

दूरभाष :
TELEPHONE :
तार : बार्क-मुंबई, चेम्बुर.
TELEGRAMS: BARC-MUMBAI, CHEMBUR.
टेलिक्स : ०११-६१०१७/०११-६१०२२ बार्क ईन
TELEX: 011-61017/011-61022 BARC IN
फेक्स संख्या : ११-२२-५५०५१५१
FAX NUMBER: 91-22-5505151



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
भाभा परमाणु अनुसंधान केन्द्र
BHABHA ATOMIC RESEARCH CENTRE

Reactor Operation Division
Cirus

ट्रॉम्बे,
मुंबई-४०० ०८५.
TROMBAY,
MUMBAI-400 085.

Ref: ROD/CIR/G-7/361 /2022

25/4/22
April 21, 2022

TENDER NOTICE

Sub: "Fabrication and Supply of Stainless Steel Containers, Stainless Steel Basket & Overpack and Mild Steel resin container for RCB at Cirus"

Sealed quotation is invited, for and on behalf of the President of India, for the above job as per the description and scope of work given below.

1.1 Tender offer is to be submitted in two parts viz. **Part-A** (Techno-commercial Bid) and **Part-B** (Price Bid).

In **Part-A** (Technical Bid) bidder must attach following documents;

- PAN No, GST certificate / Number.
- List of available plant & machinery.
- List of technical manpower along with organizational structure.
- Proof of having satisfactorily completed similar works.

In **Part-B** (Price Bid), the quotation shall be in the format of attached schedule-B and shall show the basic cost and GST separately, if applicable.

1.2 Bidders are required to submit in separate sealed envelopes, containing and indicating the following on outside:

First Envelope	Tender no.	Part-A (Technical Bid)
Second Envelope	Tender no.	Part-B (Price Bid)

The technical bid and the financial bid should be sealed by the bidder in separate covers duly super scribed and both these sealed covers are to be put in a bigger cover which should be sealed and duly super scribed with the name of the work, name and address of bidder, tender notice no. and due date.

1.3 Sealed and super scribed Tenders as mentioned above in 1.1 shall be sent to and will be received up to **15.00 hrs. of 11th May 2022, at the address given below. The quotation shall be sent through Indian postal services only by registered post / speed post.**

Quotation delivered by person or through courier will not be accepted and not considered for bidding process.

To,
ROD Office, Dhruva
Kind Attn: Shri M K Ojha, SO/F
ROD/ CIRUS
BARC, Trombay
Mumbai-40085

- 1.4 After opening of Part-A of the tender, bidders shall be evaluated, for their techno-commercial capability to carry out the work based on;
- Technical capabilities in regard to tendered work
 - Organizational structure.
 - Available resources, skilled man power and previous experience of similar jobs.
 - Quality and safety consciousness.
 - Adherence to time schedule for the completed works.

Those who do not satisfy the conditions in **Part-A** shall not be considered for **Part-B**. Part-B (Price Bid) of tender will be opened at a later date only for the successful bidders who are qualified through technical evaluation.

- 1.5 The acceptance of tender will rest with Director, Reactor Group, BARC on behalf of The President of India who does not bind himself to accept the lowest tender and reserves to himself the authority to reject an or all of the tenders received, without assignment of any reason.
- 1.6 In the event of any conflict between or within the various sections of this specification or in case of any doubt, decision of the indenter shall be final.
- 1.7 The bidder shall quote clearly break up of basic price and taxes.
- 1.8 The quotation shall be given on vendor's letter head and properly signed in the format given in the Schedule of work. The vendor shall provide the PAN no. and GST no. along with quotation.
- 1.9 No advance or part payment is admissible.
- 1.10 The quality of workmanship shall conform to high standards and strictly as per specifications and drawings provided.
- 1.11 The contractor shall have experience in execution of similar jobs. Your quotation shall accompany suitable documents regarding this.

2.0 SCOPE OF WORK:

The scope of work mainly involves the following jobs:

- Fabrication, testing and supply SS 304 L basket and overpack as per drawing CIR-2019(1).
- Fabrication, testing and supply SS 304 L containers as per drawing CIR-2017(1).
- Fabrication, testing and supply of mild steel containers as per drawing C-1252.

- iv. Fabrication, testing and supply of male cam lock coupling along with matching female camlock coupling as per drawing attached.

The quantum of work will include fabrication using specified materials, quality checks, testing and supply as per the approved drawings and technical specifications provided in annexure-1. All the material shall be arranged by the contactor.

3.0 WORK COMPLETION PERIOD:

Four months from the date of issue of work order.

4.0 MATERIALS AND WORKMANSHIP

4.1 Material:

Material required for the fabrication is stainless steel- 304L grade and shall be arranged by the contactor. The material shall bear mill stamp and proper co-relating mill certificates. In case, co-relating manufacturer's T.C (s) are not available, samples shall be drawn from the sheets and tested, as per the code requirements. In this case the supplier will arrange all materials and testing of the material in an approved laboratory for confirming to the properties of specified material at no extra cost. Supplier should produce the certificate in original in this regard.

4.2 Workmanship:

Workmanship shall be of first class, high grade quality and in accordance with the best approved method of fabrication and as per drawings. Welding shall be carried out by qualified welder and shall be smooth, continuous, uniform and of good quality. The indenter shall have the power to reject any works which in his judgment are not in full accordance therewith.

5.0 DRAWING REQUIREMENTS:

- 5.1 All the containers shall be fabricated as per dimensions, tolerances and instructions/notes given in the drawing supplied. In the case of variations in drawing and specifications, the decision of the Purchaser shall be final. Should the Vendor in the execution of his work, find discrepancies in the information furnished by the Purchaser, he shall refer such discrepancies to the facility before proceeding with such work.
- 5.2 Indenter reserves the right to revise the drawings. Minor changes or modifications in the design that may be incorporated before fabrication to improve the performance of the product shall, be considered within the scope of specified work. Purchaser will issue such modified drawings to the successful Vendor after placement of purchase order.
- 5.3 **Warranty Clause:** The supplies should accompany a warranty for a period of one year against the material used and faulty workmanship.

6.0 GENERAL INFORMATION TO BIDDER

- a. No advance or part payment is admissible.
- b. In case any extension in the job completion period is required, the vendor has to write to BARC giving proper justification for the delay & it should be approved by the concerned division in BARC.
- c. We reserve the right to terminate the contract at any stage of execution of the

contract, without assigning any reasons.

- d. For any clarification bidders may contact M K Ojha on telephone no. 25596250 on all working days.

7.0 PENALTY:

Any delay which is attributable to the contractor is liable for penalty @ ½% per week (max 10%) to be imposed on the contractor.

8.0 PAYMENT:

By ECS within 3-4 weeks after satisfactory completion of works and submission of bills with advanced stamped receipt, bank details and Guarantee certificate.

9.0 DEDUCTION OF TAXES AND SURCHARGES:

Income tax @2% (or as applicable) plus education cess will be deducted from the bill.

10.0 CONFIDENTIALITY CLAUSE:

Confidentiality:

No party shall disclose any information to any third party concerning the matter under this contract.

Restricted information:

Categories under section 18 of the Atomic Energy Act, 1962 and “official secrets” under section 5 of Official Secret Act, 1923 – Any contravention of the above-mentioned provisions by any contractor, sub-contractor, consultant, advisor or the employee of a contractor will invite penal consequences under the aforesaid legislation.

Prohibition against use of BARC’s name without permission for publicity

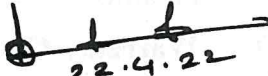
The contractor or sub-contractor, consultant, advisor or the employees engaged by the contractor shall not use BARC’s name for any publicity purpose through any public media like press, radio, TV or internet without the prior written approval of BARC.

11.0 SECURITY INSTRUCTION:

Please indicate whether any of your relatives are employed in BARC or you or any of your employees were employed in BARC or any other units of DAE.

Encl:

Schedule of work
Annexure-1


22.4.22

(C G Karhadkar)

Director Reactor Group

सी.जी. कर्हाडकर / C G Karhadkar

For and on behalf of the President of India

Director, Reactor Group, BARC

Cc:

1. AO (Works)
2. DS (Cirus & Apsara)
3. ROD Office

Schedule-B

Schedule of Work

Name of work: "Fabrication and Supply of SS Containers to Store U-Slurry, SS Basket & Overpack for Disposal of Damaged Fuel Rod Outer Sheath and MS mixed bed resin container for RCB at Cirus"

1	2	3	4
Sl. No.	Particulars	Qty	Cost (Rs.)
1	Fabrication & supply of basket and overpack assembly (SS304L) for Storing fuel rod damaged outer sheath.	10 No.	
2	Fabrication of Stainless-Steel Container (SS304L) with quick coupling for Storing Uranium Muck.	10 No.	
3	Fabrication & supply of Mild steel container for mixed bed resin cartridge	40 No.	
4	Fabrication & supply of SS 304L male Camlock Coupling	100 No.	
5	Fabrication & supply SS 304L female Camlock Coupling	30 No.	
Total Basic cost			

Basic cost:

GST :

Other charges (if any):

Total (including all of above): Rupees

(In figures & words)

Date:

Authorised Signature & Seal of Vendor

Annexure-1

Technical specifications

1. **Technical specification for Fabrication, testing and supply SS 304 L basket and overpack as per drawing CIR-2019(1):**
 - 1.1 The fabrication should be strictly in accordance with drawing CIR-2019(1). Container shall be made of stainless steel 304L conforming to ASME Boiler and Pressure Vessel Code Section II – Part A or equivalent. Marginally higher thickness will be acceptable.
 - 1.2 One Basket and Overpack assembly consist of a basket and an overpack where the overpack can be sealed in air-tight manner with the basket sitting inside.
 - 1.3 The basket, as shown in drawing shall have perforations at bottom and also handle at top for remote handling. It shall go inside the overpack freely and upon resting the handle shall stabilize at horizontal position.
 - 1.4 The overpack is a SS-container with top cover attached through hinge joint. The cover shall sit freely on the Teflon gasket kept at designated slot of overpack. The cover thus placed shall be tightened with four swivel bolts in air-tight manner as per drawing. The purpose of hinge is holding and guiding the top cover on overpack. It should have sufficient play to allow the cover to sit on the O-ring freely without compression on the hinge side.
 - 1.5 The main shell of overpack shall have one vertical welding.
 - 1.6 The O-ring to be provided shall be of **Teflon material O-ring** as per the dimension mentioned in the drawing.
 - 1.7 At the top of cover there shall be 0.5” nipple with threaded plug for pressure testing provision.
 - 1.8 All welded joints should be examined by 100% DPT (as per ASME Section V-SE165) and ensured to be free of porosity, cracks and other defects. Weld splatters should be ground and removed.
 - 1.9 **Inspection and Testing:** All fabricated, finished assemblies shall be submitted for inspection & testing by indenter or his representative at supplier’s premises as follows:
 - a) The basket and overpack assemblies shall be inspected to verify that the dimensions, fit, alignments, surface finish and shall be in accordance with the requirements shown in the design drawings and indicated in fabrication requirement.
 - b) Pneumatic test shall be carried out for each overpack at 0.85 Kg/cm². The containers should hold & withstand the pressure without any leak/ deformity. After pressurizing the overpack should be submerged in water. Any appearance of bubble indicates failure of test. Each overpack shall qualify the test, failing which the entire lot will be liable for rejection.

- 1.10 Supplier shall inform indenter when the containers are ready for inspection/testing.
- 1.11 The containers shall be ensured to be emptied and dried from inside after hydro-test. Pipe openings shall be sealed using threaded caps as shown in the drawing to prevent entry of any water/ foreign matter during transport/ storage.
- 1.12 Containers will be checked at the indenter's premises. Supplier shall replace the damaged container(s) during transportation, without any extra cost.

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2. Technical specification for Fabrication, testing and supply SS 304 L containers as per drawing CIR-2017(1):

- 2.1 The fabrication should be strictly in accordance with drawing CIR-2017(1). Container shall be made of stainless steel 304L confirming to ASME Boiler and Pressure Vessel Code Section II – Part A or equivalent. Marginally higher thickness will be acceptable.
- 2.2 2" size camlock male quick fitting with internal threading made of SS 304L should be welded at both the nozzles of the containers. The fitting should be rated for a pressure of 5 kg/cm². Leak tight cap of SS 304 should seal the male quick fitting as shown in the drawing (**having standard EPDM O-ring of Parker Make**).
- 2.3 All welded joints should be examined by 100% DPT (as per ASME Section V-SE165) and ensured to be free of porosity, cracks and other defects. Weld splatters should be ground and removed.
- 2.4 **Inspection and Testing:** All fabricated, finished containers shall be submitted for inspection & testing by indenter or his representative at supplier's premises as follows:
 - a. The containers shall be inspected to verify that the dimensions, fit, alignments, surface finish and shall be in accordance with the requirements shown in the design drawings.
 - b. Each container shall be hydro tested at 5 Kg/cm². The containers should hold & withstand the pressure without any leak/ deformity, failing which; the entire lot will be liable for rejection.
- 2.5 Supplier shall inform indenter when the containers are ready for inspection/testing.
- 2.6 The containers shall be ensured to be emptied and dried from inside after hydro-test. Pipe openings shall be sealed using threaded caps as shown in the drawing to prevent entry of any water/ foreign matter during transport/ storage.
- 2.7 Containers will be checked at the indenter's premises. Supplier shall replace the damaged container(s) during transportation, without any extra cost.

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3. Technical specifications for fabrication, testing and supply of mild steel containers as per drawing C-1252.

- 3.1 The containers will be used as mixed bed ion exchange resin cartridges.
- 3.2 The fabrication should be strictly in accordance with the drawing C-1252. Container shall be made of mild steel conforming to IS-2062GRADE-A:1999 or equivalent. Marginally higher thickness will be acceptable. The supplier will arrange all materials and testing of the materials in an approved laboratory for confirming to the properties of specified material at no extra cost. Indenter or his representative will witness cutting of the sample from the material prior to sending of sample for material testing. Supplier shall inform indenter when the material is ready for identification and testing.
- 3.3 Wire mesh (component no.8) shall be of 100 mesh size made of SS-304. Perforated support plates made of SS-304 should provide at least 21% flow area i.e. total area of perforation should be at least 21% of plate area.
- 3.4 All weld joint should be examined by DPT and ensured to be free of porosity, cracks and other defects. Weld platters should be ground and removed.
- 3.5 All fabricated, finished containers before painting shall be submitted for inspection & testing by indenter or his representative at suppliers' premises as follows:
- i. Each container shall be hydro tested at 5 Kg/cm². The container shall hold & withstand the pressure without any leak/deformity, failing which; the entire lot will be liable for rejection.
 - ii. One container out of the lot, selected randomly, shall be dismantled by the indenter or his representative to ascertain quality of fabrication and workmanship. The the entire lot will be liable for rejection in case any manufacturing defect is noticed, including quality of materials and workmanship in the dismantled container.
- 3.6 Supplier shall inform indenter when the containers are ready for inspection/testing.
- 3.7 The container shall be ensured to be emptied and dried from inside after hydro-test. Pipe openings shall be temporarily sealed using plastic caps to prevent entry of any water/foreign matters during transport/storage.
- 3.8 Each container after hydro-test shall be painted externally with two coats of first quality Goodlass Nerolack Epoxy T.A grey color paint after air drying of red oxide primer.
- 3.9 Containers will be checked at the indenter's premises. Supplier shall replace damaged container(s) and repair the damage of paint suffered during transport, without any extra cost.

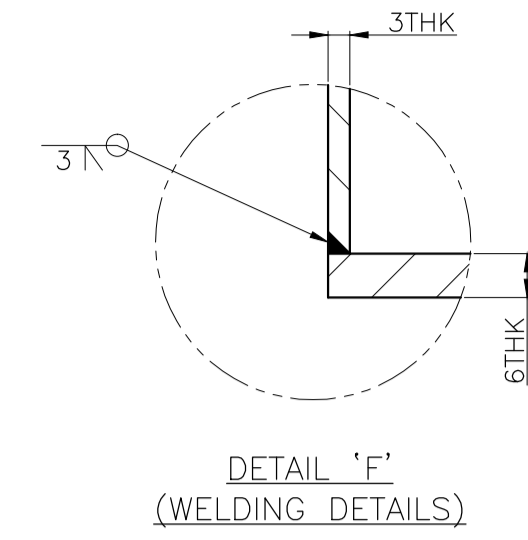
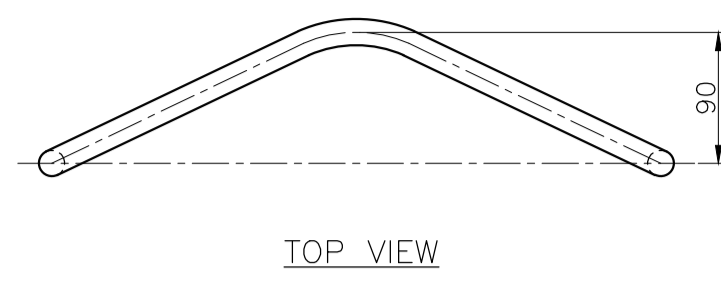
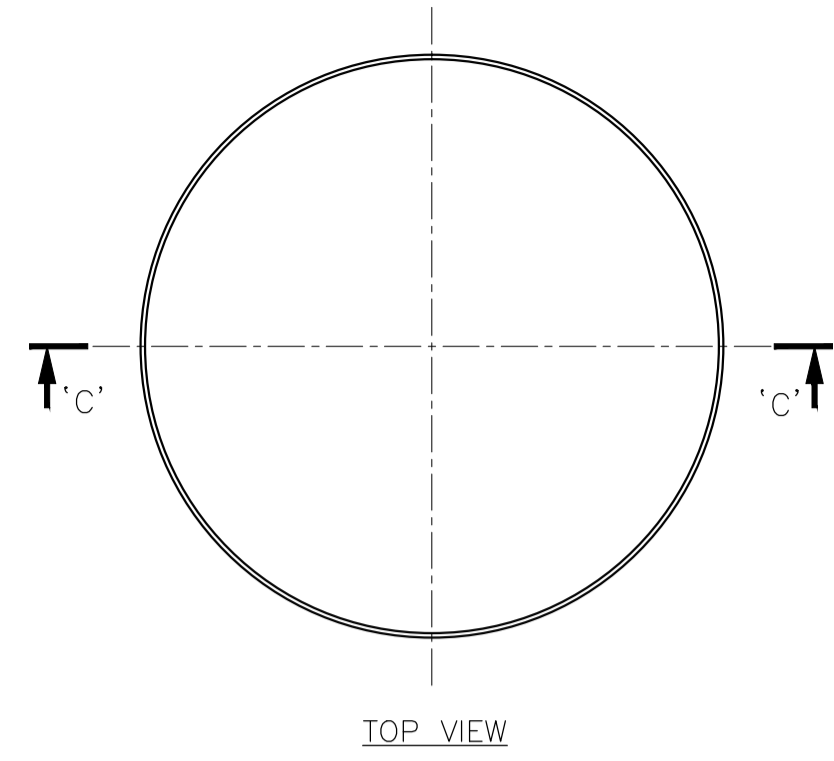
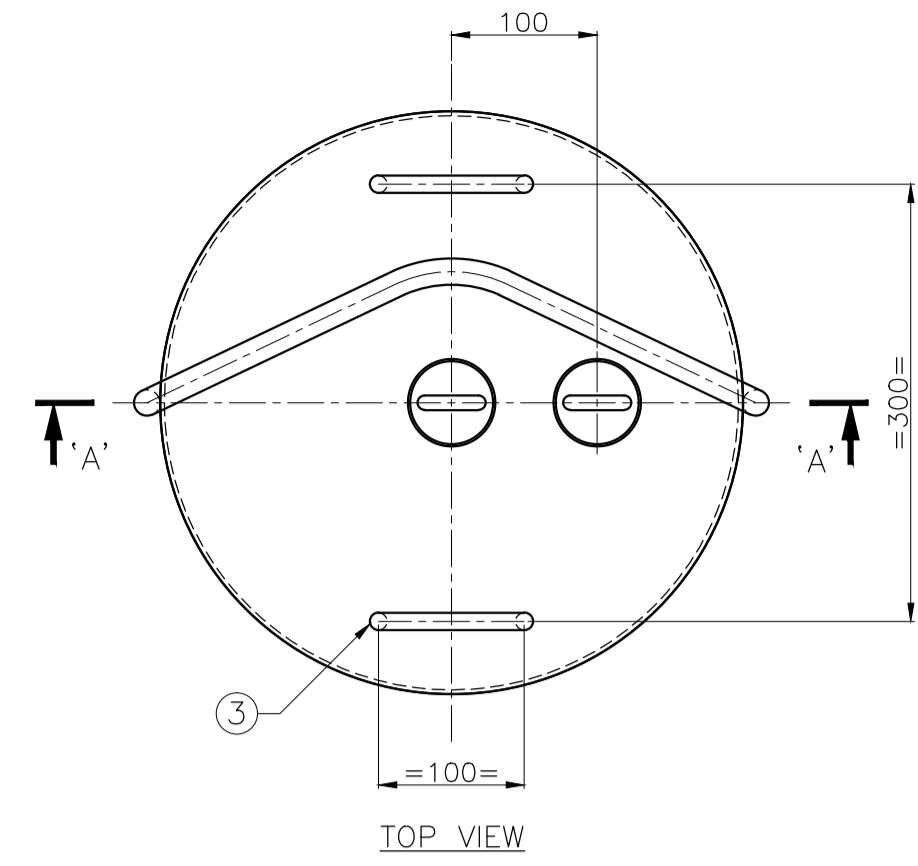
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4. Technical specification for Fabrication, testing and supply of 2" size camlock male quick fitting and 2" size camlock coupler (female fitting) made of Mild Steel with chrome plating:

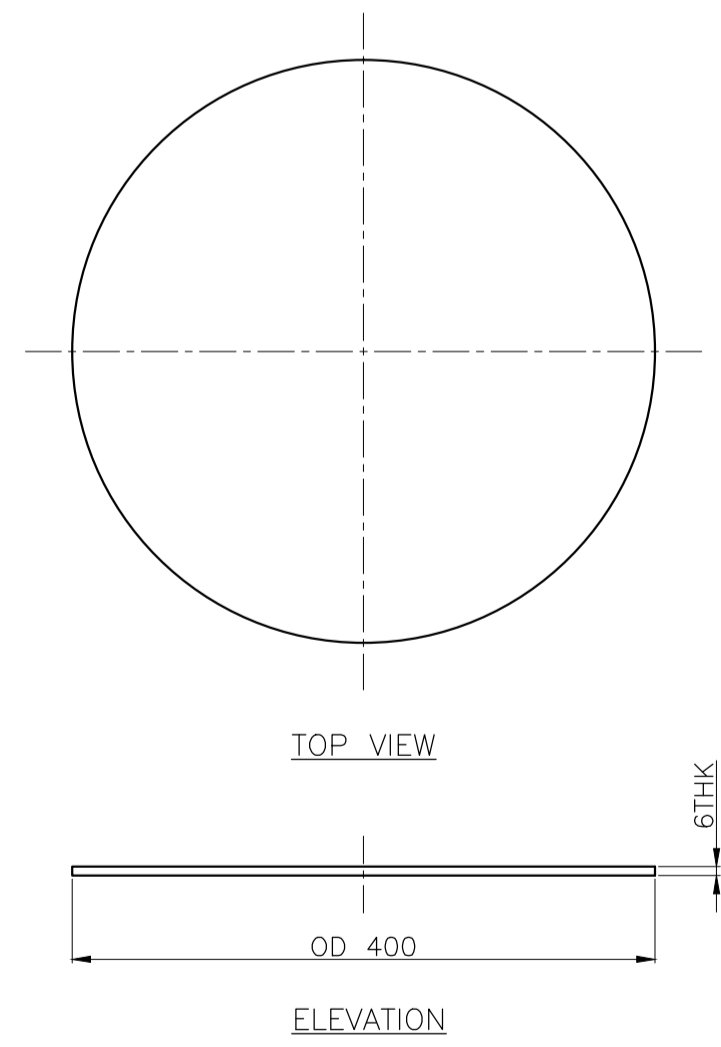
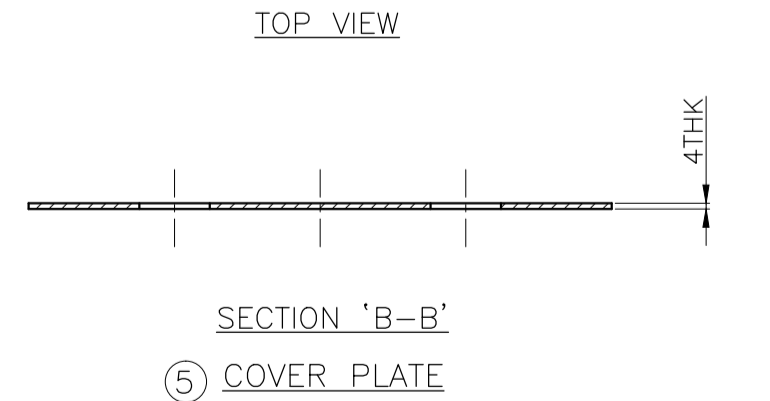
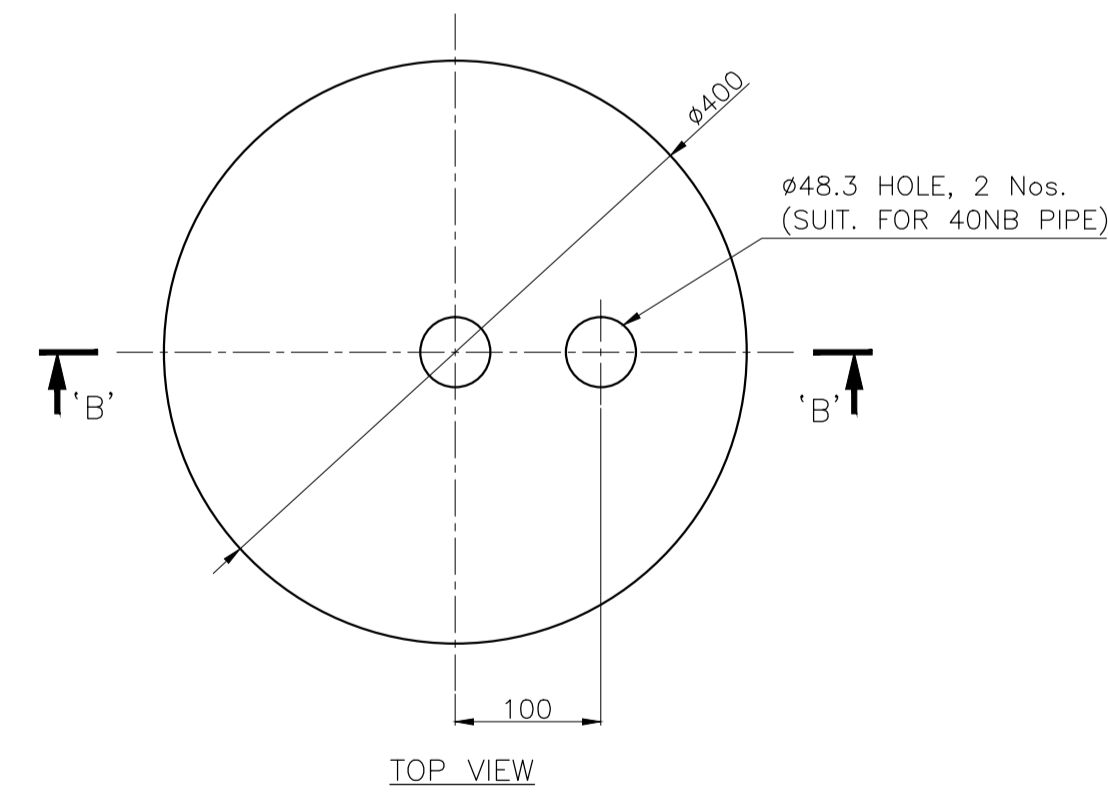
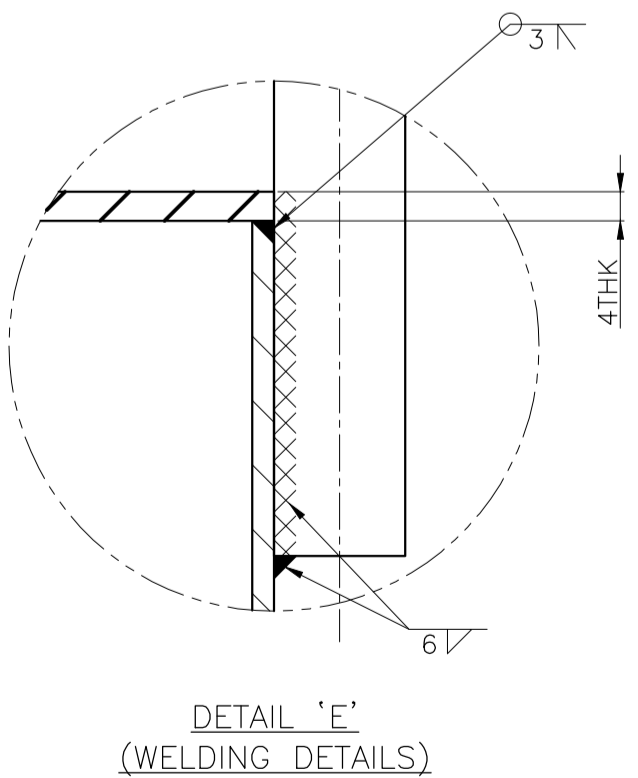
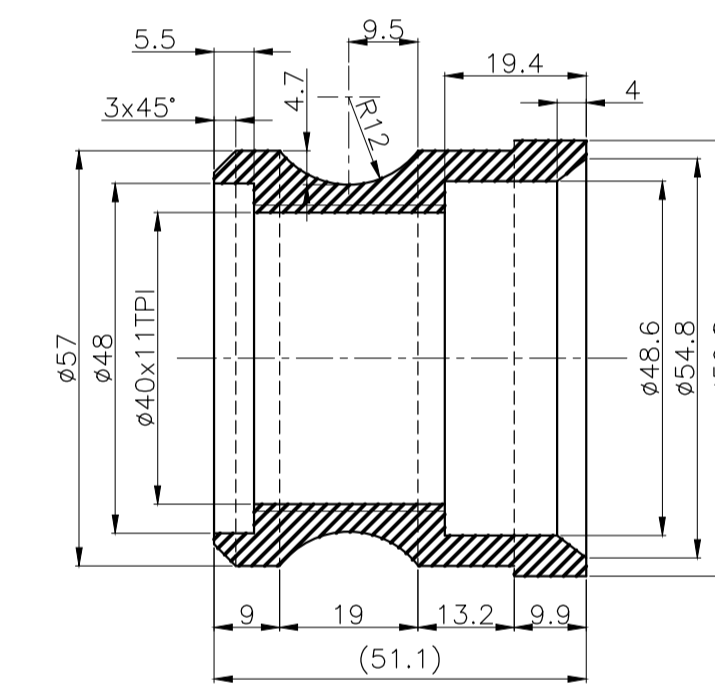
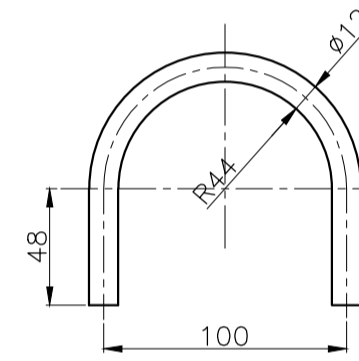
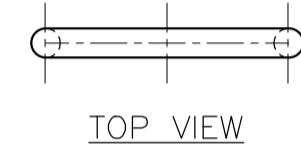
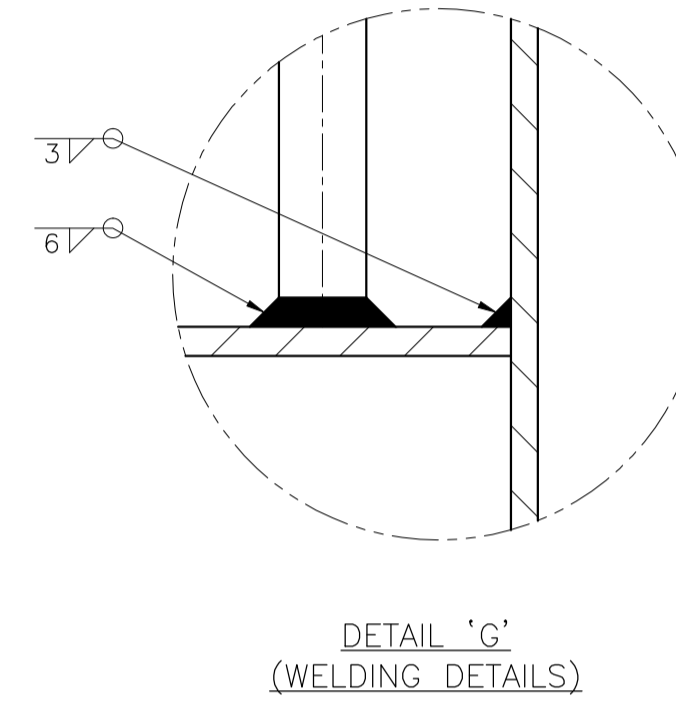
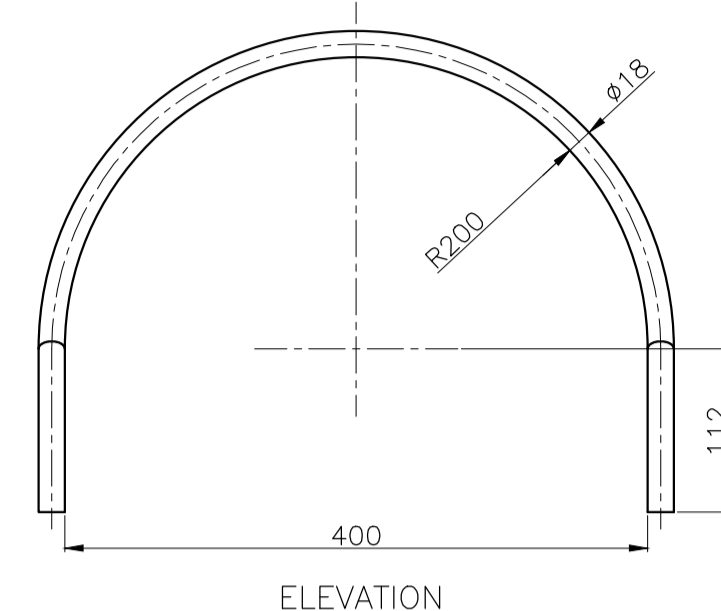
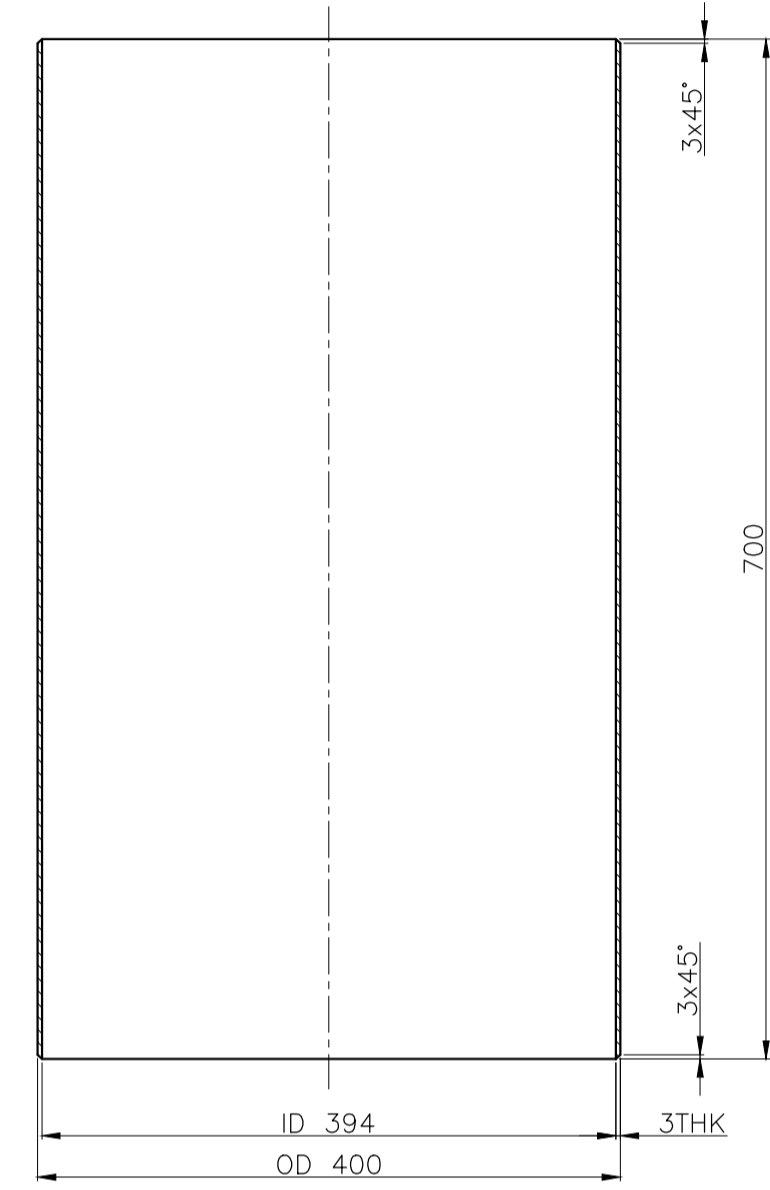
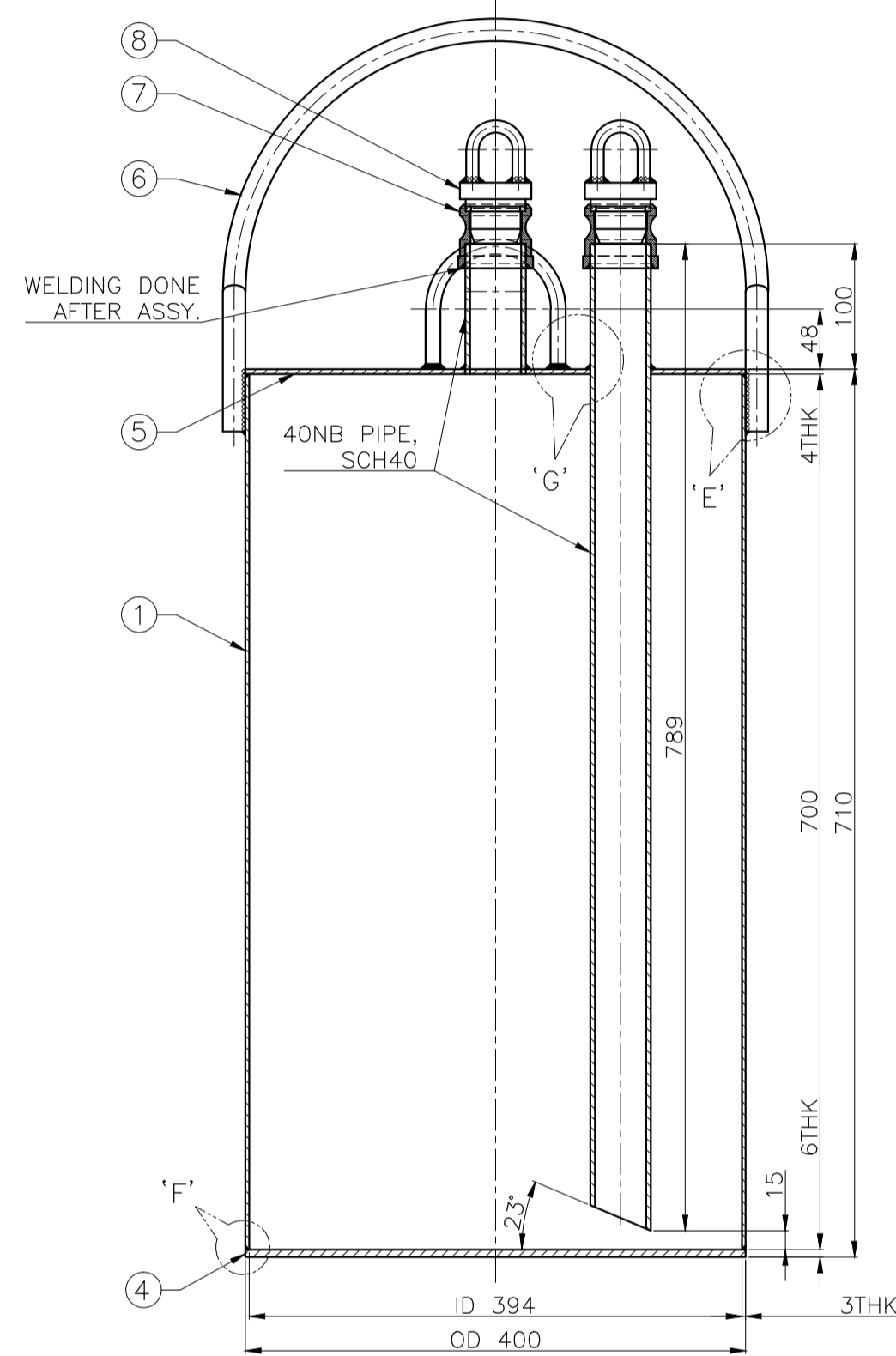
- 4.1 Fabrication of 100 nos. of 2" size camlock male quick fitting shall be done as per drawing without internal threading made of Mild Steel with chrome plating to have a smooth finish and anti-corrosion layer. The other end of should have a socket suitable for lap welding over a 40 NB schedule 40 pipe. The fitting shall be rated for a pressure of 5 kg/cm² and should be leak tight.

- 4.2 Fabrication of 30 nos. of 2" size camlock coupler (female fitting) made of SS 304 with neoprene rubber sealing gaskets. The other end of the fitting should have a shank to snug fit inside 50 mm diameter hose. The pulling rings on the cam levers should have a diameter of ~2" and two ends of the ring should be joined together by welding for ease of opening. The female quick coupling should be rated for a pressure of 5 kg/cm² and should snug fit in leak tight manner with the male coupling fabricated as described in item no. 4.1.
- 4.3 The supplier shall submit one sample of each male and female fittings for checking at our end.
- 4.4 The fabricated male and female quick couplings shall be inspected for snug fit and leak tight at 5 kg/cm² pressure. All the couplings shall be inspected at vendor site and will be accepted if found fit. Those fittings shall be rejected if found not fitting.
- 4.5 All the male and female couplings will be inspected at indenter's premises after delivery. The vendor shall replace any damaged pieces during transport without any extra cost.

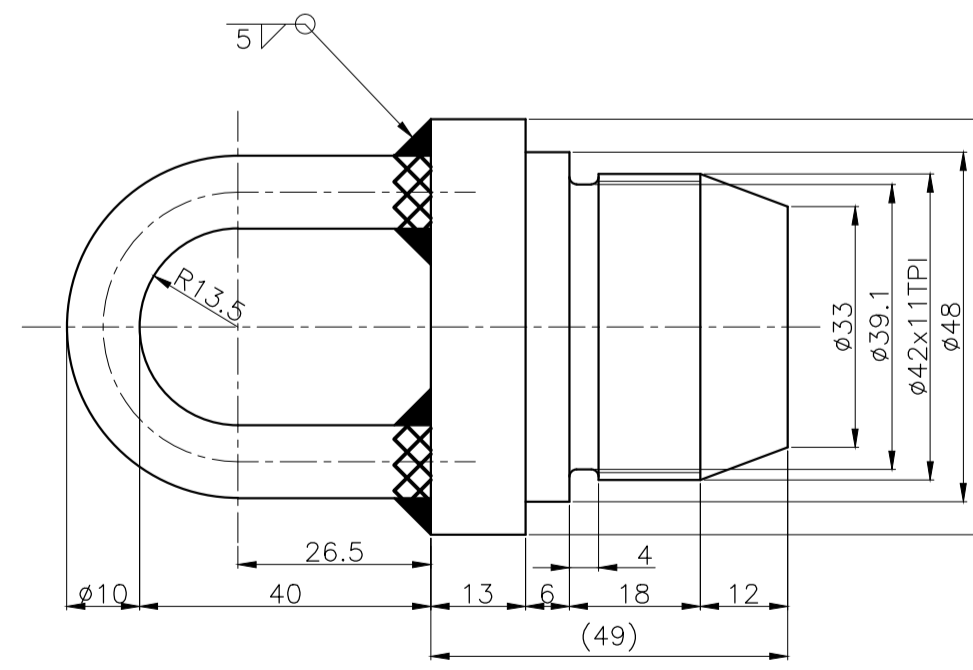
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NOTES:-
1) ALL DIMENSIONS ARE IN MM.



④ BOTTOM PLATE



SR.NO.	DESCRIPTION	SIZE	QTY.	MATL.	REMARKS
08	PLUG	REFER DRG.	02	SS304L	-
07	MALE QUICK COUPLING	REFER DRG.	02	SS304L	-
06	HANDLE-1	Ø18 ROD	01	SS304L	-
05	COVER PLATE	OD400x4THK	01	SS304L	-
04	BOTTOM PLATE	OD400x6THK	01	SS304L	-
03	HANDLE	Ø12 ROD	02	SS304L	-
02	NOZZEL	40NB PIPE,SCH40,1000L	01	SS304L	-
01	SHELL	OD400x3THK, 700L	01	SS304L	-

TITLE: CONTAINER ASSEMBLY WITH DETAILS

DES'D. P.K.SUJITH DRN. BHUSHAN DATE: 04/08/2017 APP'D. DATE:
 DES. CHK'D. DRG. CHK'D. DATE: PROJECTION:
 PROJECT : CIRUS SCALE: 1:5
 DIVISION : REACTOR OPERATION DIVISION FILE NAME: -

GOVERNMENT OF INDIA
 BHABHA ATOMIC RESEARCH CENTRE

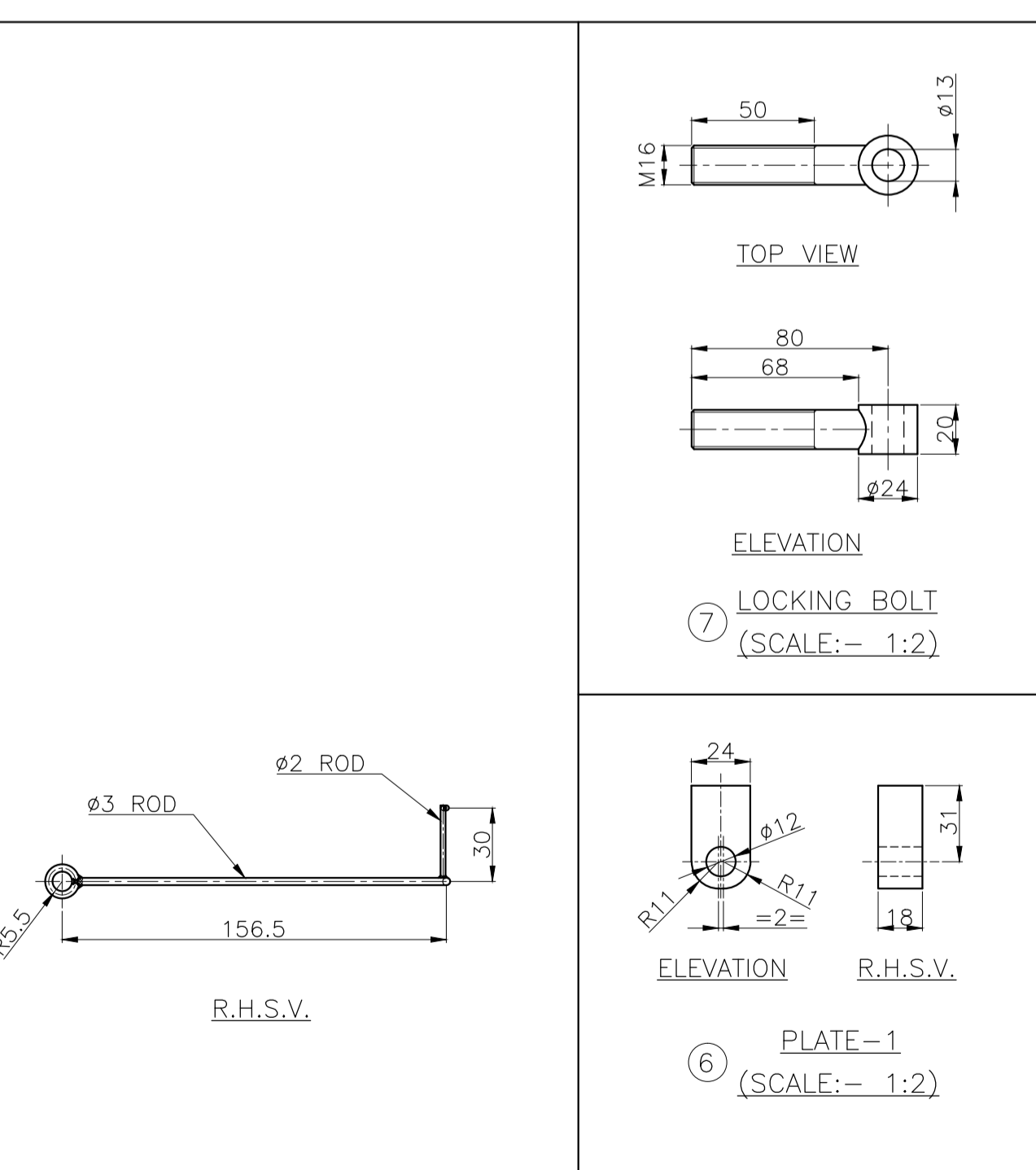
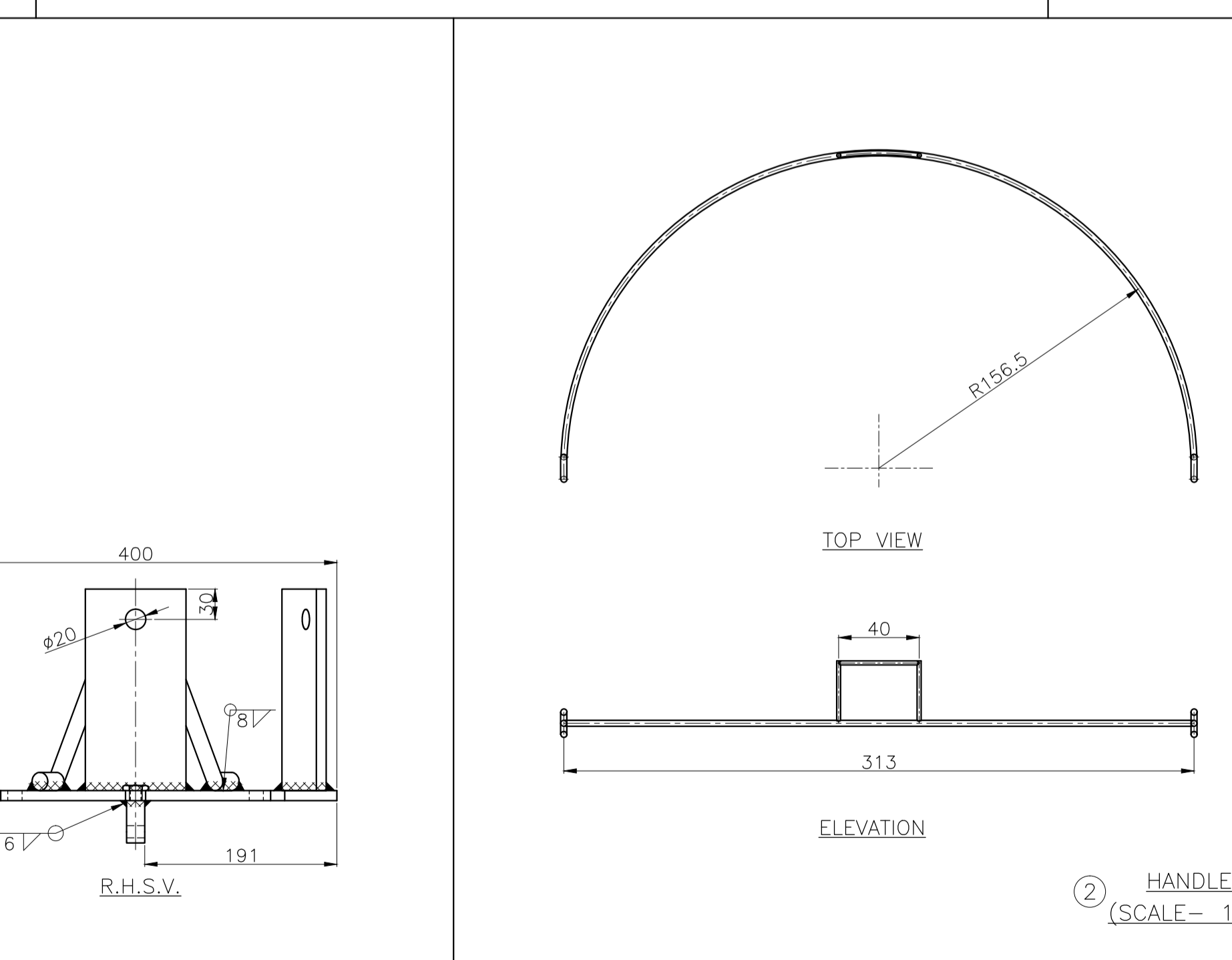
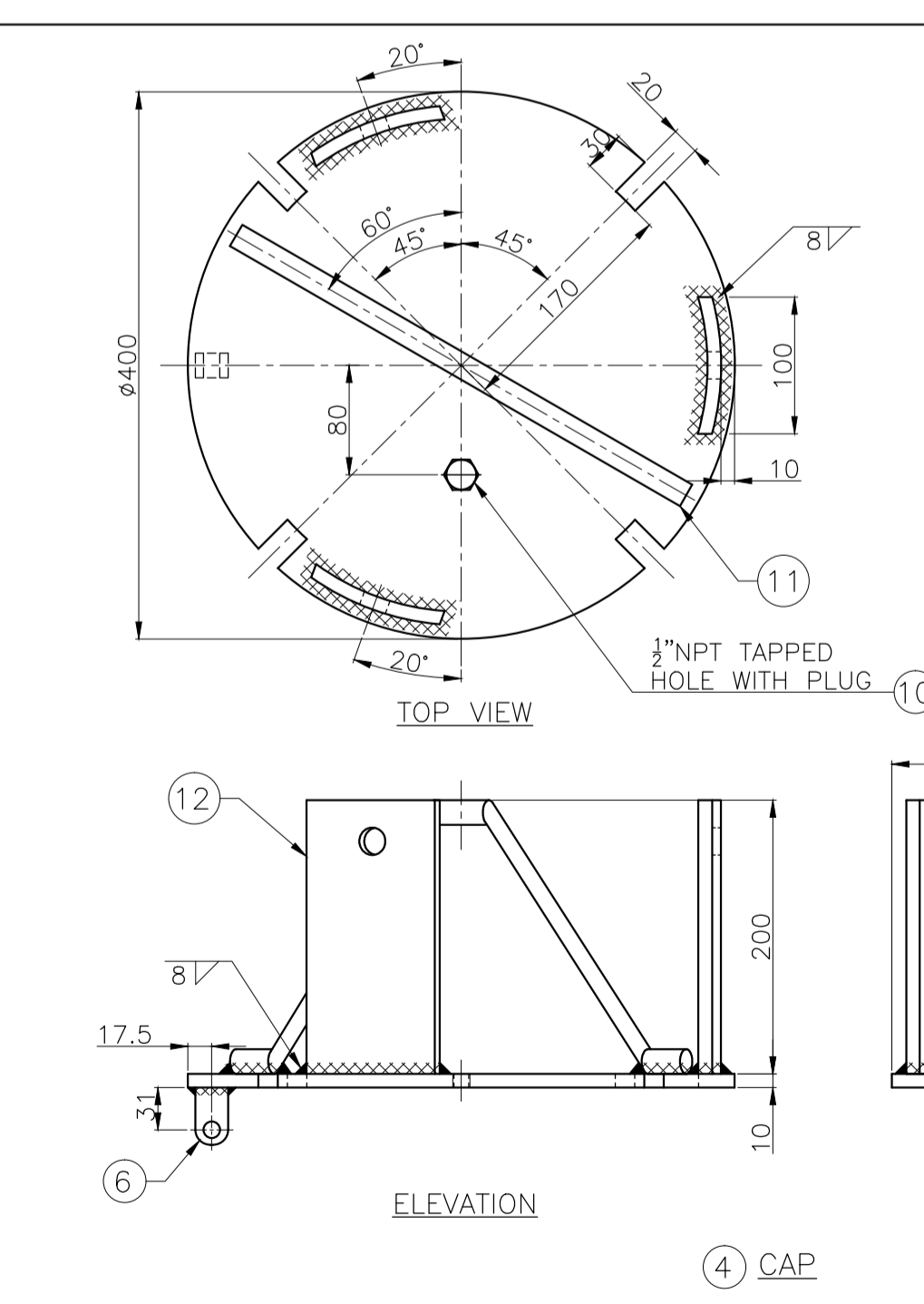
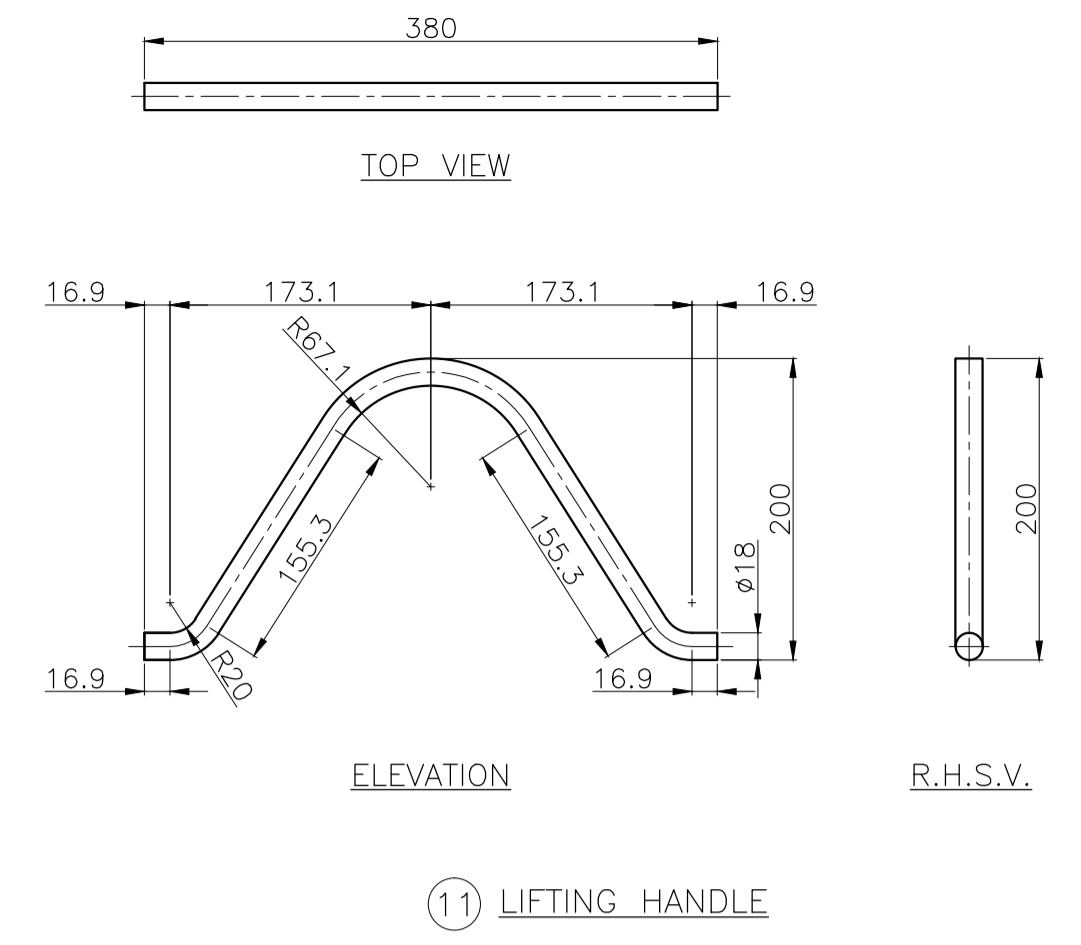
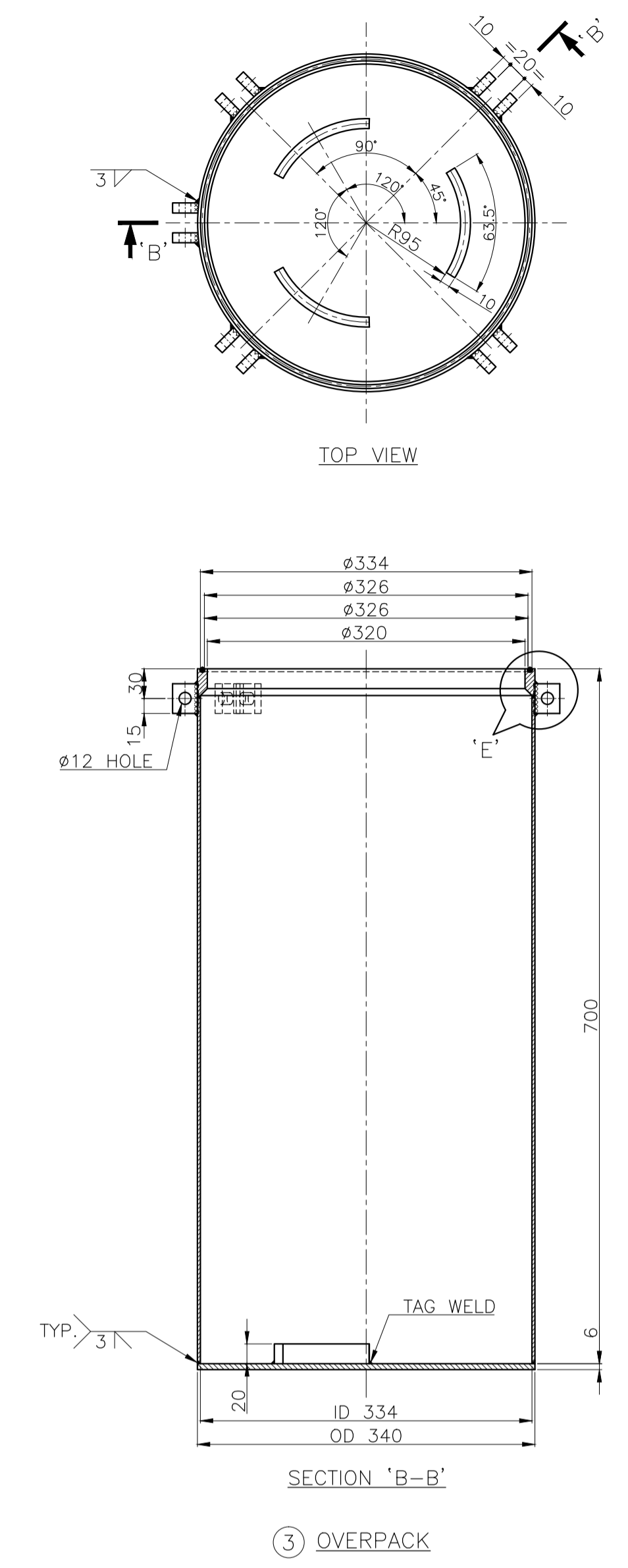
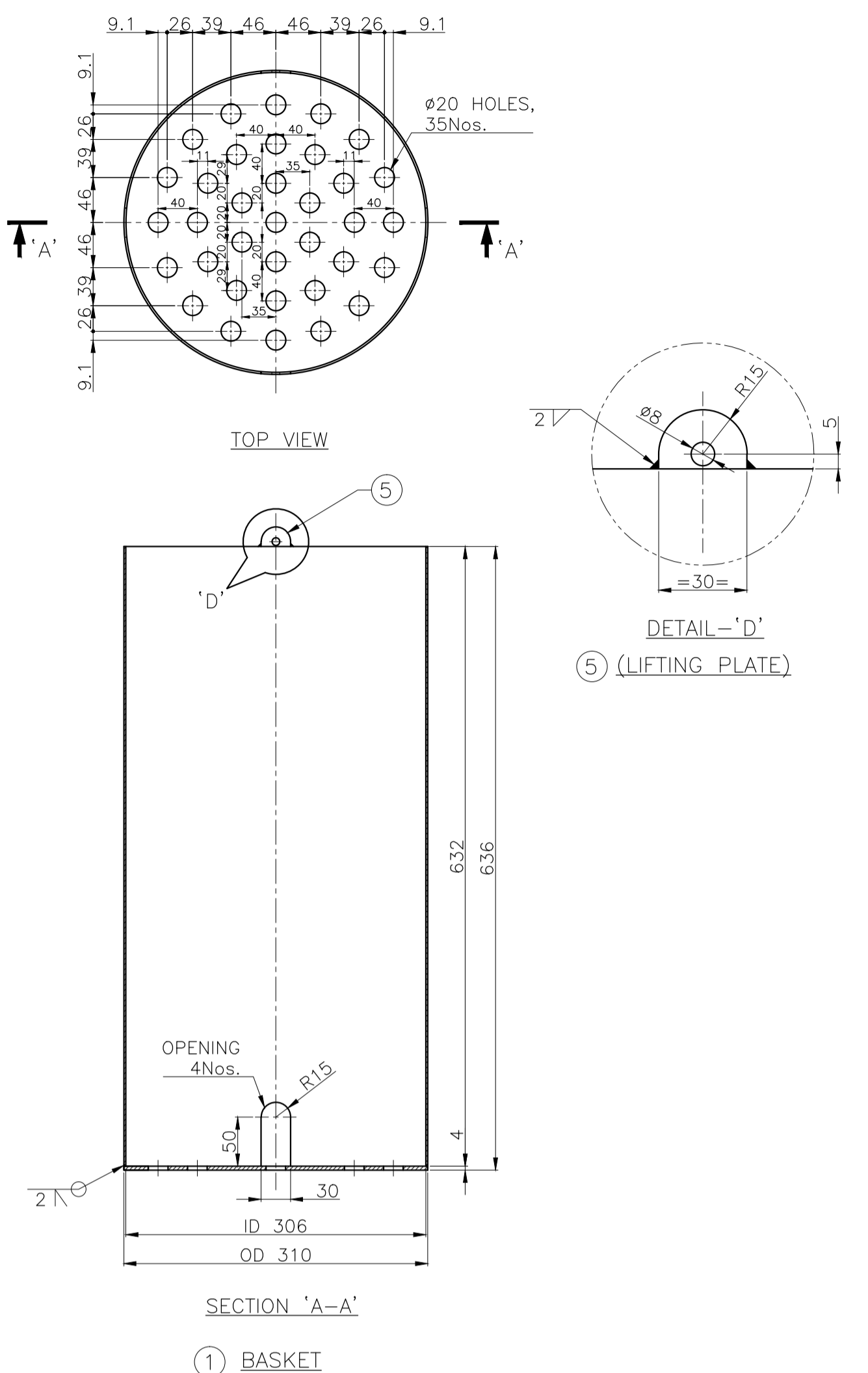
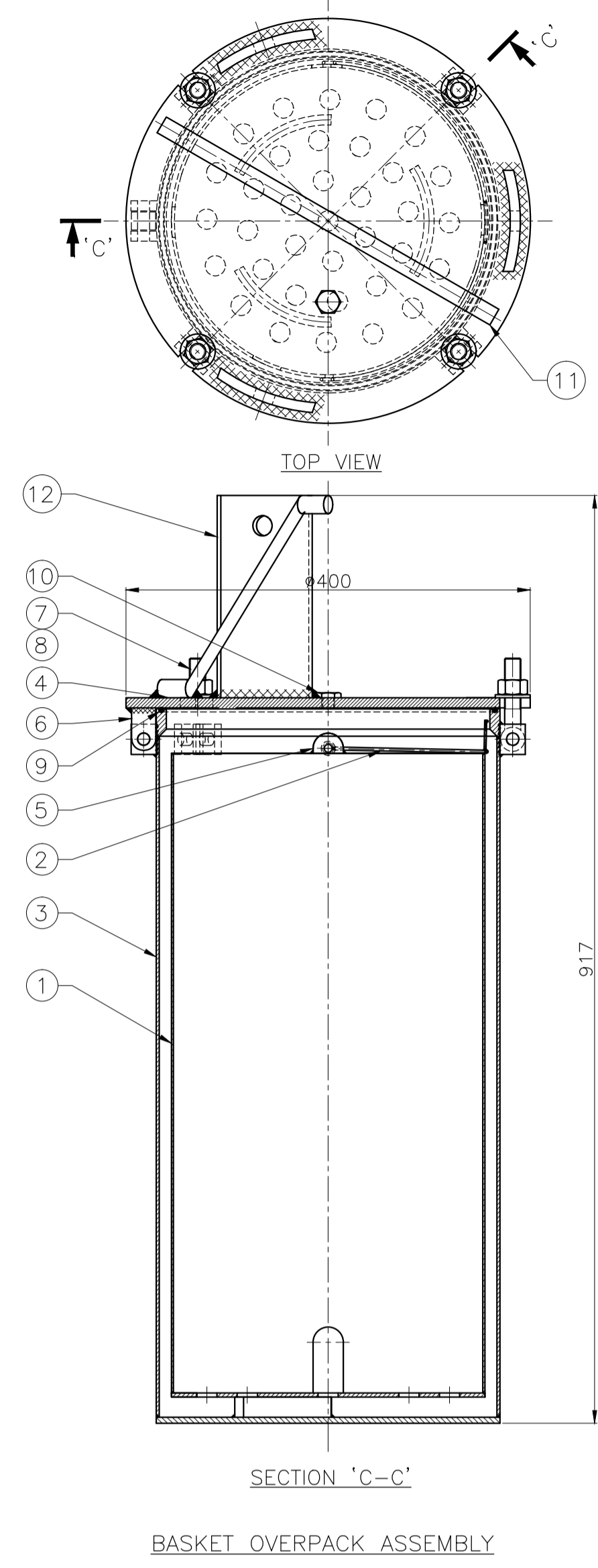
DRG. NO.
 CIR-2017(1)
 SHEET 1 OF 1 REV. 00

CIR-2017(1)
 THIS DESIGN AND DRAWING IS THE PROPERTY OF THE B.A.R.C. IT MUST BE RETURNED WITH QUOTATION OR UPON DELIVERY OF MATERIAL AND EQUIPMENT AND MUST NOT BE USED EXCEPT BY PERMISSION OF THE OWNER.

GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED
 LINEAR DIMENSIONS UPTO - 6 ± 0.1
 6 - 30 ± 0.2
 30 - 120 ± 0.3
 120 - 315 ± 0.5
 315 - 1000 ± 0.8
 LENGTH OF SHORTER SIDE OF ANGLE
 1 - 6 ± 1°
 6 - 30 ± 0.30°
 30 - 120 ± 0.20°
 120 - 400 ± 0.10°
 SURFACE FINISH IN MICRONS 316/304 CHAMFER 1x45°

NOTE :- 1) IF IN DOUBT ASK.
 2) ALL DIMENSIONS ARE IN MILLIMETERS.
 3) REMOVE SHARP CORNERS AND BURRS.

NO.	LOCATION	DESCRIPTION	DRAWN	APP'D.	GROUP	COMMENTS	SIGN.	DATE
		REFERENCE DRAWINGS						
		DRAWING NUMBERS						
		REVISIONS						



NOTES:-
1) ALL DIMENSIONS ARE IN MM.

SR.NO.	DESCRIPTION	SIZE	QTY.	MATL.	REMARKS
12	TOP SUPPORT PLATE	-	03	SS304L	-
11	LIFTING HANDLE	Ø18 ROD	01	SS304L	-
10	PLUG	½" NPT	01	SS304L	-
09	O-RING	-	01	TEFLON	-
08	HEX. NUT WITH WASHER	M16	04	SS304L	-
07	LOCKING BOLT	-	04	SS304L	-
06	PLATE-1	-	01	SS304L	-
05	LIFTING PLATE	-	02	SS304L	-
04	CAP	-	01	SS304L	-
03	OVERPACK	-	01	SS304L	-
02	HANDLE	-	01	SS304L	-
01	BASKET	-	01	SS304L	-

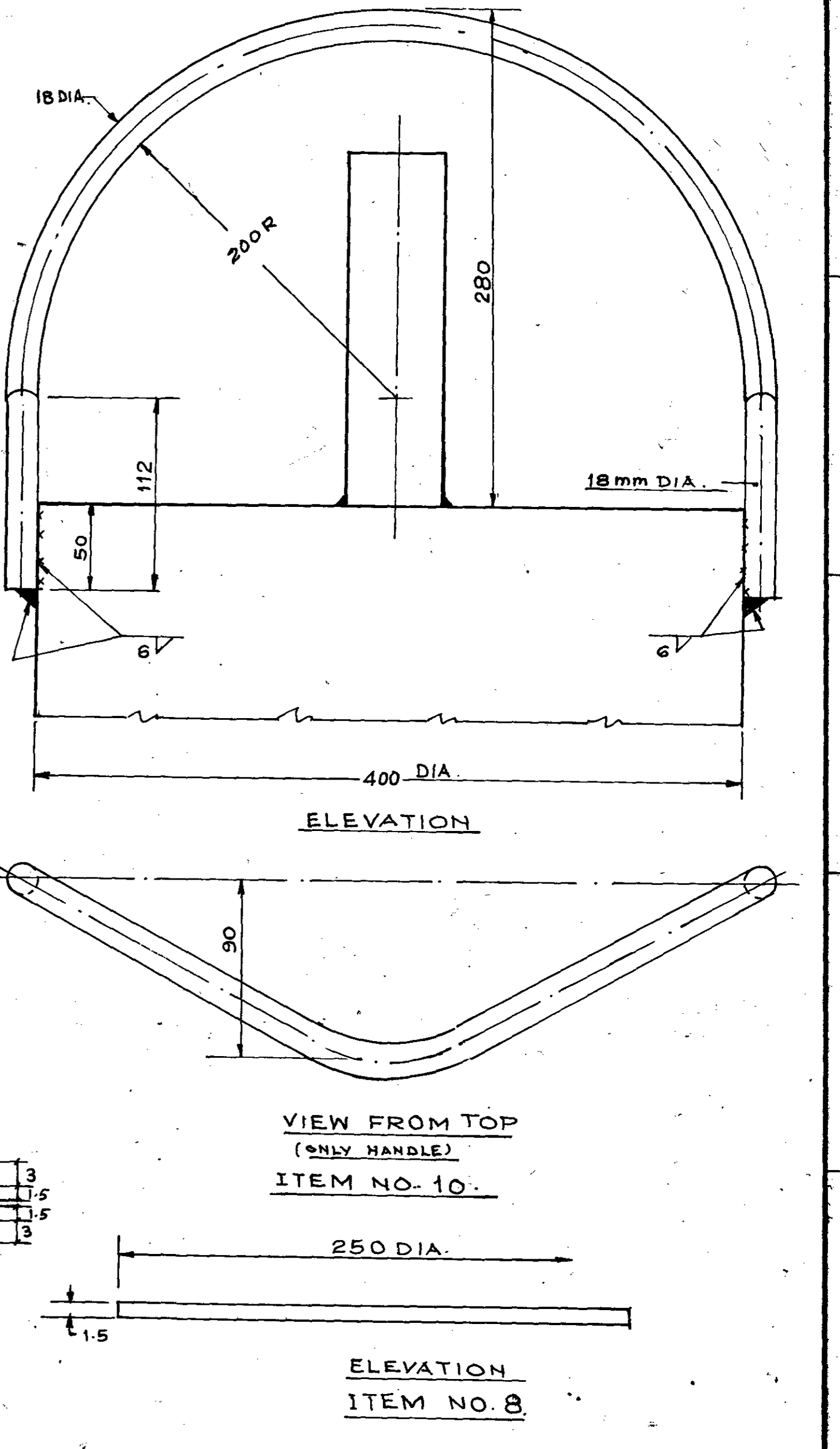
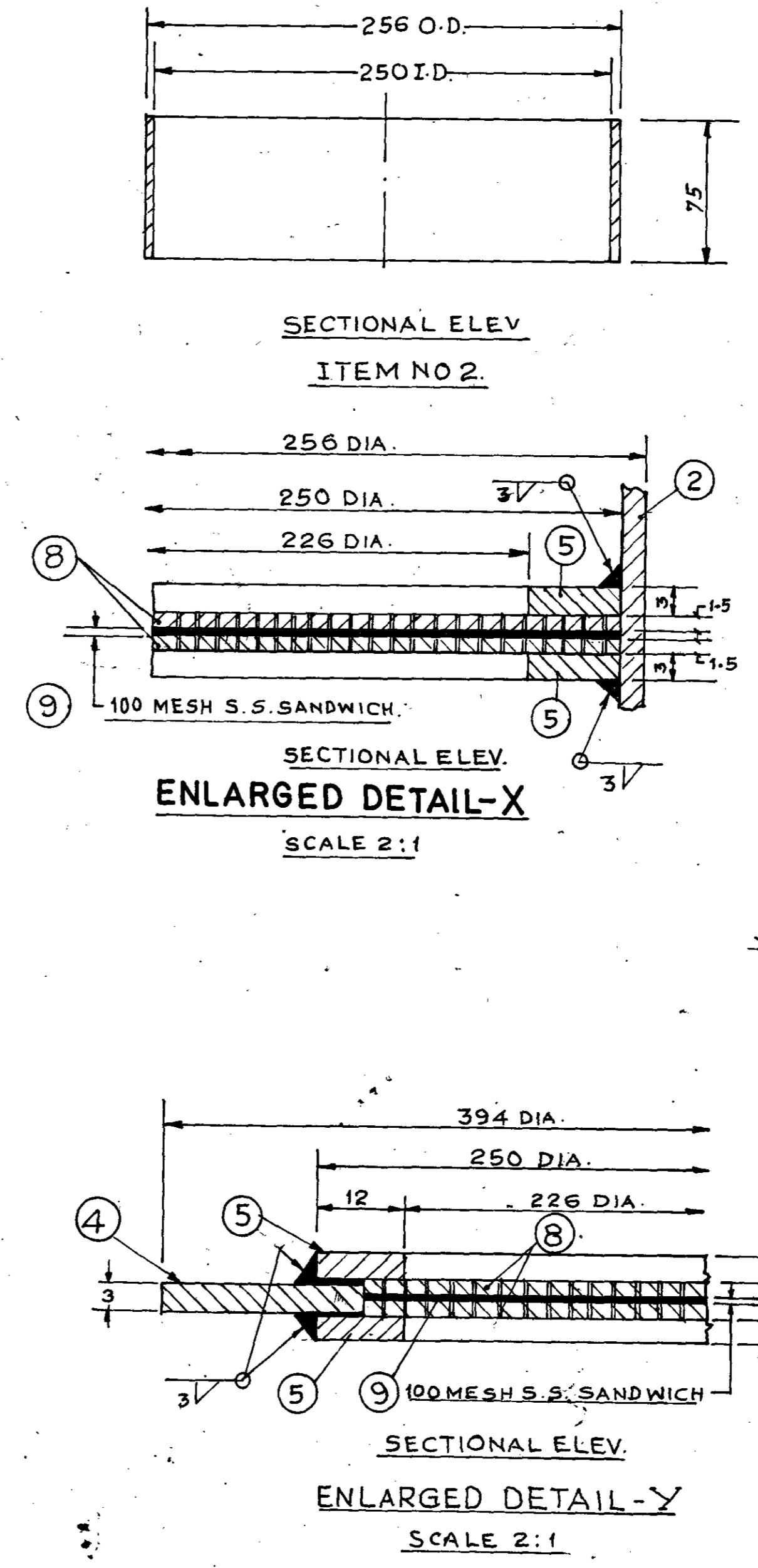
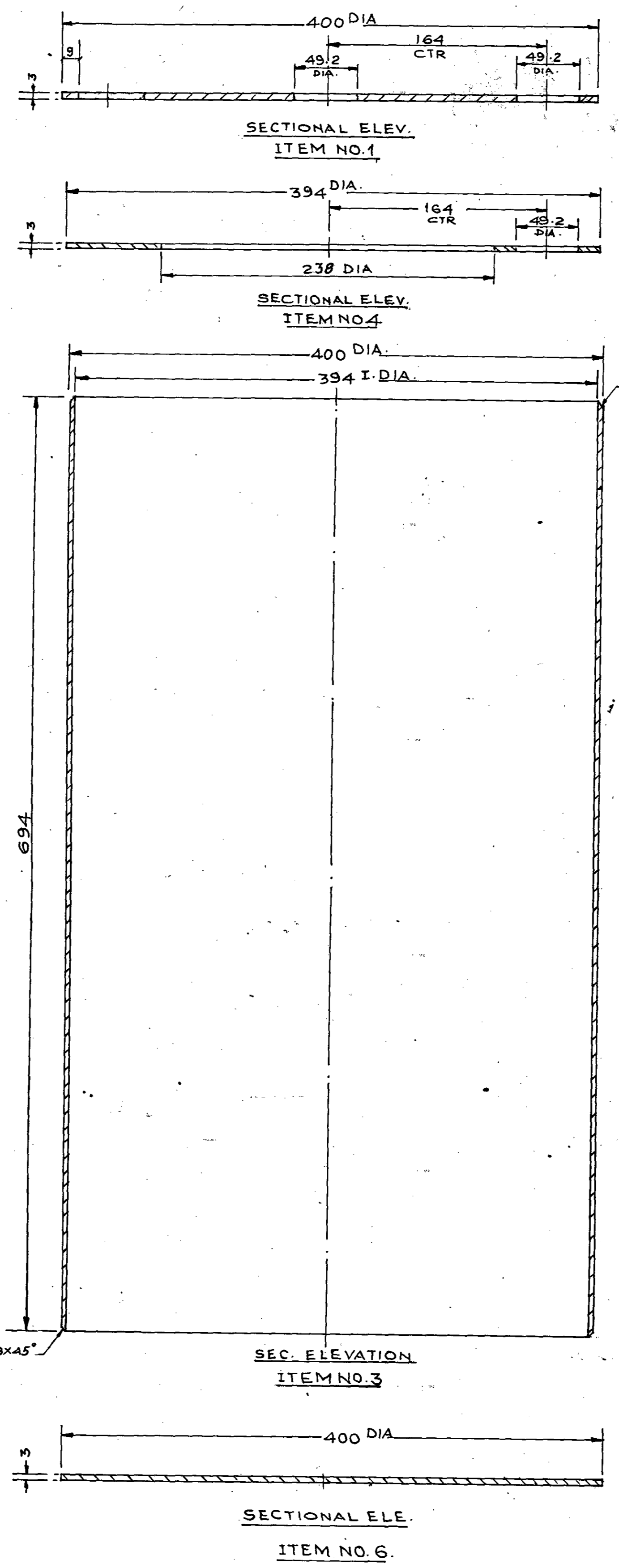
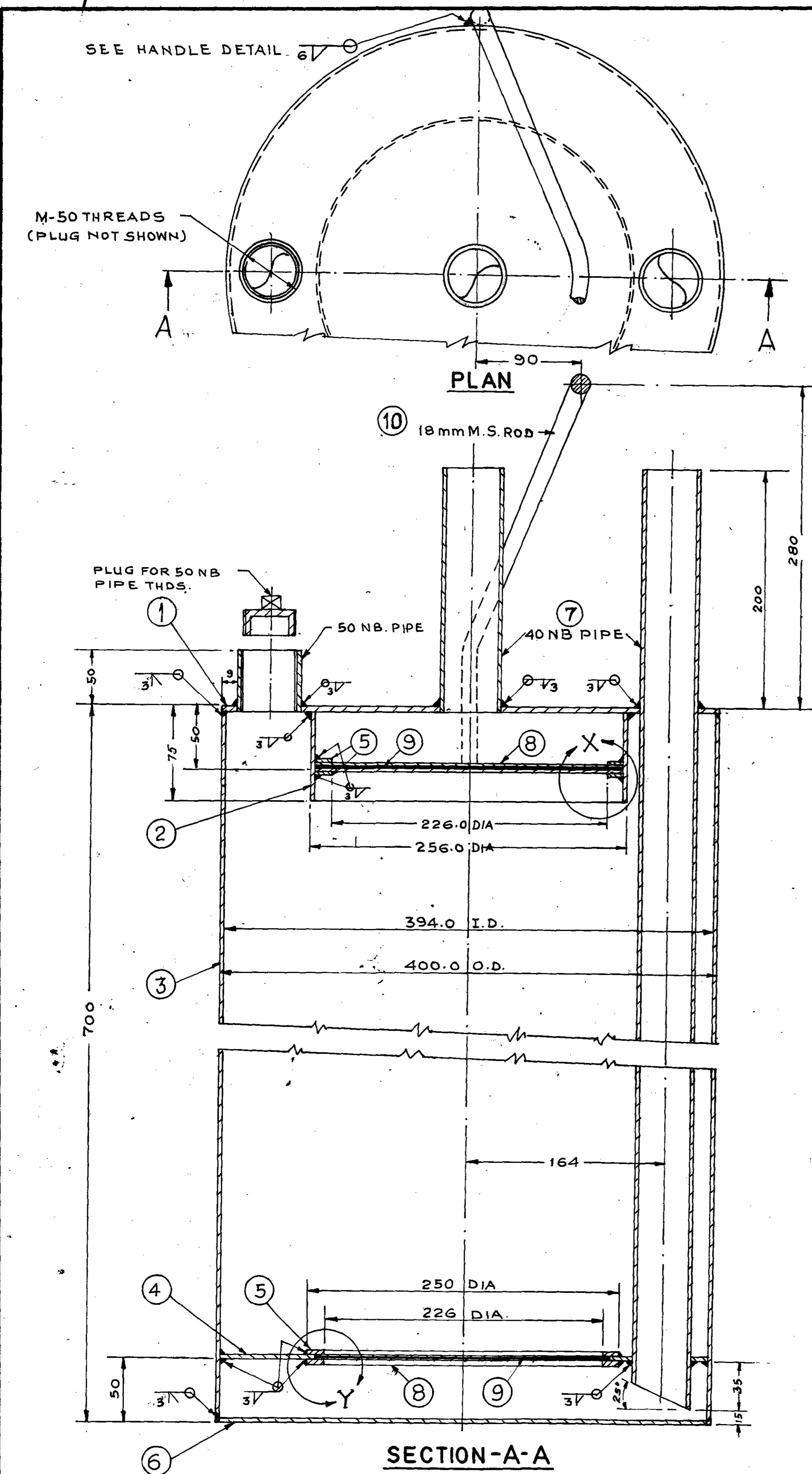
CIR-2019(1)
THIS DESIGN AND DRAWING IS THE PROPERTY OF THE B.A.R.C. IT MUST BE RETURNED WITH QUOTATION OR UPON DELIVERY OF MATERIAL AND EQUIPMENT AND MUST NOT BE USED EXCEPT BY PERMISSION OF THE OWNER.

GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED	
LINEAR DIMENSIONS	LENGTH OF SHORTER SIDE OF ANGLE
UPTO - 6 ± 0.1	1 - 6 ± 1°
6 - 30 ± 0.2	6 - 30 ± 0.30°
30 - 120 ± 0.3	30 - 120 ± 0.20°
120 - 315 ± 0.5	120 - 400 ± 0.10°
315 - 1000 ± 0.8	

NOTE :- 1) IF IN DOUBT ASK.
2) ALL DIMENSIONS ARE IN MILLIMETERS.
3) REMOVE SHARP CORNERS AND BURRS.

NO.	LOCATION	DESCRIPTION	DRAWN	APP'D.	GROUP	COMMENTS	SIGN.	DATE
		REVISIONS						

TITLE: S.S. BASKET OVERPACK ASSEMBLY			
DES'D. PK SUTHI PRASIT MANDAL	DRN. BHUSHAN	DATE: 12/02/2019	APP'D. DATE:
CHK'D. PK SUTHI PRASIT MANDAL	DRG. BAKESH RANJAN CHK'D.	DATE:	PROJECTION:
PROJECT: -		SCALE: 1:5	
DIVISION: REACTOR OPERATIONS DIVISION		FILE NAME: -	
GOVERNMENT OF INDIA BHABHA ATOMIC RESEARCH CENTRE REACTOR OPERATIONS DIVISION			DRG. NO. CIR-2019(1)
SHEET 1 OF 1			REV. RO



NOTE:
 • THE CARTRIDGE IS TO BE PAINTED WITH EPOXY TYPE T.A. GRAY PAINT.
 • ALL MATERIAL TO BE SUPPLIED BY FABRICATOR.
 ALL DIMENSIONS ARE IN MM.

S.NO	DISCRPTION	NO OFF	REMARKS
10	18 DIA. M.S. ROD HANDLE	1	
9	100# S.S. WIRE MESH 250 DIA	2	ONE BOTTOM MESH DIA. 238 MM
8	250 DIA. X 1.5 THK. PERFORATED, S.S. SHEET 3MM HOLES 21% OPEN AREA Δ PITCH	4	TWO BOTTOM SHEET DIA. 238 MM
7	40 NB. SCH 40 M.S. PIPE, 1100 LG	-	
6	400 DIA. X 3 THK. M.S. SHEET	1	
5	250 O.D. X 226 I.D. X 3 THK M.S. RING	4	
4	394 O.D. X 240 I.D. X 3 THK. M.S. SHEET	1	
3	1257 X 694 X 3 THK. M.S. SHEET	1	
2	256 O.D. X 250 I.D. X 75 LG M.S. RING	1	
1	400 DIA. X 3 THK. M.S. SHEET	1	

BILL OF MATERIAL

B-4356-M-01083

REFERENCE DRAWINGS	DRG. NOS.	REFERENCE DRAWINGS	DRG. NOS.	No.	LOCATION	DESCRIPTION	DR'N DATE	APP'D	No.	LOCATION	DESCRIPTION	DR'N DATE	APP'D

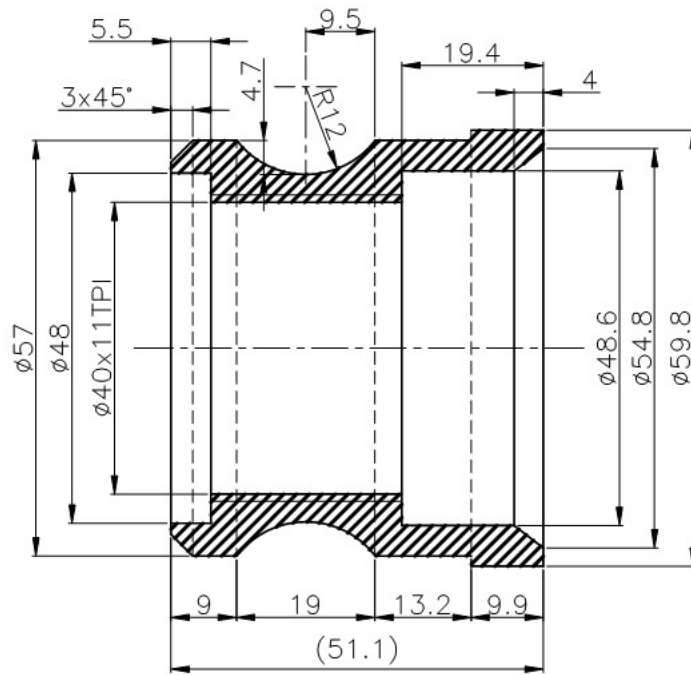
TITLE: DISPOSABLE M.S. RESIN CARTRIDGE FOR ROD CUTTING BUILDING

INDEX: DR'N. D. SINGH DATE 24.5.85 DES. CHK'D. K.R. DATE 14.5.90
 DES'D. DRG. CHK'D. W.P. DATE 24.6.85 APP'D. H.A. DATE 14.5.90

PROJECT OR SECTION: **CIRUS** SCALE: 1:2.5 AS NOTED

GOVERNMENT OF INDIA
 ATOMIC ENERGY ESTABLISHMENT, TROMBAY
 REACTOR OPERATIONS DIVISION.

PROJECTION: DRG. NO. **B-4356-M-01083**



⑦ MALE QUICK COUPLING
(SCALE-1:1)

DRAWING OF MALE QUICK COUPLING, SS 304L
Without internal threads