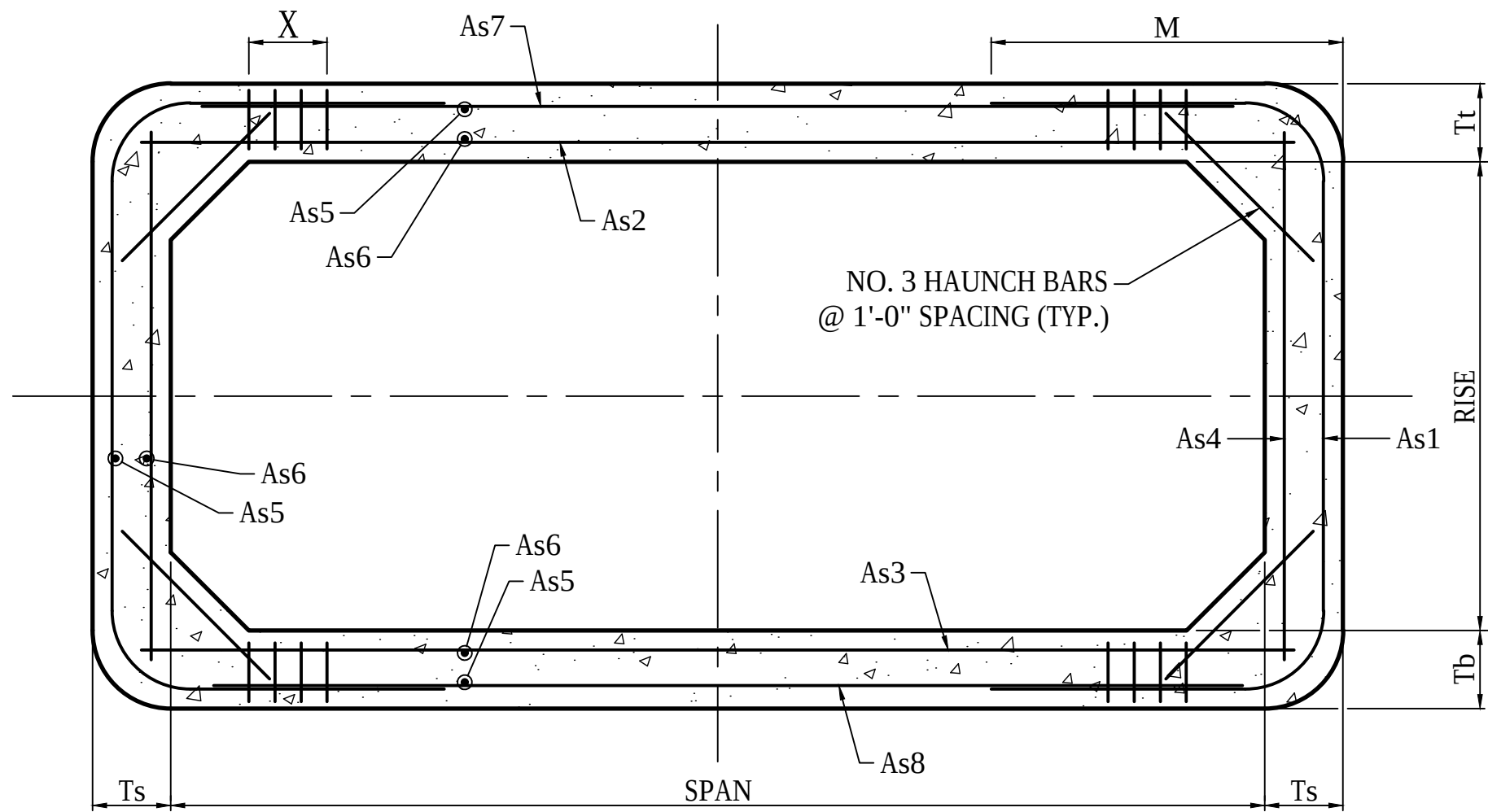
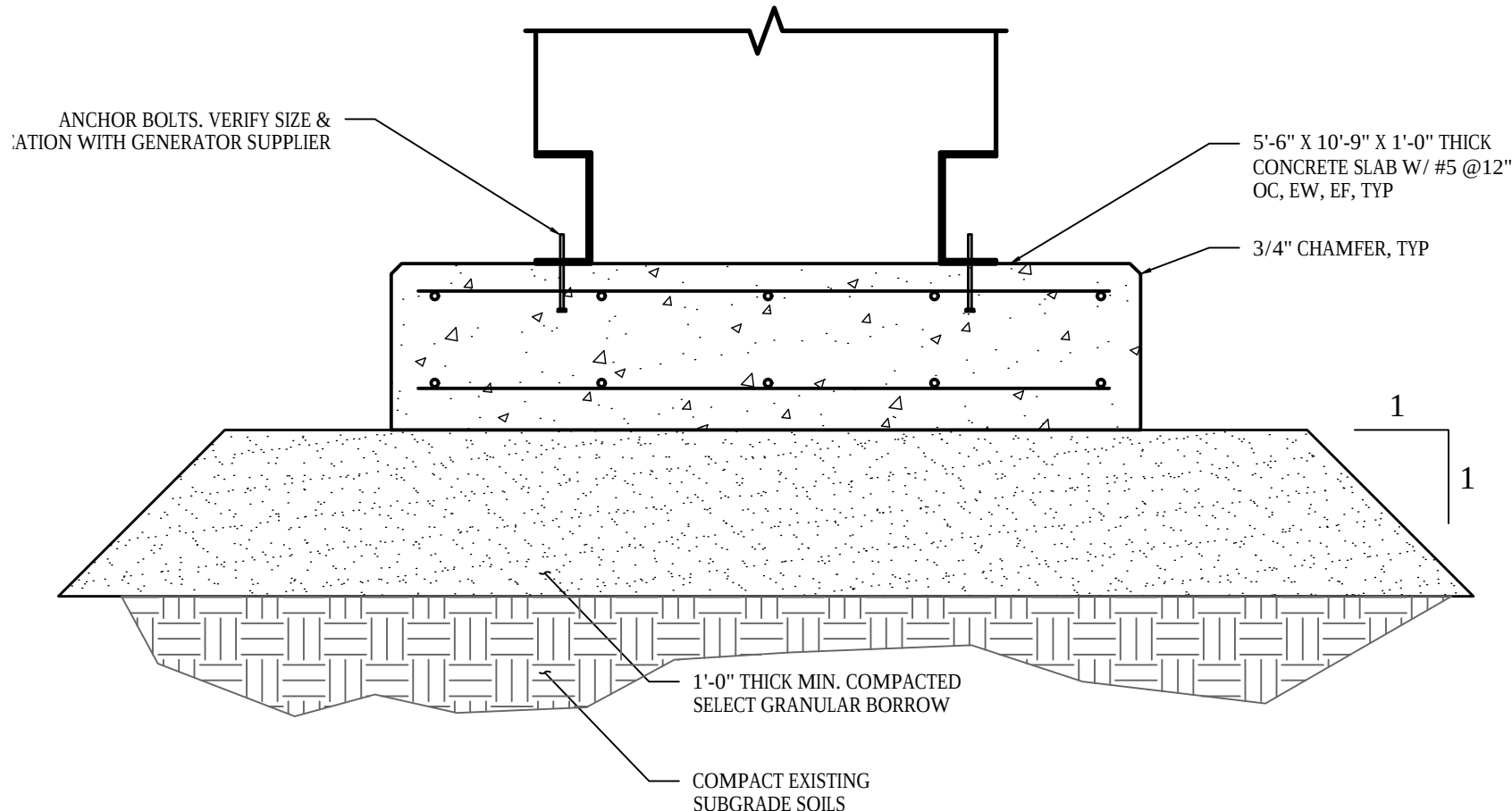
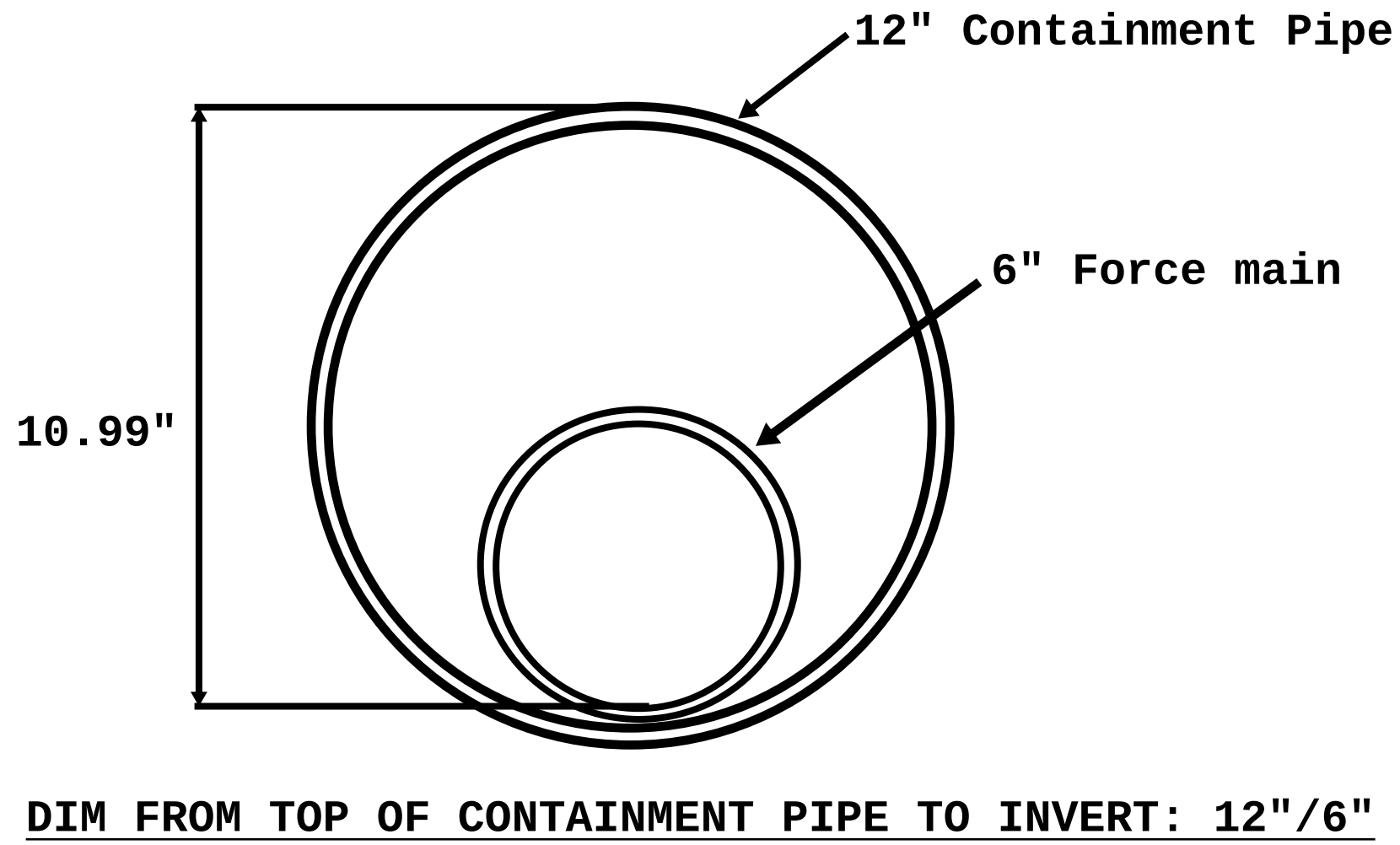




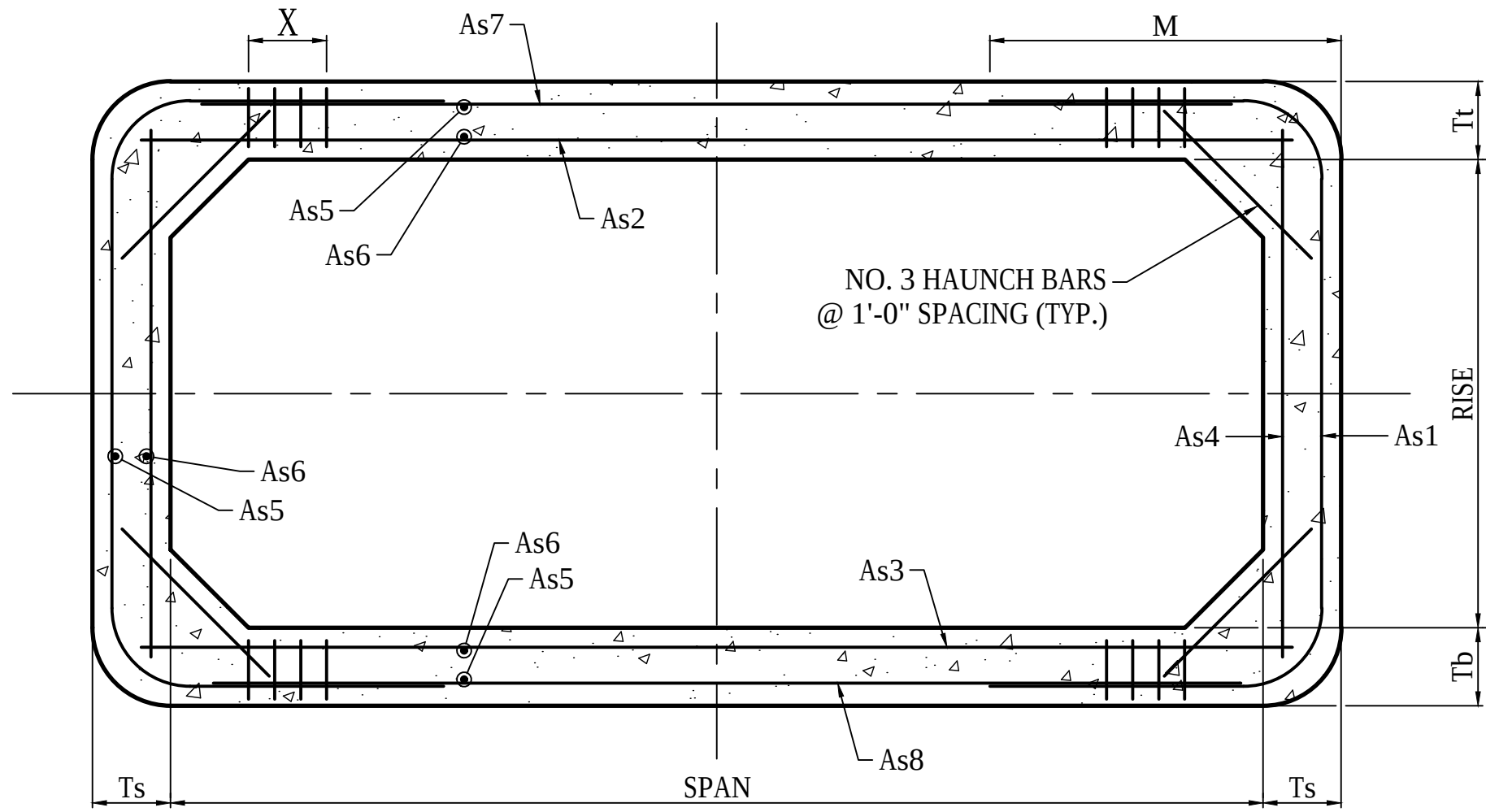
A LIFT STATION 1 - VALVE VAULT 9 REINFORCING PLAN  
1/2" = 1'-0"



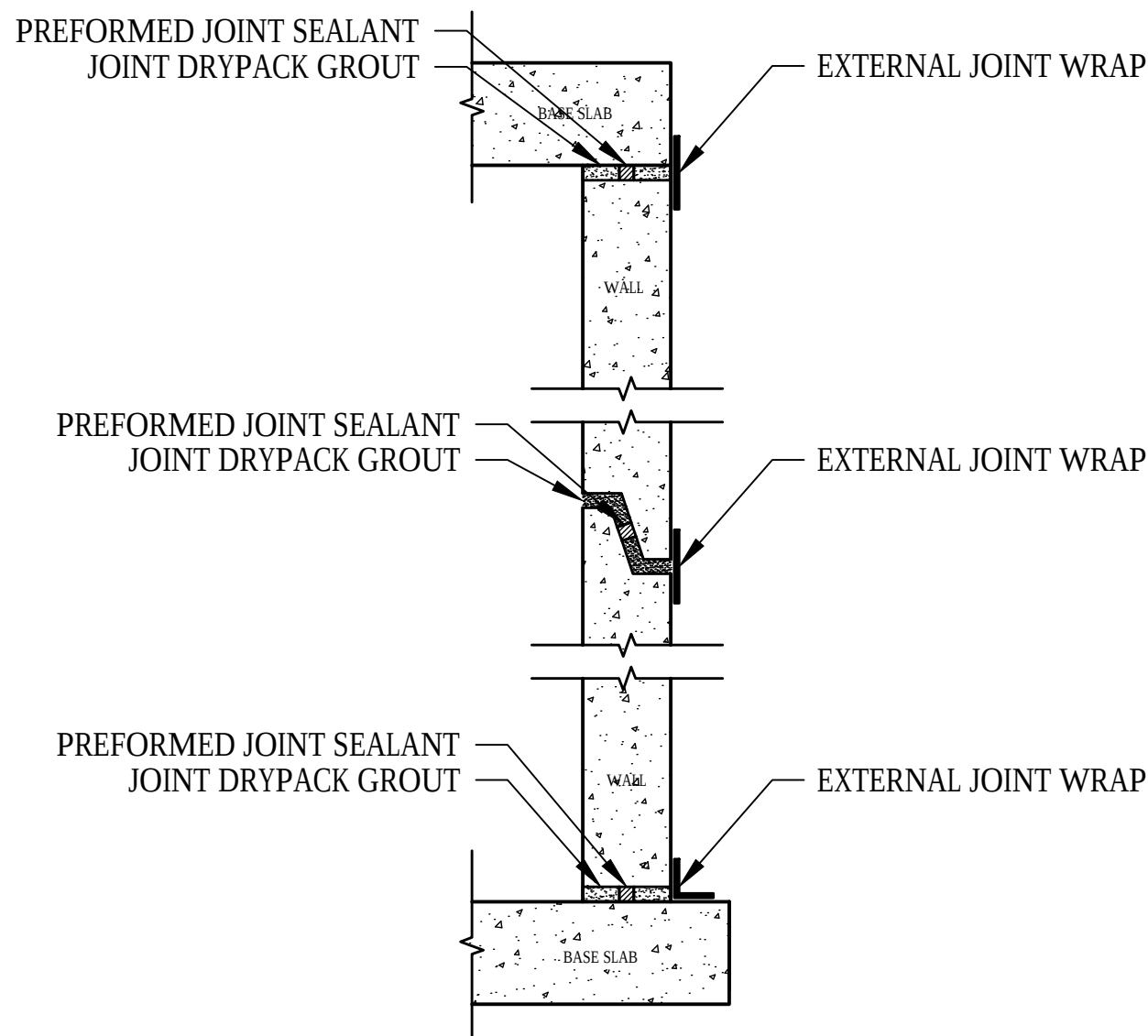
B LIFT STATION 1 GENERATOR PAD DETAIL  
NOT TO SCALE



DIM FROM TOP OF CONTAINMENT PIPE TO INVERT: 12"/6"



A LIFT STATION 2 - METERING VAULT 13 REINFORCING PLAN  
1/2" = 1'-0"



B JOINT DETAIL  
NOT TO SCALE

### VALVE VAULT 9 & 13 REINFORCING

| VALVE VAULT 9 & 13 REINFORCING |              |            |            |          |          |          |                              |         |                              |                              |                              |                              |                              |                              |                              |                                              |                              |                 |
|--------------------------------|--------------|------------|------------|----------|----------|----------|------------------------------|---------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------------------|------------------------------|-----------------|
| SIZE                           | f'c (P.S.I.) | DIMENSIONS |            |          |          |          | WELDED WIRE REINFORCEMENT    |         |                              |                              |                              |                              |                              |                              |                              | SHEAR REINFORCEMENT TOP AND BOTTOM OF BARREL |                              |                 |
|                                |              |            |            |          |          |          | As1                          |         | As2                          | As3                          | As4                          | As5                          | As6                          | As7                          | As8                          |                                              |                              |                 |
|                                |              | SPAN (FT.) | RISE (FT.) | Tt (IN.) | Tb (IN.) | Ts (IN.) | AREA (IN. <sup>2</sup> /FT.) | M (FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.) | AREA (IN. <sup>2</sup> /FT.)                 | AREA (IN. <sup>2</sup> /FT.) | MAX. SPG. (IN.) |
| 14'-0" x 6'-0"                 | 5000         | 14         | 6          | 12       | 12       | 12       | 1.06                         | 4'-6"   | 1.06                         | 1.06                         | 1.06                         | 0.46                         | 0.46                         | 0.29                         | 0.29                         | 0.09                                         | 4                            | 16              |

- GENERAL NOTES:
- 1 1/2" MIN AND 2" MAX CONCRETE COVER ON ALL REINFORCEMENT
  - REINFORCEMENT AREA BASED GRADE 60 REINFORCEMENT. WELDED WIRE FABRIC MAY BE USED IN PLACE OF REINFORCEMENT. ADJUST AREA OF REINFORCEMENT BASED ON RATIO OF YIELD STRENGTHS.

CONTRACTOR: Minger Construction  
**RECORD PLAN**  
ZGN 12-22-2020

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Eric Leagjeld*  
Eric Leagjeld  
LIC. NO. 40430 DATE 03/01/2019



7533 SUNWOOD DR NW, SUITE 206  
RAMSEY, MINNESOTA 55303  
Phone: (763) 433-2851  
Email: Ramsey@bolton-menk.com  
www.bolton-menk.com

| DESIGNED         | NO. | REVISION | DATE |
|------------------|-----|----------|------|
| EL               |     |          |      |
| DRAWN            |     |          |      |
| EL               |     |          |      |
| CHECKED          |     |          |      |
| KFB              |     |          |      |
| CLIENT PROJ. NO. |     |          |      |
| R16.115896       |     |          |      |

ELK RIVER LANDFILL INC.  
WASTE WATER FORCEMAIN  
STRUCTURAL DETAILS

SHEET  
8  
OF  
46