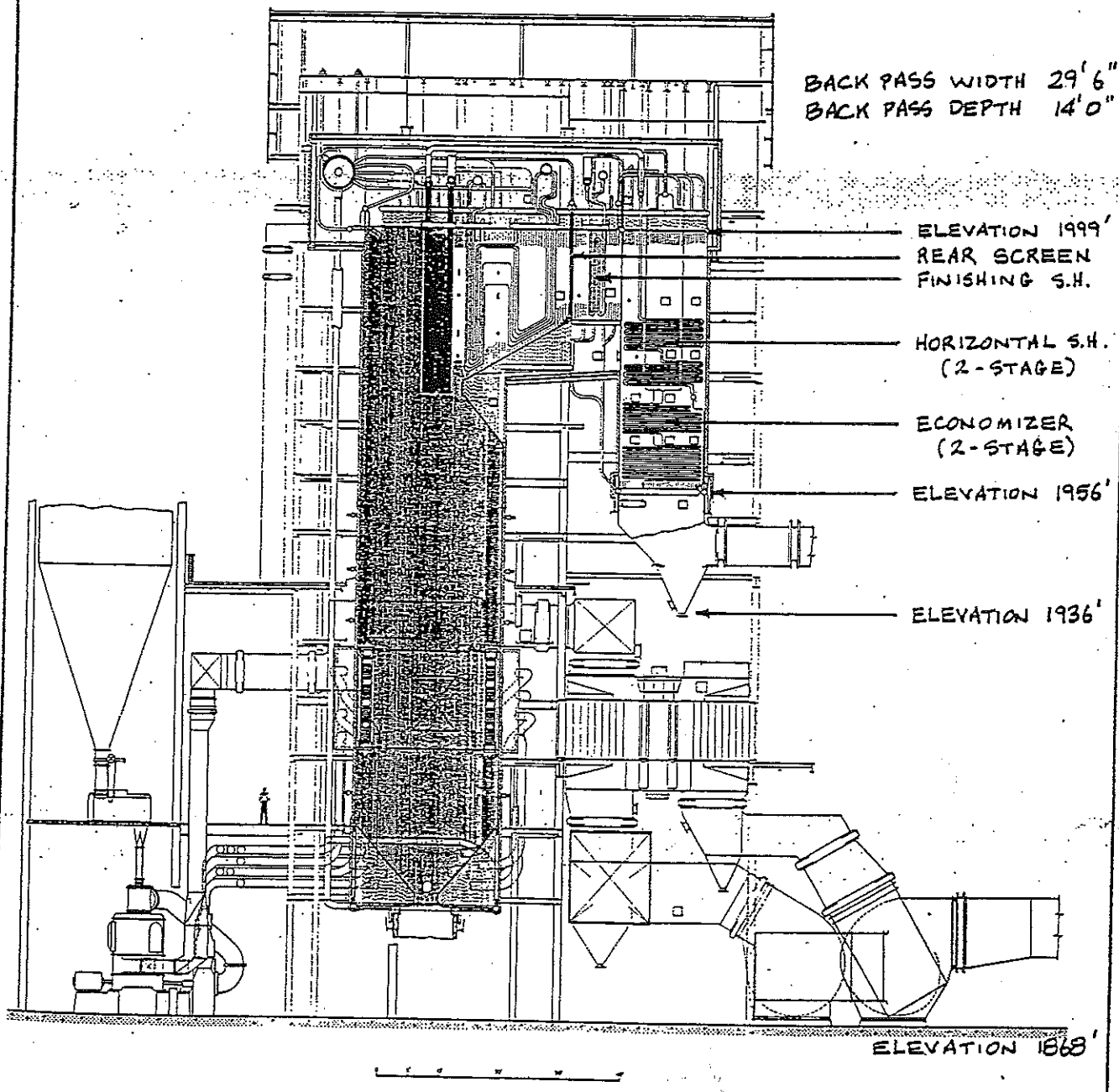
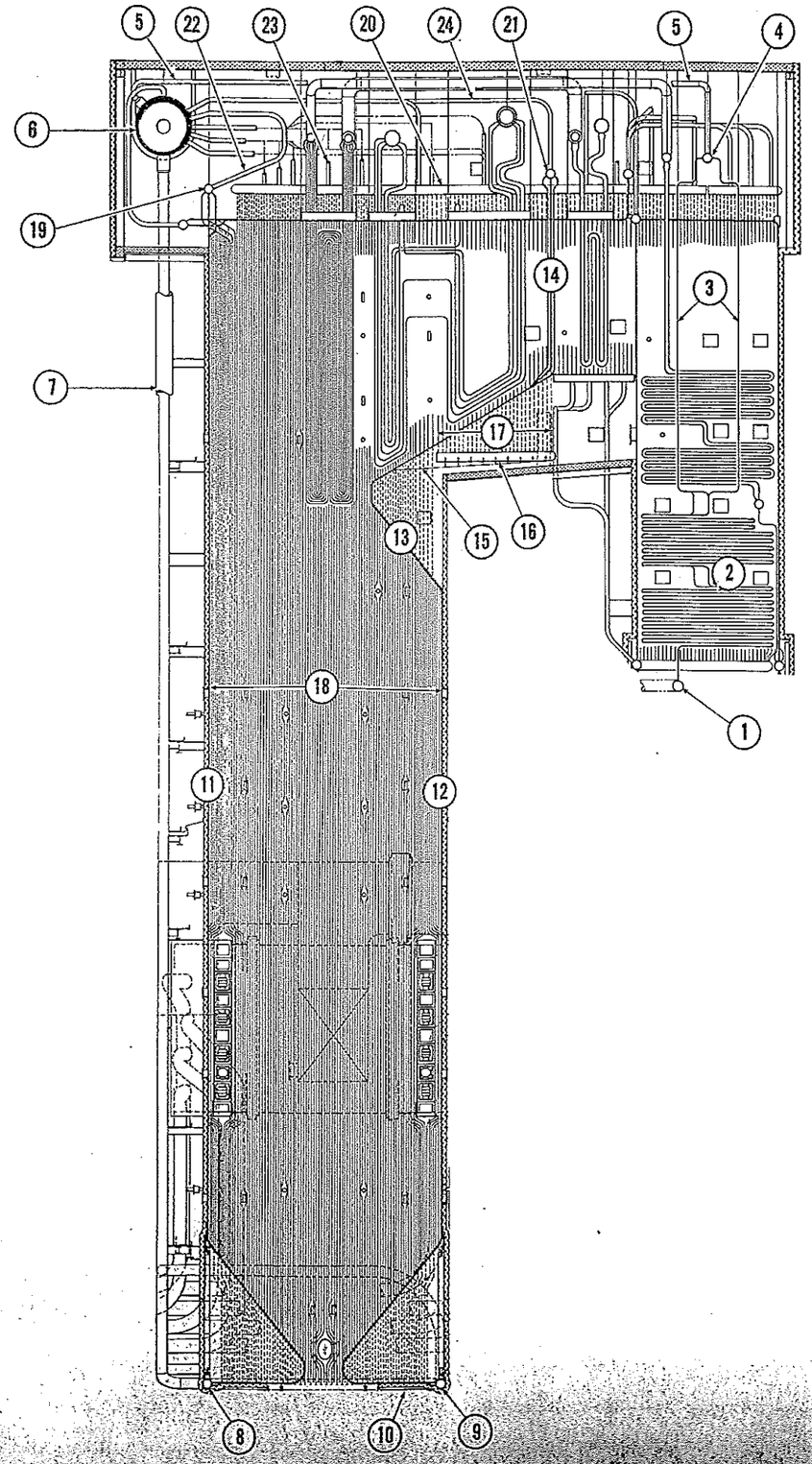
POWER SYSTEMS

Cont. 13477

GRAND ISLAND UTILITIES
PLATTE GENERATING STATION



Attachment A



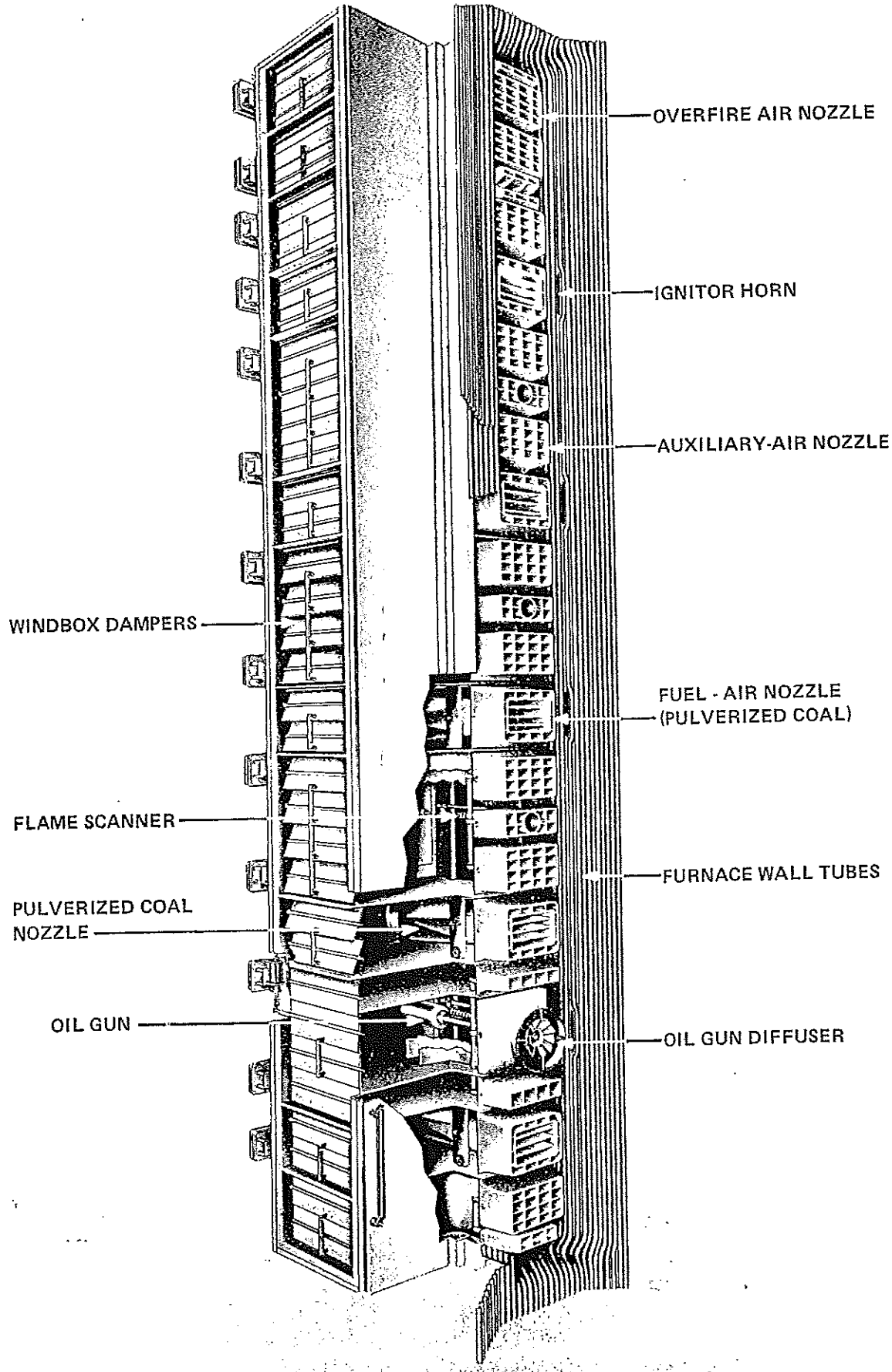
WATER CIRCUITS

MK NO.	QUANT.	SIZE	DESCRIPTION
1	1	12-3/4" O.D.	Economizer Inlet Header
2	86	2" O.D.	Bare Tube Economizer Elements (Upper and Lower Banks) on 4" Ctrs.
3	86	2" O.D.	Economizer Terminal Tubes on 8" Ctrs.
4	1	10-3/4" O.D.	Economizer Outlet Header
5	2	6-5/8" O.D.	Economizer Outlet Links
6	1	60" I.D.	Steam Drum
7	4	14" O.D.	Furnace Downcomers
8	1	14" O.D.	Furnace Lower Front Header
9	1	14" O.D.	Furnace Lower Rear Header
10	2	14" O.D.	Furnace Lower Side Headers, One Per Side
11	117	2-1/2" O.D.	Furnace Front Wall Tubes, Fusion Welded on 3" Ctrs.
12	117	2-1/2" O.D.	Furnace Rear Wall Tubes, Fusion Welded on 3" Ctrs.
13	117	2-1/2" O.D.	Furnace Rear Arch Tubes on 3" Ctrs, Fin Welded at Each Side in Vicinity of Extended Side Supply Tubes, Remainder Fusion Welded.
14	99	2-1/2" O.D.	Furnace Rear Screen Tubes on 9" Ctrs.
15	18	2-1/2" O.D.	Furnace Extended Side Supply Tubes, 9 Per Side
16	2	8-5/8" O.D.	Furnace Extended Side Wall Inlet Headers, 1 Per Side
17	56	2-1/2" O.D.	Furnace Extended Side Wall Tubes, 28 Per Side Fin Welded on 5" Ctrs.
18	164	2-1/2" O.D.	Furnace Side Wall Tubes, 82 Per Side Fusion Welded on 3" Ctrs.
19	1	10-3/4" O.D.	Furnace Upper Front Header
20	2	10-3/4" O.D.	Furnace Upper Side Headers, 1 Per Side
21	1	10-3/4" O.D.	Furnace Upper Rear Outlet Header
22	14	6" O.D.	Furnace Upper Front Header Riser Tubes
23	16	6" O.D.	Furnace Upper Side Header Riser Tubes, 8 Per Side
24	10	6" O.D.	Furnace Upper Rear Outlet Header Riser Tubes

SCHEMATIC ARRANGEMENT
WATER & SATURATED STEAM CIRCUITS

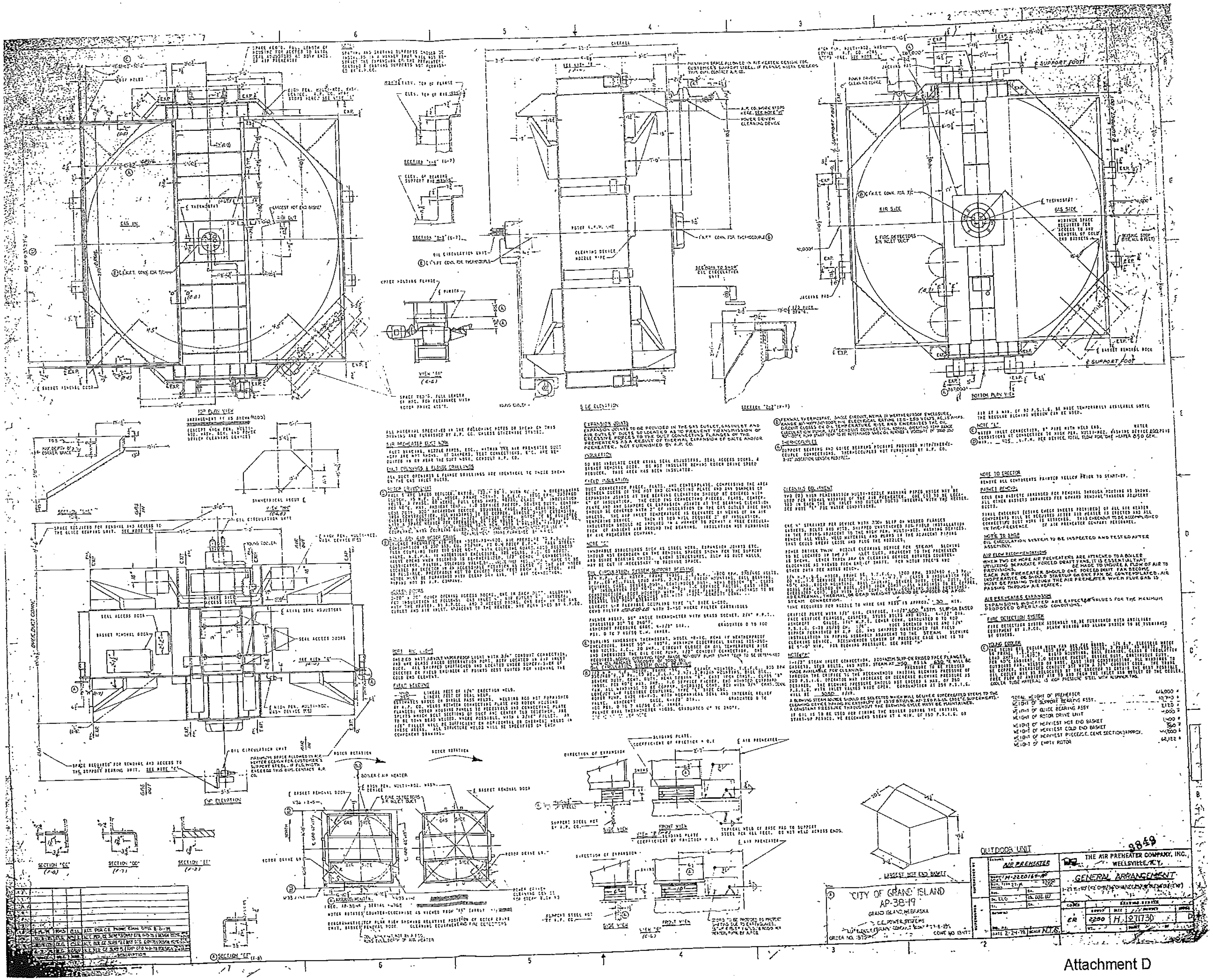
13477

Attachment B

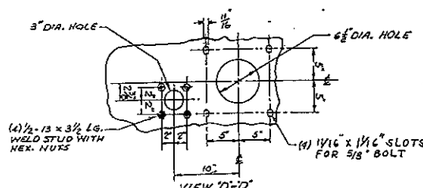


CUTAWAY VIEW
TYPICAL WINDBOX ASSEMBLY
C-E TILTING TANGENTIAL FIRING SYSTEM

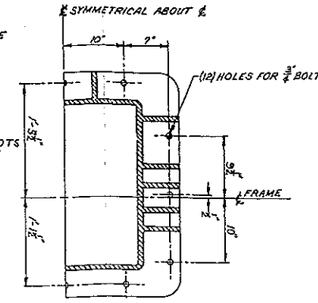
Attachment C



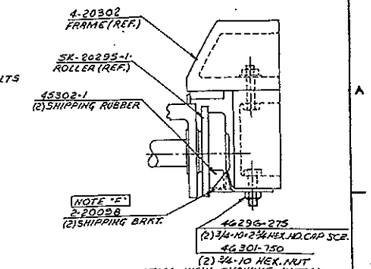
Attachment D



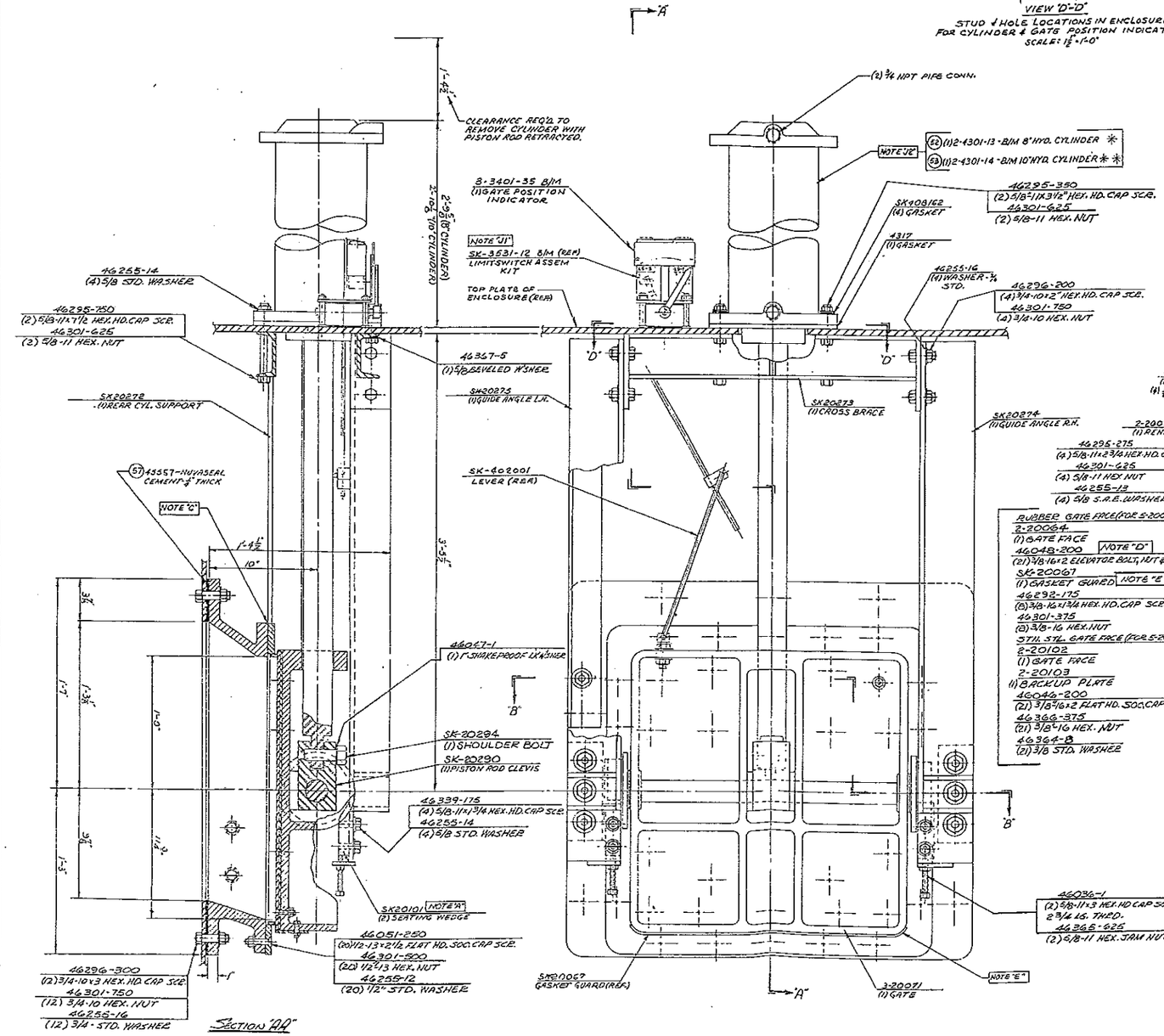
STUD & HOLE LOCATIONS IN ENCLOSURE FOR CYLINDER & GATE POSITION INDICATOR
SCALE: 1½"=1'-0"

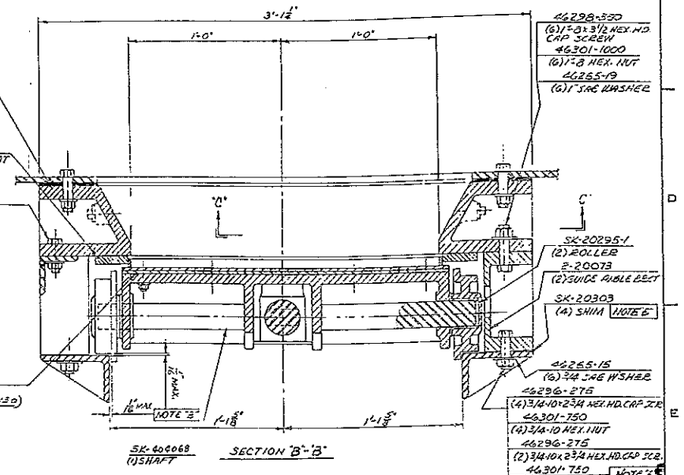


SECTION "C"-"C"
SCALE 1½"=1'-0"



PARTIAL VIEW SHOWING INSTALLATION OF SHIPPING BRACKET
SHIPPING INSTRUCTIONS:-
- PARTIALLY ASSEMBLED & LOOSE.
- BOLT SHIPPING BRACKETS TO GATE BEFORE SHIPPING.
- GUIDE ANGLES & HYD. CYL. TO BE SHIPPED SEPARATELY.





NOTES:-
"A"-ADJUST SEATING WEDGE TO HAVE DOOR STOP IN CENTER OF FRAME.
"B"-ADJUST GUIDE ANGLES TO GIVE 1/16 MAX. BETWEEN ROLLERS AND GUIDE ANGLES WITH DOOR CENTERED ON HOPPER BUT NOT ON SEATING WEDGES. SHIM IF NECESSARY WITH SK-20303 SHIMS. (4) FURNISHED.
"C"-MAKE UP JOINT WITH THIN COAT OF WHITE LEAD.
"D"-TIGHTEN ELEVATOR BOLTS UNTIL HEADS ARE 1/16" BELOW SURFACE OF RUBBER GATE FACE.
"E"-BEND UP ENDS OF GASKET GUARD SK-20067 AFTER ASSEMBLY.
"F"-REMOVE SHIPPING BRACKETS 2-20028 & REUSE ITEM #10 AT FIELD ASSEMBLY.
"G"-LOOSELY BOLT REAR CYL. SUPPORT SK-20278 TO 4-20302 FRAME, INSTALL CYLINDER & REAR CYL. MOUNTING BOLTS SNUGGING UP TO PULL CYL. SUPPORT UP TO ENCLOSURE. TIGHTEN LOWER BOLTS CONNECT GATE VIA CLEVIS SK-20290 TO PISTON ROD. LOOSELY BOLT GUIDE ANGLES SK-20274 & SK-20273 TO GUIDE ANGLE BRACKET 2-20073. LOOSELY BOLT CROSS BRACE SK-20273 TO GUIDE ANGLES. INSTALL FRONT CYL. MOUNTING BOLTS & PULL CROSS BRACE UP TO ENCLOSURE. TIGHTEN ALL BOLTS, CHECKING ALIGNMENT & CLEARANCES.
"H" (*) ASTERISK-PARTS SHOWN ARE ON B/M OF S-2001-128 & S-2001-130
(**) ASTERISK-PARTS SHOWN ARE ON B/M OF S-2001-129 & S-2001-131
NOTE: BALANCE OF PARTS ARE SHOWN ON B/M # S-2001-132 & 133
"J"-OPTIONS:
1. LIMIT SWITCH ASSEM KIT SK-3531-12 IF REQ'D., WILL BE FURNISHED BY U.C.C. - SEE JOB CONTROL DIAGRAMS.

S-2001-128 (8" R.R.E. FACE)
S-2001-129 (10" R.R.E. FACE)
S-2001-130 (8" STL. FACE)
S-2001-131 (10" STL. FACE)

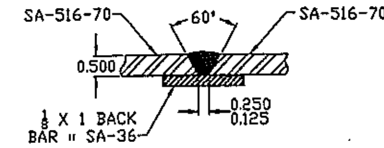
SUPERSEDES S-2001-76 & -77

C.S. 6010 B REF. S-4301-13 S-3401-35 S-4301-14	24"x24" SLUICE GATE WITH SQUARE BOTTOM, HYD. CYL. OPERATED, AND LIMIT SWITCH PROVISIONS.
STANDARD	
UNITED CONVEYOR CORP. CHICAGO, ILL. 60628	
DRAWN FEE 2-22-71 ENGINEER JDS 2-22-71 APPROVED APPROVED APPROVED	SCALE 3"=1'-0" DRAWING NO. S-2001-130/131 REVISIONS

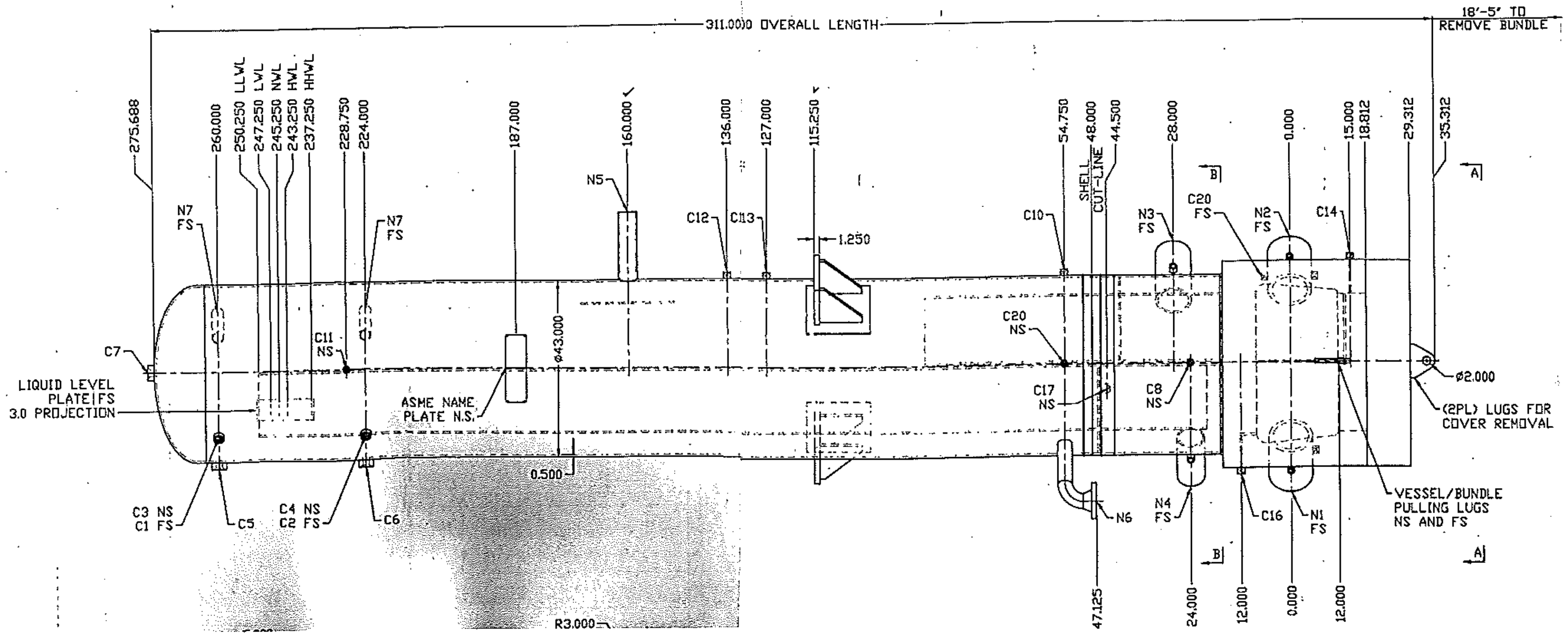
Attachment E

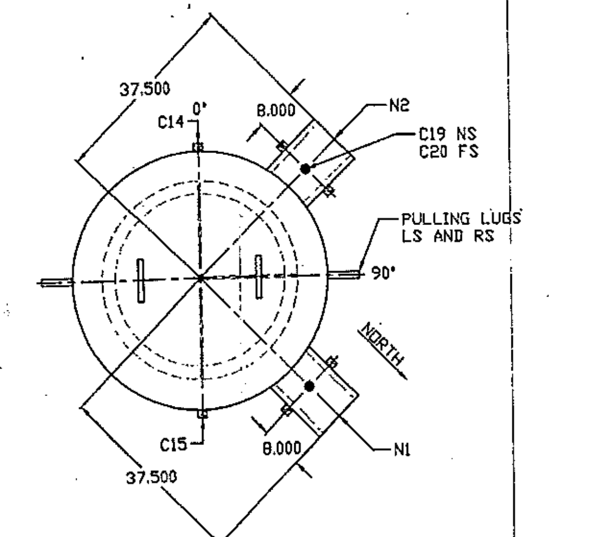
191.5

275.688
115.250
160.438

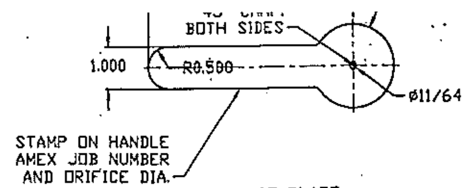


SHELL CUT LINE
SCALE 8X

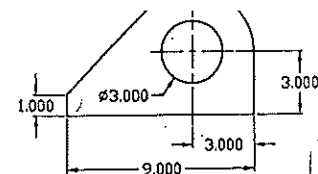




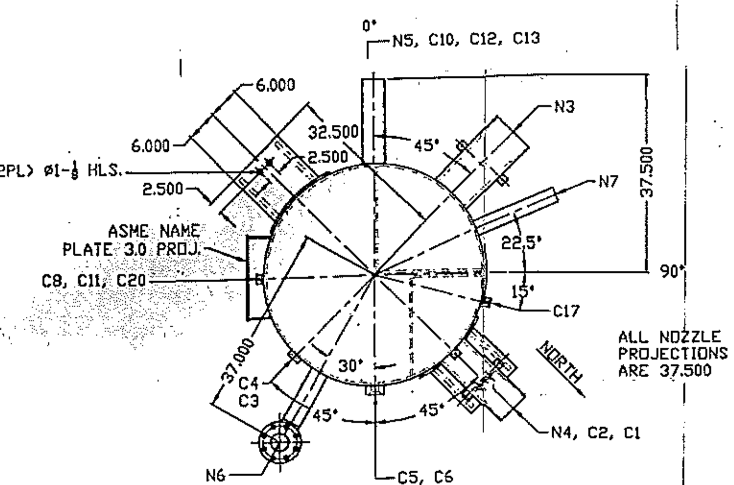
VIEW A-A



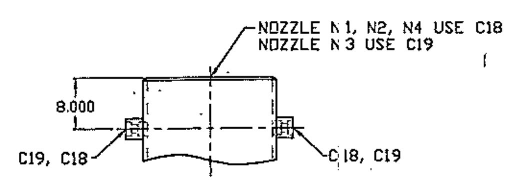
ORIFICE PLATE
SCALE 8X



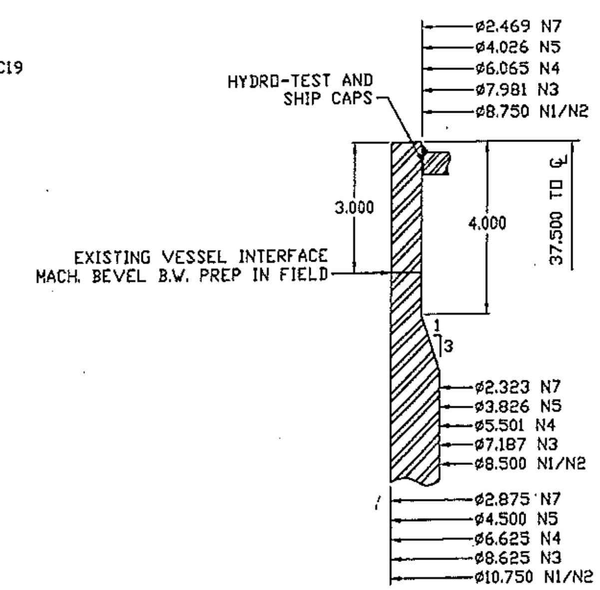
PULLING LUG
SCALE 4X



VIEW B-B



TYPICAL THERM./PRESS.
CONNECTION



NOZZLE END
PREP.

DESIGNED AND BUILT TO TEMA "R", HEI, AND CUSTOMER SPECIFICATION
DESIGNED AND BUILT TO ASME CODE SECTION VIII, DIV.1, 2004 ED. AND 2006 ADDENDA

NOZZLE SCHEDULE

MARK	QTY.	DESCRIPTION	SIZE & RATING	MATERIAL
N1	01	FEEDWATER INLET	10" SCH 140 B.W.	SA-106-C
N2	01	FEEDWATER OUTLET	10" SCH 140 B.W.	SA-106-C
N3	01	STEAM INLET	8" SCH 40 B.W.	SA-335-P11
N4	01	CONDENSATE OUTLET	6" SCH 40 B.W.	SA-106-C
N5	01	DRAINS INLET	4" SCH 40 B.W.	SA-106-C
N6	01	SHELL SIDE RELIEF VLV.	3" ANSI 300# R.F. FLG.	SA-105
N7	02	LEVEL CONT. STAND PIPE	2-1/2" SCH 40 B.W.	SA-106-C
C1	01	SHELL GAGE GLASS	1" 6000# S.W. COUPLING	SA-105
C2	01	SHELL GAGE GLASS	1" 6000# S.W. COUPLING	SA-105
C3	01	LEVEL ALARM	1-1/2" 6000# S.W. COUPLING	SA-105
C4	01	LEVEL ALARM	1-1/2" 6000# S.W. COUPLING	SA-105
C5	01	LEVEL CONTROLLER	2" 6000# S.W. COUPLING	SA-105
C6	01	LEVEL CONTROLLER	2" 6000# S.W. COUPLING	SA-105
C7	01	SHELL DRAIN	2" 6000# S.W. COUPLING	SA-105
C8	01	OPERATING AIR VENT	3/4" 6000# S.W. COUPLING	SA-105
C10	01	SHELL START-UP VENT	3/4" 6000# S.W. COUPLING	SA-105
C11	01	SHELL START-UP VENT	3/4" 6000# S.W. COUPLING	SA-105
C12	01	SHELL THERMOMETER	3/4" 6000# S.W. COUPLING	SA-105
C13	01	SHELL PRESSURE GAGE	3/4" 6000# S.W. COUPLING	SA-105
C14	01	CHANNEL VENT	3/4" 6000# S.W. COUPLING	SA-105
C15	01	CHANNEL DRAIN	3/4" 6000# S.W. COUPLING	SA-105
C16	01	CHANNEL RELIEF VALVE	3/4" 6000# S.W. COUPLING	SA-105
C17	01	DRAINS COOLER DRAIN	3/4" 6000# S.W. COUPLING	SA-105
C18	08	NOZZLE THERM. / PRESS.	3/4" 6000# S.W. COUPLING	SA-105
C19	02	NOZZLE THERM. / PRESS.	3/4" 6000# S.W. COUPLING	SA-182 F11 CL2.
C20	02	NITROGEN PURGE CONN.	3/4" 6000# S.W. COUPLING	SA-105

WEIGHTS				MAT'L
BUNDLE WT.	27,200 LBS	DRY WEIGHT	39,000 LBS	SKIRT: SA-387 GR.11, CL2
				TUBESHEET: SA-350-LF2
OPER. WT.	46,400 LBS	FLOODED WT.	56,000 LBS	SHELL: SA-516 GR.70

NOTES:

1. BOLT HOLES TO STRADDLE CENTERLINES
2. TAG AND SHIP LOOSE
   (1) ORIFICE PLATE
   (2) SPARE SETS OF TUBE SIDE GASKETS
   (1) SHELL SIDE RELIEF VALVE
   (1) TUBE SIDE RELEIF VALVE
3. ORIFICE PLATE TO BE INSTALLED IN BETWEEN TWO 3/4" 300# R.F. FLANGES IN A HORIZ. RUN OF PIPE, WITH A VALVE LOOP TO ALLOW MAINTENENCE.
4. PAINT VESSEL WITH SHOP COAT PRIMER PER SSPC
5. ZONE SHROUDS SHOWN FOR REF. ONLY
6. 3" HAVE BEEN ADDED TO EXISTING VESSEL INTERFACE MACHINE NOZZLE BEVELS IN FIELD
7. NITROGEN BLANKET VESSEL SHIP AT 10 PSIG N2
8. CHANNEL CLOSURE HAS SEAL WELDED DIAPHRAGM PLATE AFTER FIRST SERVICE OPENING, GASKET MAY BE USED

DESIGN CONDITIONS	SHELL/SKIRT	TU
MAWP	250 PSIG + FV	3
DESIGN TEMP	410°F / 850°F	41
MDMT	+40°F	+4
CORROSION ALLOW	+1/16	+1
P.W.H.T.	PER CODE	NO
N.D.E.	PER CODE	NO
TEST PRESS	325 PSIG	4
MIN. TEST TEMP.	+70°F	+7
ZONES / No. PASS	3 - ZONE	2

REVISIONS				
REV. NO.	DESCRIPTION	DATE	BY	APV

DIMENSIONS ARE IN INCHES
TOLERANCES PER TEMA, HEI, ASME
REMOVE ALL SHARP CORNERS AND EDGES

PREPARED TRM	DATE 01/23/07	CHECKED TRM	DATE 01/23/07
ENGINEER TRM	DATE 01/23/07	APPROVAL PROGRAM MANAGER TJM	
FINISH		CUST. P.O. #: N/A	

AMERICAN EXC
SERVICES
11811 W. WHITAK
GREENFIELD WI 5

TITLE
CITY OF GRAND ISLAND
PLATTE GENERATING STATION
HP FEEDWATER HEATER NO
OUTLINE DRAWING

SIZE	CODE IDENT. NO.	DRAWING NO.
D	ASME VIII D1 ED04 A06	2688-01-D-10
SCALE 1/18	WEIGHT	SHEET

ATTACHMENT (G)

PLATTE GENERATING STATION

SOOTBLOWER ARRANGEMENT