



Department of Energy
Washington, D.C. 20545

Docket No. 50-537
HQ:S:82:077

AUG 06 1982

Mr. Paul S. Check, Director
CRBR Program Office
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Check:

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Enclosed are three copies of design layout drawings (listed in the attachment) for the containment penetrations, the containment ring stiffeners and overhead crane support, the structures within the containment-confinement annulus, cell and cell liners, and the reactor vessel support ledge.

The above information was requested in NRC question CS 760.177.

Sincerely,

John R. Longenecker
Acting Director, Office of the
Clinch River Breeder Reactor
Plant Project
Office of Nuclear Energy

Enclosures

cc: Service List
Standard Distribution
Licensing Distribution

D001

1/1

Aperture Card Dist

Drawings to: Peggy Shuttleworth

Drawing No. & Rev.Drawing Title

<u>Drawing No. & Rev.</u>	<u>Drawing Title</u>
	CRBRP Containment Vessel Stiffener Sizing
	CRBRP Containment Vessel Basic Shell Design
	CRBRP Containment Vessel Crane Gridder Sketch
	CRBRP Containment Vessel Weld Summary
	CRBRP Containment Vessel Material Specification
NN766 2	Containment Vessel Penetration Closure Arrangements
NV1000 2	HVAC Plan EI 816'-0" NE QDRNT Reactor Containment Bldg
NV1001 2	HVAC Plan EI 816'-0" SE QDRNT Reactor Containment Bldg
NV1002 2	HVAC Plan EI 816'-0" SW QDRNT Reactor Containment Bldg
NV1003 2	HVAC Plan EI 816'-0" NW QDRNT Reactor Containment Bldg.
NS1046 3	Reactor Containment Building Plan at EI 752'-8" EQPT FDN & Penetrations
NS1052 3	Reactor Containment Building Plan at EI 752'-8" EQPT FDN & Penetrations
NS1080 3	Reactor Containment Building Plan at EI 786'-3" EQPT FDN & Penetrations
NS1086 3	Reactor Containment Building Plan at EI 786'-3" EQPT FDN & Penetration
NS1166 1	Typical Liner Details
NS1167 2	Typical Liner Details
NS1169 1	Reactor Containment Building Typical Liner Details
NS1233 4	Reactor Containment Building Ext. Wall Penet. Elev. 0° to 90°

Drawing No. & Rev.Drawing Title

NS1234	4	Reactor Containment Building Ext. Wall Penet. Elev. 90° to 180°
NS1235	4	Reactor Containment Building Ext. Wall Penet. Elev. 180 to 270
NS1236	4	Reactor Containment Building Ext. Wall Penet. Elev. 270° to 360°
NS1238	0	Reactor Containment Building Ext. Wall Penet. Elev. above EL 816'-0" 0° to 90° at R = 102'-1"
NS1239	1	Reactor Containment Building Confinement Wall Penet. Elev. 90° to 180° at R=102'-1"
NS1240	0	Reactor Containment Building Ext. Wall Penet. Elev. above EL 816'-0" 180° to 270° at R=102'-1"
NS1244	5	RCB Nuclear & HVAC Penetration List
NS1245	6	RCB Electrical Penetration List
NS1246	6	RCB Electrical Penetration List
NS1247	4	RCB Mechanical Penetration List
NV1260	0	HVAC Part Plan EL 884'-0" & Sections RSB-Ventilation Equip Bay
NV1261	1	HVAC Plan EL 861'-6" & Sections RSB-Ventilation Equip Bay
NV1262	0	HVAC Plan EL 840'-0" & Sections RSB-Ventilation Equip Bay
NV1263	0	HVAC Plan EL 816'-0" & Sections RSB-Ventilation Equip Bay
NV1264	0	HVAC Plan EL 794'-6" & Sections RSB-Ventilation Equip Bay
NV1266	0	HVAC Annulus Distr HDR PL EL 733'-0" and Section RSB-Ventilation Equip Bay
NN1314	1	Piping RCB-Liner Vent System Plan EL 794'-0" South Half
NN1315	0	Piping RCB-Liner Vent System Part Plan EL 794'-0"
NN1316	1	Piping RCB-Liner Vent System Plan EL 780'-0"


Drawing No. & Rev.Drawing Title

NN1318	1	Piping RCB-Liner Vent System Plan EL 766'-0" North Half
NN1324	0	Piping RCB-Liner Vent System Plan EL 752'-8" North Half
NS1360	1	Reactor Containment Building Liner Plan & Elevation Cell 121
NS1361	1	Reactor Containment Building Liner Plan & Elevation Cell 121
NS1461	1	Reactor Containment Building Reactor Cavity Plan at EL 740'-8" Sections & Details
NS1462	1	Reactor Containment Building Reactor Cavity Plan at EL 788'-8" Sections & Details
NS1470	1	Reactor Containment Building Reactor Cavity Sections & Details
NS1475	1	Reactor Containment Building Reactor Cavity Developed Elev A-A 270° to 90° at R=20'-0"
NS1477	1	Reactor Containment Building Reactor Cavity Liner Sections & Details


CHICAGO BRIDGE & IRON COMPANY

Location OAK BROOK ENGR.

ANALYSIS OF STIFFENERS AT ELEVATION 839' AND 856'

This section contains the stiffener sizing calculations in accordance with Sheets A-66.1 and 66.2. 

Two different stiffener geometries are included in the calculations. The stiffener at elevation 839', approximately between azimuths 135° and 211°, and the stiffener at elevation 856' approximately between azimuths 135° and 195° (both near the equipment hatch) will have a 30" x 1-1/2" web and a 24" x 1-1/2" flange to facilitate removal of the equipment hatch cover. Elsewhere a 48" x 1" web and a 24" x 1" flange are used. The stiffener properties that maximize the requirements are used.

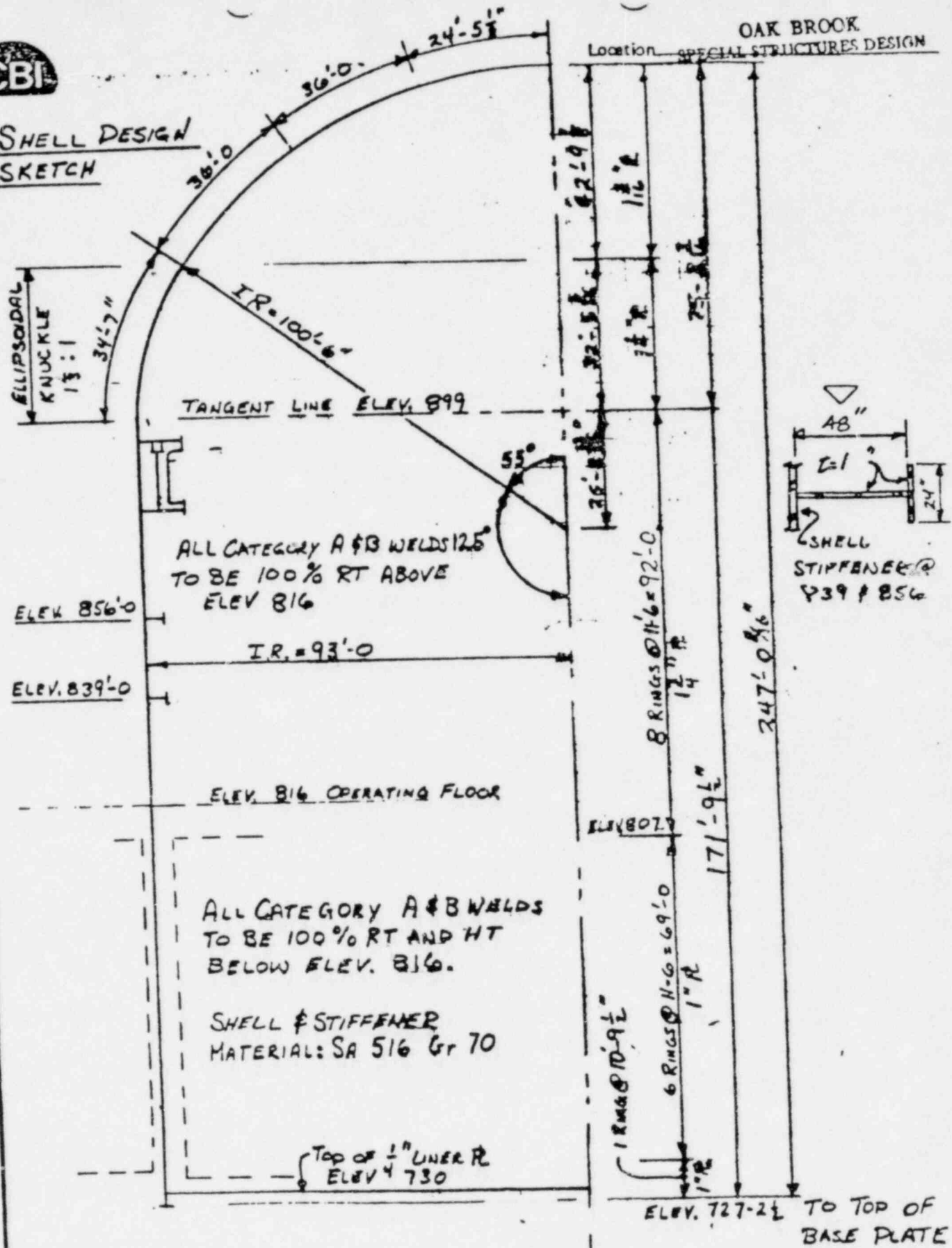
Initially, the equivalent shell thicknesses required for buckling are calculated in proportion to their parts in the interaction equation results. As shown on Sheets B-5.1.1, B-5.1.4, and B-5.1.5, these equivalent thicknesses used in calculations for Sheets A-66.1 and A-66.2 give virtually no required stiffening. ASME Code requirements control and the stiffeners meet the size required. 

*Status print, uncontrolled copy.
Transmitted to assist NRC review
of CRBRP. Anticipate design
changes will be made and drawing out
of date.*

SUBJECT	STIFFENER SIZING		MADE BY	CHKD BY	REV 2	BY	BW	CHARGE NO.
	CRBRP CONTAINMENT VESSEL		DAM	RAW		CHKD	FW	5-4331
			DATE	DATE		DATE	4/80	SHD-5.100
			2/79	2/79				

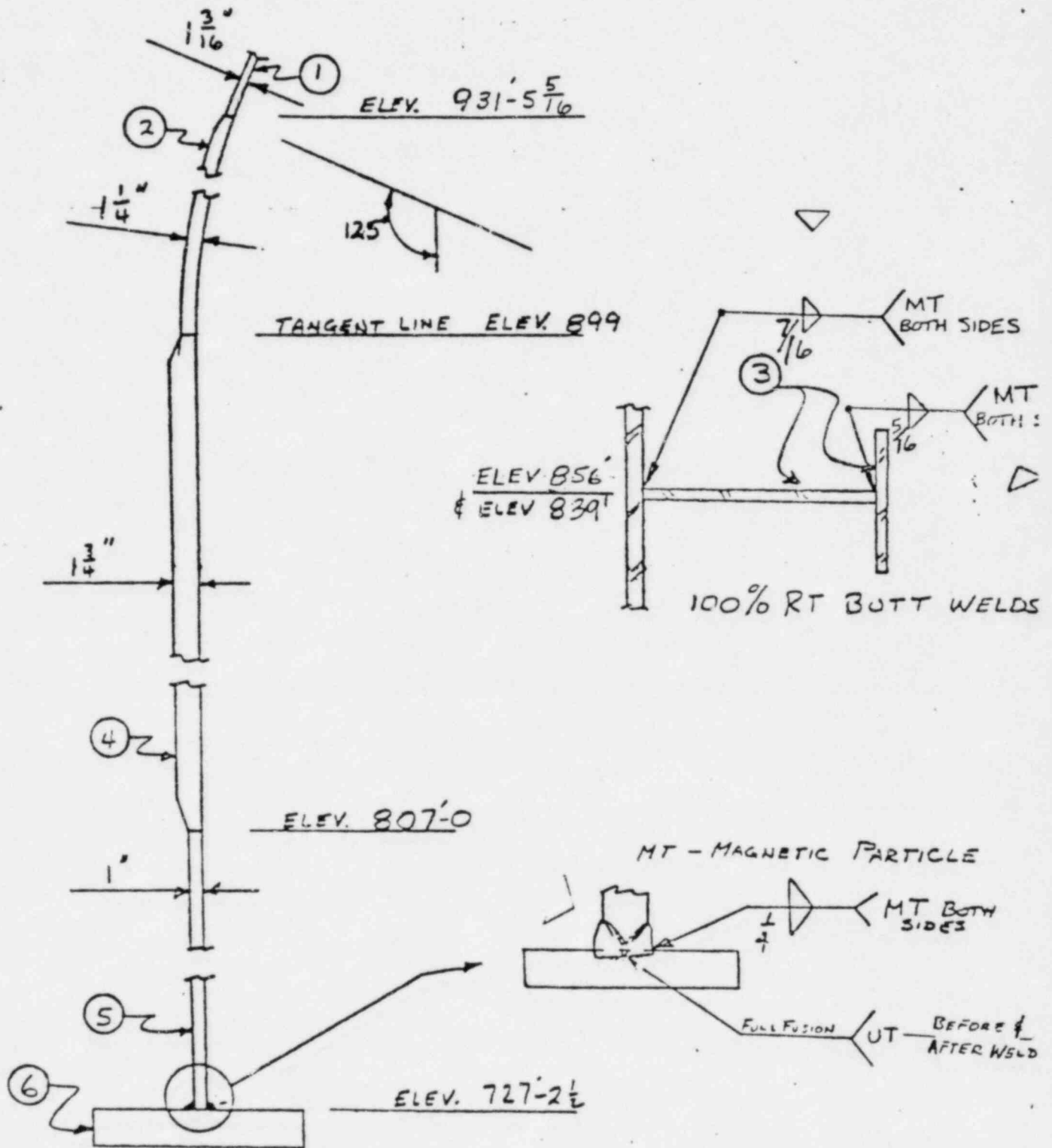


SHELL DESIGN SKETCH



RT - RADIOGRAPH EXAMINATION
 HT - HALIDE TEST

SUBJECT BASIC SHELL DESIGN	MADE BY RAW	CHKD BY KM	REV'D	By EAM	CHARGE NO. 5-4331
	DATE 10/9-75	DATE 10/75		Chkd PAW	
CRBRP Containment Vessel			Date 2/79	SHT B-1.1 OF	



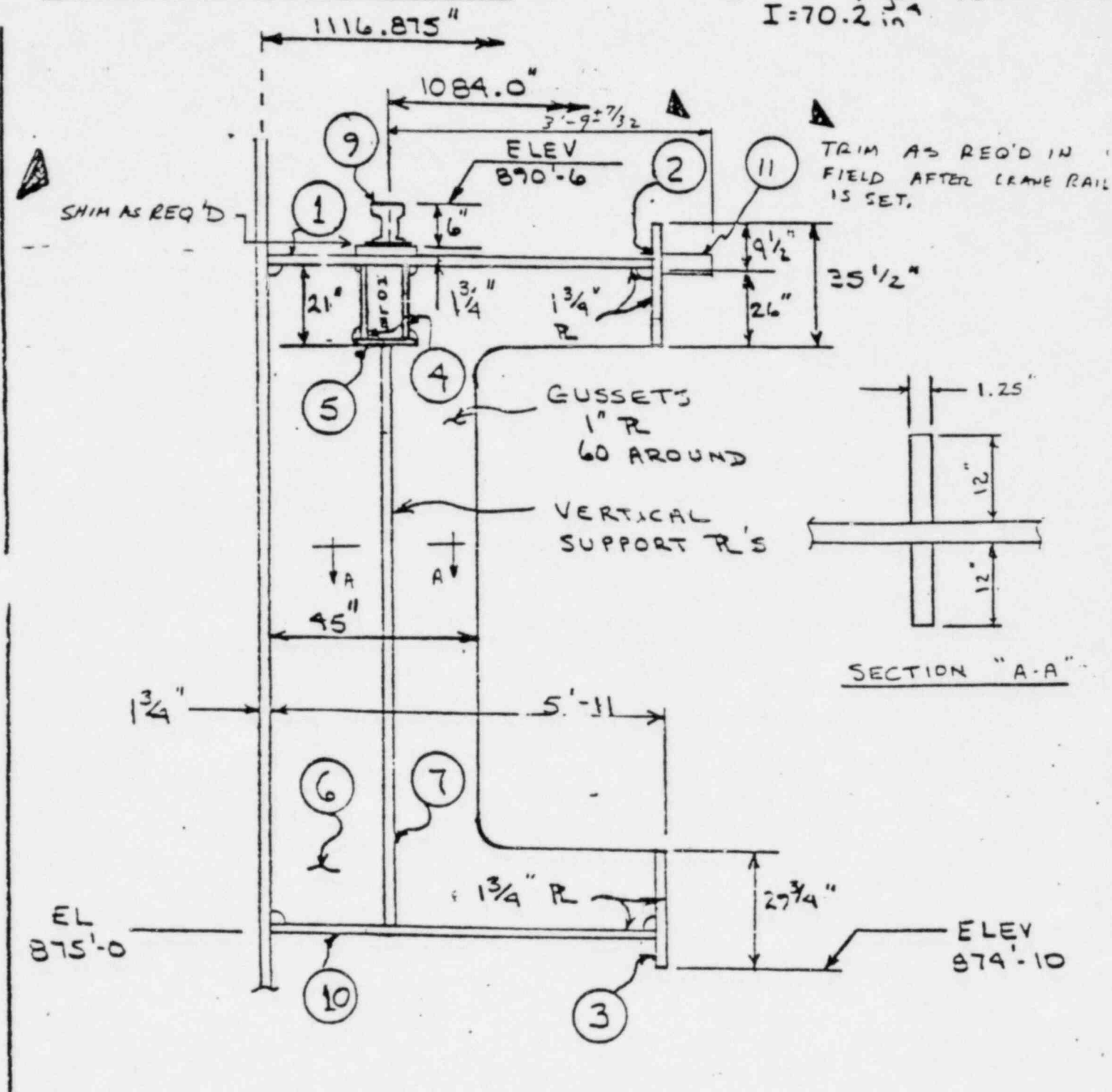
DO NOT WELD RINGS TOGETHER AT BUTT JOINTS OF BASE
 RING MATERIAL : SA 516 GR 70

SUBJECT	MADE BY	CHKD BY	6	By	RAW	CHARGE NO.
	DATE	DATE		Chkd		
CRBRP Containment Vessel	10-9-75	10/75	REV			B-1.2



CRANE GIRDER DETAILS

RAIL 175#/yd. (BETHLEHEM)
I=70.2 in⁴



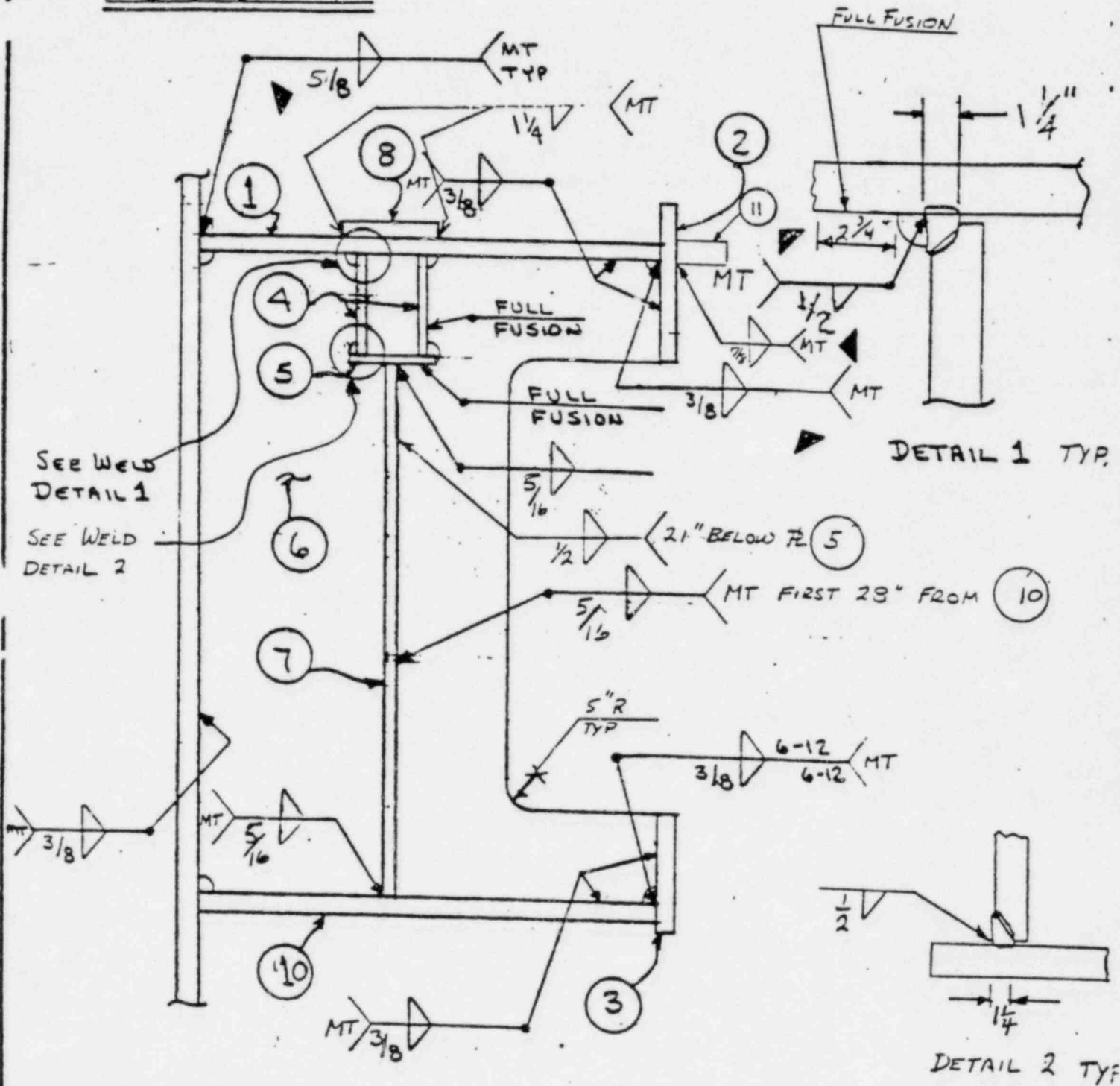
SECTION THRU CRANE GIRDER SUPPORT

- NOTE 1. USE 1 1/4" RATHOLES
2. PROVIDED FOUR EQUALLY SPACED 1/2" Ø HOLES IN R 5

SUBJECT CRANE GIRDER SKETCH CRBRP Containment Vessel	MADE BY SCB	CHKD BY RHS	4 REV	BY RDH	CHARGE NO. 54331
	DATE 3/26/77	DATE 12-22		CHKD FP	
DATE 4/25/82			SHT JA-3 OF		



WELD SUMMARY



SEE WELD
 DETAIL 1

SEE WELD
 DETAIL 2

NOTE: 1) (1) TO (1), (2) TO (2), AND (3) TO (3) AND
 (10) TO (10) RT BUTT WELDS

SUBJECT WELD SUMMARY CRBRP Containment Vessel	MADE BY SCB	CHKD BY RAW	3 REV	BY RDH	CHARGE NO. 3-4331
	DATE 11/28/77	DATE 1/2/77		CHKD FP	
9064 REV 4-73				DATE 4/25/82	SHT. 2-4 OF



MARK	DESCRIPTION	MATERIAL
1	R ~ 3/4" THK	SA 516 GR 70
2	R ~ 3/4" THK	SA 516 GR 70
3	R ~ 3/4" THK	SA 516 GR 70
4	R ~ 3/4" THK	SA 516 GR 70
5	R ~ 3/4" THK x 12"	SA 516 GR 70
6	R ~ 1" THK 60 REQ'D.	SA 516 GR 70
7	R ~ 1 1/4" THK 120 REQ'D.	SA 516 GR 70
8	R ~ 3/4" THK x 12"	SA 516 GR 70
9	175# 140. RAIL	ASTM A1
10	R ~ 1 3/4" THK	SA 516 GR 70
11	R ~ 2" THK	SA 516 GR 70

SUBJECT MATERIAL SPECIFICATION	MADE BY SCB	CHKD BY RHS	# REV	BY RDH	CHARGE NO. S-4331
	DATE 11-28-77	DATE 12-77		CHKD FP	
CRBRP Containment Vessel				GHT- JA-S OF	