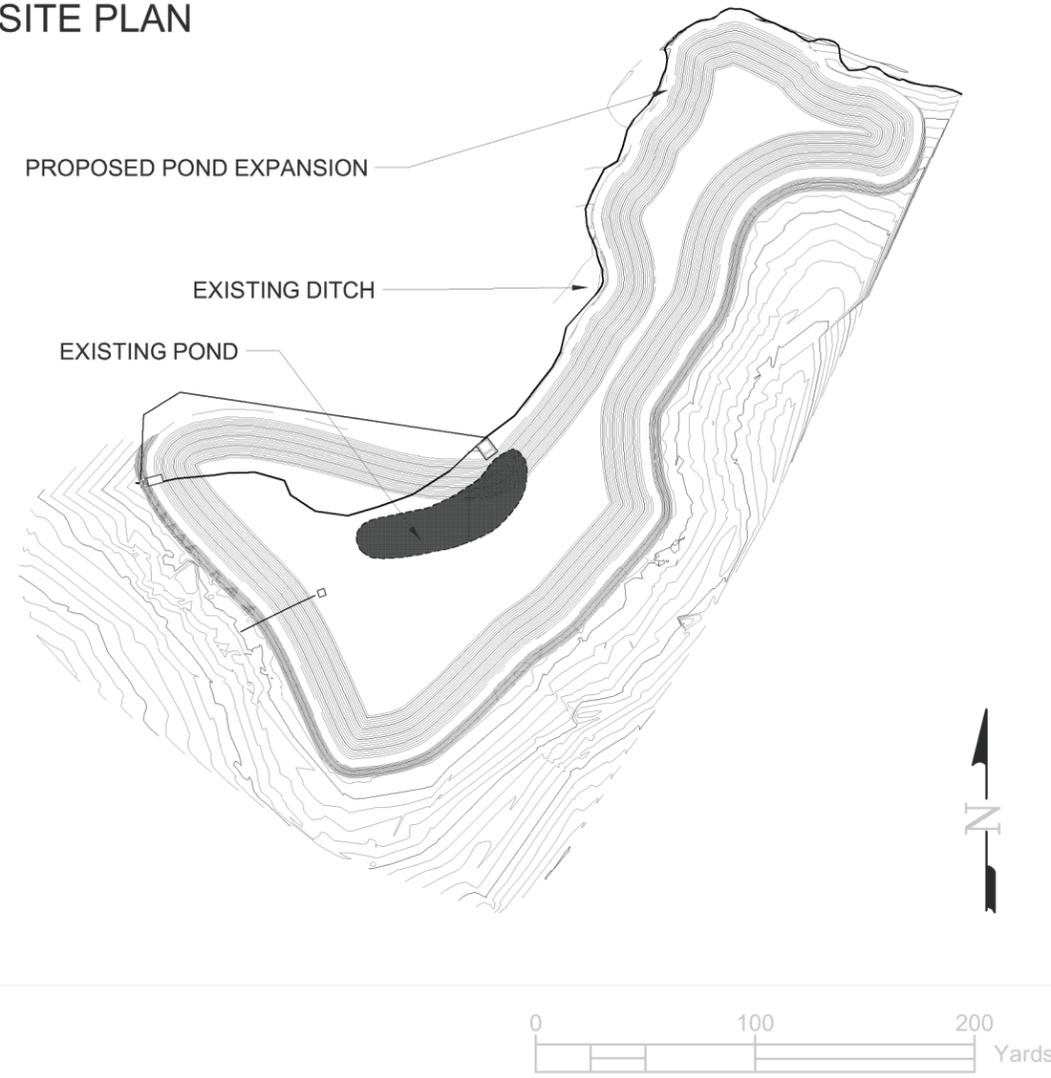


SITE PLAN



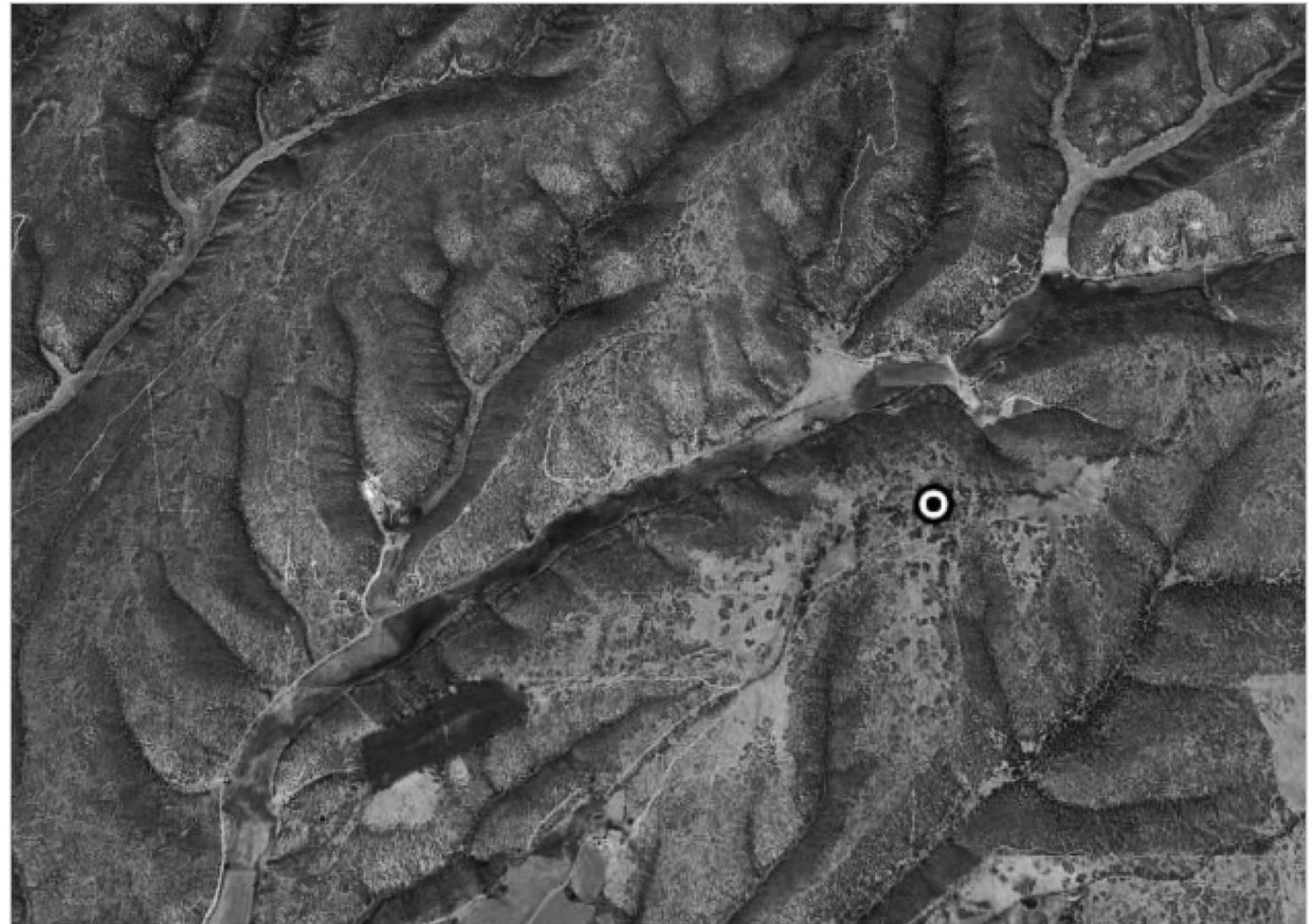
HUNTINGTON POND EXPANSION

La Plata County, Colorado

SHEET DESCRIPTION

- 01.....PLAN
- 02.....SECTION
- 03.....INLET & OUTLET

LOCATION



37° 14.794N, 108° 6.151W

HUNTINGTON POND EXPANSION

COVER SHEET

CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
 1-800-922-1987 OR (811)
 CALL 3 BUSINESS DAYS PRIOR
 TO ANY CONSTRUCTION.

**HARRIS WATER
 ENGINEERING INC.**
 954 East Second Ave.
 Durango, Co. 81303
 970-259-1028

DATE: 11/15/15
 DRAWN BY: MS
 CHECKED BY: BS
 SHEET
 00 OF 03

PLAN

NOTES:

APPROX. POND SURFACE AREA = 3.325 ACRES

APPROX. CUT VOLUME = 45,940.43 CUBIC YARDS

APPROX. FILL VOLUME = 12,721.1 CUBIC YARDS
(CUT : FILL RATIO OF 1 : 2.25)

APPROX. EXCESS = 33,219.33 CUBIC YARDS
(EQUIVALENT TO 14,764.15 CUBIC YARDS
AT A CUT : FILL RATIO OF 1 : 2.25)

APPROX. VOLUME OF GRAVEL
FOR TOP OF DAM = 221.45 CUBIC YARDS

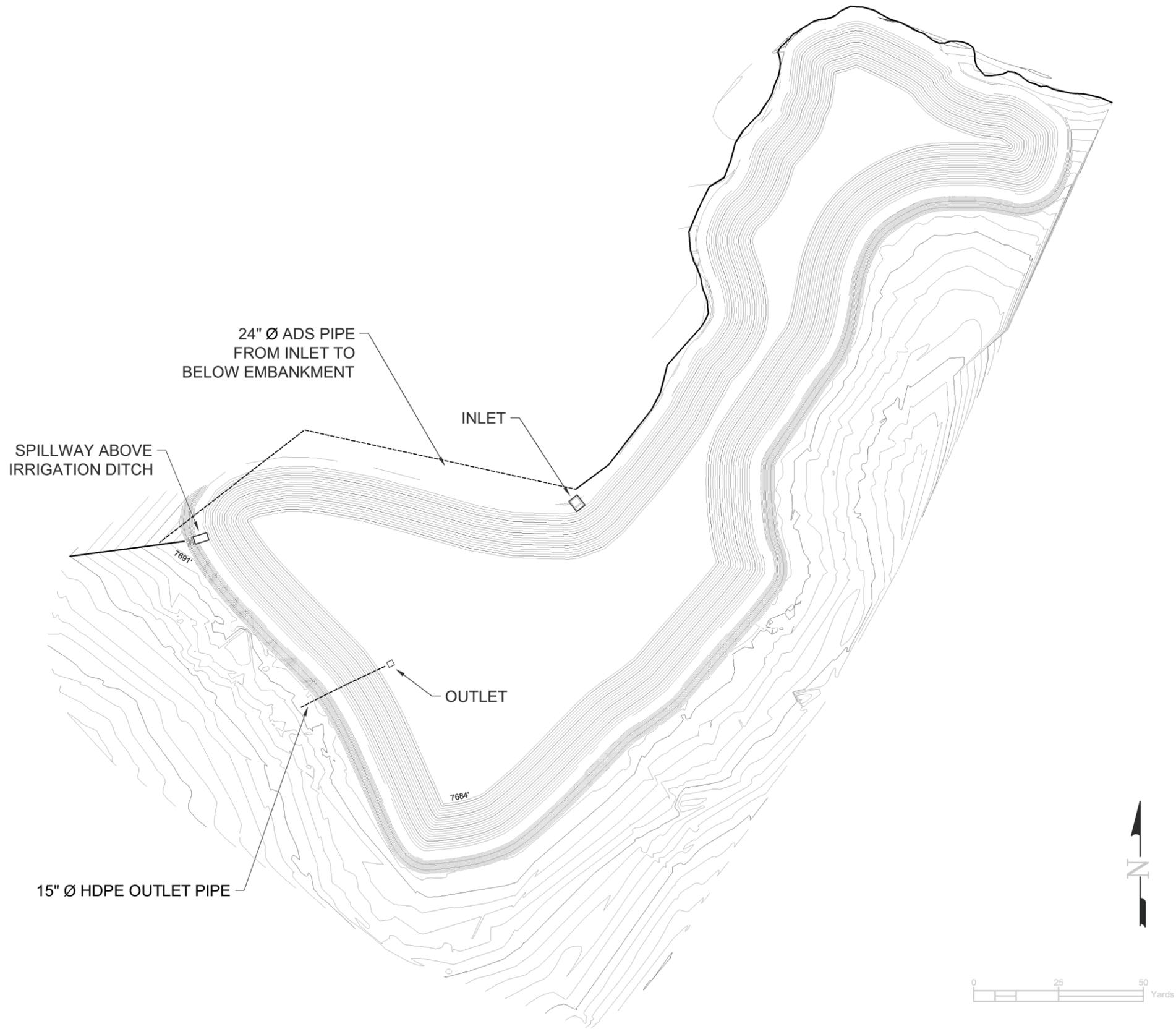
APPROX. 24" Ø ADS PIPE LENGTH
FOR DITCH DIVERSION = 417'
SPECIFICALLY, HANCOR SURE-LOK ST IB PIPE
(SMOOTH INTERIOR AND
ANNULAR EXTERIOR CORRUGATIONS)
MEETING AASHTO M294 TYPE S OR ASTM F2306

APPROX. 15" Ø HDPE OUTLET PIPE LENGTH= 85'

APPROX. SURFACE AREA
OF POND LINER = 6,293.63 SQUARE YARDS

EXCAVATE CENTER OF POND TO EL. 7684'

POND BOTTOM TO BE GRADED TOWARD OUTLET



HUNTINGTON POND EXPANSION

PLAN

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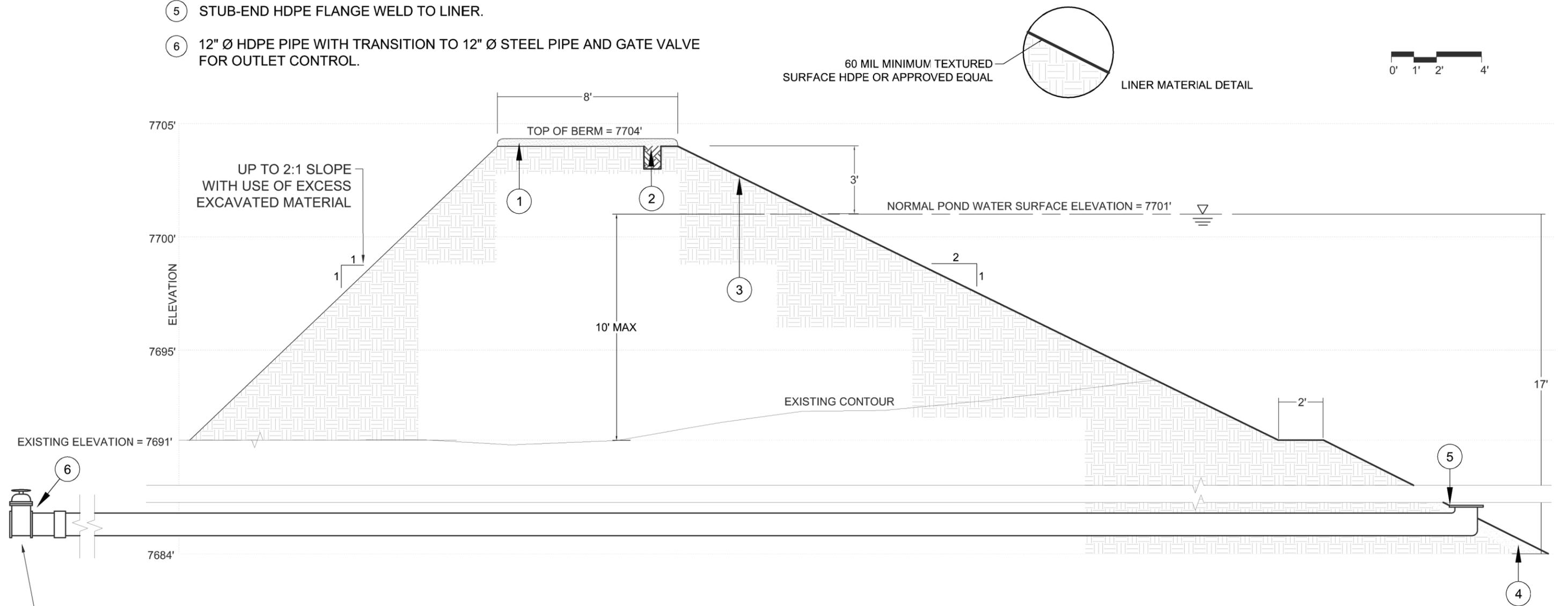
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970-259-1028

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SHEET
01 OF 03

DAM SECTION

NOTES:

- ① 4" CLASS IV (3/4") ROAD BASE COVER COMPACT TO 90%.
- ② ANCHOR TRENCH TOP ELEVATION OF 7704 FT. AROUND PERIMETER OF POND. TRANSITION LINER TO ELEVATION 7702 FT. FOR OVERFLOW WEIR.
- ③ 60 MIL MINIMUM TEXTURED SURFACE HDPE OR APPROVED EQUAL.
- ④ FINE AGGREGATE BEDDING MAY BE USED LOCALLY TO LEVEL THE SUBGRADE. FINE AGGREGATE BEDDING SHALL NOT EXCEED 4-INCHES IN THICKNESS AND 10 PERCENT OF THE MEMBRANE LINER AREA.
- ⑤ STUB-END HDPE FLANGE WELD TO LINER.
- ⑥ 12" Ø HDPE PIPE WITH TRANSITION TO 12" Ø STEEL PIPE AND GATE VALVE FOR OUTLET CONTROL.



HUNTINGTON POND EXPANSION

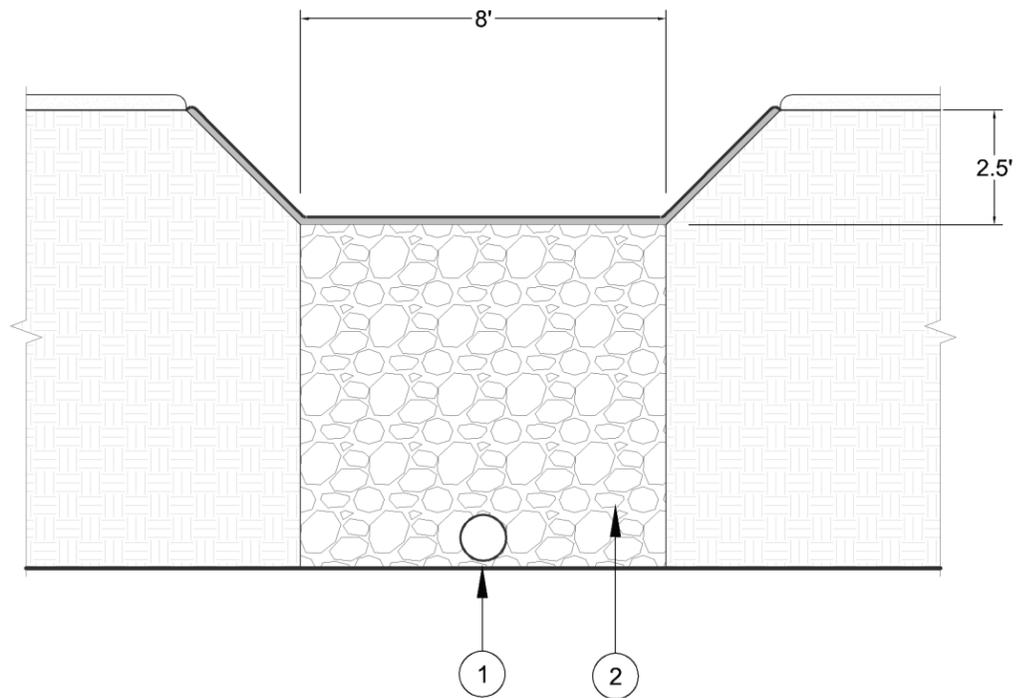
SECTION

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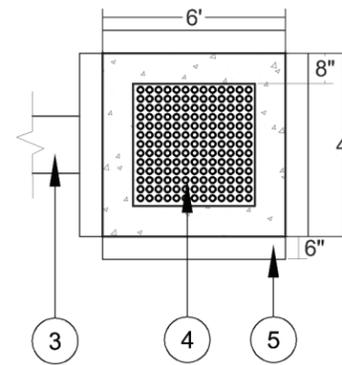
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SHEET
02 OF 03

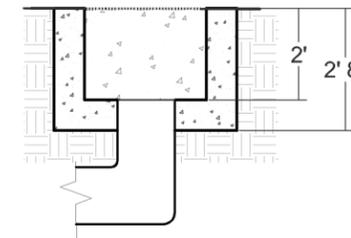
SPILLWAY ELEVATION



OUTLET PLAN



OUTLET SECTION



NOTES:

- ① 12" Ø HDPE PIPE.
- ② 6" Ø - RIPRAP TO DRAINAGE DITCH.
- ③ 15" Ø HDPE PIPE.
- ④ OUTLET TO UTILIZE EXISTING TRASH SCREEN.
- ⑤ 6" EMBEDDED FLANGE TO BE WELDED TO POND LINER.

SETTLEMENT STRUCTURE AND INLET BY OTHERS.
UTILIZE EXISTING INLET.

COMPACT EMBANKMENT IN 12" LIFTS TO 90%
MAINTAIN OPTIMUM MOISTURE.



**HUNTINGTON POND EXPANSION
INLET & OUTLET**

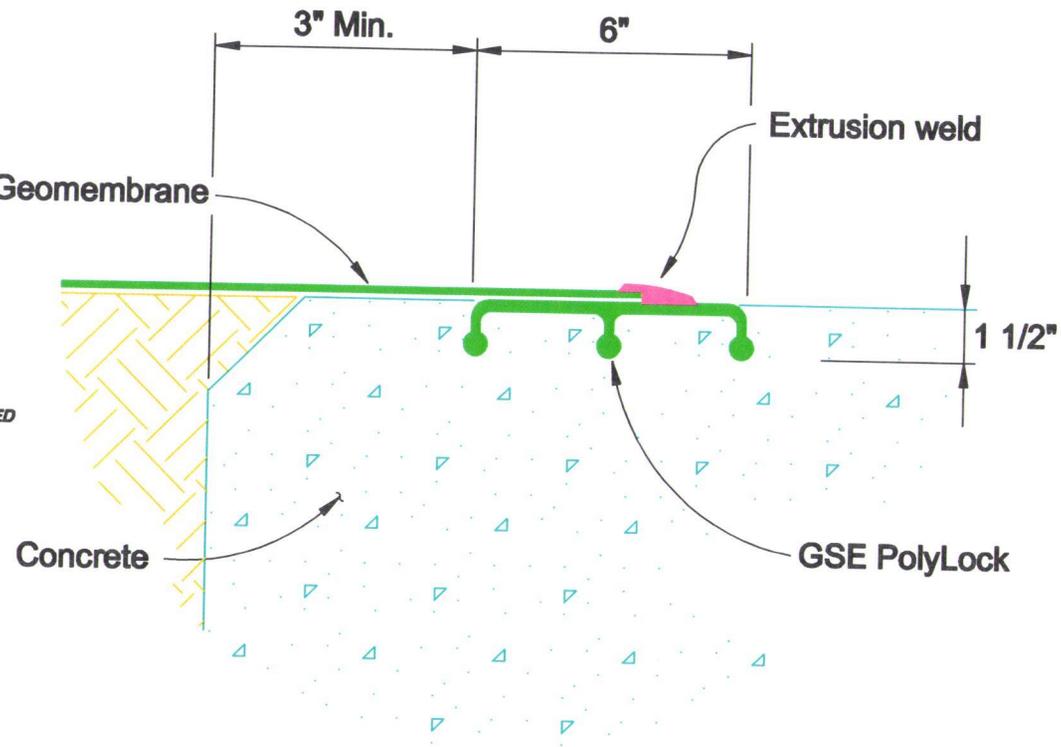
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03 OF 03

Note

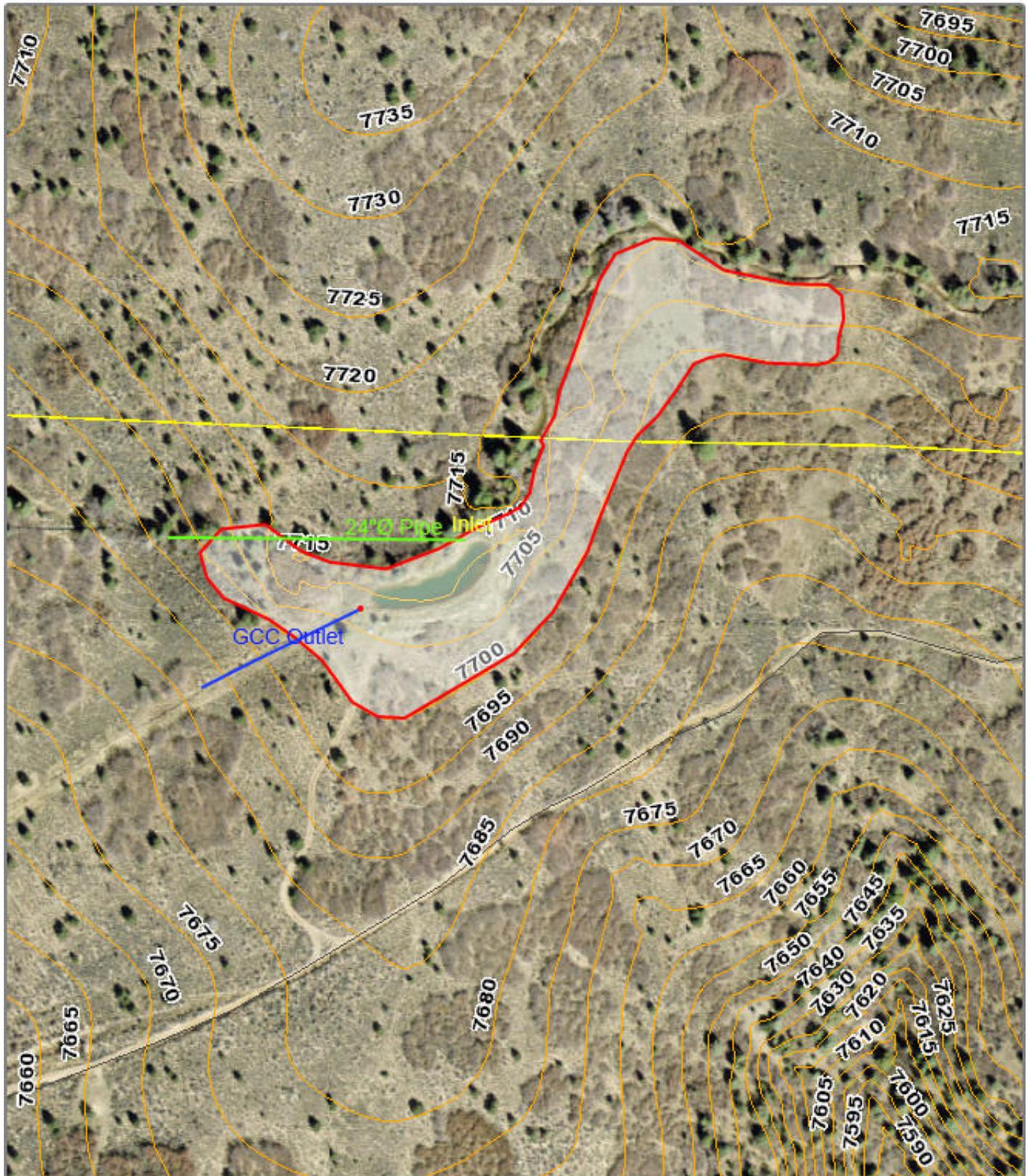
*EARTH ADJACENT TO CONCRETE COLLAR TO BE WELL COMPACTED TO PREVENT FUTURE DIFFERENTIAL SETTLEMENT.
ALL CONCRETE COLLARS TO BE CHAMFERED A MINIMUM OF 1" (TYP.) @ ALL CORNERS IN CONTACT WITH LINER.*



PolyLock Attachment

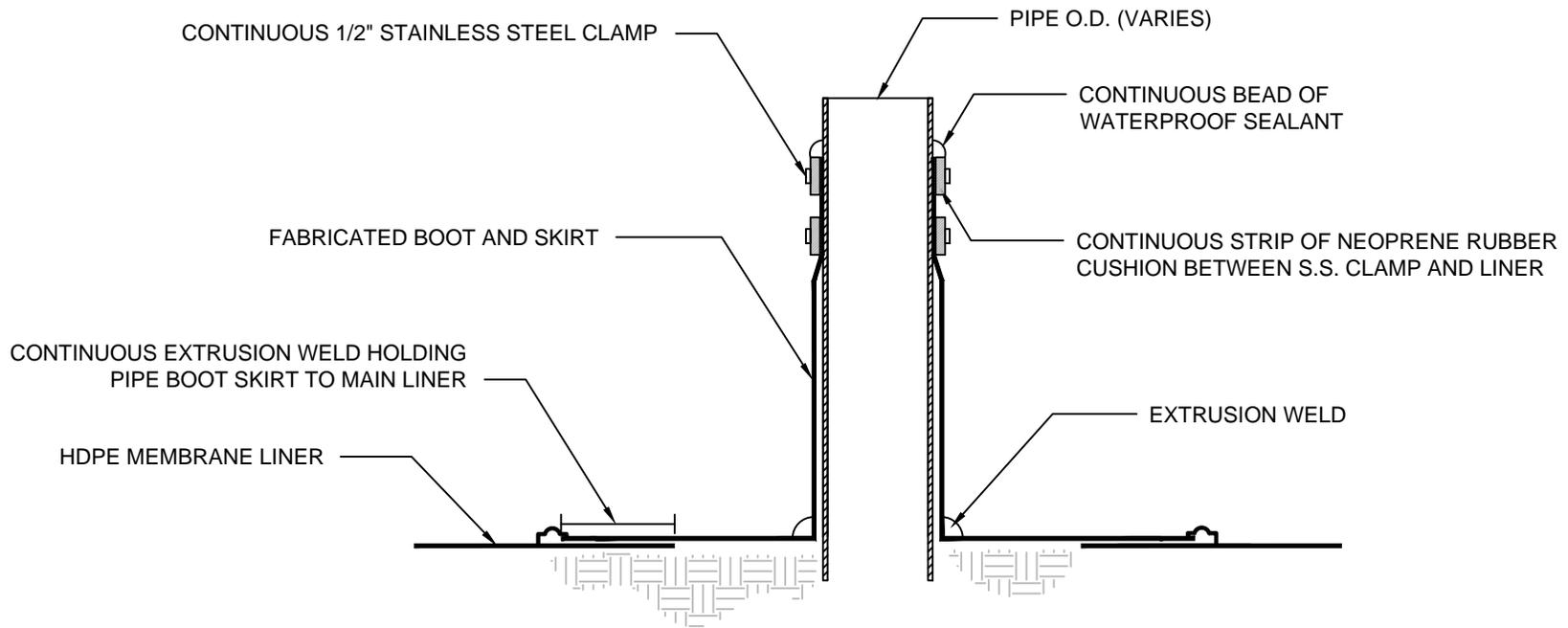
Not to scale

Huntington



Disclaimer: The information is provided as is without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. In no event shall La Plata County be liable for any damages whatsoever including direct, indirect, incidental, consequential, loss of business profits or special damages.

Map Scale
1 inch = 206 feet
10/27/15



TYPICAL VERTICAL PIPE BOOT DETAIL
(NTS)



PROJECT						
MEMBRANE LINER						
TITLE						
HDPE VERTICAL PIPE BOOT						
DATE	DRAWN BY BES	CHECKED BY BES	SCALE	CAD FILE	REV	SHEET 1

SureLok[®] ST

THE PERFORMANCE YOU EXPECT. THE INNOVATIONS YOU NEED.

With over 110 years experience, Hancor has provided expert knowledge and innovative product solutions proven in a wide range of field drainage applications. Our HDPE pipe delivers superior value while providing physical strength and structural design that just cannot be matched by metal or concrete.

Sure-Lok ST pipe is perfect for storm water applications: retention/detention systems; culverts; cross, slope or edge drains. Other uses include golf courses, sports playing fields, or parking lot drainage.

FEATURES & BENEFITS

- Soil-tight rubber gasket meets ASTM F477.
- Available in 20' (6m) lengths, resulting in fewer joints; custom lengths also available.
- Bell-and-spigot joint allows for quick and easy installation.
- Easy-to-handle, safe, lightweight pipe requires less labor and equipment for faster installation and reduced costs.
- HS-25 (Highway traffic loads) rated with a minimum of 12" (0.3m) of cover for 4" - 48" (100 - 1200mm) diameters and 24" (0.6m) of cover for 54" and 60" (1350 and 1500mm) diameters in single run applications.
- Provides superior resistance to chemicals, road salts, motor oil and gasoline – will not rust, deteriorate or crumble.
- Withstands repeated freeze/thaw cycles and continuous subzero temperatures.
- Superior hydraulics-smooth interior will ensure no debris or sediment build-up.



Hancor Service: Hancor representatives and engineers are committed to providing you with the answers to all your questions, including specifications, installation, backfill recommendations and more.



HANCOR SURE-LOK ST PIPE SPECIFICATIONS

SCOPE

This specification describes 4" - 60" (100 - 1500mm) Hancor Sure-Lok ST pipe for use in gravity flow drainage applications.

PIPE REQUIREMENTS

Sure-Lok ST pipe shall have a smooth interior and annular exterior corrugations.

- 4" - 10" (100 - 250mm) shall meet AASHTO M252, Type S.
- 12" - 60" (300 - 1500mm) shall meet AASHTO M294, Type S or ASTM F2306.
- Manning's "n" value for use in design shall be 0.010 to 0.012.

JOINT PERFORMANCE

Pipe shall be joined using a bell-and-spigot gasketed joint. Gaskets, when applicable, shall be made of polyisoprene meeting the requirements of ASTM F477 with the addition that the gaskets shall not have any visible cracking when tested according to ASTM D1149 after 72 hour exposure in 50 PPHM ozone at 104° F (40° C). Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly. Standard connections shall meet or exceed the soil-tight requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

FITTINGS

Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Fabricated fittings, where accessible, shall be welded on the interior and exterior at all junctions.

MATERIAL PROPERTIES

Virgin material for pipe and fitting production shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4" - 10" (100 - 250mm) diameters, or 435400C for 12" - 60" (300 - 1500mm) diameters, as defined and described in the latest version of ASTM D3350. The 12" - 60" (300 - 1500mm) virgin pipe material shall be a slow crack resistant material evaluated using the notched constant ligament-stress (NCLS) test according to the procedure described in AASHTO M294, Section 9.5. Average NCLS test specimens must exceed 24 hrs. with no test result less than 17 hrs.

INSTALLATION

Installation shall be in accordance with ASTM D2321 and Hancor's published installation guidelines with the exception that minimum cover in trafficked areas for 4" - 48" (100 - 1200mm) diameters shall be one foot (0.3m) and for 54" and 60" (1350 and 1500mm) diameters shall be 2 ft. (0.6m) in single run applications. Contact your local Hancor representative or visit our website at www.hancor.com for a copy of the latest installation guidelines.

PIPE DIMENSIONS

Pipe I.D., in. (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	54* (1350)	60 (1500)
Pipe O.D.** , in. (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	61 (1549)	67 (1702)
Perforations	All diameters available with or without perforations.													

*Check with sales representative for availability by region.

**Pipe O.D. values are provided for reference purposes only. Values stated for 12" - 60" (300 - 1500mm) are ± 1". Exact values are provided in the Structures section of the Drainage Handbook.

Hancor "Terms and Conditions of Sale" are available on the Hancor web site, www.hancor.com

DIRECT CONTACT

Customer Service
888-FOR PIPE (367-7473)
Fax 888-FAX PIPE (329-7473) 24 hours a day

ELECTRONIC MEDIA

Web Site
Find market- and application-specific information and the latest industry news at our On-Line Pipeline - www.hancor.com