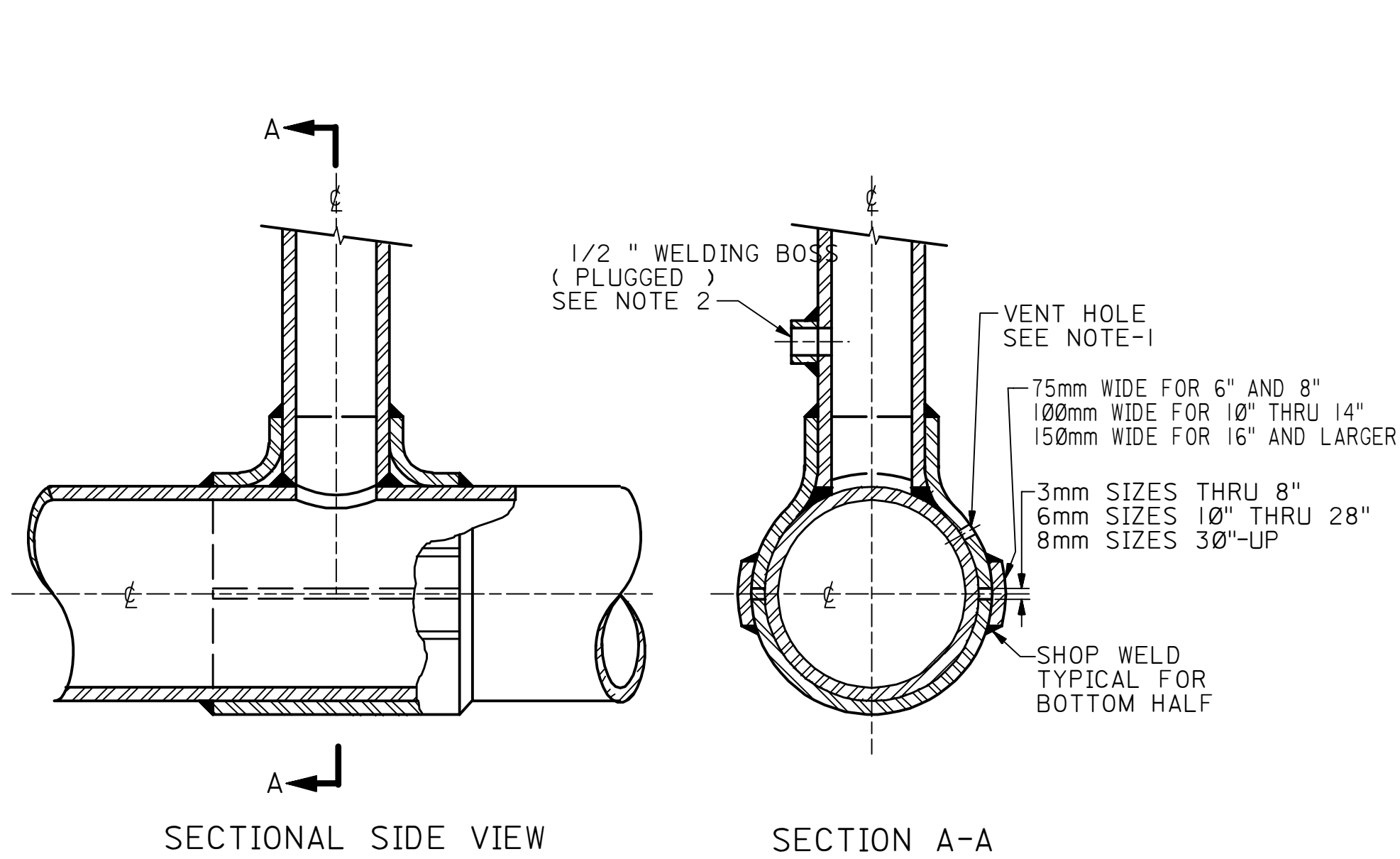
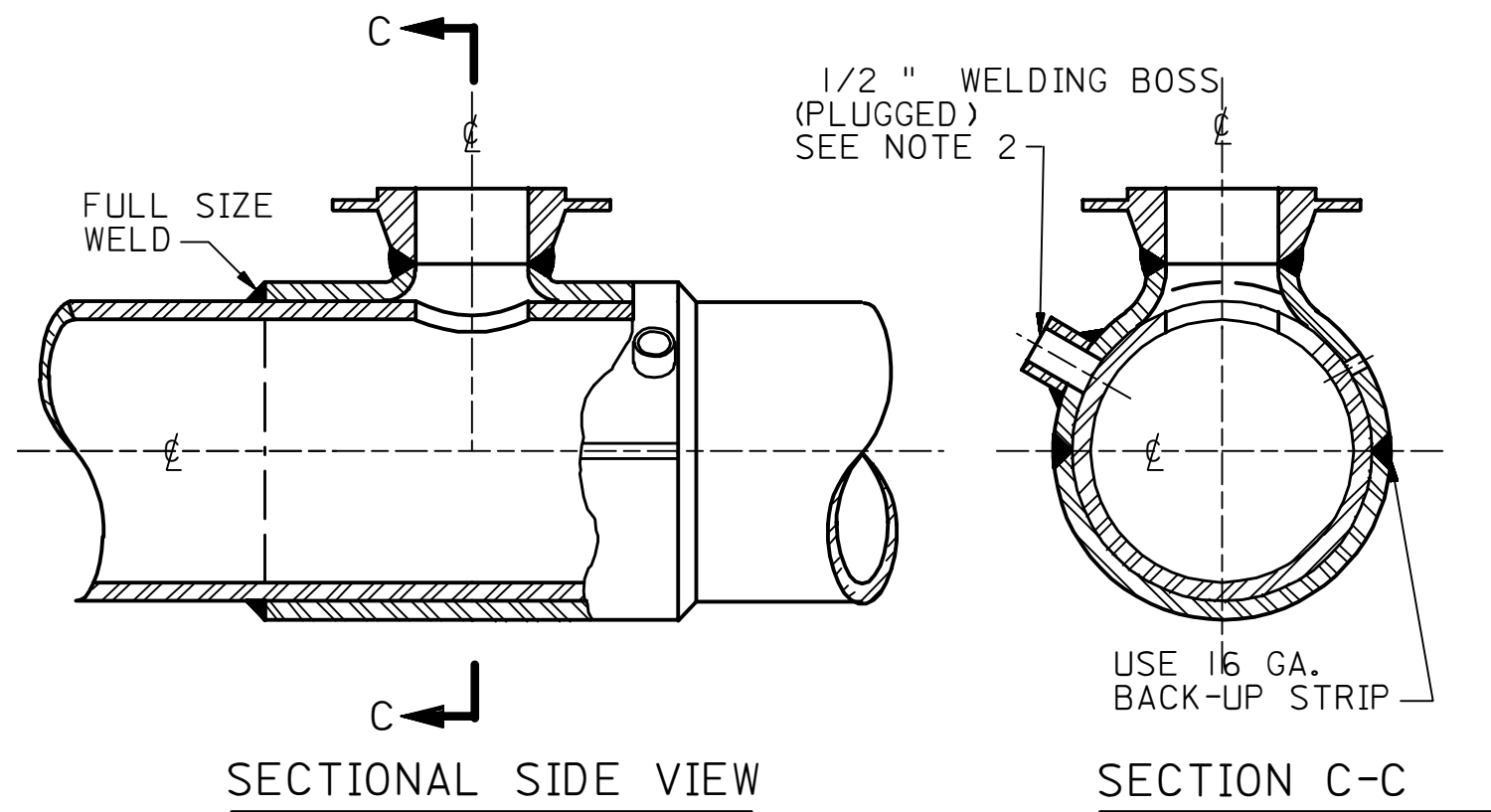


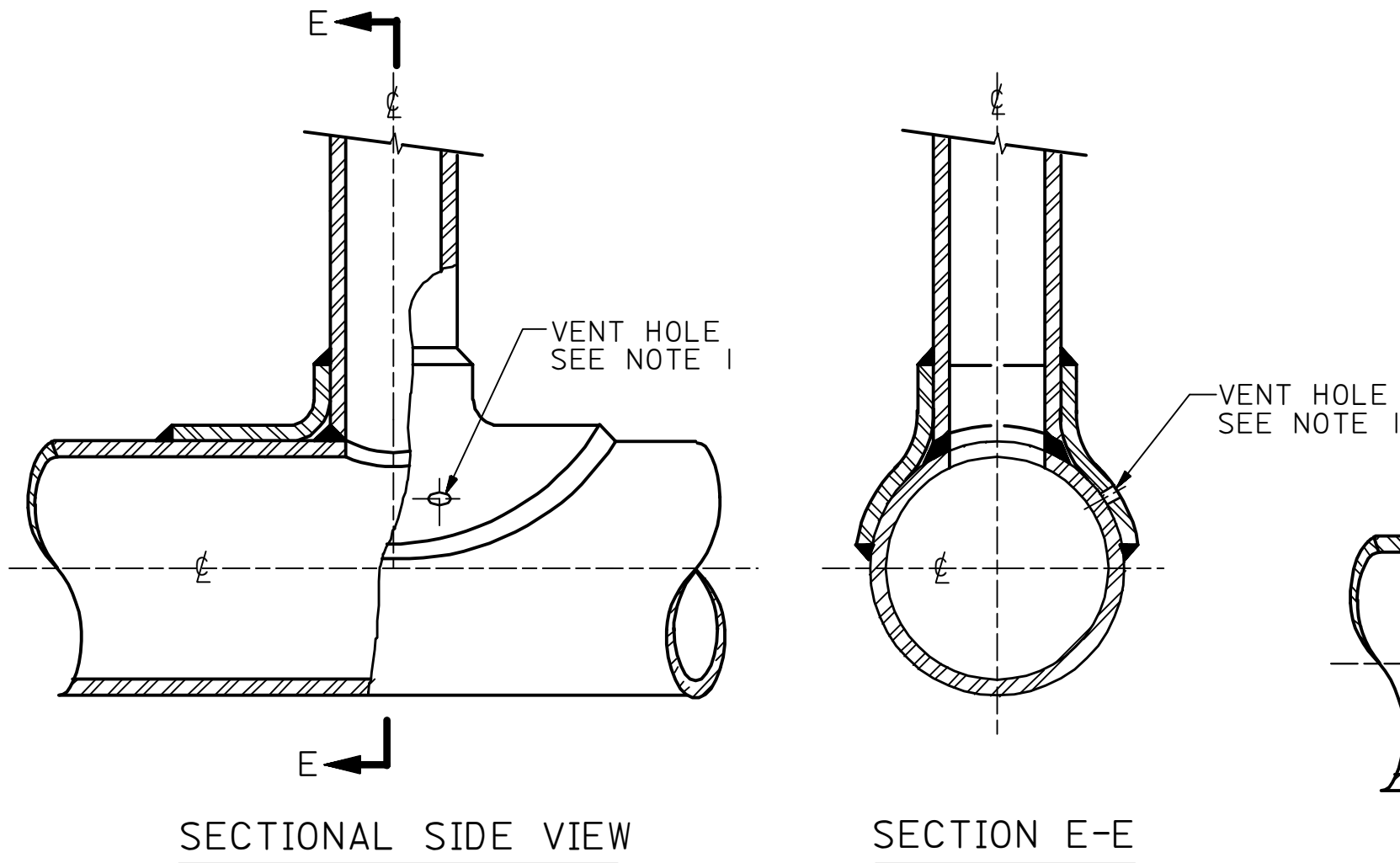
11	001	91930-BV	L	066
REV. NO.	SHT. NO.	DRAWING NUMBER	INDEX	PLANT NO.



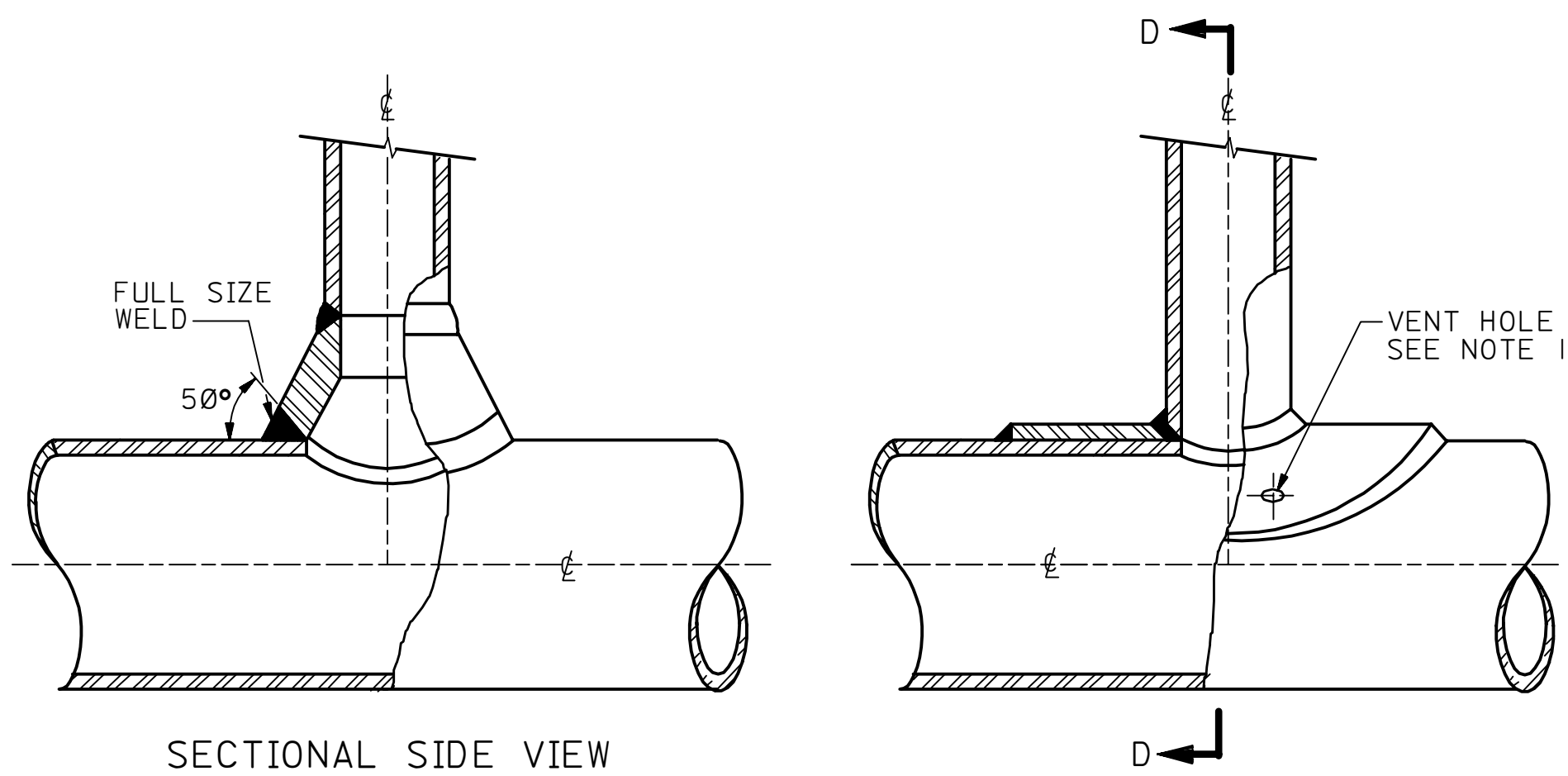
TYPE-1
FULL ENCIRCLEMENT SADDLE



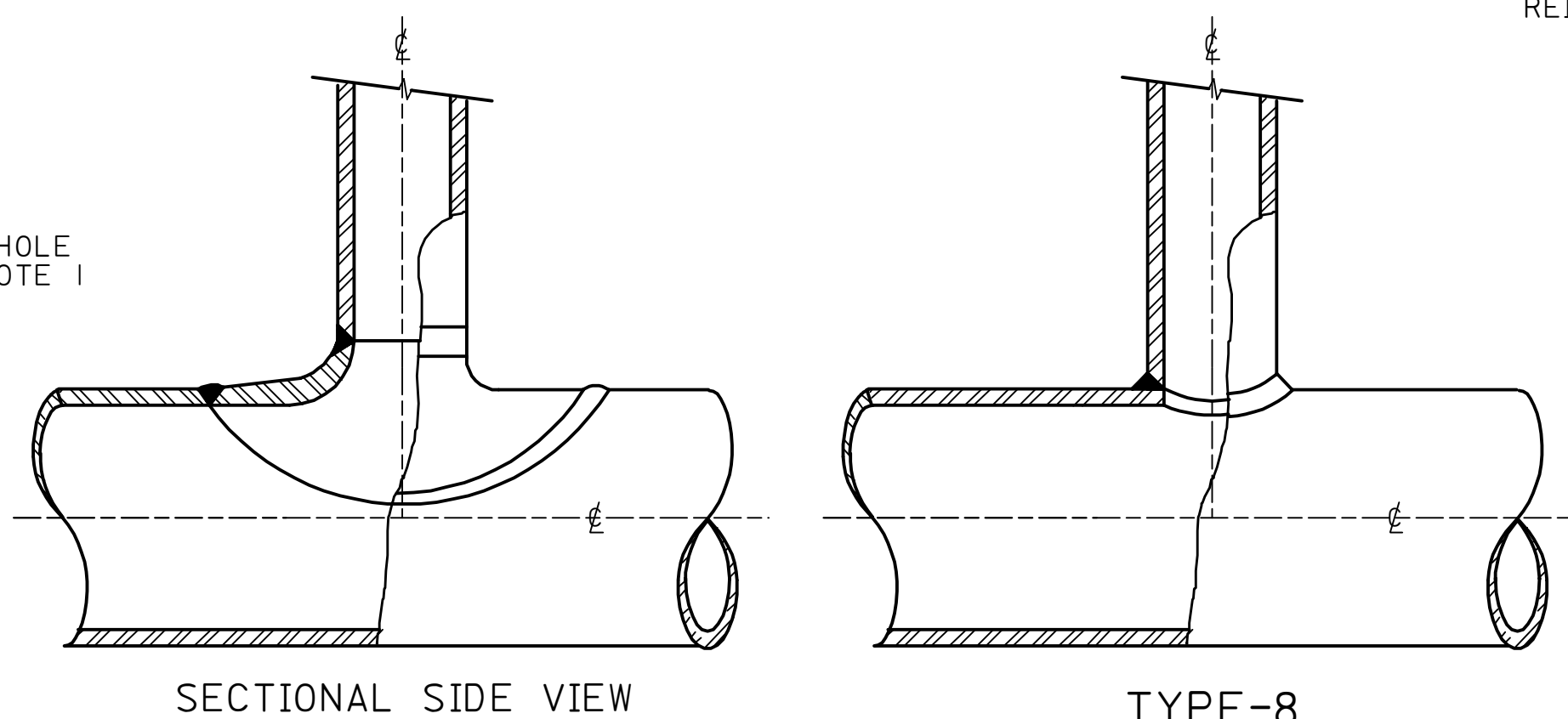
TYPE-3
SPLIT TEE WITH FLANGE



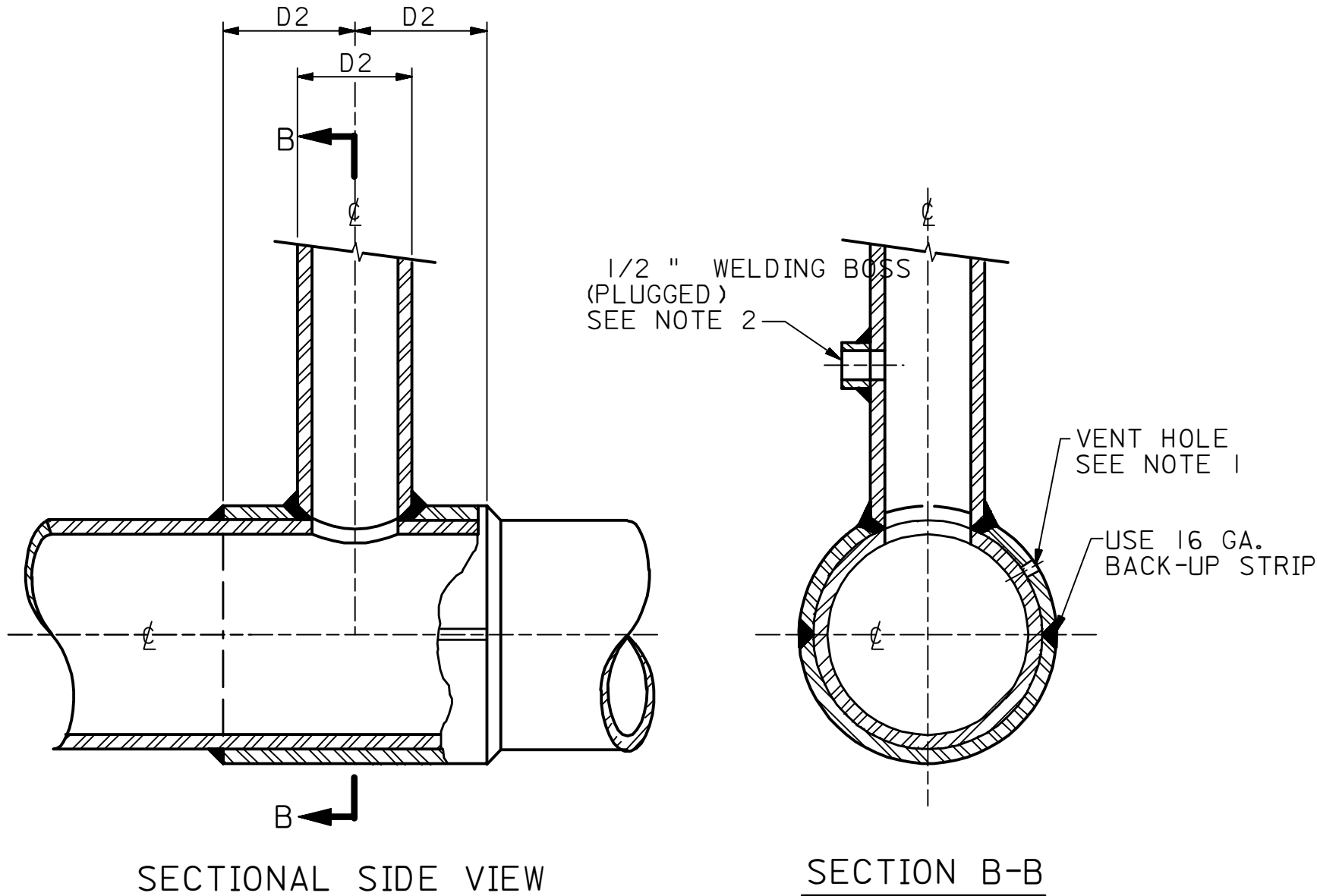
TYPE-6
SADDLE



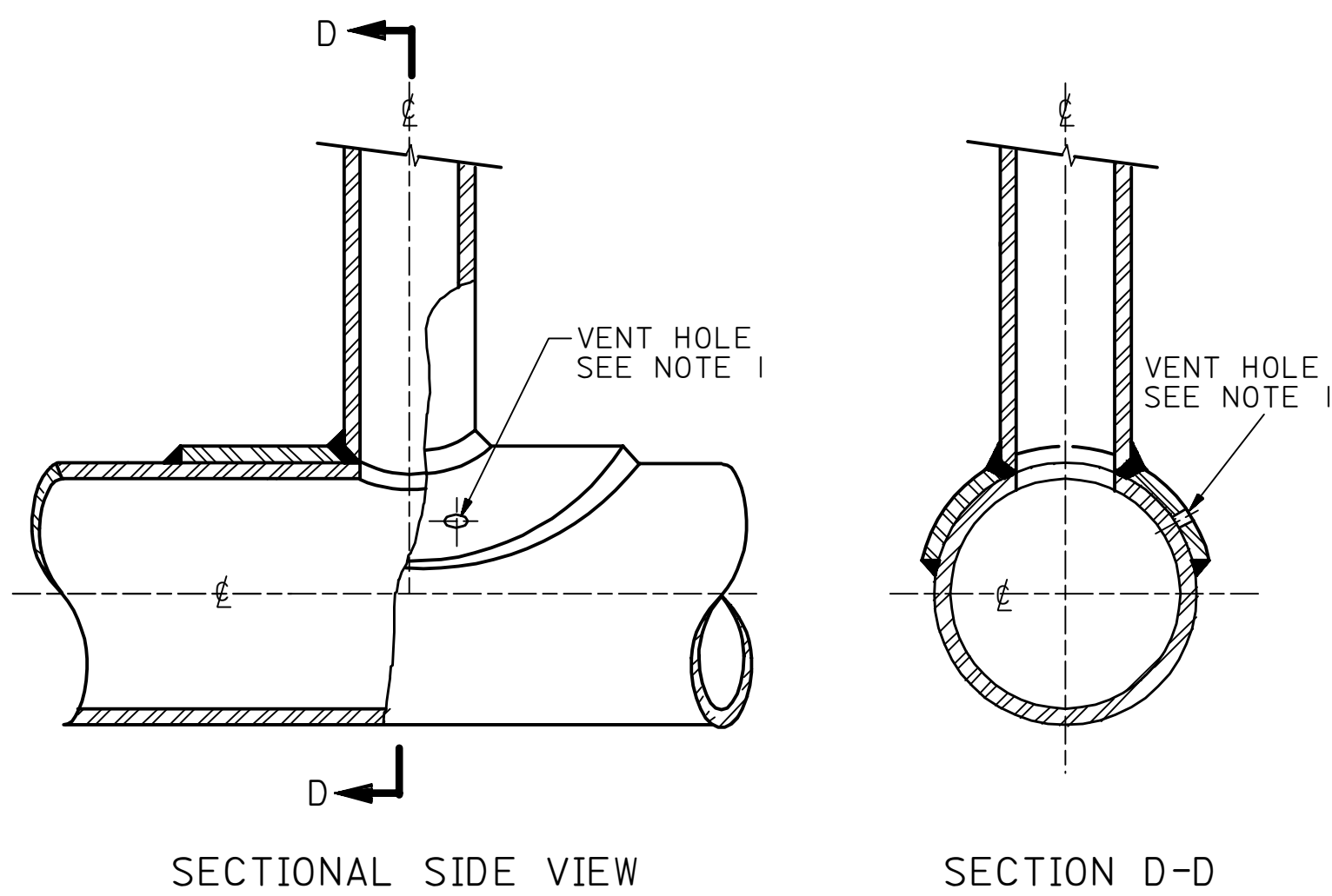
TYPE-4
WELDING OUTLET



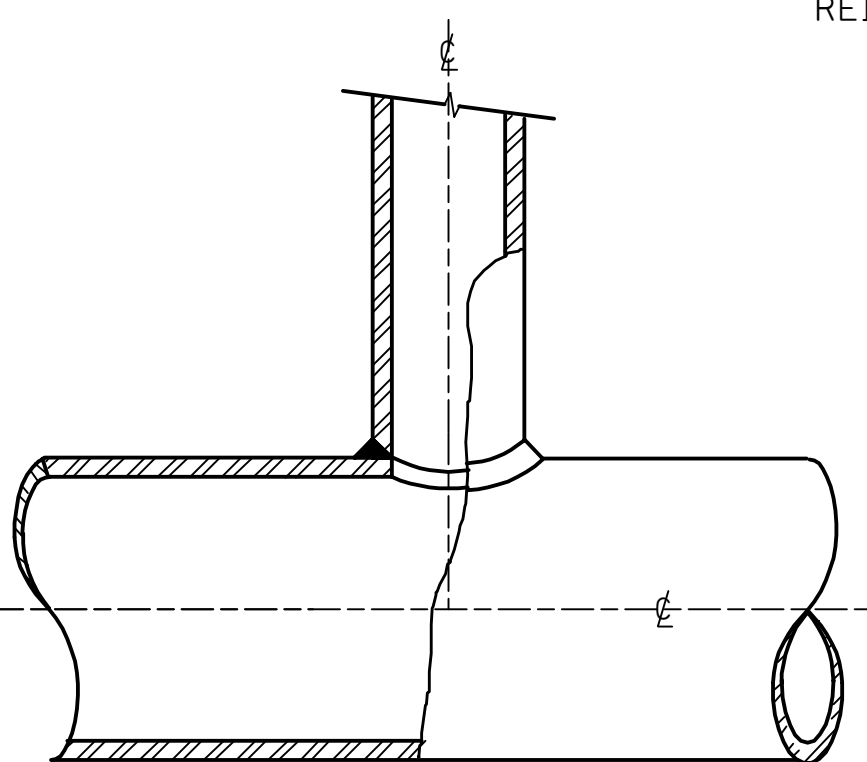
TYPE-7
CONTOUR INSERT



TYPE-2
FULL ENCIRCLEMENT SLEEVE: FIELD FABRICATED
FROM PIPE EQUIVALENT TO HEADER PIPE



TYPE-5
REINFORCING PAD



TYPE-8
UNREINFORCED STUB
INCLINED BRANCHES SHALL ALWAYS BE
REINFORCED PER TYPE-2 OR TYPE-5

THIS FITTING IS A SPECIAL FORM
OF THE SPLIT TEE SHOWN IN
TYPE 3. DIMENSIONS ARE TO BE
OBTAINED FROM MANUFACTURE'S
INFORMATION AVAILABLE FROM
NORTHERN AREA PIPELINE
MAINTENANCE HOTTAP UNIT.

TYPE-9
SPLIT TEE-STOPPLE FITTING

- NOTES:**
- REFER TO AES-L-004 FOR DESIGN OF WELDED BRANCH CONNECTIONS AND REQUIREMENT OF VENT HOLES.
 - FOR HOT TAP CONNECTION THE BRANCH SHALL HAVE A BOSS FOR PRESSURE TESTING UNLESS HOTTAP VALVE BODY IS TAPPED ON NOZZLE SIDE OF SEAT.
 - SELECTION OF TYPES:

TYPE-1: FULL ENCIRCLEMENT SADDLE
PERMITTED IN ALL CASES. THIS TYPE IS PREFERRED IF VIBRATION CAN OCCUR. D/C PURCHASE FOR FIELD INSTALLATION IS RECOMMENDED.

TYPE-2: FULL ENCIRCLEMENT SLEEVE
WHEN VIBRATION CAN OCCUR THIS TYPE IS PERMITTED IF TYPE-1 IS NOT AVAILABLE. OTHERWISE PERMITTED IN ALL CASES.

TYPE-3: SPLIT TEE
USED FOR HOT TAP INSTALLATION WITH STD. FLANGE OR LOCK-O-RING FLANGE. MORE EXPENSIVE THAN TYPE-1 OR 2, D/C PURCHASE FROM APPROVED SOURCE.

TYPE-4: WELDING OUTLET
PERMITTED ONLY WHEN SUPPLIED BY APPROVED MANUFACTURER.

TYPE-5: CIRCULAR REINFORCING PAD
PERMITTED IN ALL CASES EXCEPT WHEN HIGH VIBRATION EXISTS. ALTHOUGH NOT MANDATORY, THE FULL ENCIRCLEMENT SLEEVE IS PREFERRED WHEN BRANCH IS GREATER THAN 70% OF RUN SIZE.

TYPE-6: SADDLE
SAME APPLICATIONS AS FOR TYPE-5 EXCEPT IT IS PREFERRED FOR HIGH VIBRATION SERVICE FOR SMALL BRANCH CONNECTIONS.

TYPE-7: CONTOUR INSERT
SAME APPLICATIONS AS FOR TYPE-6 EXCEPT IT IS PREFERRED & RECOMMENDED WHEN 100% RADIOGRAPHY IS SPECIFIED.

TYPE-8: UNREINFORCED STUB
THIS TYPE IS NOT PERMITTED WHEN HIGH VIBRATION EXIST. IT IS ALSO NOT PERMITTED FOR BRANCHES OTHER THAN 90 DEGREE ANGLES.

REFERENCE DRAWINGS	
HEAVY WELDING BOSS	AE-036175
PREHEAT LEVELS FOR WELDING CARBON STEEL	AD-036451

TYPICAL INSTALLATION DRAWING

REV. NO.	DATE	BY	JO/EWO	DESCRIPTION	CHKD.	CERT.	APPD.
11	FEB93	ESSD	MAO	REVISED AS PER MARKUP.			
10	08-16-88	RLO		REDRAWN AND ADDED DETAIL TYPE-9.			

SAUDI ARABIAN OIL COMPANY							
DRAWN BY	J.V.P.	CHECKED BY	JA	SCALE	NONE		
DATE STARTED	08-17-71	DATE COMPLETED	08-08-76				
OPR'G. DEPT.		ENG. DEPT.					
APP'D FOR CONSTR.							
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED				CERTIFIED		DATE	

REINFORCEMENT OF
WELDED BRANCH CONNECTIONS

STD. DWG.				METRIC	
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.	
990	L	AB-036719	001	11	