

CALLEGUAS MUNICIPAL WATER DISTRICT  
Thousand Oaks, California

PROJECT NO. 450

FOR THE CONSTRUCTION OF THE  
LVMWD-CMWD INTERCONNECTION

ADDENDUM NO. 4

May 19, 2021

Specifications and Drawings for Project No. 450 are hereby modified as follows:

Item AD4-1 INSERT the following as Section 15050-1.04.CC:

“CC. Submit reinforcement calculations for welded steel pipe to demonstrate compliance with AWWA M11.”

Item AD4-2 REPLACE Section 15050-2.02.B (not including the table) with the following:

“B. Steel pipe cylinders shall comply with AWWA C200, ASTM A53, or ASTM A135. Steel material shall be ASTM A36. The pipe thickness shall be in accordance with AWWA M11, minimum 0.25 inch for buried piping, 0.375 inch thick for exposed piping in all vault and aboveground locations unless noted otherwise. Thicker wall thicknesses shall be provided if required per AWWA M11, C200 and/or C208. All diameters shown on the Drawings shall be considered the nominal diameters of the pipes shown. Pipe cylinders less than 30 inches in diameter shall be constructed such that the steel cylinder outside diameter conforms to ASME B36.10. The following table summarizes the required steel pipe dimensions including wall, lining, and coating thicknesses. These values shall be used unless noted otherwise on the Drawings. With lining and coatings considered, the dimensional information of major steel pipe components are summarized below, with ‘CML/C’ referring to ‘cement mortar lined and coated’ and CML/P referring to ‘cement mortar lined and painted.’”

Item AD4-3 INSERT the following as Section 15050-3.07.D.12:

“At field welded lap joints for pipes 30 inches in diameter and less, construct per CMWD STD DWG No. 212 except that only single welds are required. For pipes larger than 30 inches in diameter, construct per CMWD STD DWG No. 212 with double welds.”

Item AD4-4 INSERT the following as Sections 15050-3.16.B through D:

“B. Wire bonding installed per CMWD STD DWG 922: test weld/braze with a hammer in the presence of the Owner in accordance with the steps in CMWD STD DWG 922.

C. Insulating flange kits installed per CMWD STD DWG 914: test the continuity across each insulated joint in the presence of the Owner using a low-resistance ohmmeter to verify each flanged joint is insulated.

D. After backfilling and compacting the pipeline trench, the Contractor shall demonstrate that the test stations are connected and operating and shall test the wiring in the presence of the Owner at the test stations. Testing shall be conducted by a cathodic protection testing firm with current certification by the National Association of Corrosion Engineers. At a minimum, the testing of the cathodic protection system shall be performed through the use of an ohmmeter between each up-station and down-station ‘test’ wires and ‘bond’ wires.”

Item AD4-5 INSERT the following as Section 16620-2.20.E

“E. All of the cables required for connecting the portable generators to the Generator Connection Box / cam-lock box (CLB) and the shore power and low-voltage alarm receptacles located in the Service Equipment Room, shall be stored on the Generator Cable Storage Trailer specified in Section 11140.”

Item AD4-6 INSERT the attached Exhibit A into Appendix D – Record Drawings, at the end of the Specification No. 504 – Falling Star Turnout (“Oak Park Water Service Meter Station”) Record Drawings.

Item AD4-7 INSERT “Specification No. 504 – Falling Star Turnout (“Oak Park Water Service Meter Station”) Shop Drawings” in Table of Contents for Appendix D – Record Drawings.

Item AD4-8 ADD the following general note to Detail B on Drawing C-09:

“THE 4-INCH NUISANCE WATER LINE CONNECTION TO EXISTING 24-INCH SEWER LINE SHALL BE LOCATED VERTICALLY AT AN ANGLE 45 DEGREES ABOVE HORIZONTAL UNLESS DIRECTED OTHERWISE BY THE OWNER. THE SERVICE SADDLE FOR THE LATERAL CONNECTION SHALL BE FERNCO MODEL TST-4 OR APPROVED EQUAL. SUBMIT TO ENGINEER.”

Item AD4-9 REPLACE Construction Note 26 on Drawing C-17 with the following:

“42 X 4-INCH WELDED STEEL CML/C TEE (PE X PE X FLG). MINIMUM STEEL CYLINDER THICKNESS SHALL BE 0.375 IN. PIPE INSIDE DIAMETER AND CEMENT MORTAR LINING THICKNESS SHALL MATCH EX. 42-INCH LINDERO FEEDER NO. 2 PIPELINE. CEMENT MORTAR COATING THICKNESS SHALL BE 1.5 IN. FOR DATA REGARDING EX. PIPELINE, REFER TO APPENDIX D FOR LINDERO FEEDER NO. 2 PIPELINE FABRICATION AND LINE LAYOUT SHOP DRAWINGS.”

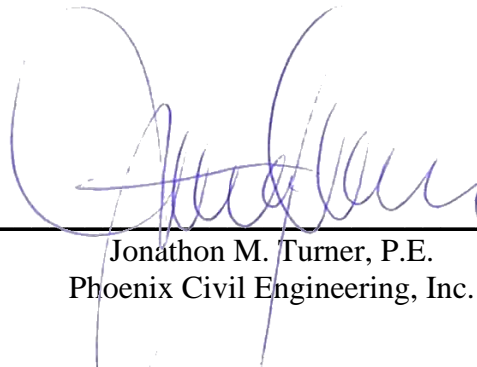
Item AD4-10 Drawing M-12, Detail A: REPLACE the note that reads “CONTRACTOR SHALL FIELD VERIFY MEASUREMENTS AND MANUFACTURE PIPE SPOOLS TO FIT” with the following note:

“CONTRACTOR SHALL FIELD VERIFY MEASUREMENTS AND MANUFACTURE PIPE SPOOLS TO FIT. PIPE INSIDE DIAMETER, CEMENT MORTAR LINING THICKNESS, AND STEEL CYLINDER THICKNESS SHALL MATCH EX. PIPELINE AND FITTINGS. FOR DATA REGARDING EX. PIPELINE AND FITTINGS INSIDE TURNOUT, REFER TO APPENDIX D FOR SHOP DRAWINGS REGARDING SPECIFICATION NO. 504 – FALLING STAR TURNOUT (“OAK PARK WATER SERVICE METER STATION”).”

Item AD4-11 Exhibits H1, H2, H3, H4, and H5 issued in Addendum No. 2 (Dated May 11, 2021): REPLACE the REV. 1 DESCRIPTION in the REVISIONS block with “ADDENDUM NO. 2.”

Item AD4-12 Exhibit H6 issued in Addendum No. 2 (Dated May 11, 2021): Insert “REV. 1” and “ADDENDUM NO. 2” in the REVISIONS block.

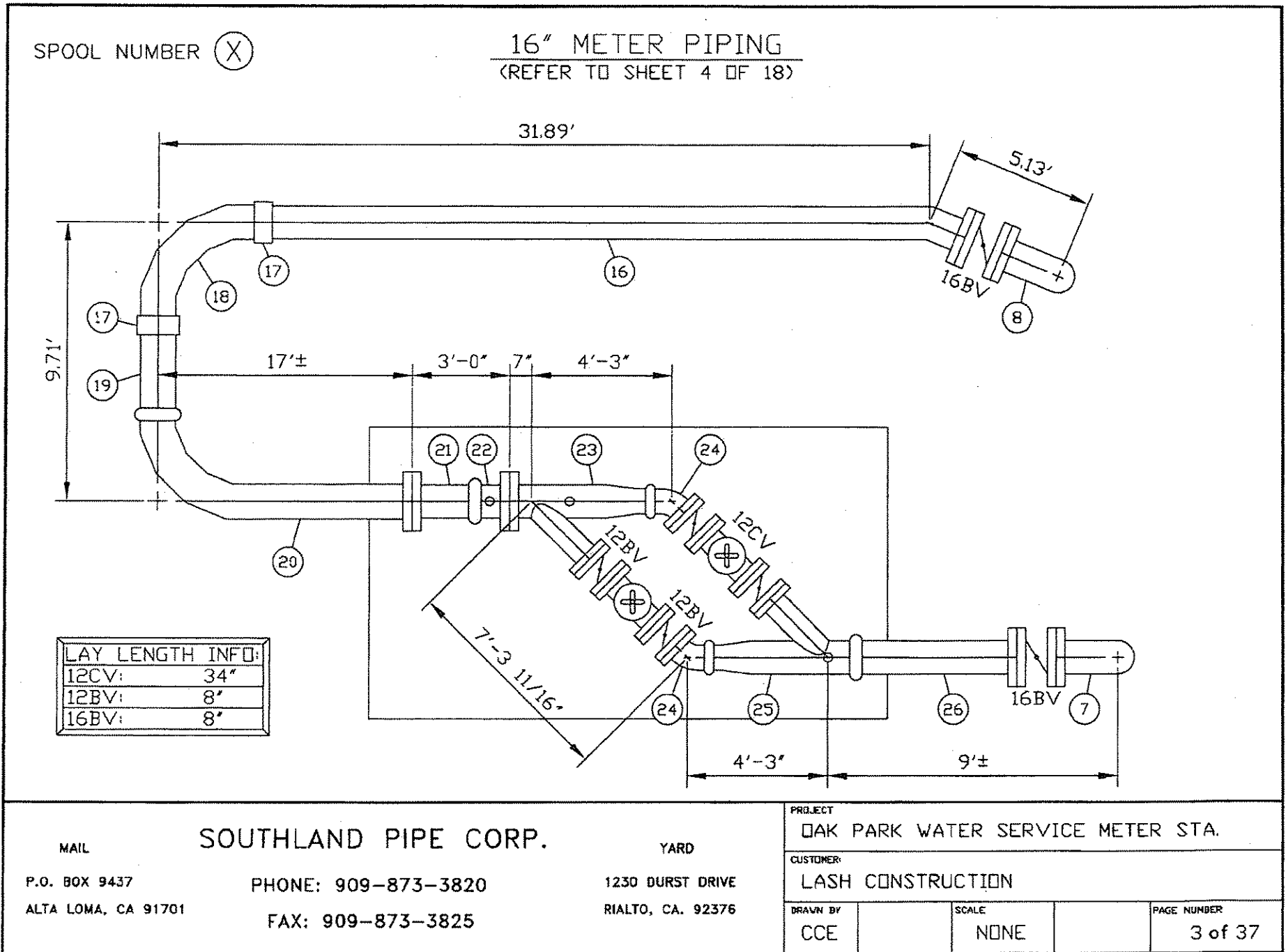
Item AD4-13 This addendum shall be attached to and become part of the Contract Documents (Project No. 450). Bidders shall acknowledge receipt of this Addendum No. 4 on Proposal Page P-2.



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Jonathon M. Turner, P.E.  
Phoenix Civil Engineering, Inc.

END OF ADDENDUM



MAIL

**SOUTHLAND PIPE CORP.**

YARD

P.O. BOX 9437  
 ALTA LOMA, CA 91701

PHONE: 909-873-3820  
 FAX: 909-873-3825

1230 DURST DRIVE  
 RIALTO, CA. 92376

PROJECT

OAK PARK WATER SERVICE METER STA.

CUSTOMER:

LASH CONSTRUCTION

DRAWN BY

CCE

SCALE

NONE

PAGE NUMBER

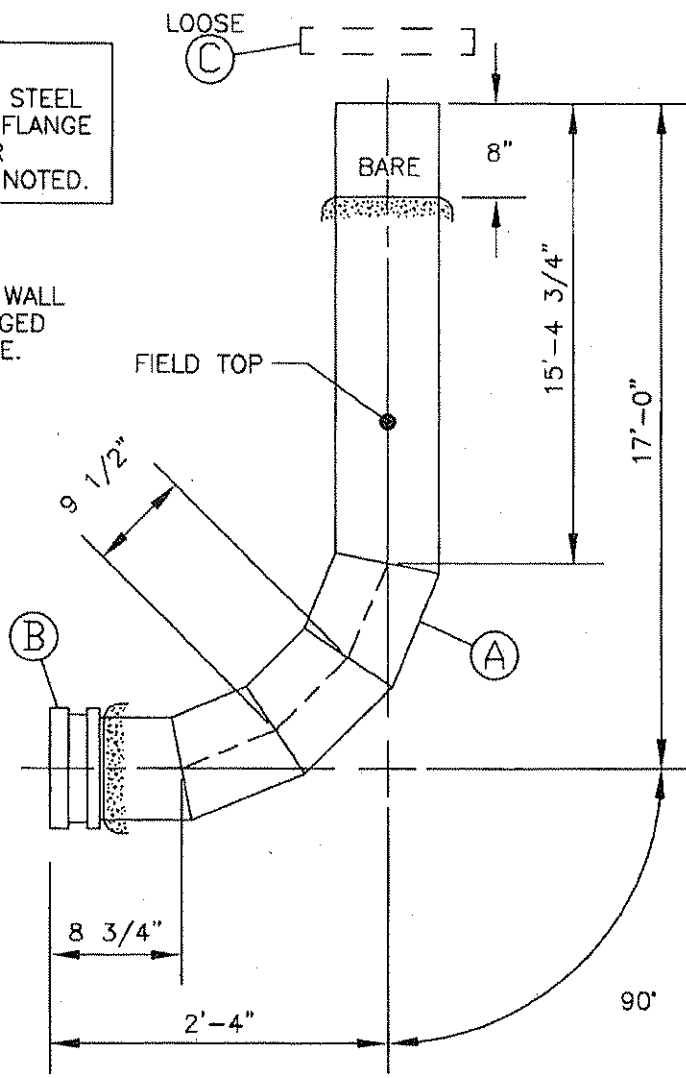
3 of 37

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	17 3/8" OD X 0.250" WALL AWWA C200 PIPE PE X PE
B	1	18" OD X 0.375" WALL AWWA C200 PIPE PE X GE 0'-3" LONG
C	1	16" CLASS D FLANGE W/ 17 1/2" DIA BORE

**NOTE:**  
PAINT ALL EXPOSED STEEL SURFACES (EXCEPT FLANGE FACES) WITH PRIMER UNLESS OTHERWISE NOTED.

**NOTE:**  
LOOSE FLANGE FOR WALL PENETRATION. FLANGED TO BE SHIPPED BARE.

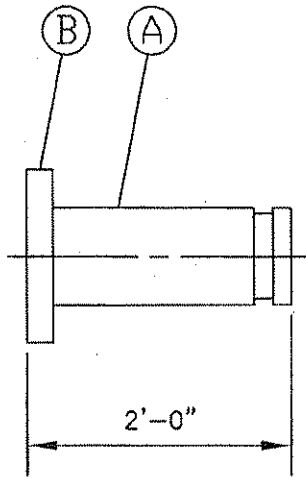


INT. LINING: CEMENT MORTAR	THICKNESS: 1/2"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: CEMENT MORTAR	THICKNESS: 1 1/4"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION		DRAWN BY: CCE	SCALE: NONE
SOUTHLAND PIPE CORPORATION		QUANTITY: 1	SPOOL NO: 20
		WEIGHT EACH:	PAGE NUMBER 26 of 37

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	18" OD X 0.375" WALL AWWA C200 PIPE PE X GE
B	1	16" CLASS D FLANGE W/ 18 1/8" DIA BORE

NOTE:  
 ONLY PRIMER COAT IS PROVIDED. OTHER COATS TO BE DONE AFTER INSTALLATION  
 DUE TO DAMAGE THAT OCCURS DURING SHIPPING AND INSTALLATION.



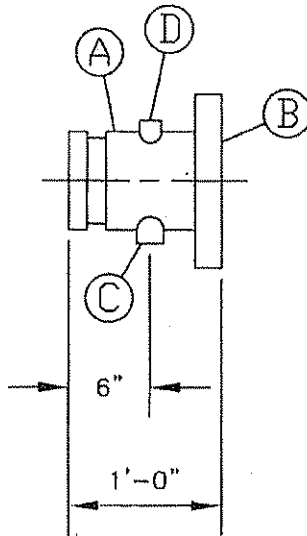
NOTE:  
 INSIDE DIAMETER EQUALS 16.0"

INT. LINING: CEMENT MORTAR	THICKNESS: 5/8"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: EPOXY	THICKNESS: 4-6 MILS	TYPE: DEVOC 233H	SPECIFICATION: AWWA C210
EXT. COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION	DRAWN BY: CCE	SCALE: NONE	
SOUTHLAND PIPE CORPORATION	QUANTITY: 1	SPOOL NO: 21	
	WEIGHT EACH:	PAGE NUMBER 27 of 37	

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	18" OD X 0.375" WALL AWWA C200 PIPE GE X PE 0'-11 1/2" LONG
B	1	16" CLASS D FLANGE W/ 18 1/8" DIA BORE
C	1	2" 3000# HALF COUPLING
D	1	3/4" 3000# HALF COUPLING

NOTE:  
 ONLY PRIMER COAT IS PROVIDED. OTHER COATS TO BE DONE AFTER INSTALLATION  
 DUE TO DAMAGE THAT OCCURS DURING SHIPPING AND INSTALLATION.

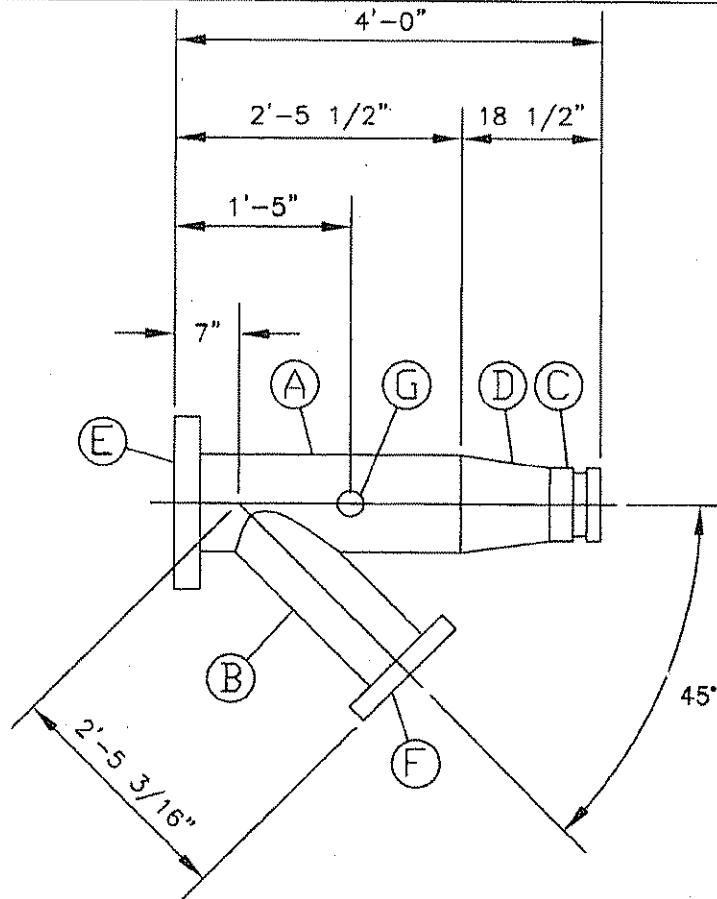


NOTE:  
 INSIDE DIAMETER EQUALS 16.0"

INT. LINING: CEMENT MORTAR	THICKNESS: 5/8"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: EPOXY	THICKNESS: 4-6 MILS	TYPE: DEVCOE 233H	SPECIFICATION: AWWA C210
EXT COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION	DRAWN BY: CCE	SCALE: NONE	
SOUTHLAND PIPE CORPORATION	QUANTITY: 1	SPOOL NO: 22	
	WEIGHT EACH:	PAGE NUMBER 28 of 37	

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	17 3/8" OD X 0.250" WALL AWWA C200 PIPE PE X PE
B	1	12 3/4" OD X 0.250" WALL AWWA C200 PIPE PE X PE
C	1	12 3/4" OD X 0.375" WALL AWWA C200 PIPE PE X GE 2 1/2" LONG
D	1	17 3/4" OD X 12 3/4" OD X 0.250" WALL X 16" LONG CONCENTRIC REDUCER
E	1	16" CLASS D FLANGE W/ 17 1/2" DIA BORE
F	1	12" CLASS D FLANGE
G	1	3" 3000# HALF COUPLING



INT. LINING: CEMENT MORTAR	THICKNESS: 1/2"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: EPOXY	THICKNESS: 4-6 MILS	TYPE: DEVOE 233H	SPECIFICATION: AWWA C210
EXT COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION		DRAWN BY: CCE	SCALE: NONE
SOUTHLAND PIPE CORPORATION		QUANTITY: 1	SPOOL NO: 23
		WEIGHT EACH:	PAGE NUMBER 29 of 37

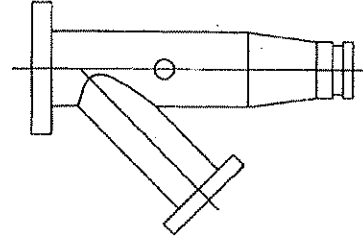


# REINFORCEMENT CALCULATION

**OUTLET REINFORCEMENT CALCULATIONS**  
**AWWA M-11 STEEL PIPE MANUAL**

**GIVEN**

Main Pipe OD (D)            17.375  
 Main Pipe Wall (Ty)        0.25  
 Branch Pipe OD (d)        12.75  
 Branch Pipe Wall (ty)      0.25  
 Deflection Angle            45  
 Design Pressure (P)        150  
 Allowable Stress (fs)      16500



PDV =            2808  
 d/D =            0.734

PDV	d/D	M factor	Reinforcement Type
>6000	all	-	Crotch Plate
4000-6000	>0.7	0.00025 PDV	Wrapper
<4000	>0.7	1	Wrapper
4000-6000	<0.7	0.00025 PDV	Collar
<4000	<0.7	1	Collar

Determine M factor

M =            1 *Input M*

Tr =            0.079  
 tr =            0.058  
 Ar =            1.368  
 Aa =            3.203  
 Aw =            -1.835 Reinforcement Area

w =            9.017  
 T =            -0.102 Min. Reinforcement Thickness  
 Actual T =      0.000 *Input Actual T*

w =            0.000 Reinforcement Width  
 w =            6.011298 Minimum Allowable Width per Geometry  
 Actual w =      0 *Input Actual w*

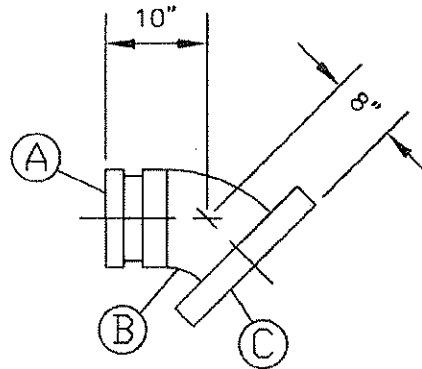
W =            0 Overall Reinforcement Width  
 T =            0.000 Reinforcement Thickness

PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION  SOUTHLAND PIPE CORPORATION	COMPUTED BY: CCE	SCALE: NONE
		SPOOL NO: 23
		PAGE NUMBER 30 of 37

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	12 3/4" OD X 0.250" WALL AWWA C200 PIPE GE X PE 2 1/2" LONG
B	1	12" STANDARD 45° WELD ELBOW
C	1	12" CLASS D FLANGE

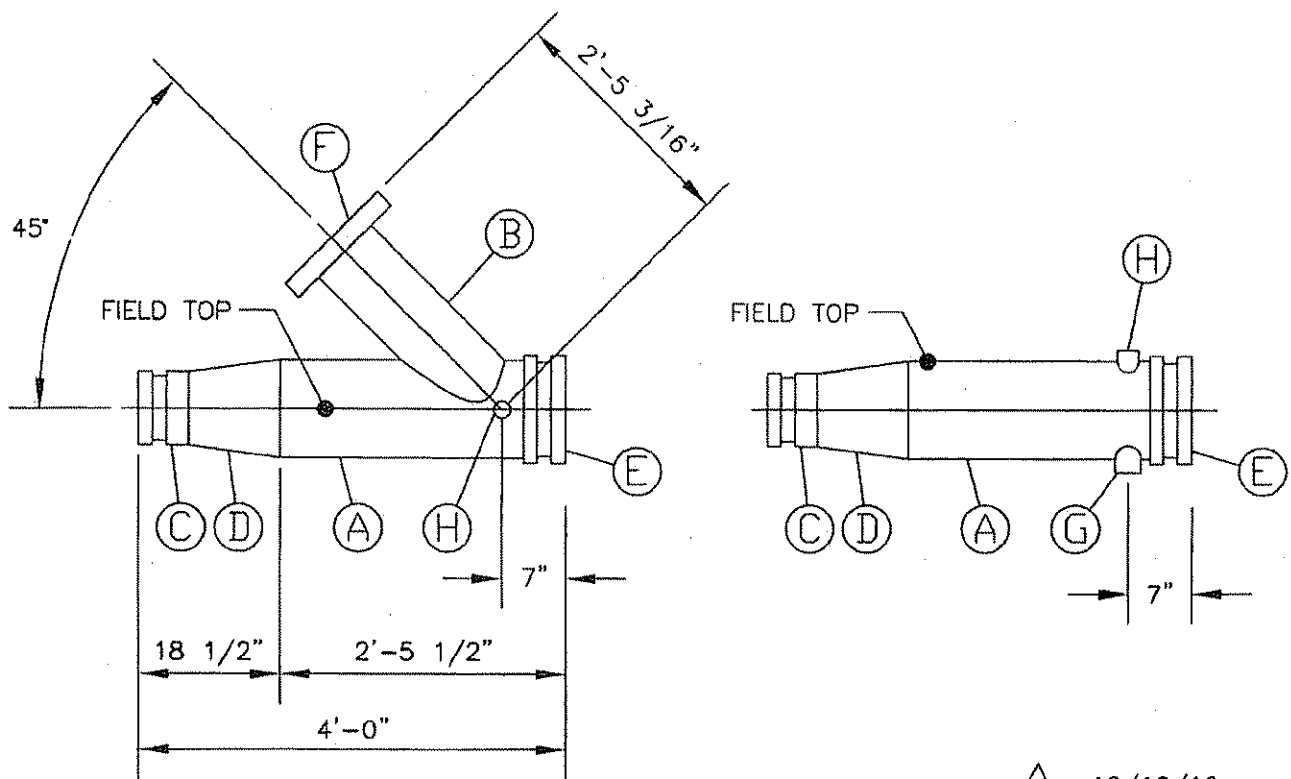
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INT. LINING: CEMENT MORTAR	THICKNESS: 5/16"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: EPOXY	THICKNESS: 4-6 MILS	TYPE: DEVOE 233H	SPECIFICATION: AWWA C210
EXT. COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION	DRAWN BY: CCE	SCALE: NONE	
SOUTHLAND PIPE CORPORATION	QUANTITY: 2	SPOOL NO: 24	
	WEIGHT EACH:	PAGE NUMBER 21 of 37	

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
A	1	17 3/8" OD X 0.250" WALL AWWA C200 PIPE PE X PE
B	1	12 3/4" OD X 0.250" WALL AWWA C200 PIPE PE X PE
C	1	12 3/4" OD X 0.375" WALL AWWA C200 PIPE GE X PE 2 1/2" LONG
D	1	17 3/4" OD X 12 3/4" OD X 0.250" WALL X 16" LONG CONCENTRIC REDUCER
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INT. LINING: CEMENT MORTAR	THICKNESS: 1/2"	TYPE: II	SPECIFICATION: AWWA C205
EXT. COATING: EPOXY	THICKNESS: 4-6 MILS	TYPE: DEVOE 233H	SPECIFICATION: AWWA C210
EXT. COATING:	THICKNESS:	TYPE:	SPECIFICATION:
PROJECT: OAK PARK WATER SERVICE METER STATION LASH CONSTRUCTION	DRAWN BY: CCE	SCALE: NONE	
SOUTHLAND PIPE CORPORATION	QUANTITY: 1	SPOOL NO: 25	
	WEIGHT EACH:	PAGE NUMBER 32 of 37	