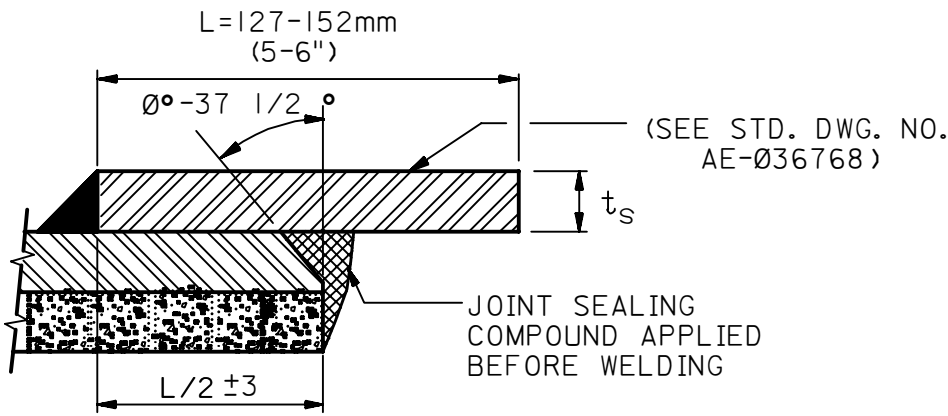


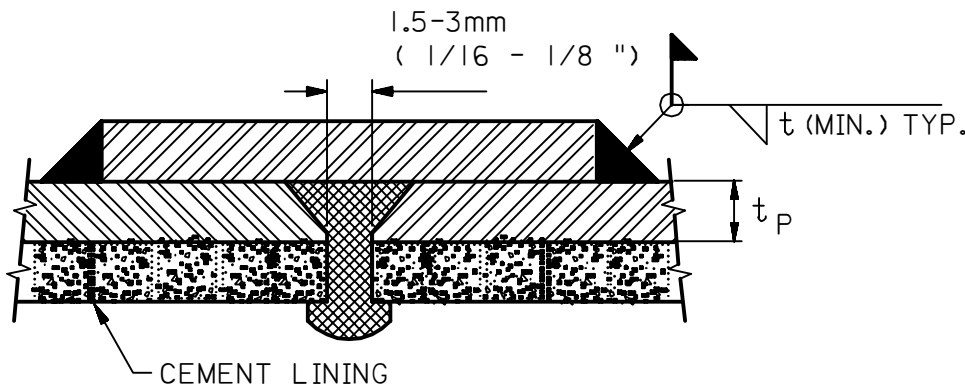
60	100	06090	AB-036090	7	066
PLANT NO.	INDEX	DRAWING NUMBER	REV. NO.	REV. NO.	REV. NO.



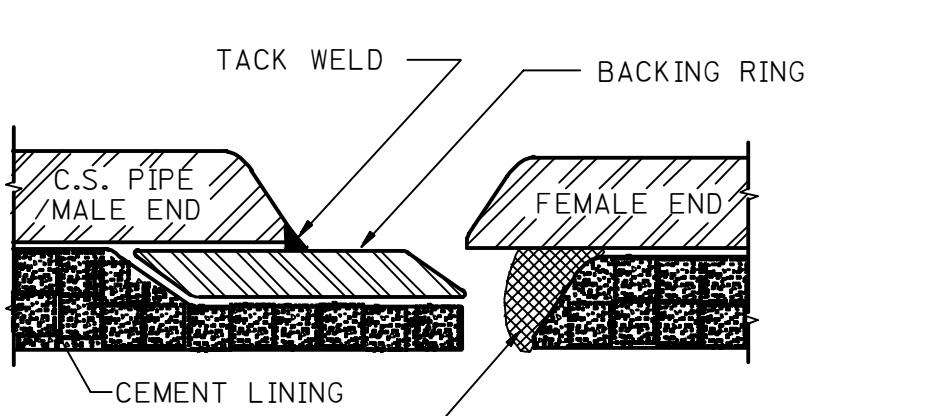
1-A

SLEEVE JOINT

TYPE-1: SLEEVE JOINT METHOD FOR LOW PRESSURE UTILITY. PIPING 24" (CLASS 150 FLANGE & UNDER)

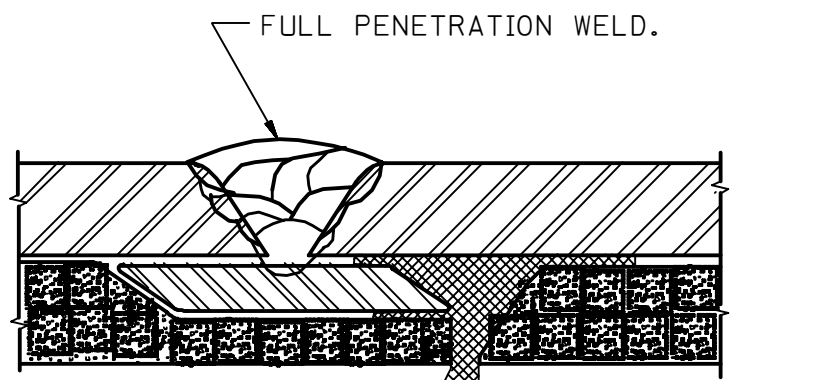


1-B

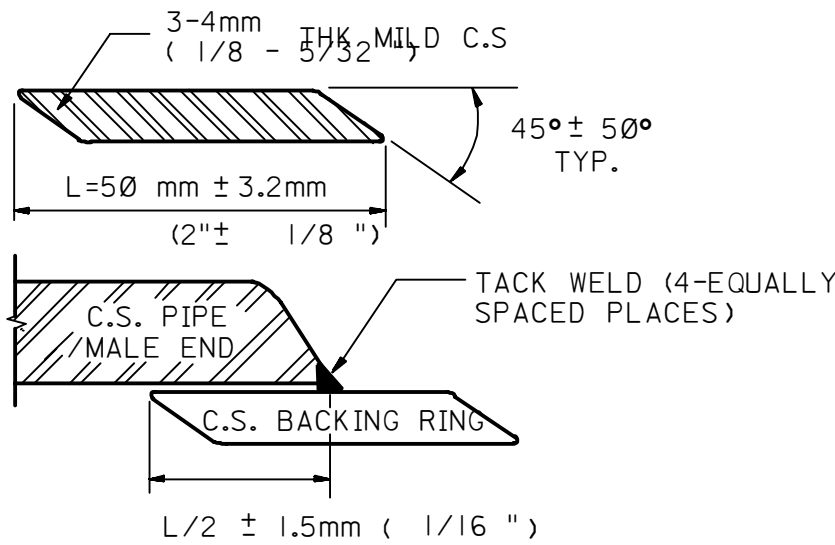


2-A

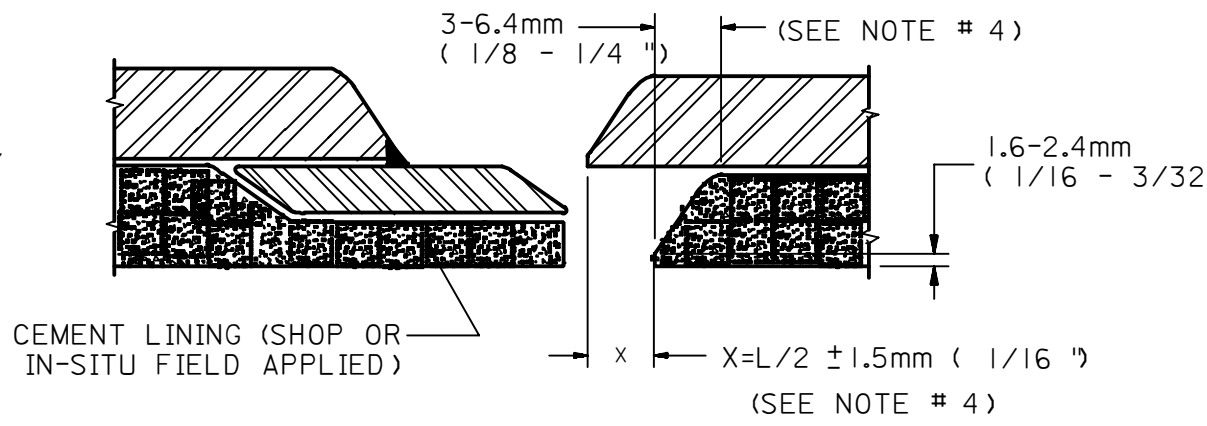
TYPE-2: BACKING RING JOINT METHOD FOR LOW & HIGH PRESSURE SERVICE PIPING 24" & SMALLER (SEE FABRICATION STEPS BELOW)



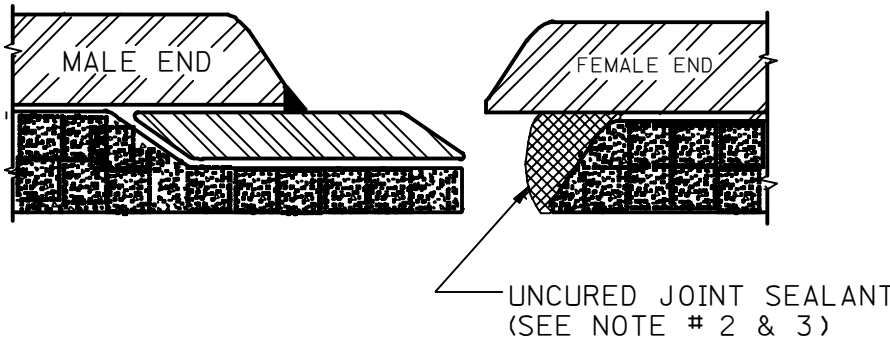
2-B



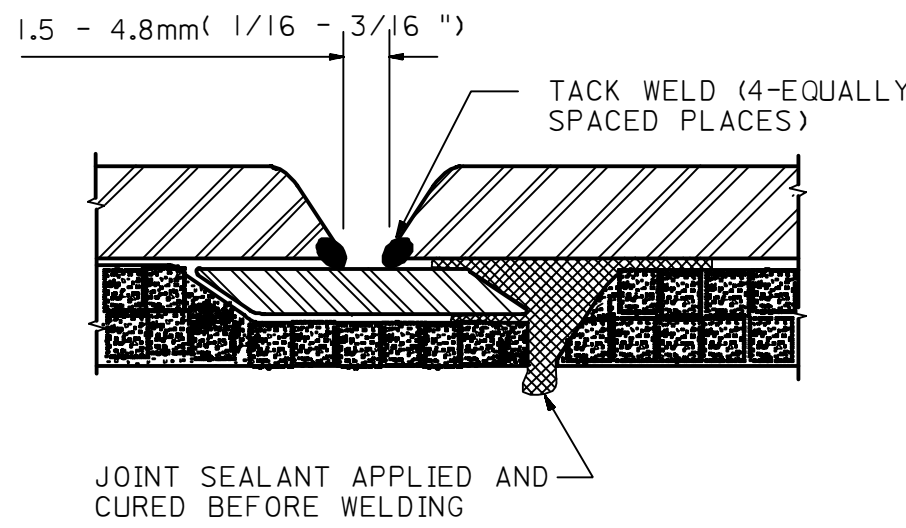
STEP. NO. 1



STEP. NO. 2

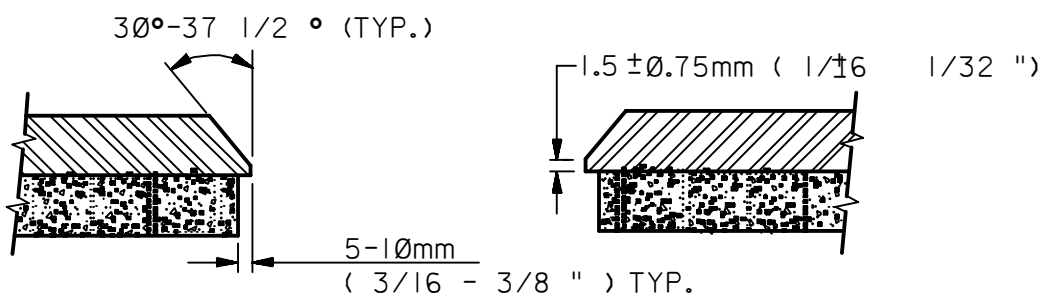


STEP. NO. 3

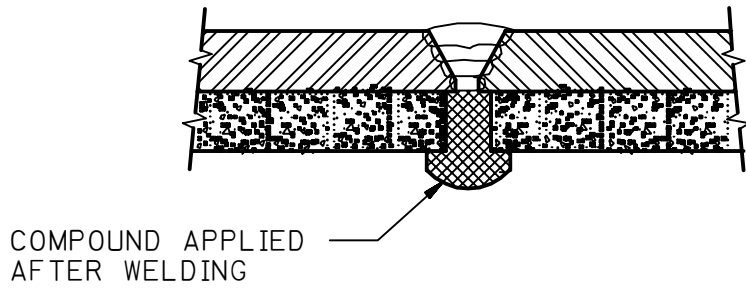


STEP. NO. 4

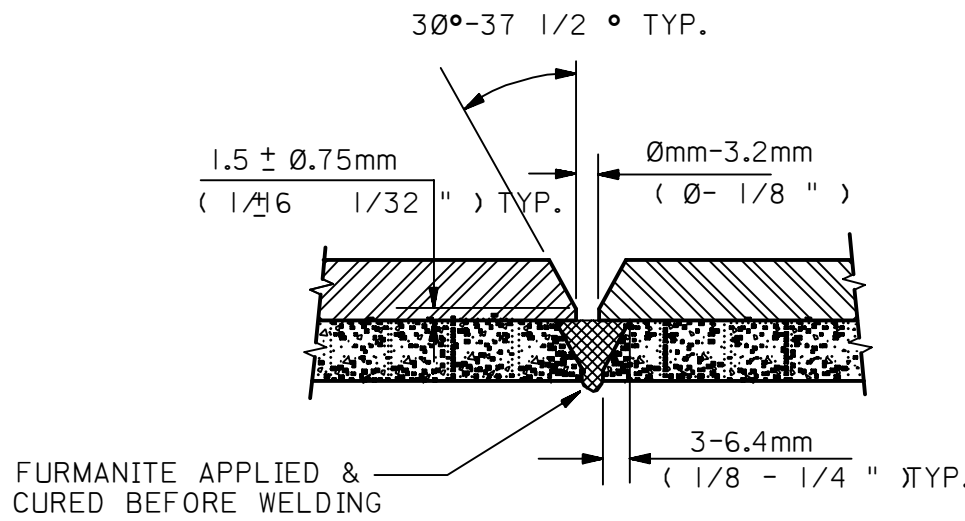
FABRICATION STEPS OF TYPE-2 JOINT



3-A

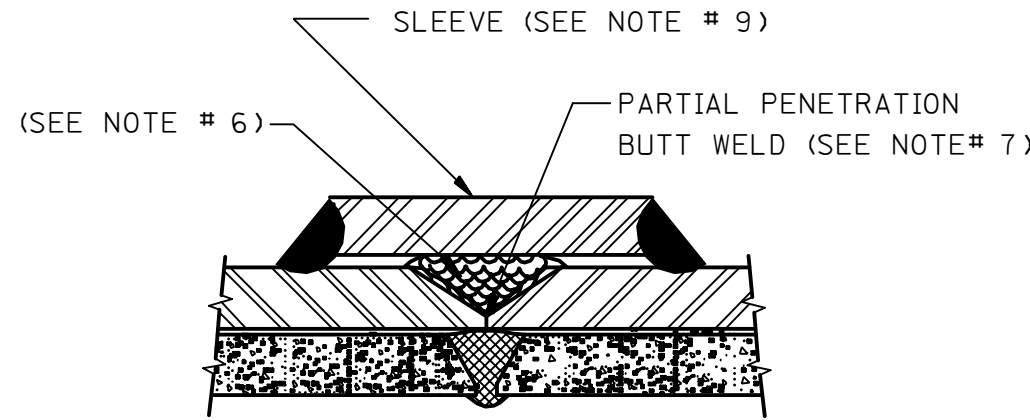


3-B



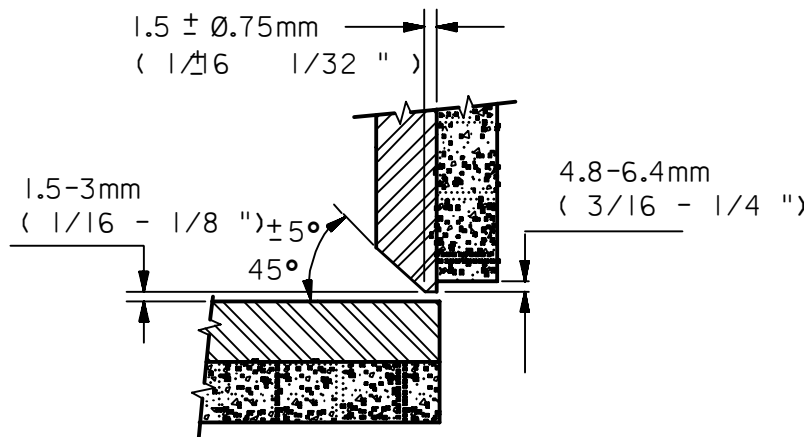
4-A

TYPE-4 : SLEEVED JOINT METHOD OF INSERT SPOOL TIE-IN WELDS OF PARTIALLY EXCAVATED BURIED LINES IN HIGH PRESSURE SERVICE 24" & SMALLER.

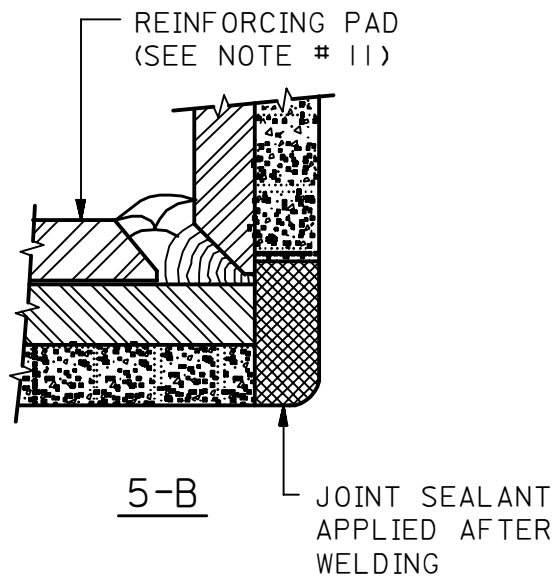


4-B

TYPE 3 : BUTT-WELDED JOINT + COMPOUND (FOR PIPE LARGER THAN 24")

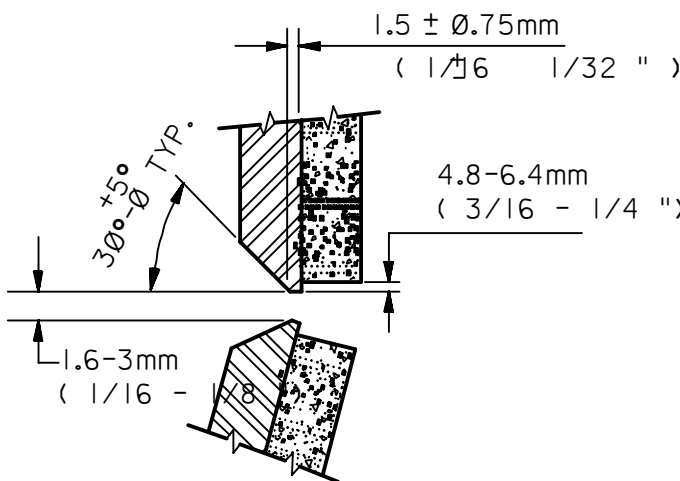


5-A

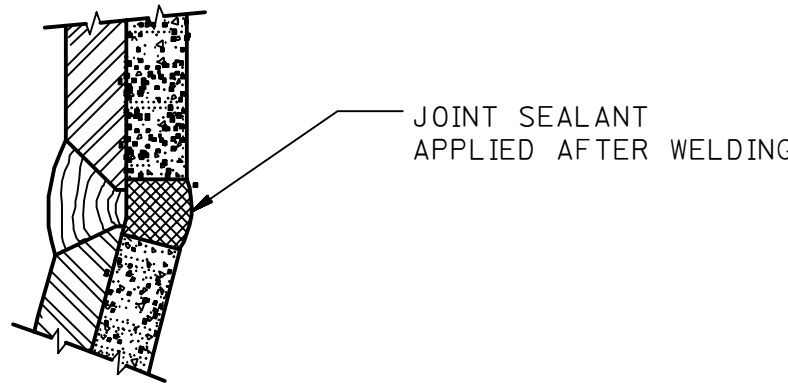


5-B

TYPE 5 & 6 : TYPICAL JOINT PREPARATION FOR BRANCH CONNECTIONS (SEE NOTES #10)



6-A



6-B

NOTES:

GENERAL NOTES

- A- JOINTS PREPARATION & B- JOINT FABRICATION
- ACCEPTABLE JOINT SEALING COMPOUNDS ARE:
 - HEMPEL'S EPOXY KNIFING FILLER # 355-SA CURING AGENT # 955-SA; S/N09-239-660. APPROVED FOR BOTH POTABLE AND NON-POTABLE WATER SERVICE. RECOMMENDED FOR JOINTS TYPES-1, 2, 3 & 5.
 - X-PANDO/FURMANITE (FCE) SPECIAL NO.2 PIPE JOINT COMPOUND. APPROVED FOR INDUSTRIAL WATER SERVICE ONLY. RECOMMENDED FOR JOINTS TYPE-2, 3, 4, & 5. TO BE ADDED TO SAMS STOCK. CURRENTLY AVAILABLE FROM: FURMANITE ENGINEERING LIMITED, FURMAN HOUSE, SHAP ROAD, KENDAL, CUMBRIA LA9 6RU, ENGLAND. TEL: (0539) 729009. FAX: (0539) 734790.
- JOINTS SEALING COMPOUNDS SHALL BE MIXED, CURED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. WHERE FURMANITE COMPOUND IS APPLIED, JOINT ENDS OF THE CEMENT LINING ONLY, SHALL BE WETTED WITH WATER BEFORE APPLYING THE COMPOUND.
- CUTTING BACK AND BEVELING THE CEMENT LINING SHALL BE DONE BEFORE THE LINING IS FULLY CURED.
- SLEEVE FABRICATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING NO. L-AE-036768.
- REINFORCEMENT OF THE PIPE LONGITUDINAL SEAM WELD MAY BE GROUND FLUSH TO FACILITATE SLEEVE INSTALLATION.
- A MAXIMUM OF 1.6mm (1/16") SUCK-BACK OR INCOMPLETE PENETRATION OR THE ROOT BEAD OF THE SLEEVED JOINT OF TYPE-4B, IS ACCEPTABLE. HOWEVER, THE JOINT MUST BE CRACK FREE BASED ON 100% RADIOGRAPHY.
- UNLESS SPECIFIED OTHERWISE, WELD QUALITY SHALL MEET THE REQUIREMENTS OF ANSI B31.3 FOR FLUID "D" SERVICE.
- SLEEVE MATERIAL AND THICKNESS OF TYPE-4 JOINT SHALL BE THE SAME AS THAT OF THE HEADER PIPE OR ITS EQUIVALENT.
- FIELD INSTALLATION OF SMALL BORE BRANCH CONNECTIONS SHALL BE MADE AS CLOSE TO THE END OF THE HEADER PIPE AS POSSIBLE TO ALLOW HAND APPLICATION OF JOINT SEALING COMPOUND AFTER WELDING.
- BRANCH CONNECTIONS 50mm (2-INCHES) AND LARGER SHALL BE REINFORCED AS REQUIRED BY SAES-L-004, PARA 6.2 AND STANDARD DRAWING L-AB-036719.
- MAXIMUM INTERPASS WELDING TEMPERATURE SHALL NOT EXCEED 350° F.

TYPICAL INSTALLATION DRAWING

SCALE: _____					
09	12-02-97	HRD	REDRAWN, REVISED AND CHANGED DRAWING SIZE FROM D TO B.		
08	11-29-86	RLO	REDRAWN, REVISED AND ADDED TYPICAL INSTALL. DRAWING.		
REV. NO.	DATE	JO/EWO	DESCRIPTION	ENGG. CERT.	PMT OPRNS.
THIS REVISION IS NOT TO BE USED FOR CONSTRUCTION UNTIL CERTIFIED AND DATED.			DESIGN REVIEW FOR CERTIFICATION KEY DRAWINGS		
DESIGN CERTIFICATION					
DRAWN BY _____			CHECKED BY _____		
DATE STARTED _____			DATE COMPLETED _____		
DISCIPLINE ENGINEER _____			PROJECT ENGINEER _____		
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL CERTIFIED AND DATED.			CERTIFIED BY: _____ (NAME) SIGNATURE _____ DATE _____		
SAUDI ARABIAN OIL COMPANY					
REVIEW FOR KEY DRAWINGS			REQUIRED ☐ NOT REQUIRED ☐		
CONSTRUCTION AGENCY _____			OPERATIONS _____		
OTHER _____			DRAWING TYPE _____		
JOINTS FOR CEMENT LINED PIPE					
STD. DWG.					
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.	
990	L	AB-036090	001	09	