

HUNGERFORD & TERRY, INC.

Manufacturers of Water Treating Equipment
226 Atlantic Avenue
Clayton, NJ 08312-0650
Phone (856) 881-3200 Fax (856) 881-6859

DOCUMENT TRANSMITTAL

URGENT ATTENTION REQUIRED!

File No.: SUB_M345-01

To: Steckbeck Engineering & Surveying, Inc.
279 N. Zinns Mill Road
Lebanon, PA 17042

Date: February 23, 2024
Page: 1 of 1
H&T Contract No.: M-345

Attention: Paul Lutzkanin, PE, CSE
Email: plutzkanin@steckbeck.net

Job: Fredericksburg Sewer & Water Auth.
Fredericksburg, PA

We are:

- | | | | |
|-------------------------------------|------------------------------|--------------------------|----------------------|
| <input checked="" type="checkbox"/> | Submitting for approval | <input type="checkbox"/> | Sending as requested |
| <input type="checkbox"/> | Resubmitting for approval | <input type="checkbox"/> | _____ |
| <input type="checkbox"/> | Sending for your information | | |

The following enclosed under separate cover

Format	Dwg. No.	Rev.	Title or Description
PDF	33552-A02	0	Tank Details
	-A03	0	Internal Details
	-C02	0	Interior Reference
	-C03	0	Pipe Support Details

Remarks:

- Please return to us, as soon as possible, one copy of each drawing with your approval and or comments noted.
- Fabrication is proceeding in accordance with these drawings.
- Fabrication is being held pending return of approved prints. Delay in returning drawings will extend the delivery schedule.
- Fabrication of major equipment is proceeding in accordance with these drawings.
- Minor Equipment is being held pending return of approved prints.

REPRESENTATIVE:

HUNGERFORD & TERRY, INC.



William J. Probasco
Chief Engineer

MECHANICAL DRAWINGS

**FOR: Fredericksburg Sewer & Water Authority
Fredericksburg, PA**



HUNGERFORD & TERRY, INC.

226 Atlantic Avenue
Clayton, New Jersey

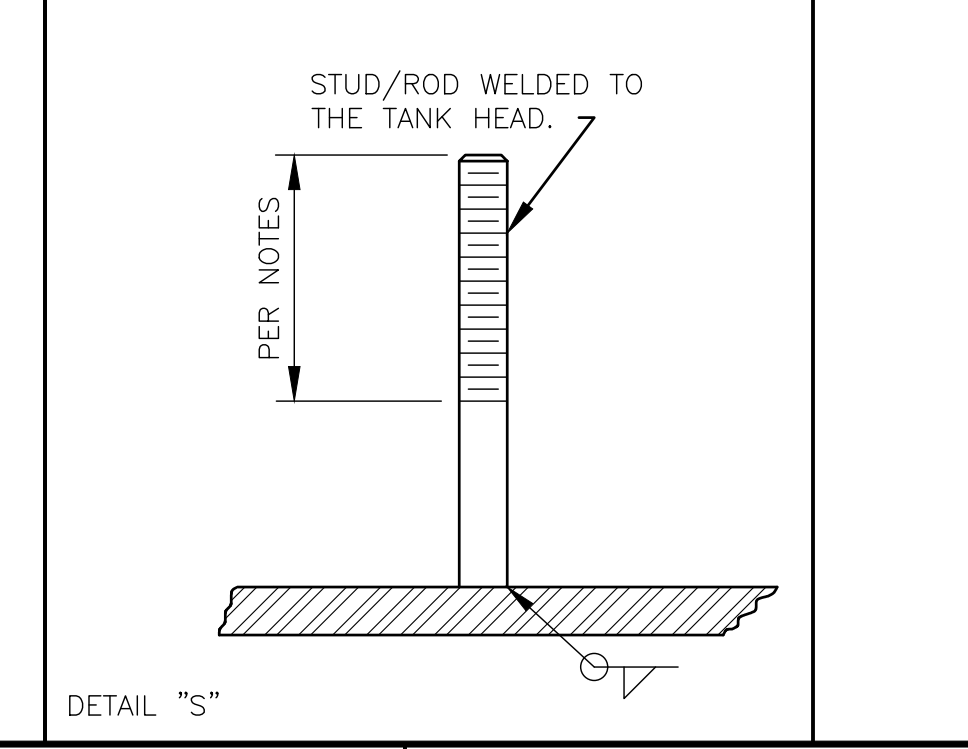
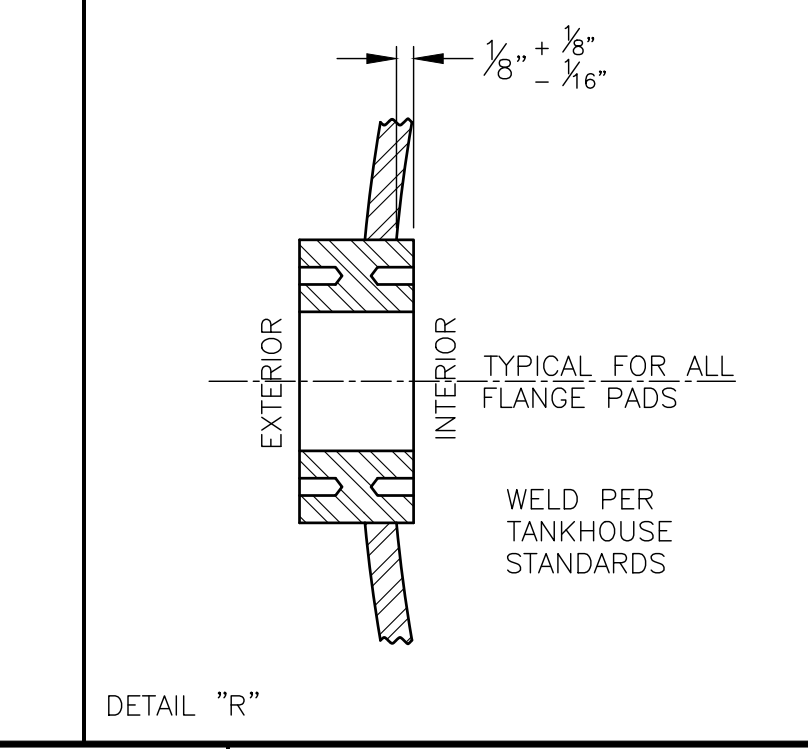
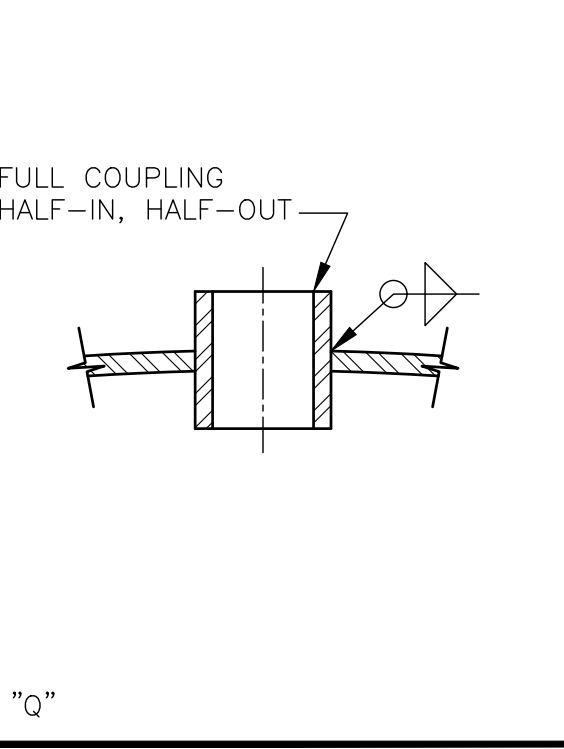
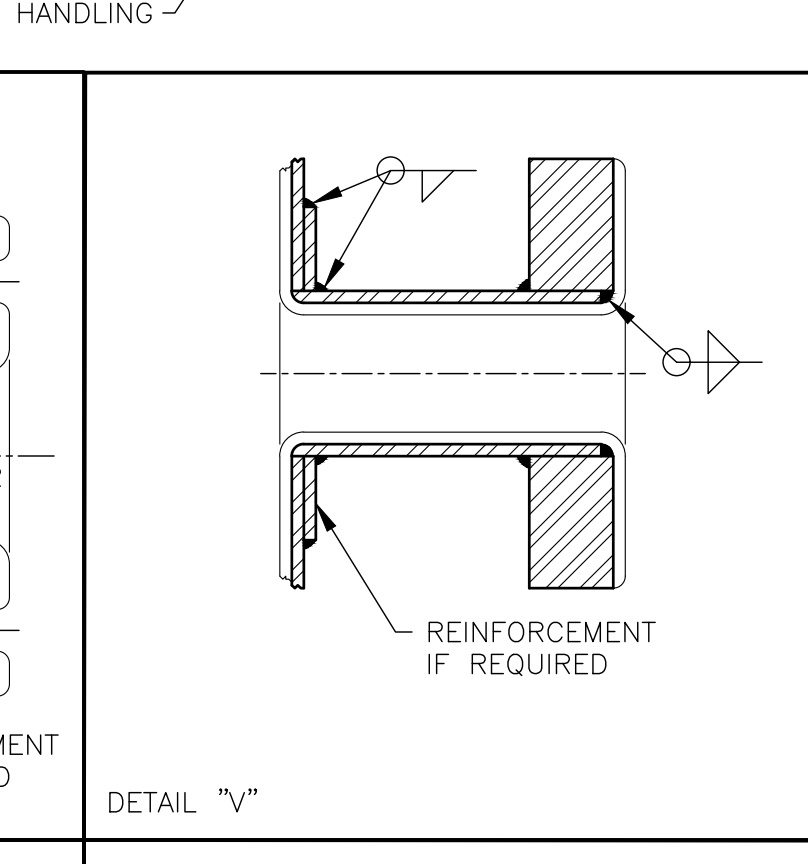
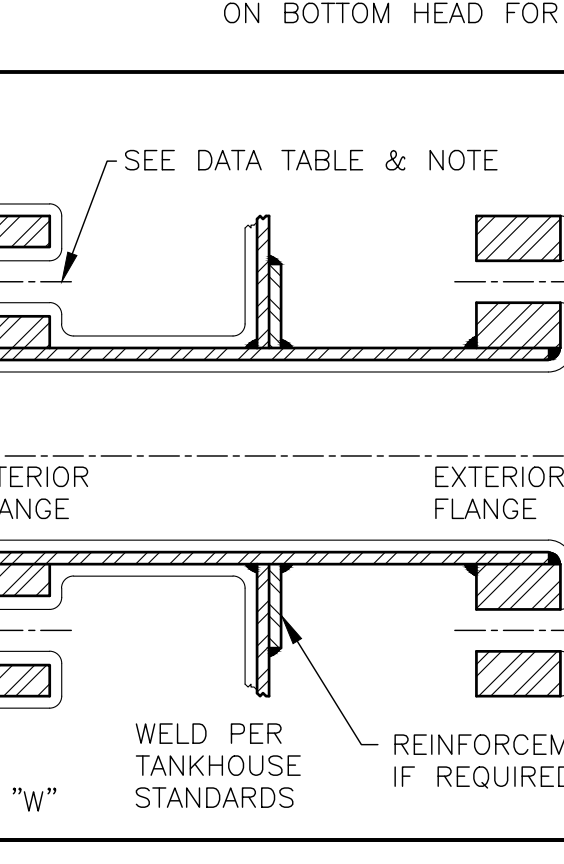
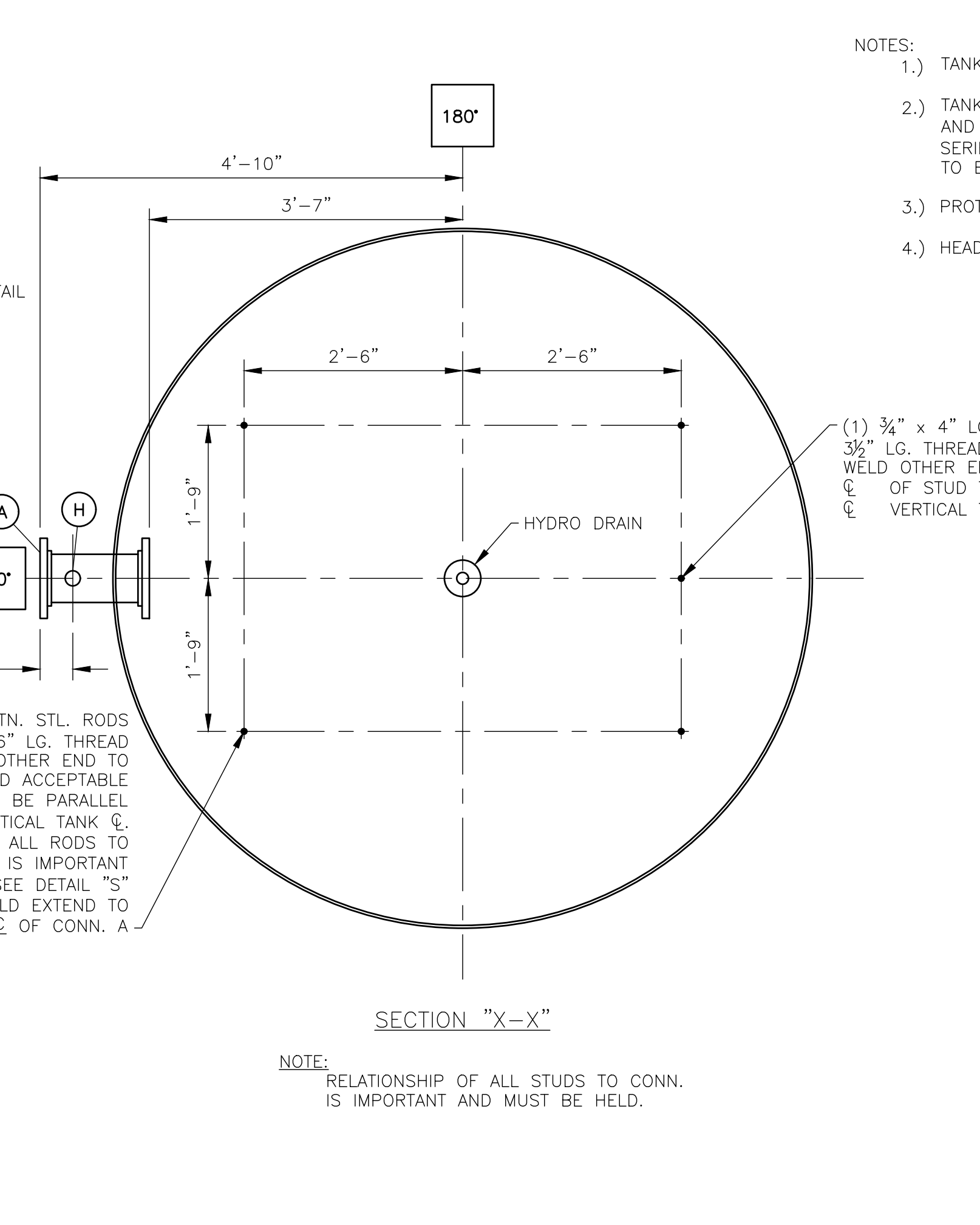
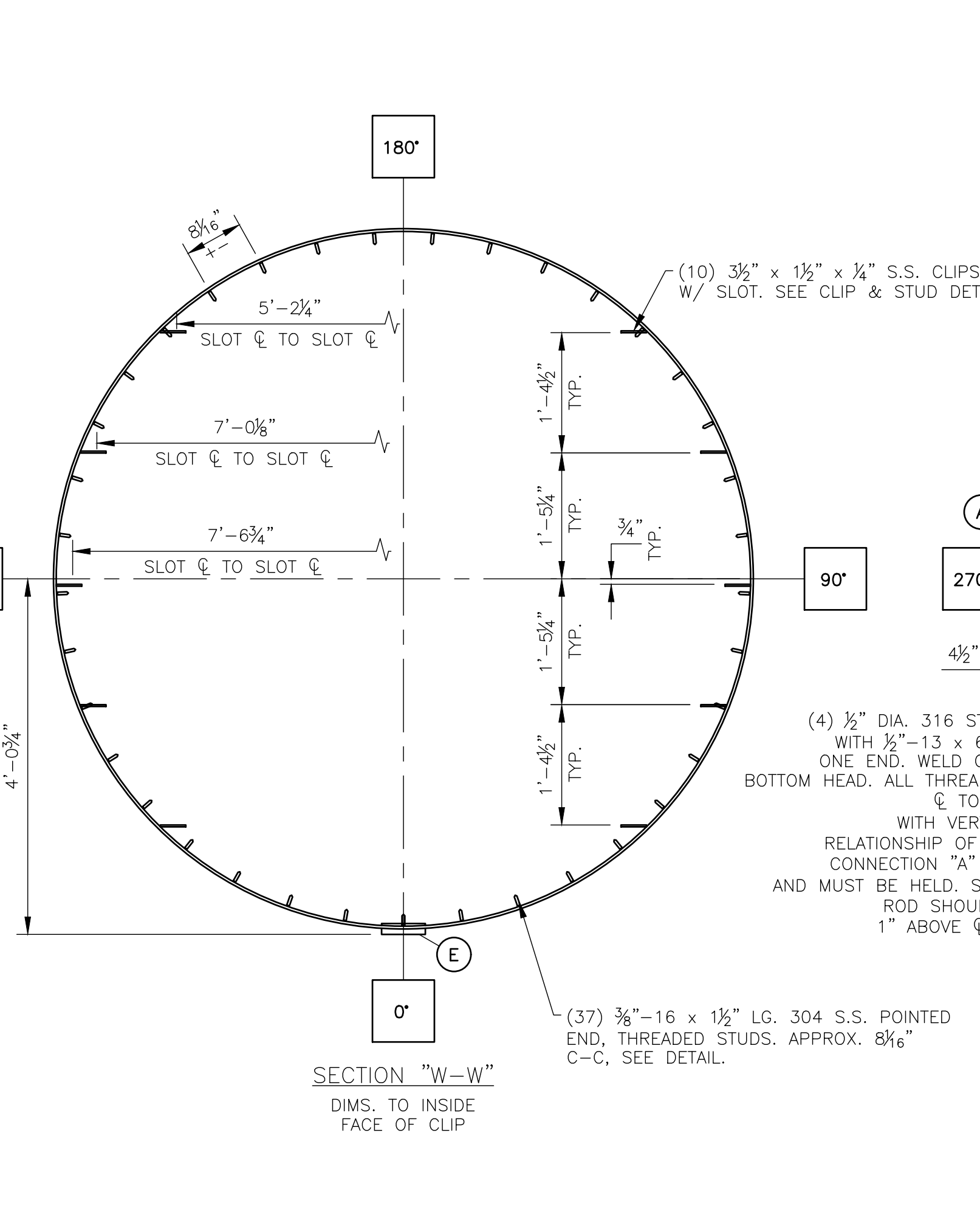
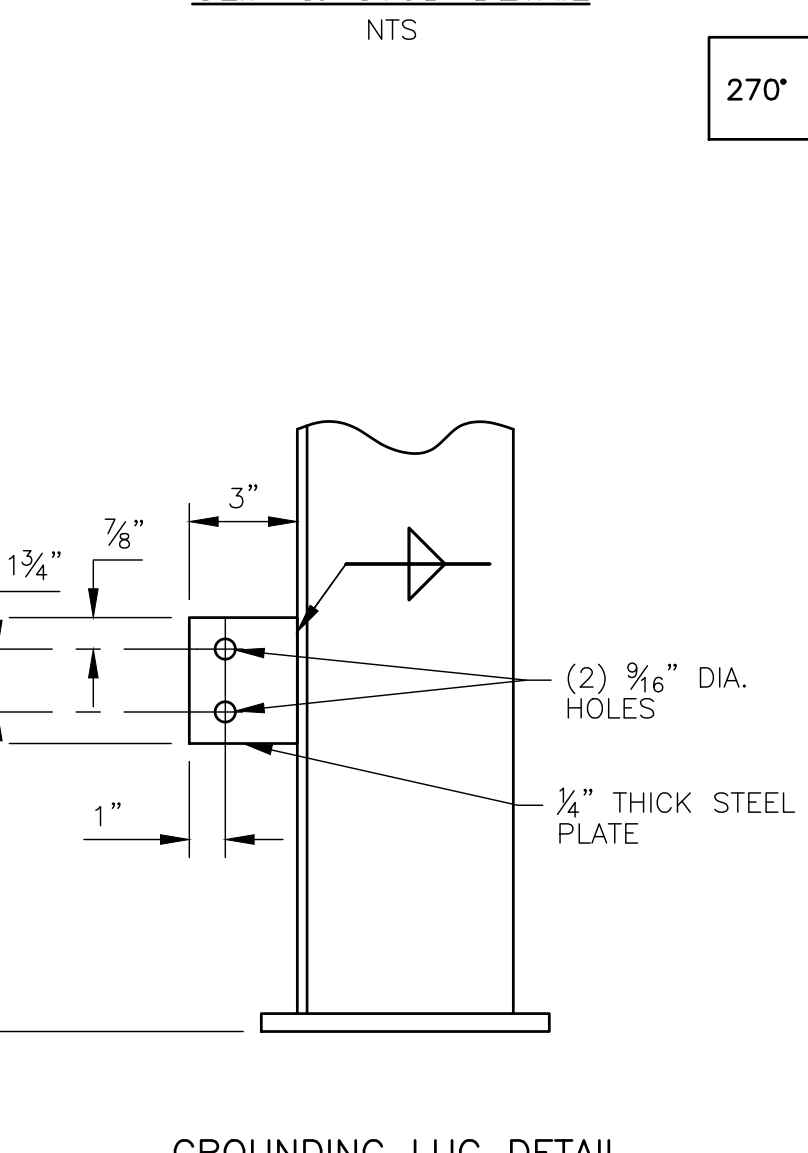
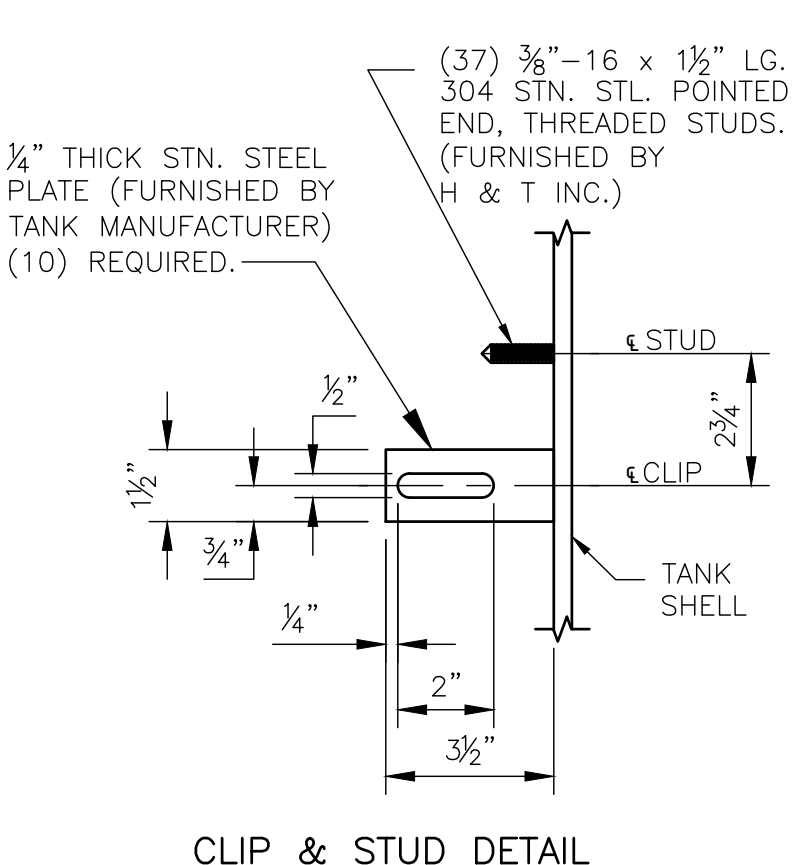
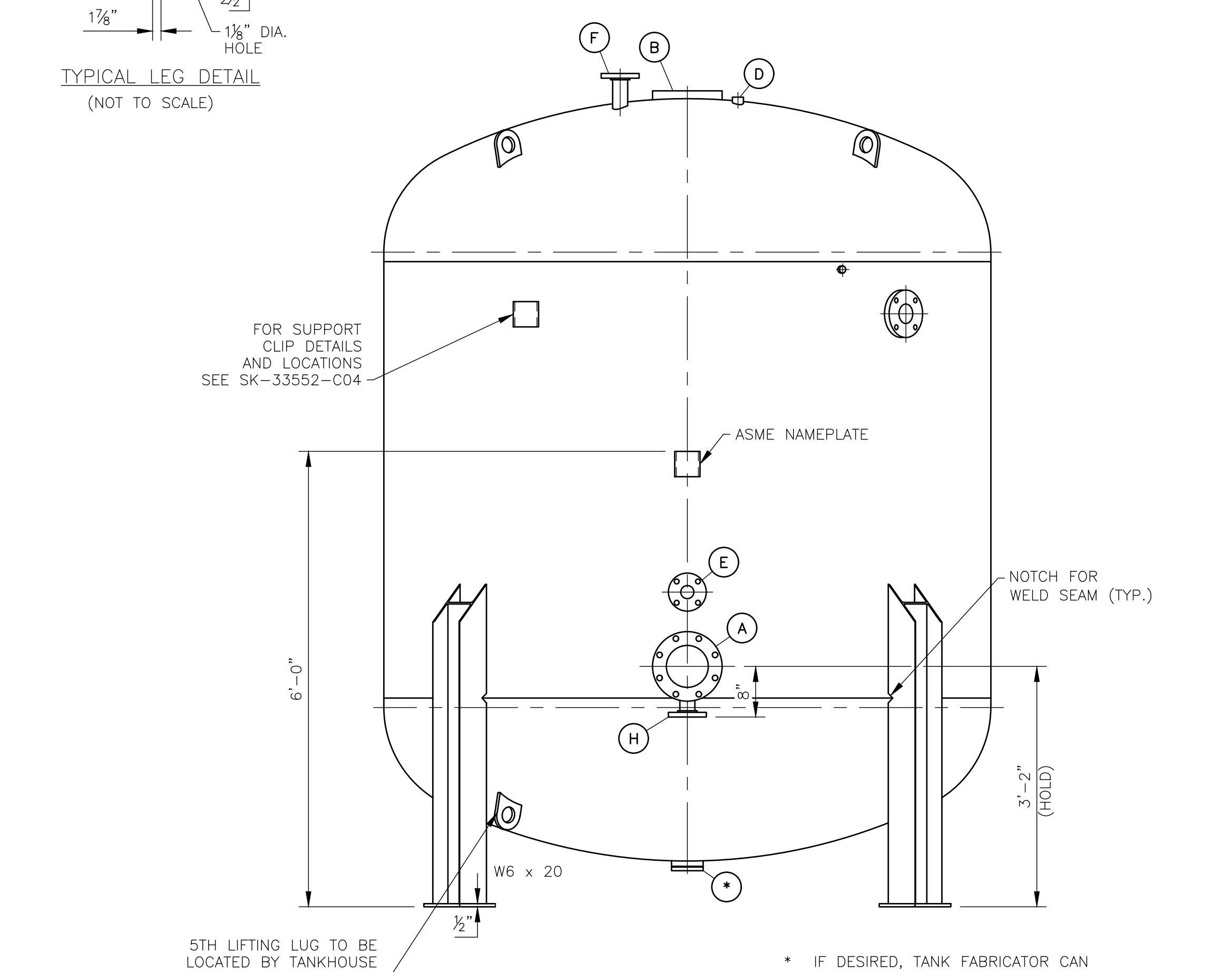
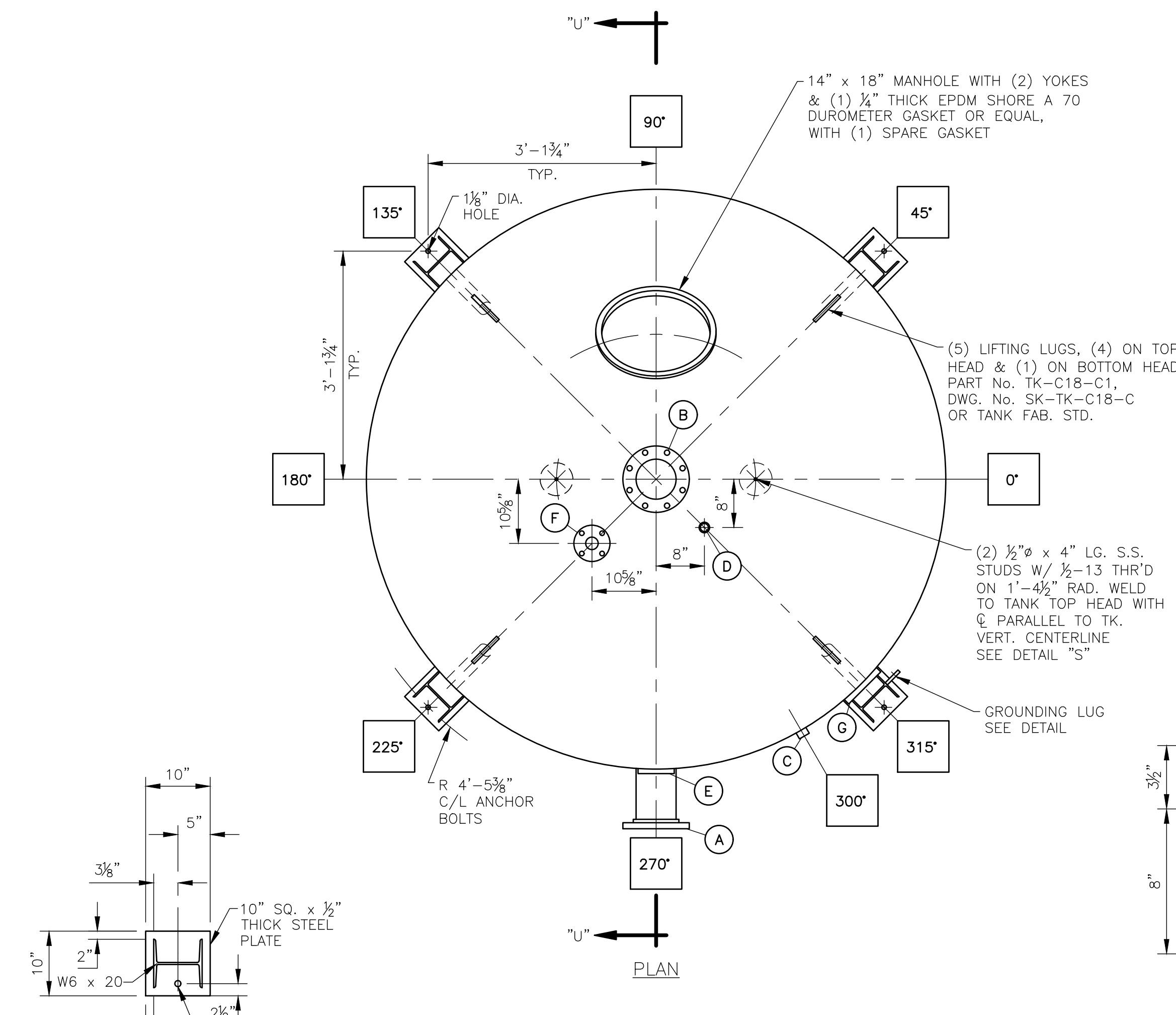
Contract No.: **M-345**
Drawing Series No.: **33552**
Submitted: **February 23, 2024**

REVIEWED REVISE AND RESUBMIT
 REJECTED FURNISH AS CORRECTED

Corrections or comments on shop drawings during this review do not relieve the Contractor from compliance with the drawings and/or specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. The contractor is responsible for: confirming and correlating all dimensions and quantities; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

Date: March 8, 2024 By: Paul Lutzkanin, P.E.

STECKBECK ENGINEERING & SURVEYING, INC.



- NOTES:
- TANK INTERIOR WILL BE UNLINED AND FREE OF GREASE, DIRT, AND DEBRIS
 - TANK EXTERIOR SANDBLASTED PER SSPC-SP6 (COMMERCIAL BLAST CLEANING) AND COATED WITH ONE (1) SHOP COAT OF TNEC HI BUILD EPOXYLINE II SERIES N69F PRIMER, (3.0-5.0 MILS DFT, COLOR-1211 RED). FINISH PAINT TO BE FIELD APPLIED BY GENERAL CONTRACTOR.
 - PROTECT ALL THREADS FROM SANDBLAST OPERATIONS.
 - HEAD/SHELL TO FEATURE BUTT WELD TYPE WELDS IN LIEU OF OFFSET WELDS.

TANK(S):	No. REQ'D.	FOUR	DIA.	96" O.D.
PRESSURE:	DESIGN	100 PSI	TEST	130 PSI
THICKNESS:	HEAD	3/8" NOM.	SHELL	3/8"
RADIUS:	DISH	86.4"	KNUCKLE	16.608"
TANK MATERIAL:	ASME CODE CONSTRUCTION (SEC. VIII WITH STAMP)			
TANK LINING:	NONE			
TANK SUPPORTS:	(4) STRUCTURAL STEEL			
DESIGN TEMP.	150 °F			X-RAY

GENERAL NOTES

FLANGED CONNECTIONS: ALL BOLT HOLES ARE TO STRADDLE CENTERLINE OUTSIDE AND ON CENTERLINE INSIDE UNLESS OTHERWISE NOTED. ALL TAPS ARE 1" DEEP (USEABLE THREAD) UNLESS OTHERWISE NOTED—DO NOT DRILL HOLES THRU PAD! ALL FLANGES ARE TO BE FLAT FACED TYPE. ALL BLIND FLANGES AND MANWAY COVERS REQUIRE PLATED STEEL HARDWARE UNLESS OTHERWISE NOTED.

LINING: PREPARE INTERIOR FOR NONE LINING, PER SPEC. SK-ED- . CARRY LINING THRU ALL OPENINGS AND OVER THE FACE OF ALL FLANGES. DIMENSIONS SHOWN ON THIS DRAWING ARE BEFORE LINING. ADD APPROPRIATE THICKNESS FOR LINING.

EXTERIOR PAINTING: EXTERIOR SURFACES OF TANK ARE TO BE CLEANED BY SEE NOTE 1 PER SPEC. SK-ED-98-1 BEFORE APPLYING SEE NOTE 1

SHIPMENT: ALL FLANGES, COUPLINGS, ENDS OF PIPE, AND MANWAYS SHALL BE PROTECTED FROM DAMAGE DURING SHIPMENT. THE TANKHOUSE SHALL FURNISH NECESSARY COVER PLATES, C.I. CAPS OR PLUGS, AND STUDS, NUTS AND BOLTS TO SECURE COVER IN PLACE BEFORE SHIPMENT IS MADE. ALL DIMENSIONAL TOLERANCES ARE TO BE IN ACCORDANCE WITH DRAWING SK- TK-C22

ATTACHMENT WELDS FOR SUPPORTS OR CONNECTIONS SHALL NOT BE PLACED CLOSER TO THE EDGE OF A WELD IN A MAIN JOINT (LONGITUDINAL OR CIRCUMFERENTIAL) THAN 1/2" FOR PLATES 1/2" THICK OR LESS AND 1" FOR PLATES ABOVE 1/2" THICK.

RUBBER LINER: PAINT IN (-) PLACE(S) ON TANK: "CAUTION LINED TANK, DO NOT WELD".

ALL WELDS TO BE CONTINUOUS UNLESS OTHERWISE NOTED. PROTECT ALL THREADS (MALE & FEMALE) BEFORE SANDBLASTING AND PAINTING.

MARK	CONNECTION TYPE	I.D. OR SIZE	O.D.	THK. OR WGT & TYPE	SCH. PIPE	B.C.	No. HOLES	DIA. HOLES	FLANGED PAD		REMARKS	No. REQ'D	CONNECTION FUNCTION
									OUTSIDE	INSIDE			
(H)	FLANGED NOZZLE	2"	6"	150 LB. STEEL	40	4 3/4"	4	3/4"	-	-	FLAT FACE, SLIP ON FLANGE. SEE DETAIL "V."	1	TANK DRAIN
(G)	FLANGE PAD	3"	7 1/2"	1 1/2"	-	-	-	-	6	4	1" DEEP USABLE THREADS. SEE DETAIL "R."	1	DRAINDOWN
(F)	FLANGED NOZZLE	2"	6"	150 LB. STEEL	40	4 3/4"	4	3/4"	-	-	FLAT FACE, SLIP ON FLANGE. SEE DETAIL "V."	1	AIR PRESSURIZING
(E)	FLANGE PAD	2"	6"	1 1/2"	-	-	-	-	4 3/4"	4	1" DEEP USABLE THREADS. SEE DETAIL "R."	1	AIRWASH INLET
(D)	FULL COUPLING	1"	-	3000 LB. STN. STL.	-	-	-	-	-	-	(THREADED) HALF-IN, HALF-OUT, WELD INSIDE & OUT SEE DETAIL "Q."	1	VENT
(C)	FULL COUPLING	1/2"	-	3000 LB. STN. STL.	-	-	-	-	-	-	(THREADED) HALF-IN, HALF-OUT, WELD INSIDE & OUT SEE DETAIL "Q."	1	TELLTALE
(B)	FLANGED NOZZLE	6"	11"	150 LB. STEEL	-	-	-	9 1/2"	8	3/4"-10	1" DEEP USABLE THREADS. SEE DETAIL "R."	1	INLET
(A)	FLANGED NOZZLE	6"	11"	150 LB. STEEL	-	-	-	9 1/2"	8	3/4"-10	FLAT FACE, SLIP ON FLANGE. SEE DETAIL "W."	1	OUTLET

H&T
PURE WATER

HUNGERFORD & TERRY, Inc.
MANUFACTURERS OF WATER TREATING EQUIPMENT
CLAYTON, NEW JERSEY

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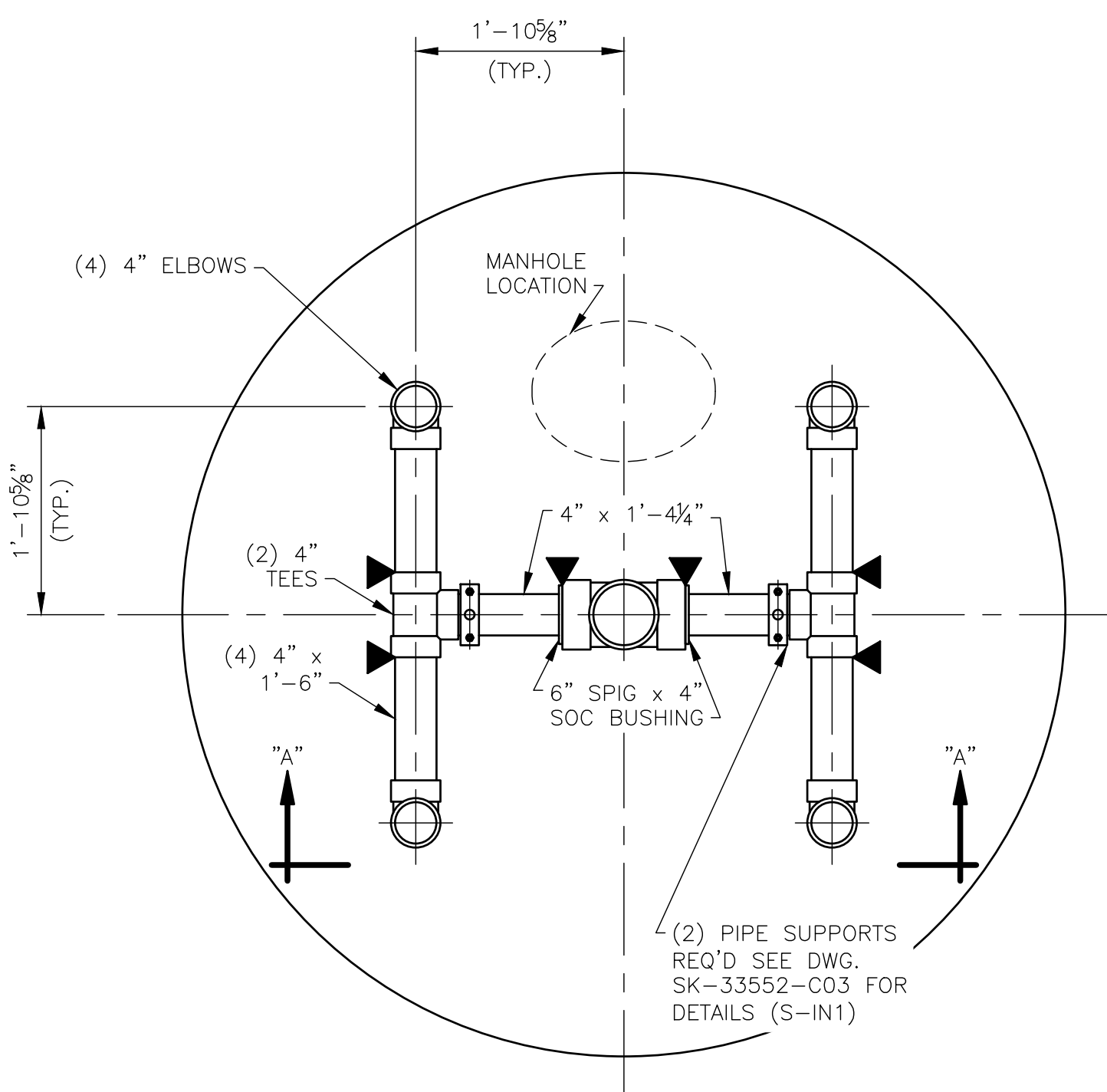
FREDERICKSBURG SEWER & WATER AUTHORITY
FREDERICKSBURG, PA

96" O.D. GREENSANDPLUS FILTERS
TANK DETAILS

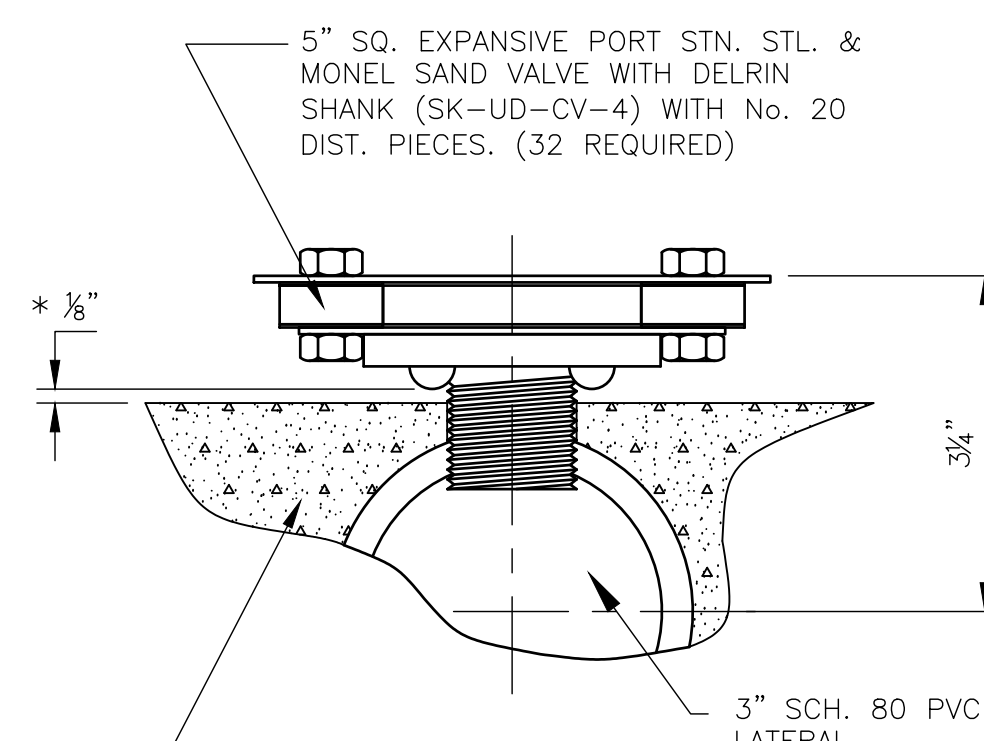
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STARTED	2/22/24	FORM NO.	M-345
FINISHED	2/22/24	CONT NO.	
CHECKED	2/22/24	WIP	
APPROVED			

DRAWING NO.	REV.
33552-A02	0

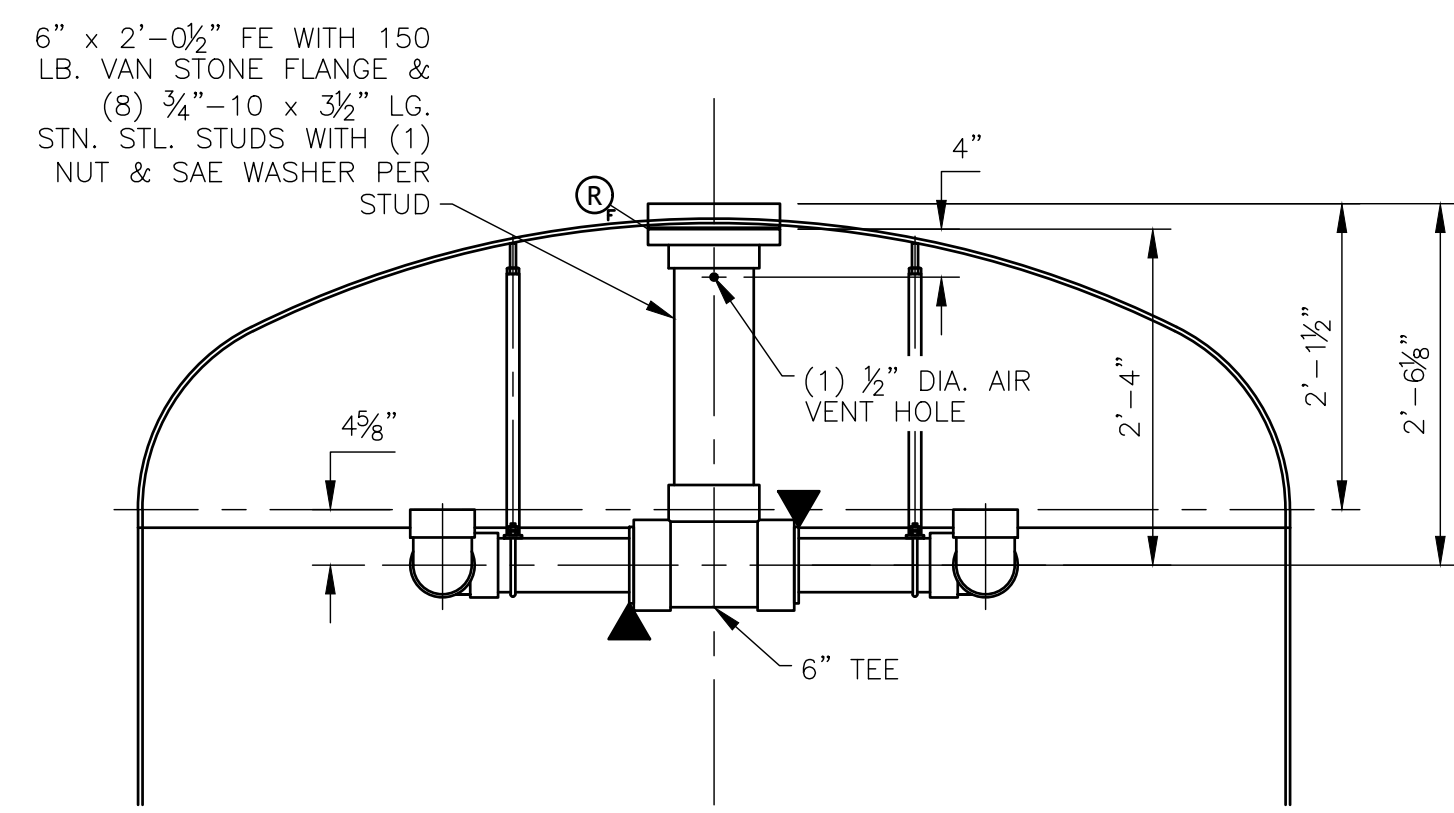
TANK EMPTY WEIGHT: 5400 LBS



INLET DISTRIBUTION SYSTEM
 MATERIAL: SCH. 80 PVC PIPE AND IPEX SCH. 80 S.W. PVC FITTINGS, INSTALLED BY H&T INC.
 (INSTALLED BY GEN. CONTRACTOR)

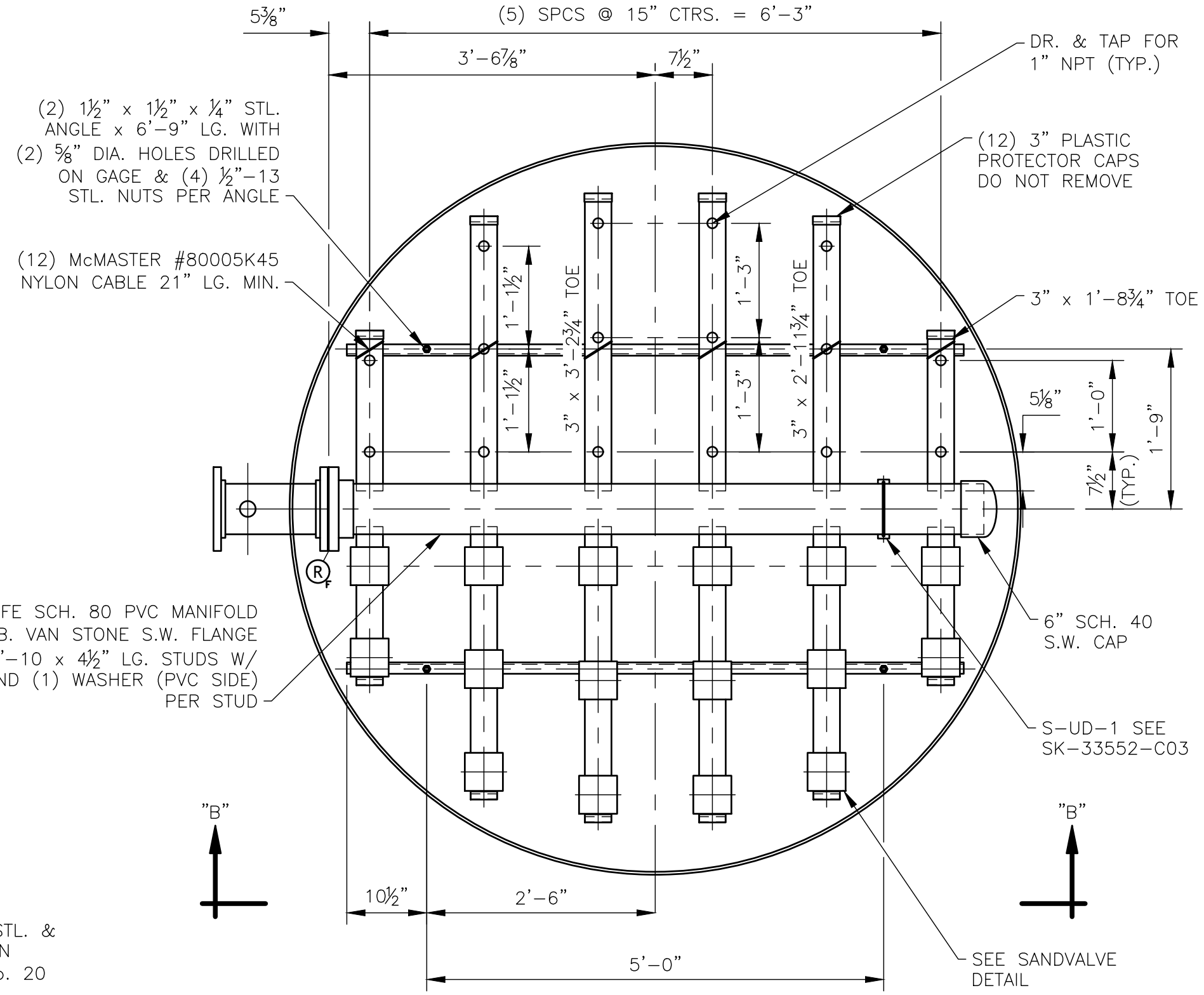


DETAIL "F" NTS
 * MAINTAIN THIS CLEARANCE UNDER ALL SAND VALVES.

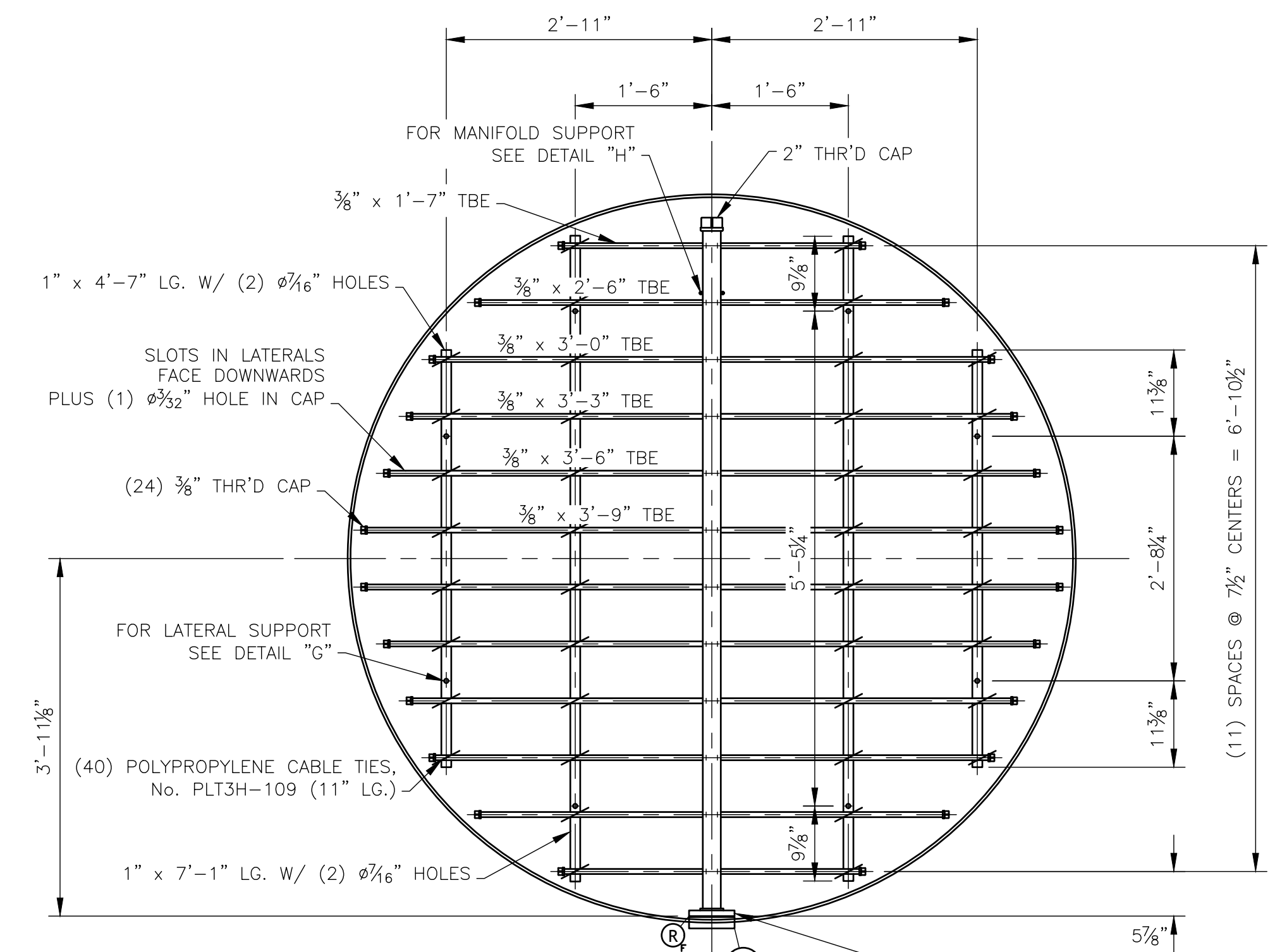


SECTION "A-A"
 (INSTALLED BY GEN. CONTRACTOR)

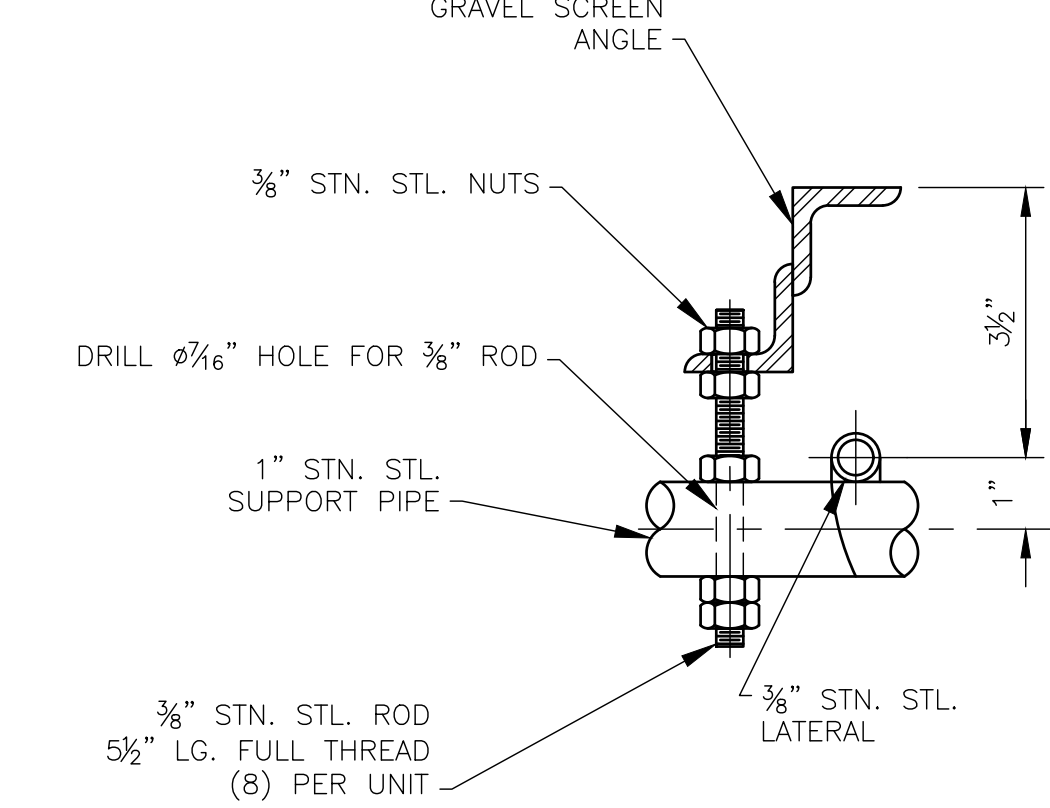
- NOTE:
 1.) (4) SYSTEMS REQUIRED
 (R) 3/8" THICK FULL FACE EPDM (SHORE A) 70 DUROMETER GASKET OR EQUAL.
 ► SHOP ASSEMBLY BREAK-POINT.



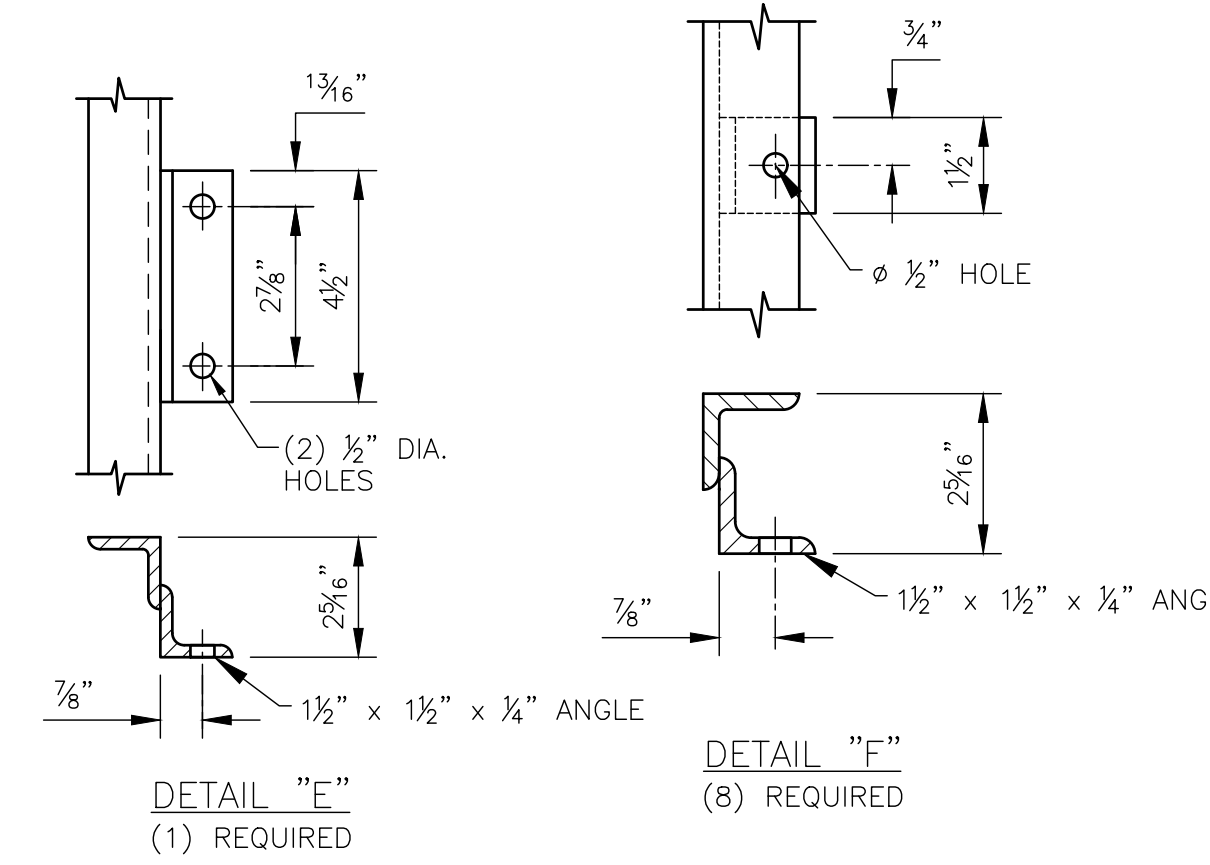
UNDERDRAIN DISTRIBUTION SYSTEM
 MATERIAL: SCH. 80 PVC PIPE WITH 150 LB. SOCKET WELD VAN STONE FLANGE, INSTALLED BY HUNGERFORD & TERRY, INC.



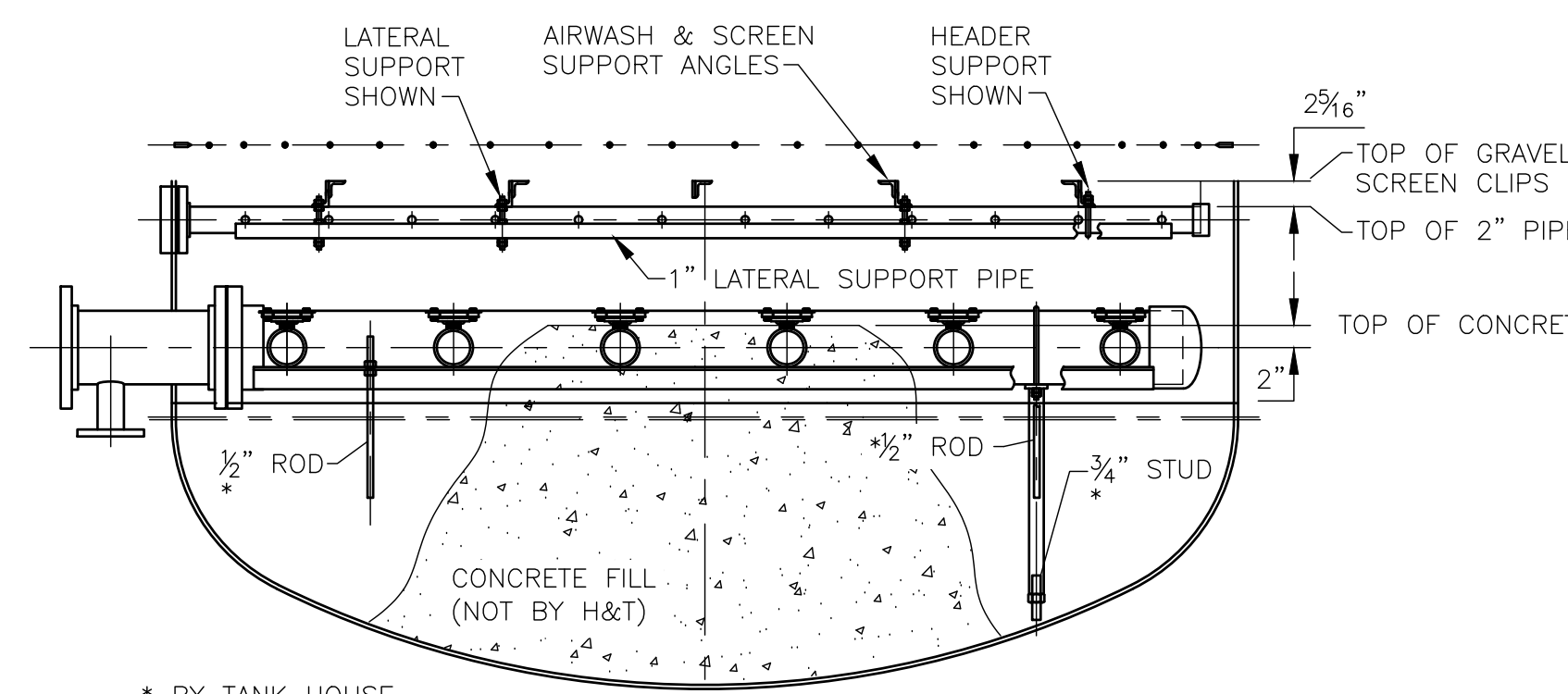
AIRWASH SYSTEM
 MATERIAL: PIPE: SCH. 40 304 STN. STL. FITTINGS: 304 STN. STL. THREADED HARDWARE: 304 STN. STL.
 (R) = 3/8" THK. EPDM FULL FACE DUROMETER 70 (SHORE A) GASKET OR EQUAL
 (INSTALLED BY GEN. CONTRACTOR)



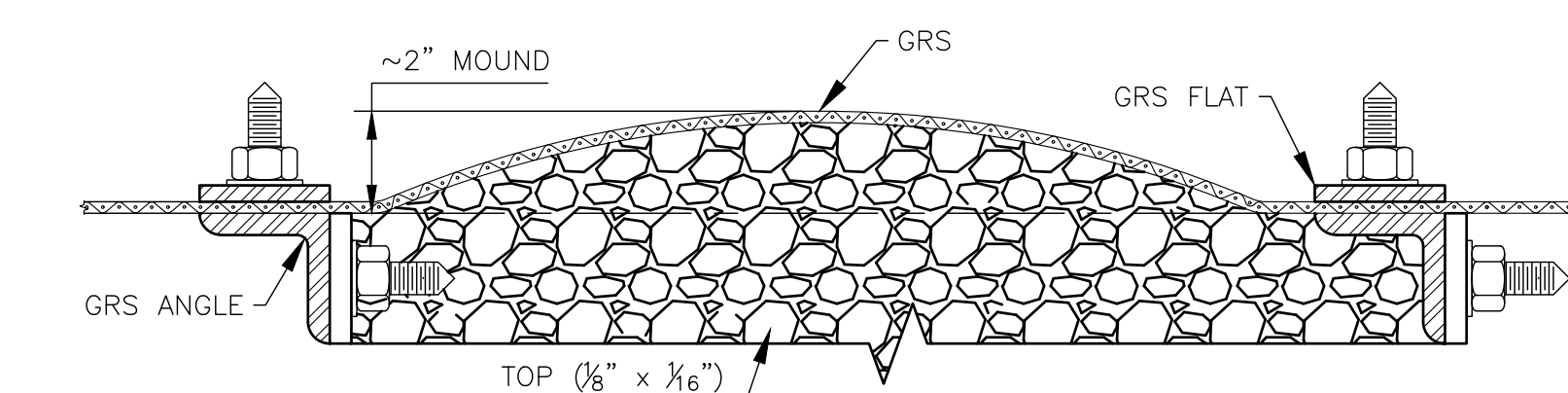
DETAIL "C"



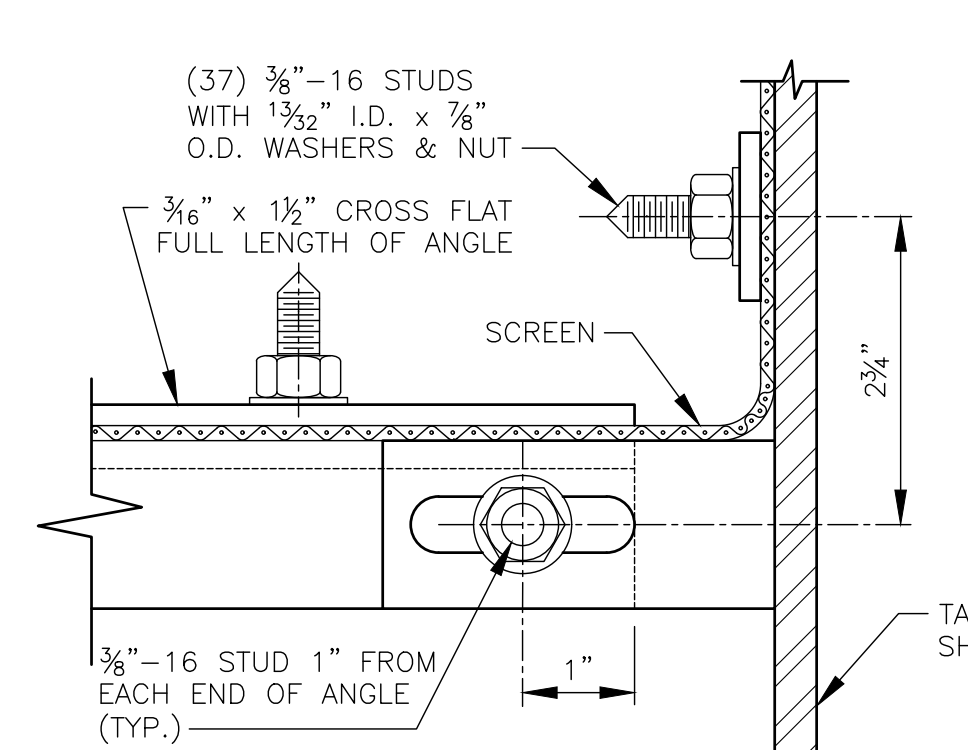
DETAIL "E" (1) REQUIRED
DETAIL "F" (8) REQUIRED



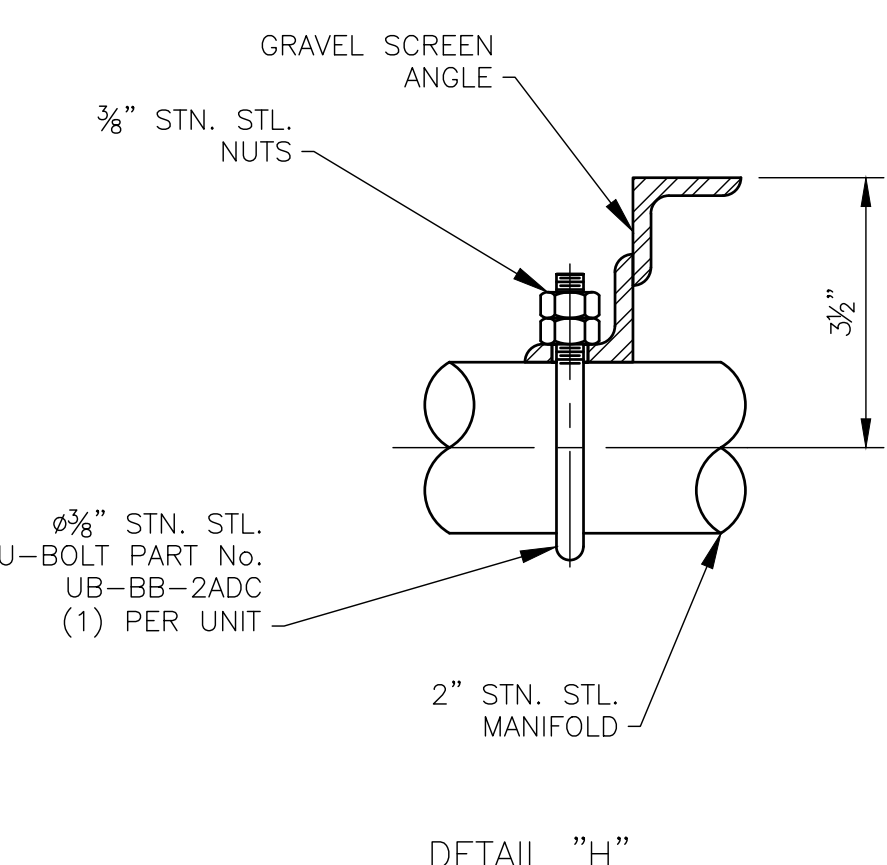
SECTION "B-B"



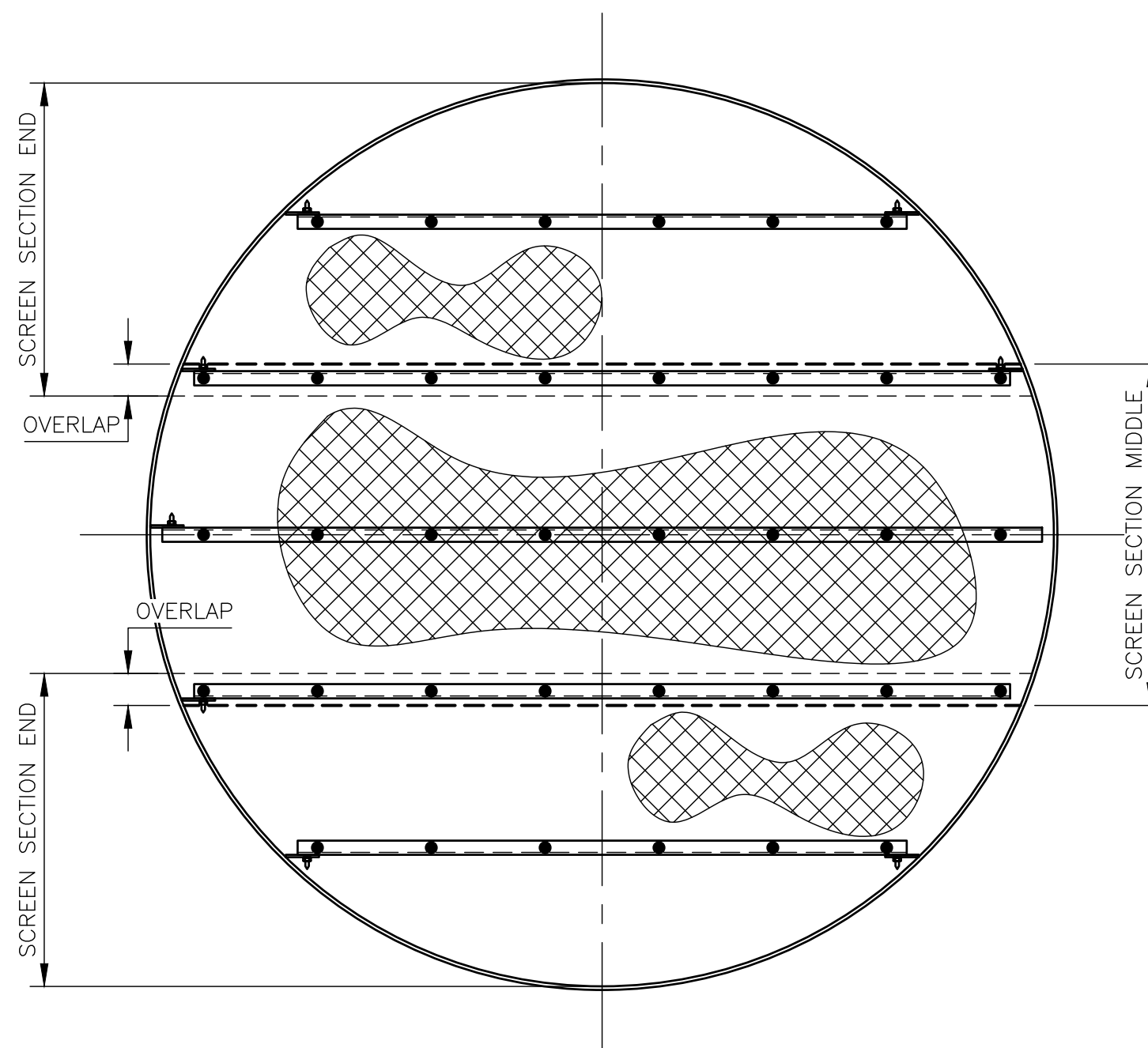
GRAVEL MOUNDING DETAIL



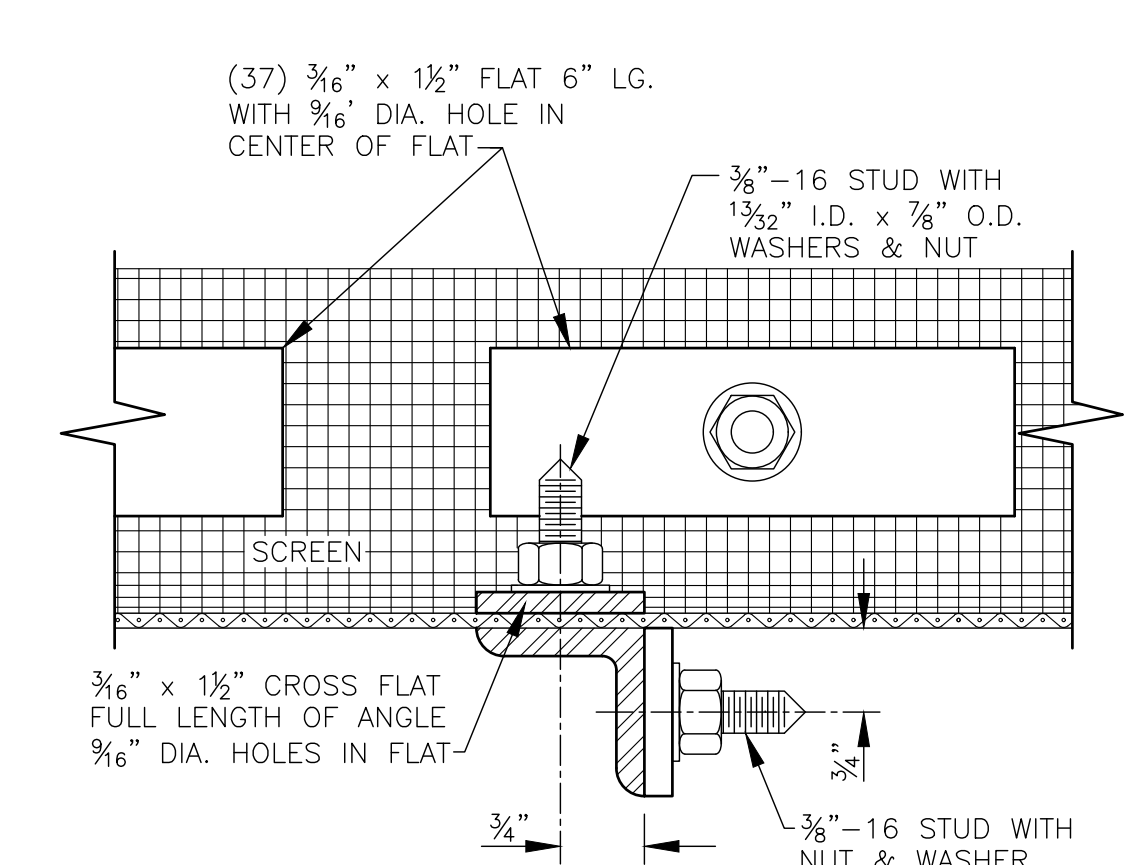
SECTION "C-C"



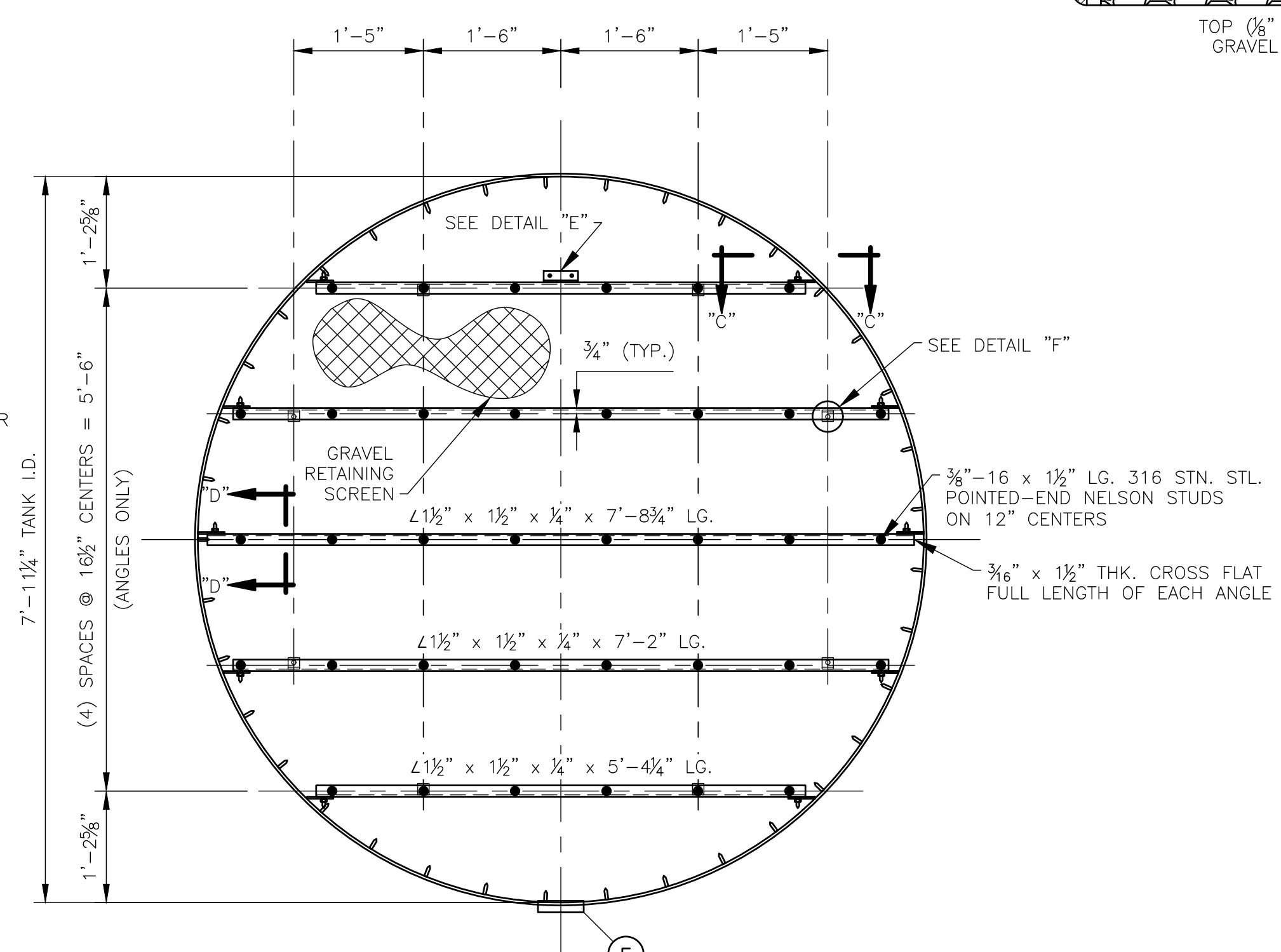
DETAIL "H"



SCREEN LAYOUT



SECTION "D-D"



GRAVEL RETAINING SCREEN

SCREEN DATA
 MATERIAL: 304 STN. STL.
 MESH: 8-8
 WIRE DIA.: 0.028"
 APPROXIMATE OVERLAP: 3"
 THREE (3) SECTIONS

MATERIAL NOTE
 ALL NUTS & WASHERS TO BE 304 STN. STL.
 ALL ANGLES & FLATS TO BE STEEL.
 ALL STUDS TO BE NELSON 316 STN. STL. POINTED END 3/8"-16 x 1/2" LG.
 (4) SYSTEM(S) REQUIRED
 INSTALLED BY: GEN. CONTRACTOR

NO.	REVISIONS	DATE	CK'D

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 MANUFACTURERS OF WATER TREATING EQUIPMENT
 CLAYTON, NEW JERSEY
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FREDERICKSBURG SEWER & WATER AUTHORITY
 FREDERICKSBURG, PA
96" O.D. GREENSANDPLUS FILTER
 INTERNAL DETAILS

DATE	3/22/24	GRV	SCALE	3/4" = 1'-0"
STARTED	3/22/24	GRV	FORM NO.	M-345
FINISHED	3/22/24	GRV	CONT NO.	
CHECKED	3/22/24			
APPROVED				

DRAWING NO. 33552-A03
 REV. 0

HUNGERFORD & TERRY, Inc.

CLAYTON, NEW JERSEY

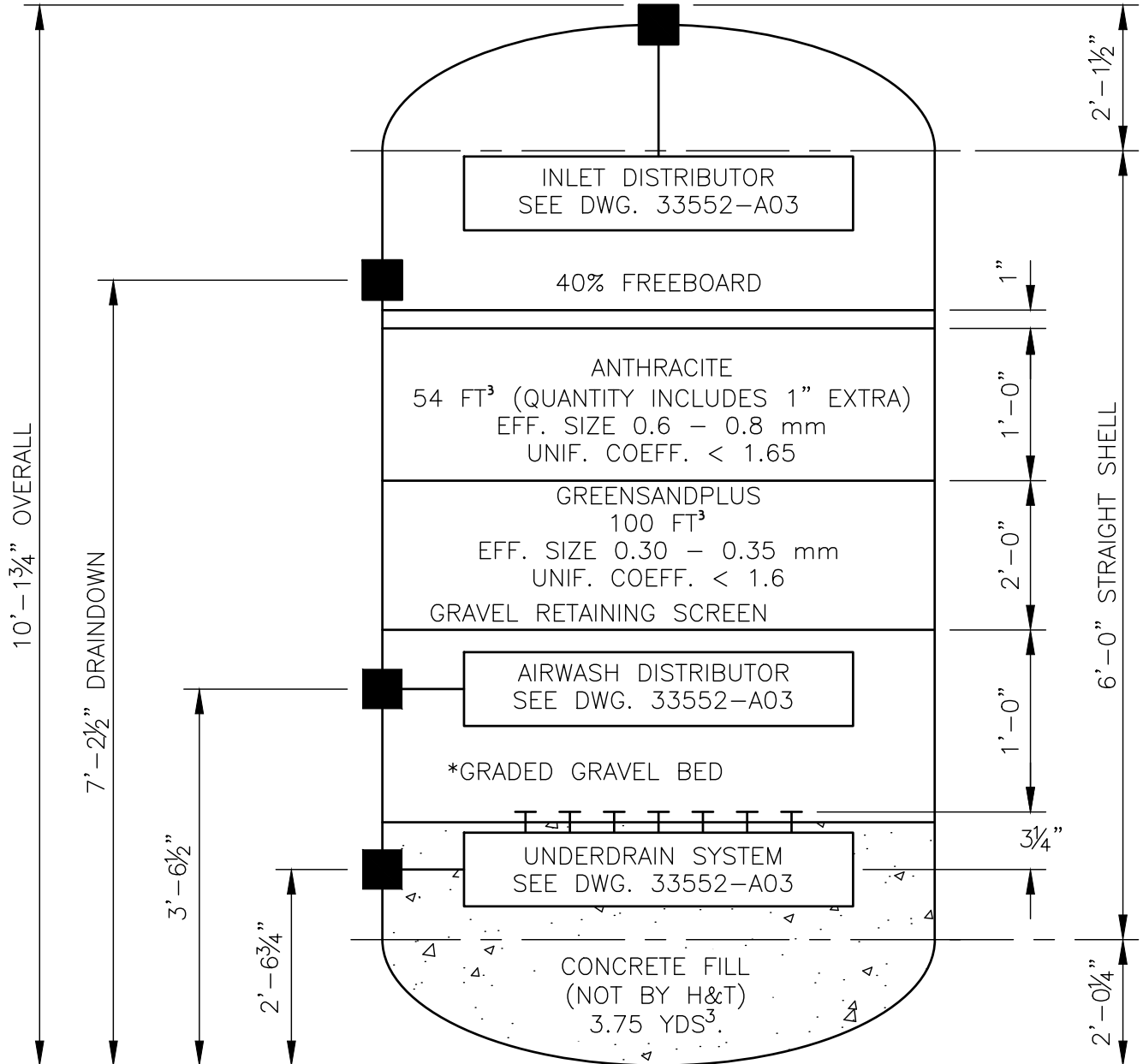
MADE BY GRV
 DATE 2/22/24
 SCALE NONE
 CHECKED WJP
 APPROVED _____

TITLE GREENSANDPLUS FILTER INTERIOR REF.

FORM No. IRF-01

	DEPTH (INCHES)	VOLUME (FT ³)	EXTRA (FT ³)
*GRAVEL BED { 1/8" x 1/16" GRAVEL	3"	13	1
1/4" x 1/8" GRAVEL	3"	13	1
1/2" x 1/4" GRAVEL	1 1/2"	7	-
3/4" x 1/2" GRAVEL	1 1/2"	7	-
1 1/2" x 3/4" GRAVEL	3"	13	1
BELOW S.V. 1 1/2" x 3/4" GRAVEL	1 1/4"	6	-

DIA.: 96" O.D.
 AREA: 49.48 FT²
 No. REQ'D: 4



* 1 1/2" x 3/4" GRAVEL IS TO BE PUT INTO THE TANK FIRST. EACH SUCCESSIVE LAYER SHOULD BE OF SMALLER SIZE GRAVEL UNTIL THE FINAL LAYER OF 1/8" x 1/16" GRAVEL IS PLACED. SEE INSTRUCTION MANUAL.
 ALL MEDIA VOLUMES APPROXIMATE. FILL ACCORDING TO DEPTH, NOT VOLUME LISTED!

			SK 33552-C02
NO.	REVISIONS	DATE	CK'D
			CONT. No. <u>M-345</u>

FORM No. IRF-01

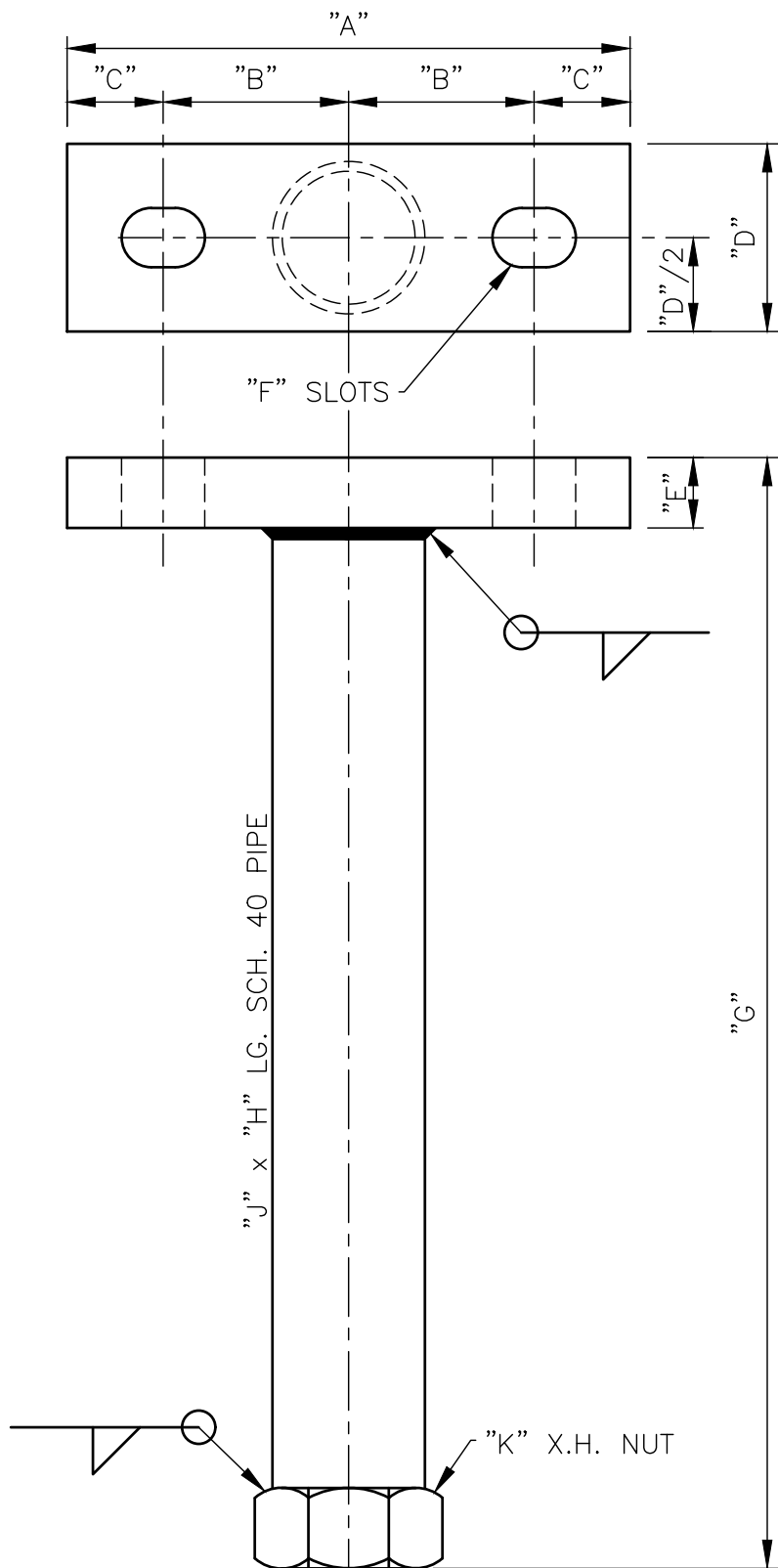
HUNGERFORD & TERRY, Inc.

CLAYTON, NEW JERSEY

MADE BY GRV
 DATE 2/22/24
 SCALE NONE
 CHECKED WJP
 APPROVED _____

TITLE PIPE SUPPORT DETAILS

FORM No. PS-15



SUPPORT No.	A	B	C	D	E	F	G	H	J	K	MATERIAL	U-BOLT # UB-BB-	No. REQ'D
S-IN1	5/8	27/16	1/2	1 1/2	1/4	5/16	2 1/2	2 2/4	3/4	1/2	STN. STL.	4ABC	8
S-UD1	8 3/4	3 9/16	1 3/16	1 1/2	1/4	7/16 x 3/4	18 1/4	19 1/4	1	3/4	STEEL	6ADC	4

NOTE: ALL DIMENSIONS ARE IN INCHES.
 PAINT WITH (2) SHOP COATS OF RED ENAMEL

NO.	REVISIONS	DATE	CK'D	SK 33552-C03
				CONT. No. M-345

FORM No. PS-15