

- GENERAL NOTES**
1. OPERATOR TO BE SHOP ASSEMBLED ON VALVE AS SHOWN, GIVEN OPERATIONAL TEST, MATCH MARKED AND DISASSEMBLED FOR SHIPPING.
 2. HYDRAULIC CYLINDER TO BE SHIPPED DIS-ASSEMBLED AND ALL MACHINED SURFACES COATED WITH COSMOLINE 1072.
 3. HYDRAULIC CYLINDER TO BE TESTED HYDROSTATICALLY (CI) AT 2000 PSI (BOTH SIDES OF PISTON).

PARTS LIST				
PART NO.	SUB PART NO.	NO. REQ'D.	DESCRIPTION	MATERIAL
4000		2	OPERATOR ASSEMBLY	
4001	32	1 1/4	8NC2 x 9/8 HEX HD CAPSCREW	A304-1103
			3 1/2 MIN THD LENGTH	
4002	32	1 1/4	8NC2 x 12 STUD BOLT	A304-1103
4003	64	1 1/4	8NC2 HEX NUT	A304-1103
4004	16	3/4	10NC2 x 4 CAPSCREW	A304-1103
4005	16	1 1/4	10NC2 x 3 CAPSCREW	A304-1103
4006	17	3/4	10NC2 x 1 CAPSCREW	A304-1103
4007	4	1/2	13NC2 x 1 1/2 HEX HD CAPSCREW	A304-1103
4009	56	1.799	1.799 DIA x 2 1/4 LONG SHOULDER BOLT	STAINLESS STEEL
			3/4-10NC2 THREAD	
4011	56	3/4	10NC2 HEX NUT	" "
4013	6	3/4	10NC2 x 1 1/2 PIN SET SCREW	STL COMM'L
4015	2	3/4	10NC2 x 1 1/2 SOIL HD FULL	" "
4016	6	20 x 1/4	PISTON RINGS	BRONZE
4017	6	2 1/4	10NC2 x 1 1/2 PIN SET SCREW	STL COMM'L
4018	16	1/2	13NC2 x 1 1/2 FLAT HD CAPSCREW	STAINLESS STEEL
4019	3	3/4	10NC2 x 1 1/2 PIN SET SCREW	STAINLESS STEEL
4020	3	5/8	10NC2 x 1 1/2 PIN SET SCREW	STAINLESS STEEL
4023	16	3/4	10NC2 x 1 1/2 HEX HD CAPSCREW	A304-1103
4024	8	1/4	NPT-200PSI 5/8" DIA PLUG	STEEL
4025	1		PIN SPANNER WRENCH	5233-9100
4101	2		OPERATOR HOUSING COVER	DWG 5233-4100
4201	2		OPERATOR HOUSING	DWG 5233-4200
4301	2		CYLINDER	DWG 5233-4300
4302	2		STEM	" "
4303	4		PIN	" "
4401	2		DIAPHRAGM	DWG 5233-4400
4402	2		HEAD	" "
4403	2		PISTON	" "
4404	2		PACKING GLAND	" "
4405	2		BUSHING	" "
4501	2		CROSSHEAD	DWG 5233-4500
4502	2		LINK	" "
4503	4		SHOE	" "
4504	8		BUSHINGS	" "
4601	2		INDICATOR SHAFT	DWG 5233-4600
4606	2		INSPECTION PLATE	" "
4607	16		SHEAR PIN	" "
4701	2		CRANK	DWG 5233-4700
4702	8		WASHER	" "
4703	6		LOCOMOTIVE LAPER PIN	" "

* INCLUDES ONE SET OF SPARES

INSPECTION: BY WISCO S.C.E.

CLEANING: AS NOTED ON DETAILS

PAINTING: NONE COAT MACHINED SURFACES WITH COSMOLINE 1072 FOR SHIPPING

WELD PROCEDURE: PER DETAIL DWGS

STRESS RELIEVE: PER DETAIL DWGS

TESTING: PER NOTE 1 & DWG 5233-1000

LUBRICATION: NONE

TOLERANCES: SHOP STD

CUSTOMER'S APPROVAL

FINAL RECORD

JAN 14 1960

REFERENCE DRAWINGS: 5233-1000, 5233-1001, 5233-2000, 5233-1002, 5233-4100, 5233-4200, 5233-4300, 5233-4400, 5233-4500, 5233-4600, 5233-4700

MARK	ZONE	REVISIONS	BY	DATE	REV.
1	1	PART 4000 WAS 5/8" DIA	FEW	1/10/59	
2	1	ADDED 5/8" DIA PIN SET SCREW	FEW	1/10/59	
3	1	REVISED PER 9/8 LETTER DATED 10 JAN 1959	FEW	1/10/59	
4	1	REVISED PER 9/8 LETTER DATED 10 JAN 1959	FEW	1/10/59	
5	1	REVISED PER 9/8 LETTER DATED 10 JAN 1959	FEW	1/10/59	

FOR CONTRACT

DA-32-015-CIVENG-59-113

TITLE

FORT PECK DAM

18'-0" BUTTERFLY VALVE

OPERATOR ASSEMBLY

WILLAMETTE IRON AND STEEL COMPANY

2800 N. W. FRONT AVENUE

PORTLAND 10, OREGON

DATE ISSUED JAN 6 1960

FILE NO.

H. 4078

SALES ORDER NO. 50-5233 4000

COMPONENT SHOWN REV.

04

GENERAL NOTES

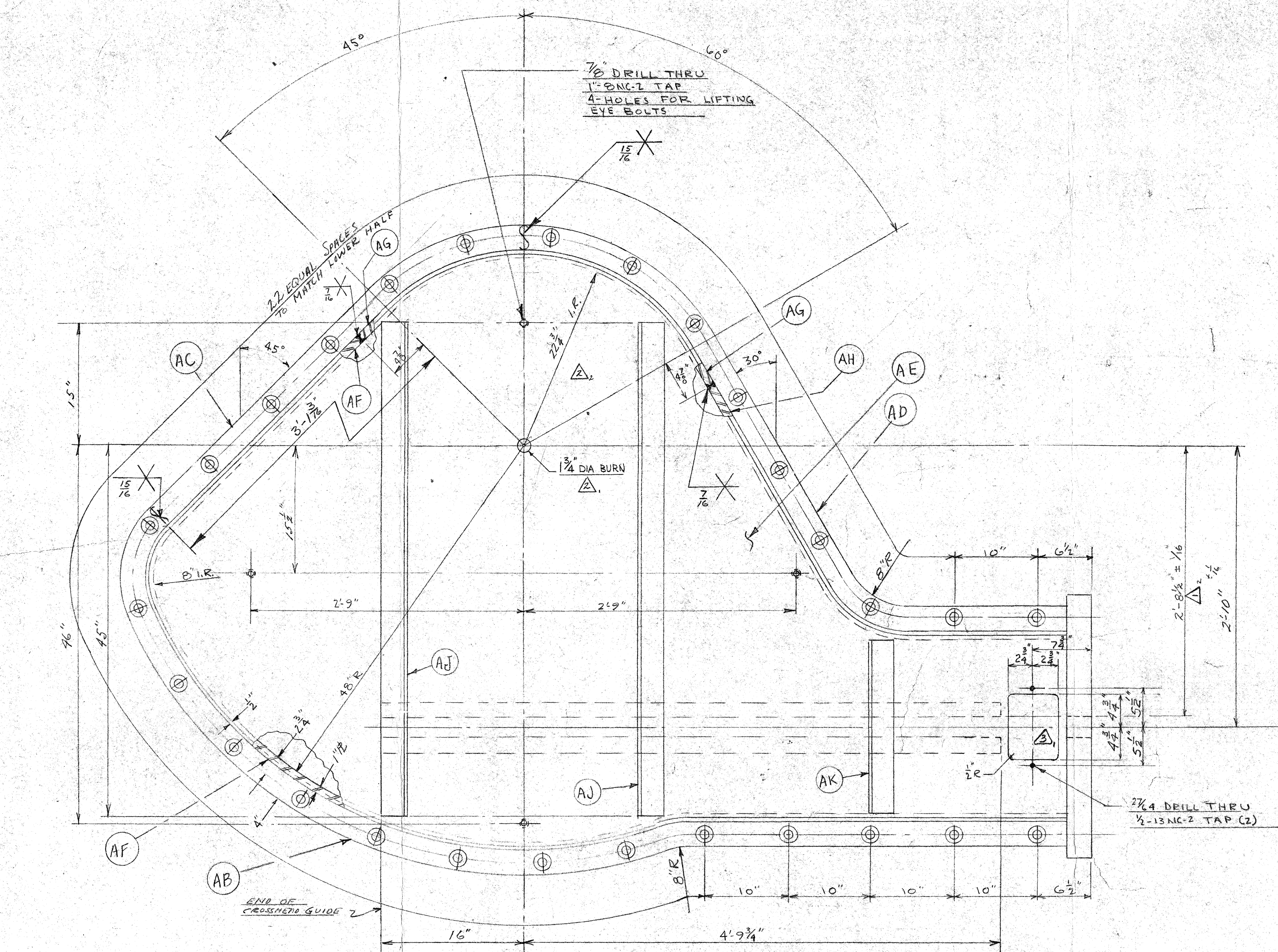
1. ALL WELD SYMBOLS INDICATE WELD SIZE BEFORE MACHINING.
2. CLEAN WELDS WITH SLAGGING GUN AND GRINDING AS REQ'D TO REMOVE ALL SLAG AND SPATTER.

MACHINING NOTE:

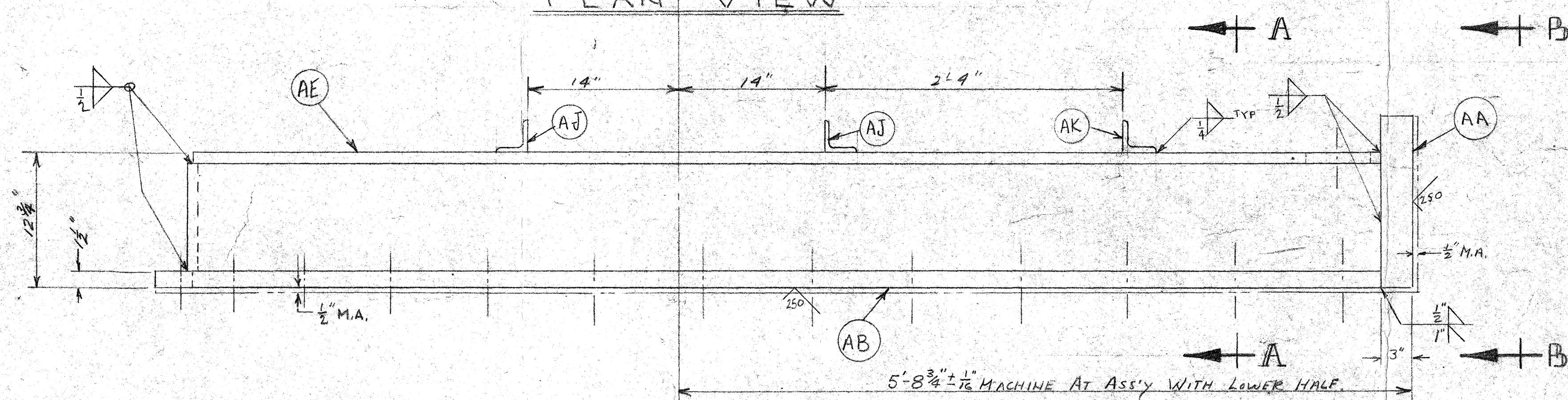
- 1) AT MACHINING SET-UP WITH PARTS 4101 & 4201 BOLTED TOGETHER AT THE FLANGES, PLANE NOTCH AS SHOWN IN DETAIL "E" PARALLEL TO GUIDES 4101-AL & 4201-AR.

PARTS LIST

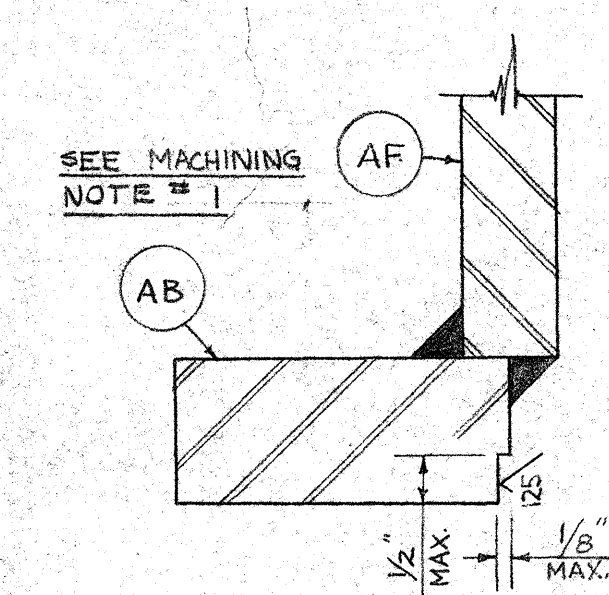
PART NO.	QTY	DESCRIPTION	MATERIAL
4101	2	OPERATOR HOUSING COVER	WELDMENT CARBON ST.L
A	132	WELD ROD	
AA	2	3/2" R 16 1/2" x 32"	ST.L
AB	2	2" R x 3 1/2" Per Cutting Sheet 3	
AC	2	2" R x 3 1/2" " " "	
AD	2	2" R x 3 1/2" " " "	
AE	2	1" R PER CUTTING SHEET # 4	
AF	2	1" R 10 1/4" x 16 1/2" " " "	
AG	2	1" R 10 1/4" x 5 1/2" PER CUTTING SHEET # 5	
AH	2	1" R 10 1/4" x 6 1/2" " " "	
AJ	4	L 3 x 3 x 3/8 x 5'0"	
AK	2	L 3 x 3 x 3/8 x 2'1"	
AL	4	2" BAR x 6'1 1/2"	ST.L



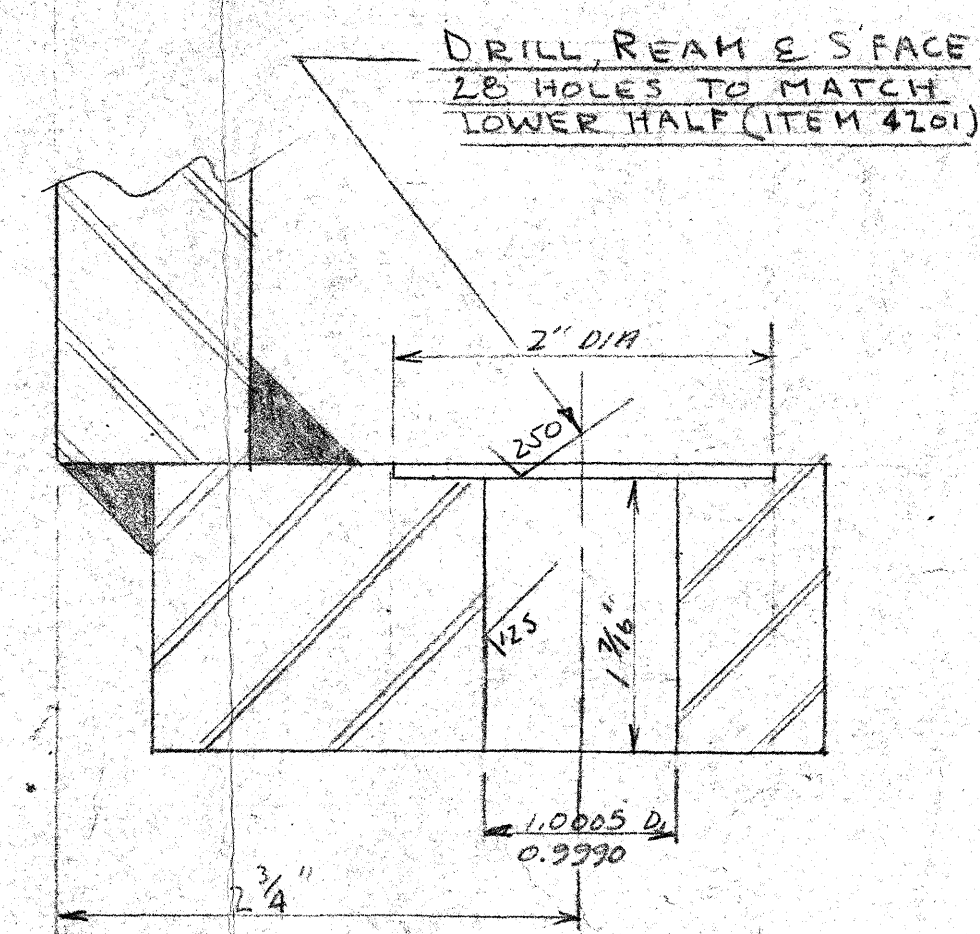
PLAN VIEW



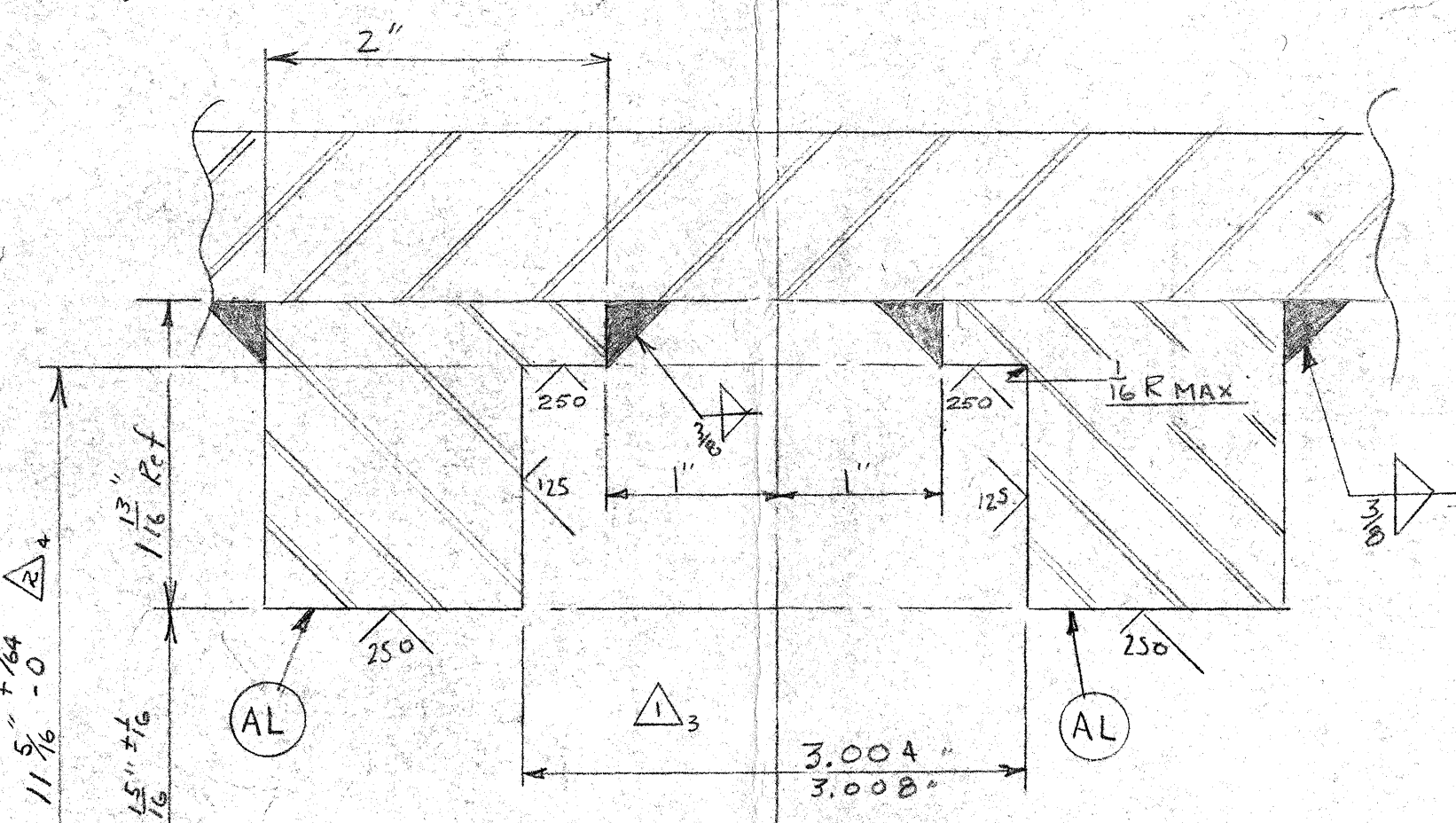
ELEVATION



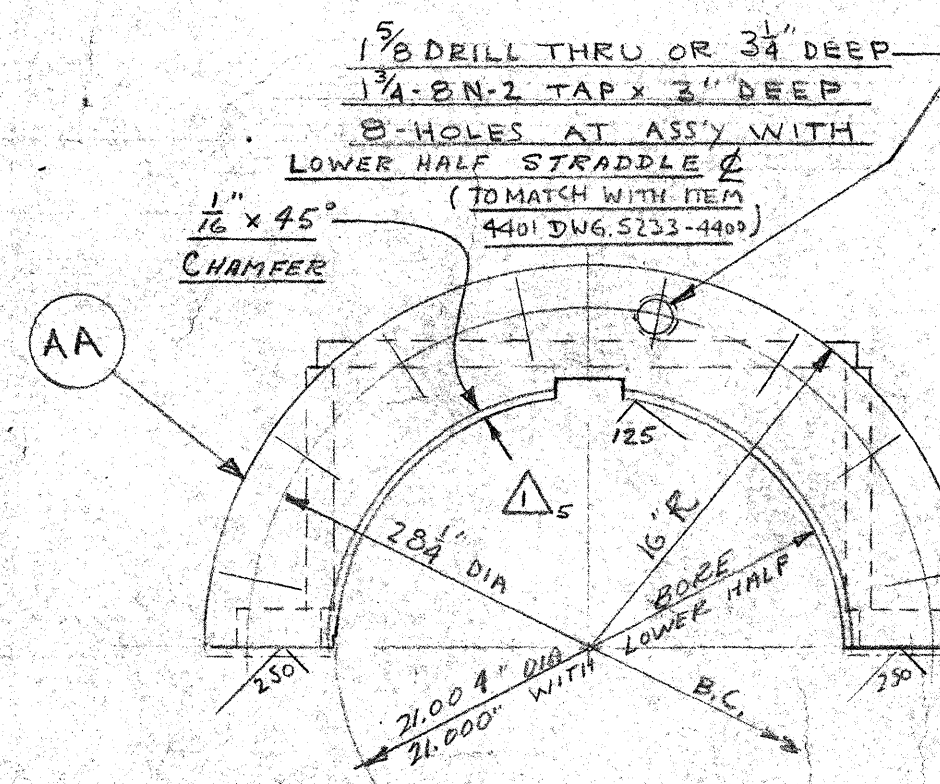
DETAIL "E"
6" x 1'-0"



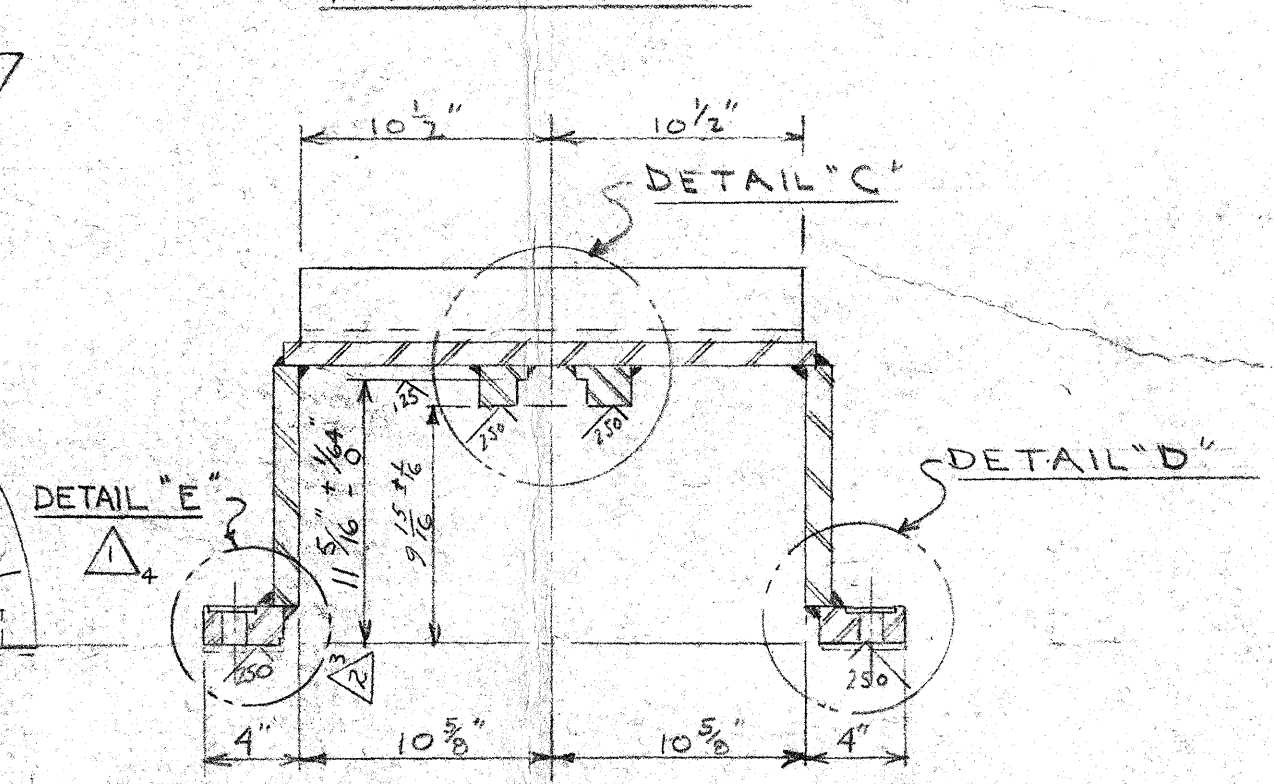
DETAIL "D"
FULL SIZE



DETAIL "C"
FULL SIZE



VIEW B-B



SECTION A-A

4101

OPERATOR HOUSING COVER-2 REQ'D

MAT'L- STL R & BAR - QQ-S-741a TYPE II

SCALE 1 1/2" = 1'-0"

INSPECTION: BY WISCO. S. C/E
CLEANING: NONE - EXCEPT PER NOTE 2
PAINTING: PER DWG. 5233-4000

WELD PROCEDURE: WISCO PROCEDURE #
STRESS RELIEVE: 2 HR. @ 1125-1175°F
TESTING: AT SHOP ASSY. PER DWG. 5233-4000
TOLERANCES: SHOP STD UNLESS SHOWN OTHERWISE

CUSTOMER'S APPROVAL

FINAL RECORD

JAN 14 1960

REFERENCE DRAWINGS 5233-4000

REVISIONS
1. SIZE OF INSPECTION OPENING IN (AE) INCREASED
2. REVISED PER 'D' LETTER
3. DATED JAN 12 1960
4. MACHINING REVISION PER VESSEL
5. INSTRUCTIONS FROM PLANNING

FOR CONTRACT DA-32-015-CIVENG-50-113

TITLE FORT PECK DAM
18'0" BUTTERFLY VALVE
OPERATOR HOUSING COVER DETAILS

WILLAMETTE IRON AND STEEL COMPANY
2800 N. W. FRONT AVENUE
PORTLAND 10, OREGON

DATE ISSUED JAN 6 1960
FILE NO. 4079
SALES ORDER NO. 50-5233 4100
COMPONENT SHEET 02
REV. 03