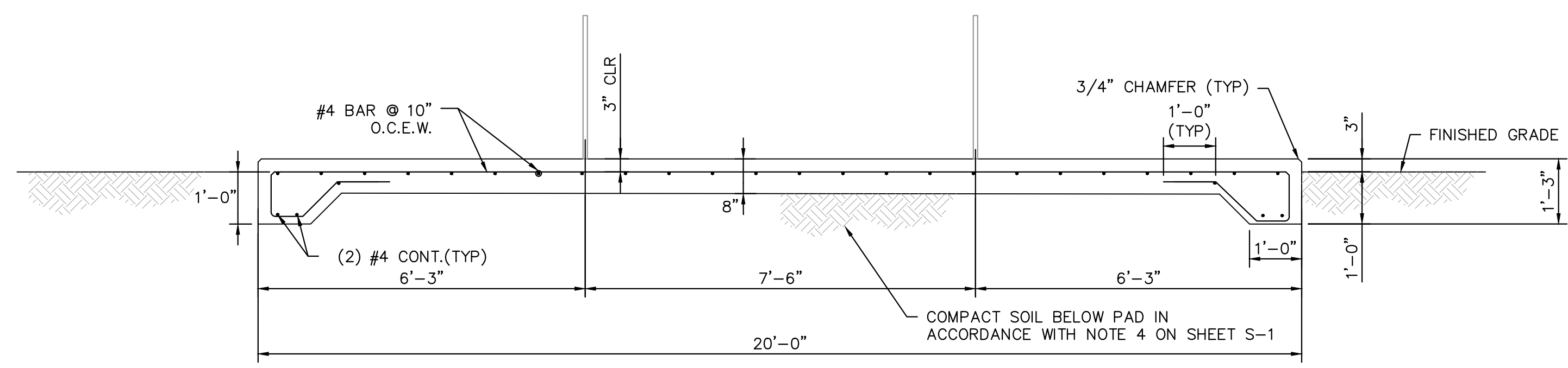
**INTAKE SCREEN SLAB**

SHEET NUMBER
<b>S-5</b>

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**1** LEACHATE FLOW METER SUPPORT PAD  
SCALE: NTS




**A** LEACHATE FLOW METER SUPPORT PAD SECTION  
S-6 SCALE: NTS

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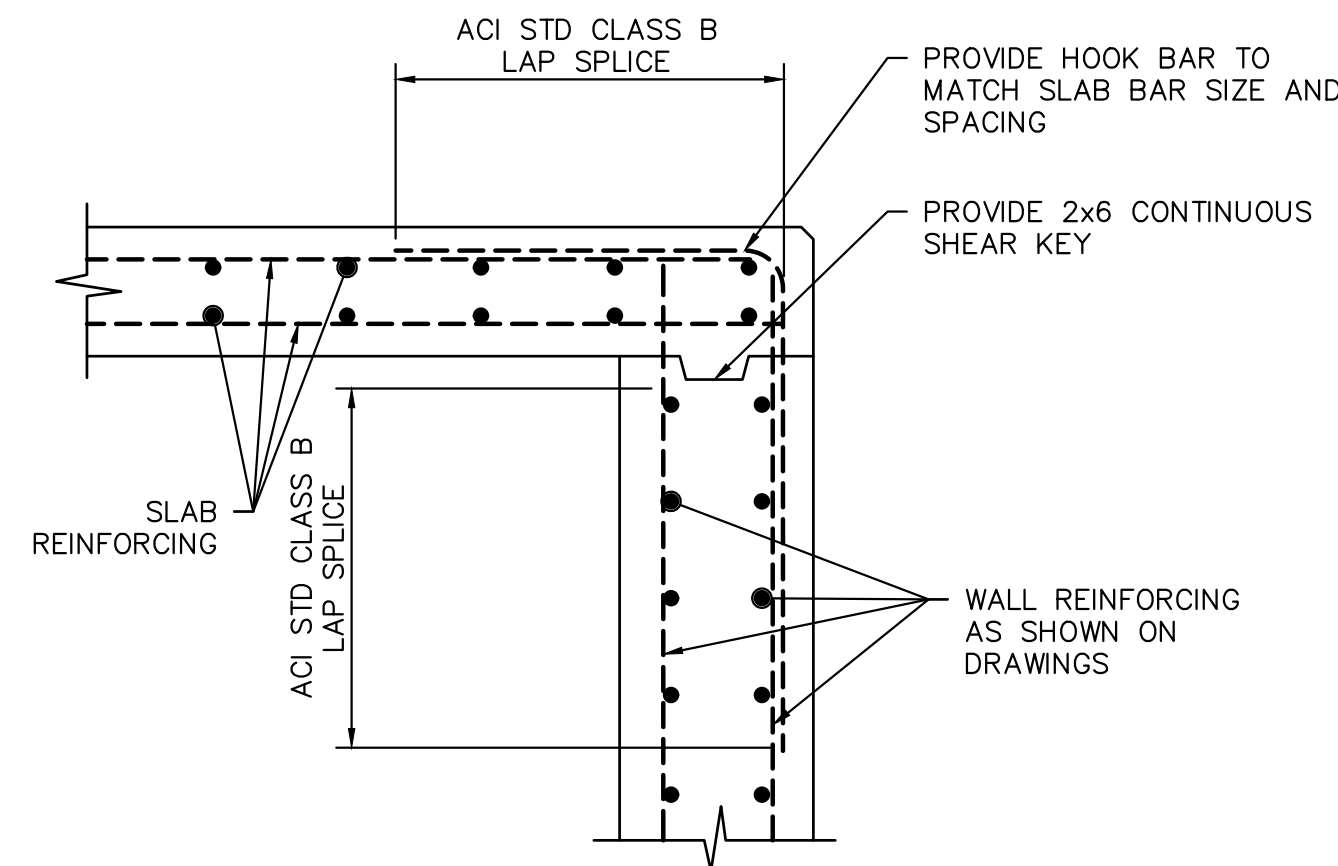
  
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**LEACHATE METERING  
ASSEMBLY PAD**

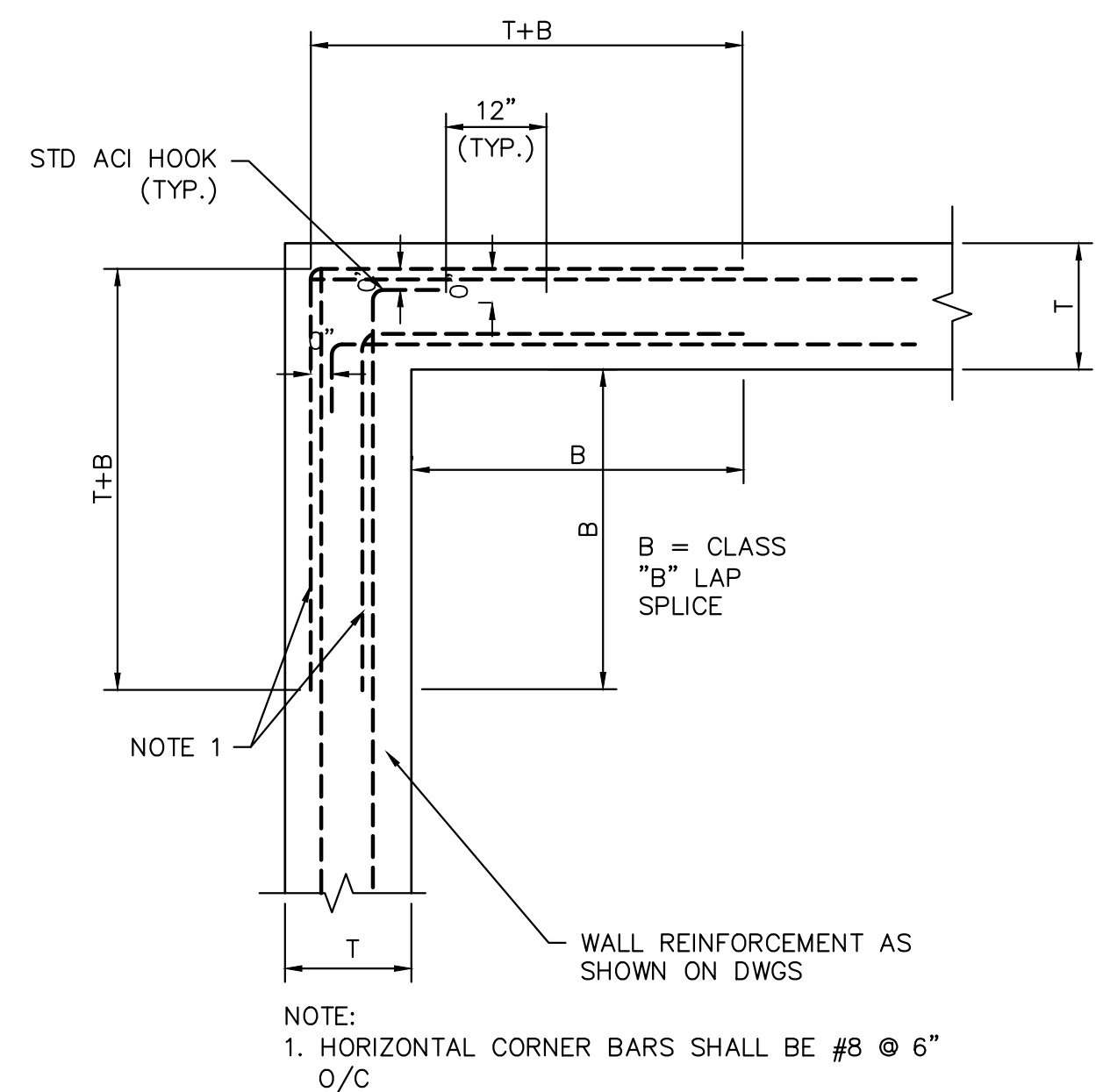
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<b>S-6</b>

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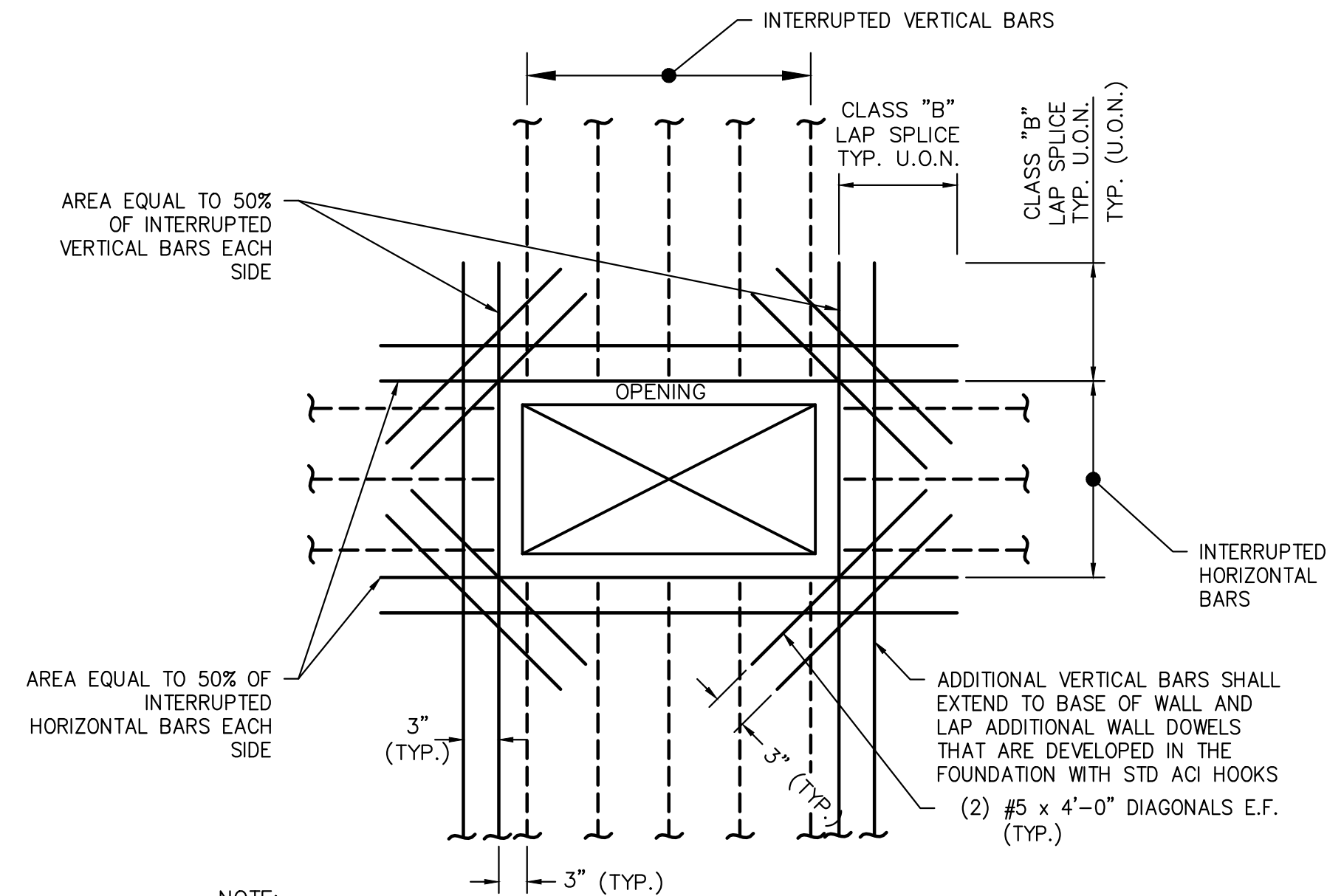
- NOTE:**
- REFER TO INDIVIDUAL STRUCTURE PLANS FOR WALL AND SLAB THICKNESSES AND REINFORCING

**1** SLAB TO WALL CONNECTION DETAIL  
SCALE: NTS



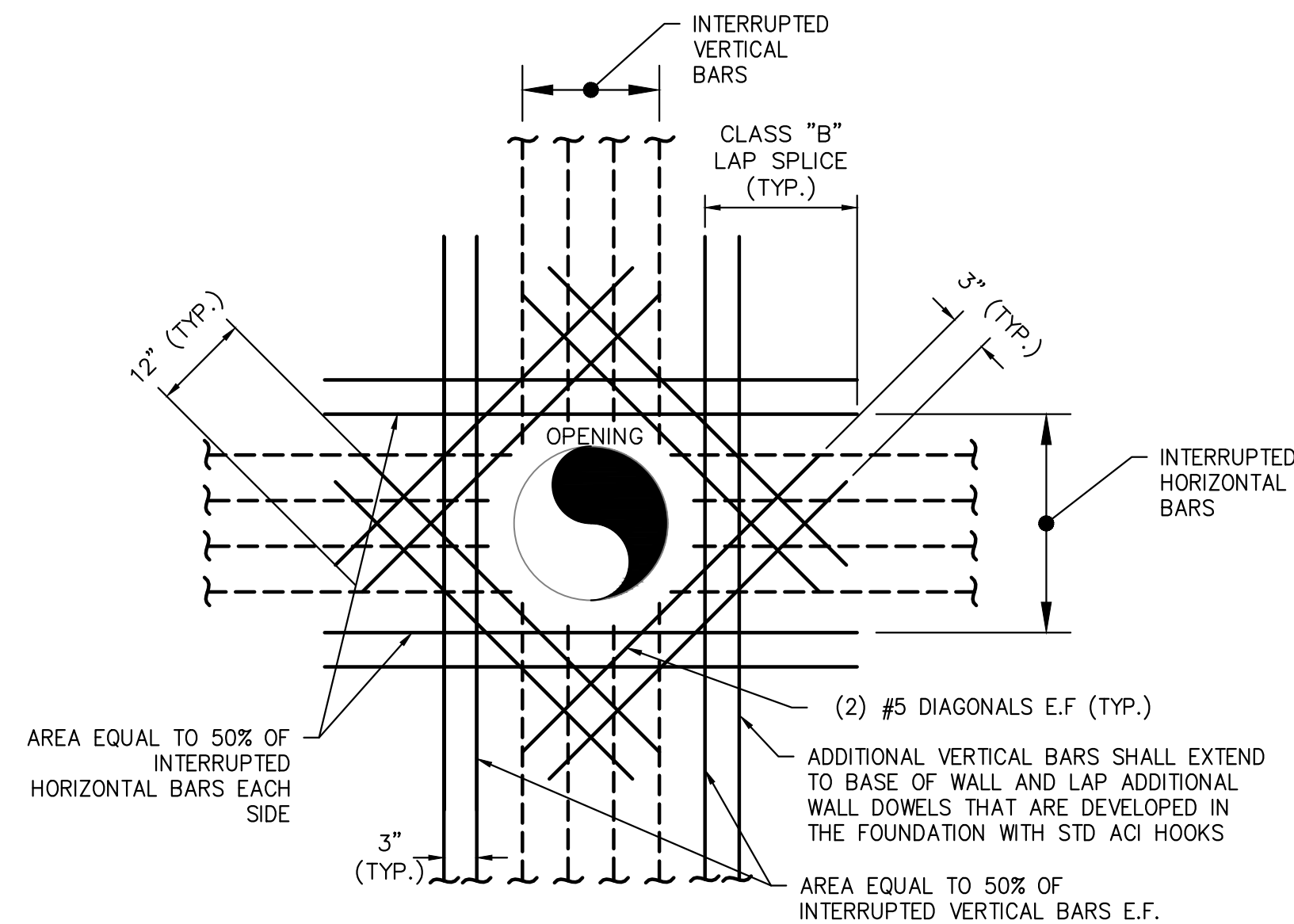
- NOTE:**
- HORIZONTAL CORNER BARS SHALL BE #8 @ 6" O/C

**2** TYPICAL CORNER REINFORCING DETAIL  
SCALE: NTS



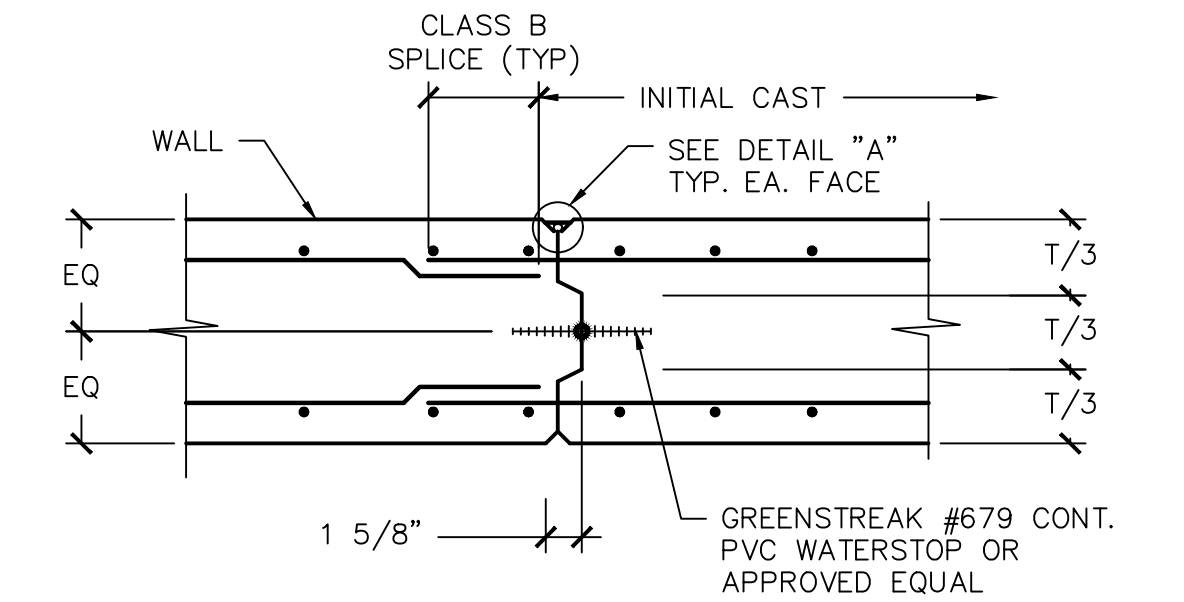
- NOTE:**
- WHERE INTEGRAL BEAMS OR DROP DOWN BEAMS ARE ADJACENT TO OPENING, ADDITIONAL REINFORCING IS NOT REQUIRED.
  - PROVIDE 3" CLEAR AROUND OPENINGS, UNLESS NOTED OTHERWISE.
  - ADDITIONAL VERTICAL REINFORCING SHALL BE DEVELOPED IN FOOTING WITH STD ACI HOOKS

**3** TYPICAL RECTANGULAR OPENING REINFORCING DETAIL  
SCALE: NTS  
FOR OPENINGS 12" OR GREATER IN EITHER DIRECTION



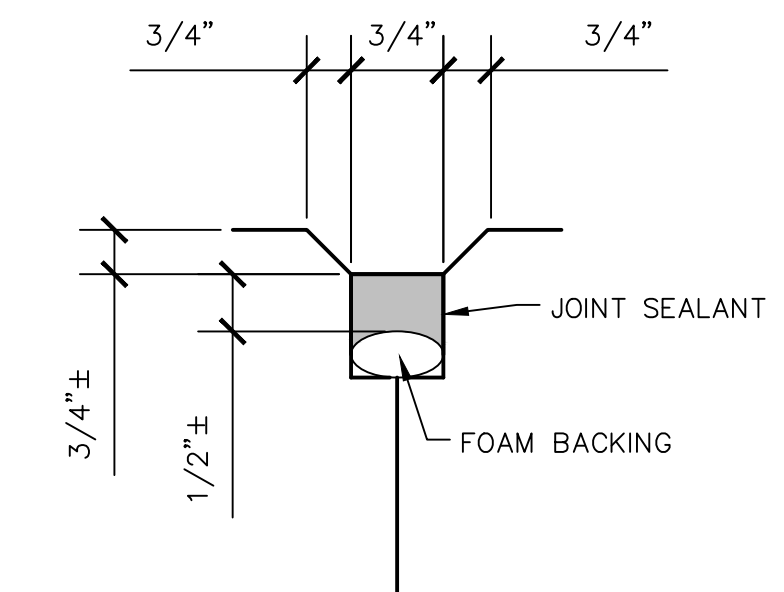
- NOTE:**
- WHERE INTEGRAL BEAMS OR DROP DOWN BEAMS ARE ADJACENT TO OPENING, ADDITIONAL REINFORCING IS NOT REQUIRED.
  - PROVIDE 3" CLEAR AROUND OPENINGS, UNLESS NOTED OTHERWISE.
  - ADDITIONAL VERTICAL REINFORCING SHALL BE DEVELOPED IN FOOTING WITH STD ACI HOOKS

**4** TYPICAL CIRCULAR OPENING REINFORCING DETAIL  
SCALE: NTS  
FOR WALL OPENINGS 12" OR GREATER IN DIAMETER



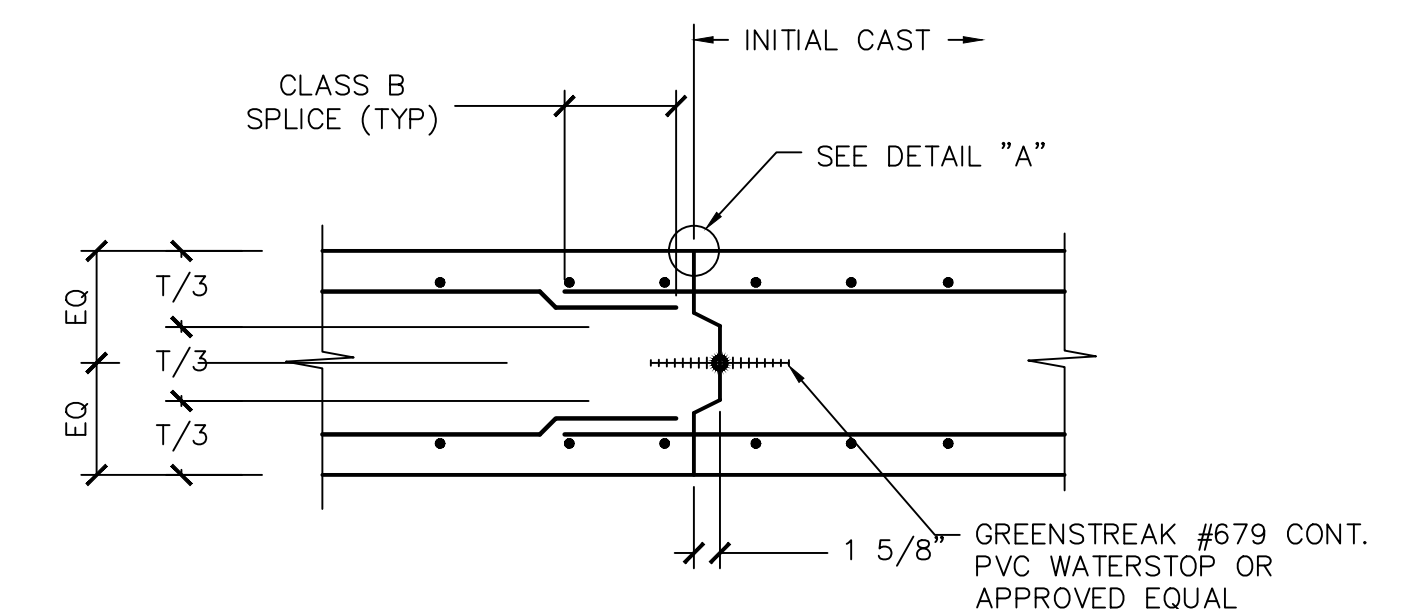
- STOP WATERSTOP 6" BELOW TOP OF WALL.
- NOTE:**
- CONTRACTOR SUBMIT LOCATION IF NOT SPECIFIED
  - DO NOT LOACTE VERTICAL CONSTRUCTION JOINTS WITHIN 10' OF WET WELL CORNERS

**5** WALL CONSTRUCTION JOINT DETAIL  
SCALE: NTS



- NOTE:**
- JOINT SEALANT SHALL BE SIKAFLEX - 2C NS EZ MIX OR APPROVED EQUIVALENT. INSTALL PER MANUFACTURERS REQUIREMENTS

**6** DETAIL "A" CONTROL/CONSTRUCTION JOINT  
SCALE: NTS



CONTRACTOR SUBMIT LOCATION IF NOT SPECIFIED

**7** BASE SLAB CONSTRUCTION JOINT DETAIL  
SCALE: NTS

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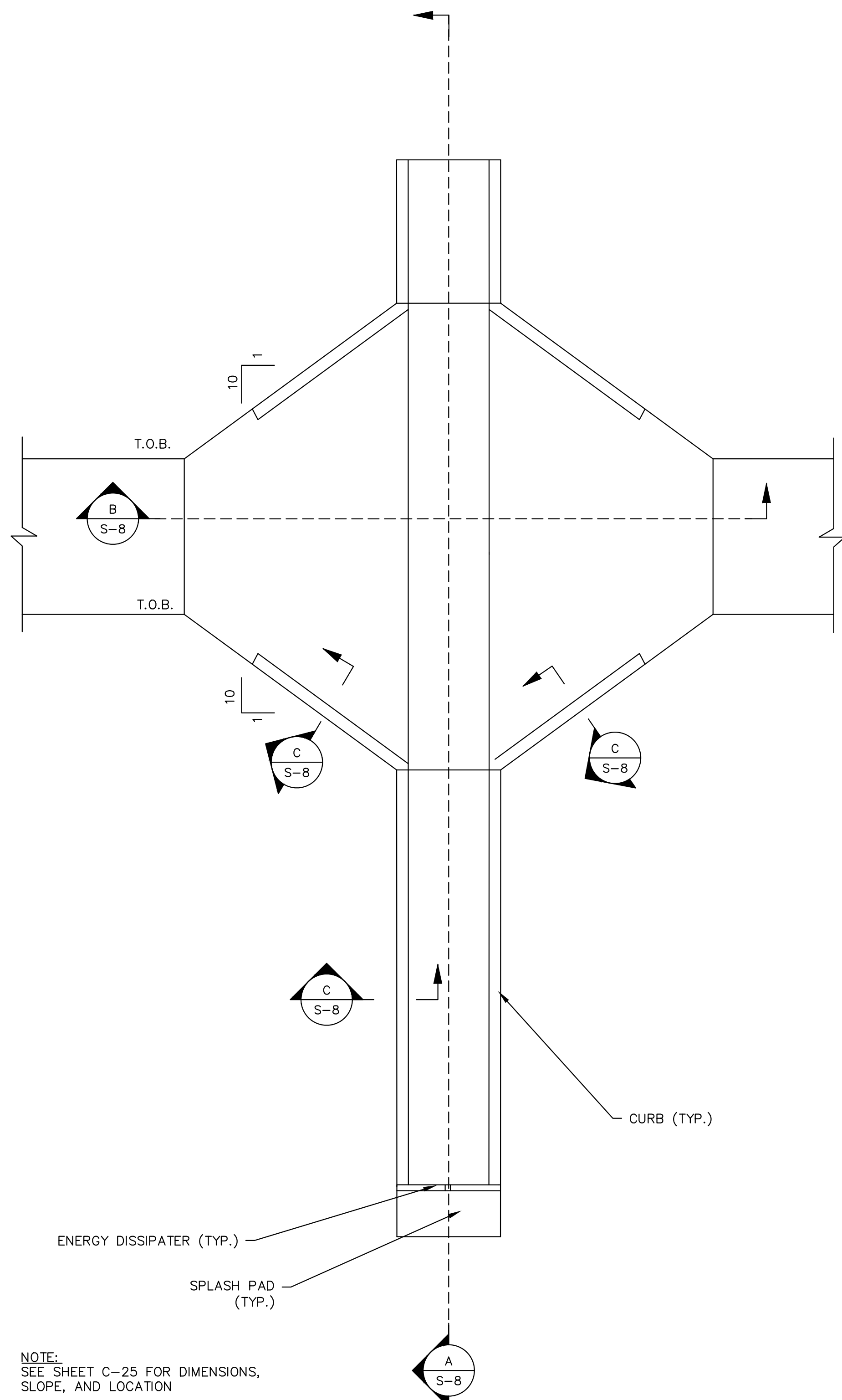
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**STRUCTURAL DETAILS**

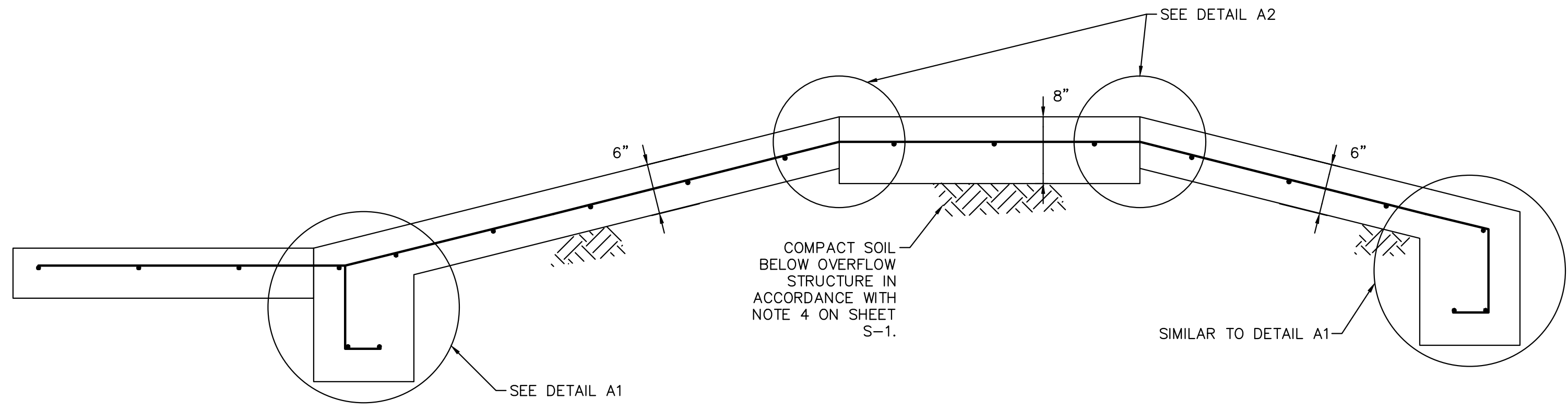
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**S-7**

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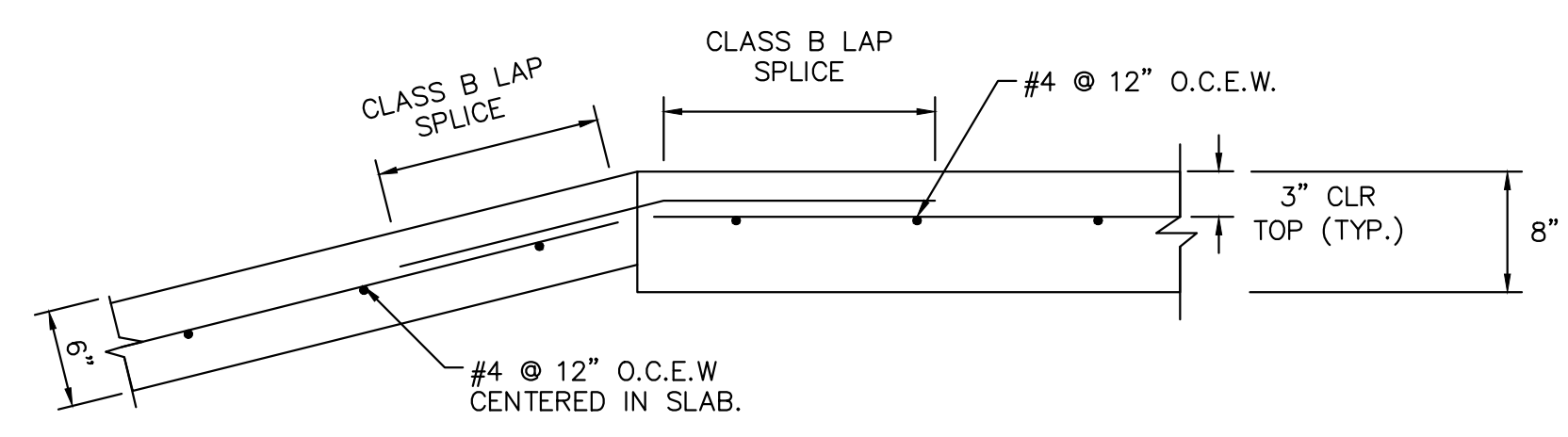


NOTE:  
SEE SHEET C-25 FOR DIMENSIONS,  
SLOPE, AND LOCATION

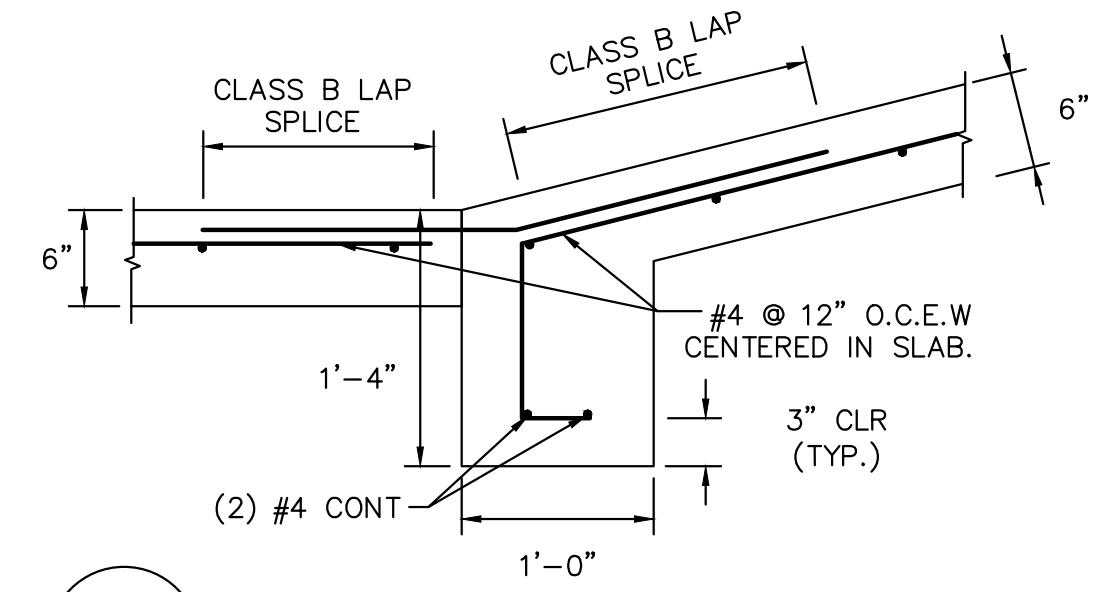
**1** TYPICAL OVERFLOW STRUCTURE  
C-25 SCALE: NTS



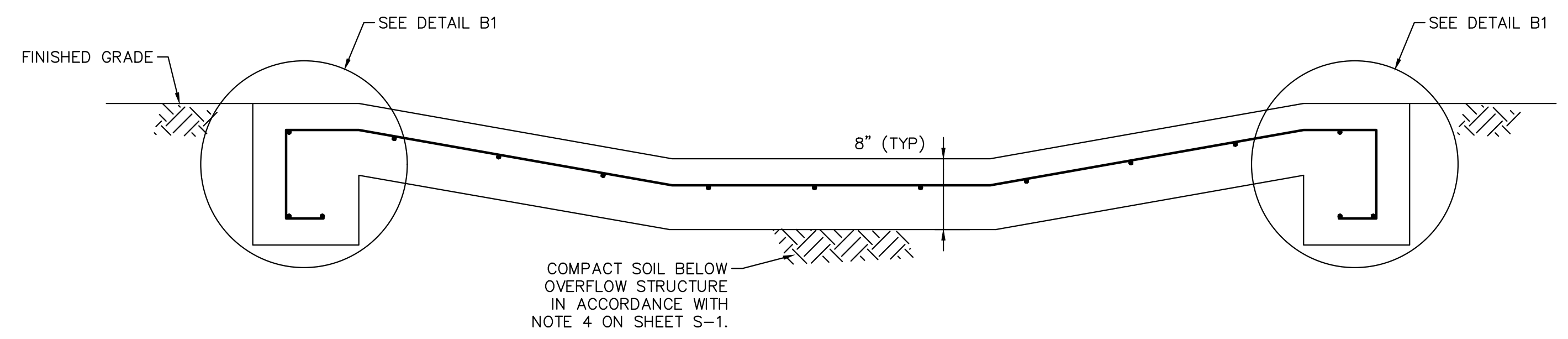
**A** TYPICAL OVERFLOW STRUCTURE SECTION  
S-8 SCALE: NTS



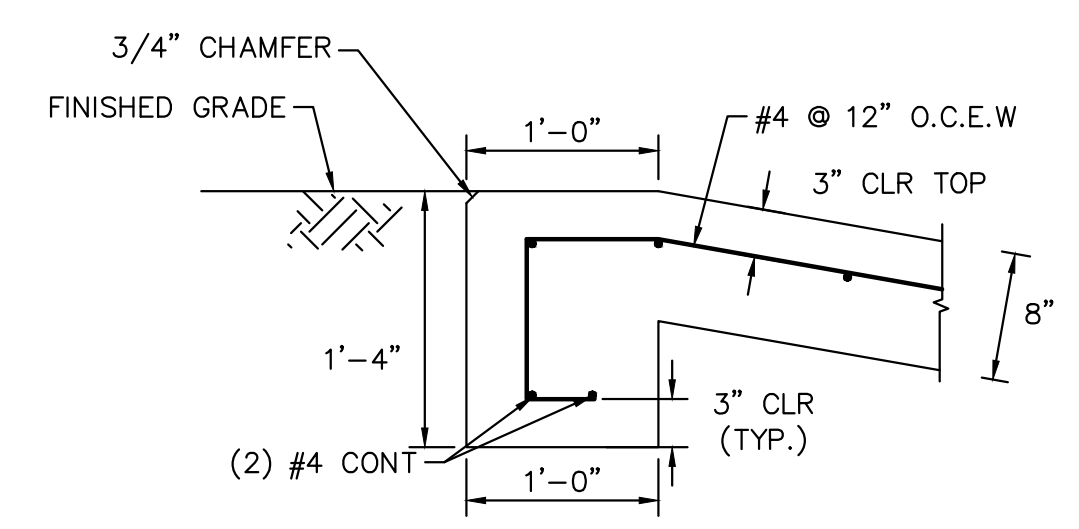
**A2** OVERFLOW STRUCTURE SECTION DETAIL  
S-8 SCALE: NTS



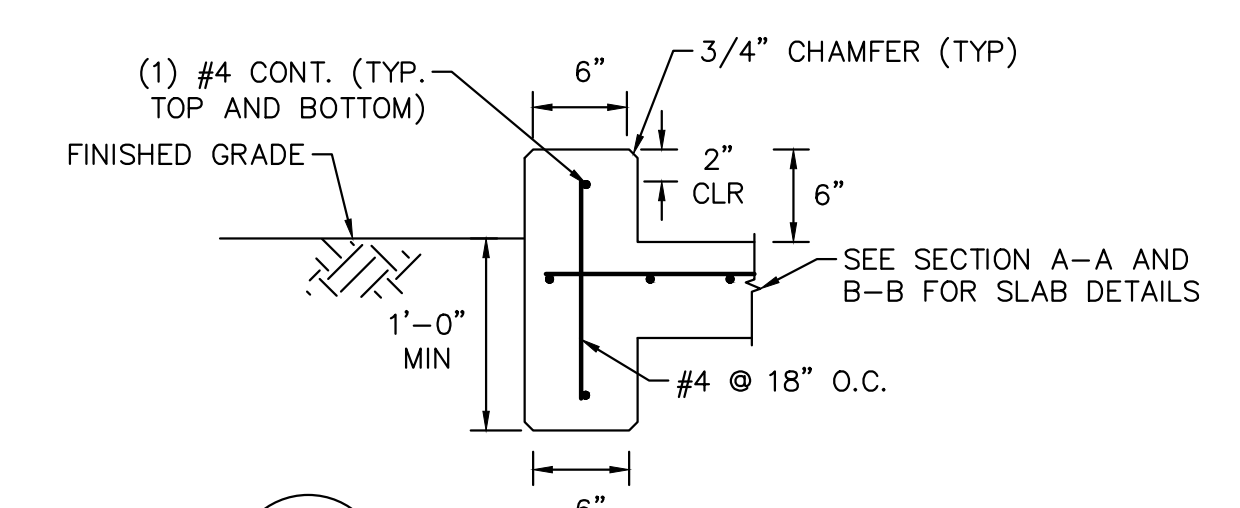
**A1** OVERFLOW STRUCTURE SECTION DETAIL  
S-8 SCALE: NTS



**B** TYPICAL OVERFLOW STRUCTURE SECTION  
S-8 SCALE: NTS



**B1** OVERFLOW STRUCTURE SECTION DETAIL PLAN  
S-8 SCALE: NTS



**C** TYPICAL CURB DETAIL  
S-8 SCALE: NTS

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**Manatee County FLORIDA**

**SEWRF RECLAIMED PUMP BACK STATION**

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FL LICENSE NUMBER 54640
FL DATE:

**STRUCTURAL DETAILS**

SHEET NUMBER
<b>S-8</b>