

भारत सरकार  
अंतरिक्ष विभाग  
सतीश धवन अंतरिक्ष केंद्र शार  
श्रीहरिकोटा रेंज डा.घ. 524 124  
श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत  
दूरभाष : +91-8623 245060 (6 जं)  
फैक्स : +91-8623 222099  
निविदा सूचना सं. TENDER NOTICE NO. SDSC SHAR/Sr.HPS/PT/RO-VALF/40/2026-27



सत्यमेव जयते

Government of India  
Department of Space  
Satish Dhawan Space Centre SHAR  
Shriharikota Range P.O. 524 124  
SPSR Nellore Dist., AP., India  
Telephone : +91-8623 245060 (6 Lines)  
Fax : +91-8623 222099

भारत के राष्ट्रपति की ओर से वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए ऑनलाइन निविदाएं आमंत्रित करते हैं/On behalf of President of India, Sr. Head Purchase and Stores, SDSC SHAR, SRIHARIKOTA invites on line quotations for the following: -

क्र.सं. Sl No	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty.
01	SDSC SHAR /VALF PURCHASE /VALF/ 2026000722 [Public Tender - Two Part]	Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems	01 Lot

निविदा दस्तावेजों को डाउनलोड करने की अंतिम तिथि Last Date for downloading of tender documents : 23.06.2026 at 16:00 hrs.  
ऑनलाइन निविदा जमा करने की अंतिम तिथि Due Date for submission of bids online : 23.06.2026 at 16:30 hrs.  
निविदाएं खोलने की नियत तिथि Due Date for opening of tenders : 24.06.2026 at 11:00 hrs.

**निविदाकार के लिए निर्देश Instructions to Tenderers:**

*निविदाएं ईजीपीएस के माध्यम से ही भेजी जाएं तथा कोई निविदा शुल्क लागू नहीं होगा।  
Bids shall be submitted on line through EGPS only and No tender fee shall be applicable.*

- कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलपत्रक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.
- इच्छुक निविदाकार इसरो की ई-खरीद वेबसाइट इसरो न्यू ई-प्रोक्यूरमेंट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) से ई-निविदा डाउनलोड और अपनी निविदा ई-खरीद पोर्टल पर ऑनलाइन जमा कर सकते हैं। डाक / वाहक / स्वयं द्वारा प्राप्त निविदाओं पर विचार नहीं किया जाएगा। / Interested tenderers can download the e-tender from ISRO e-procurement website ISRO NEW E-PROCUREMENT [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and submit the offer on line in the e-procurement portal. Offers sent physically by post/courier/in person will not be considered.
- निविदा दस्तावेज इसरो की वेबसाइट [www.isro.gov.in](http://www.isro.gov.in) इसरो न्यू ई-प्रोक्यूरमेंट वेबसाइट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट [www.shar.gov.in](http://www.shar.gov.in) पर भी उपलब्ध हैं। इन्हें केवल ई-खरीद पोर्टल से डाउनलोड और निविदा ऑनलाइन जमा कर सकते हैं। / Tender documents are also available on ISRO website [www.isro.gov.in](http://www.isro.gov.in) ISRO New e-procurement website [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and SDSC SHAR, Sriharikota website [www.shar.gov.in](http://www.shar.gov.in). The same can be down loaded and offer submitted on line in the new e-procurement portal only.
- निर्धारित तिथि/समय के पश्चात प्राप्त बोलियों पर विचार नहीं किया जाएगा। / Quotations received after the due date/time will not be considered.
- निविदा दस्तावेज दिनांक 23.06.2026 को 16:00 बजे तक डाउनलोड करने के लिए उपलब्ध रहेंगे तथा निविदा ऑनलाइन जमा करने की अंतिम तिथि 23.06.2026 को 16:30 बजे तक है। निविदाएं दिनांक 24.06.2026 को 11:00 बजे खोली जाएंगी। / The tender documents are available for download upto 23.06.2026 at 16:00 hrs. and last date for submission of tenders on line 23.06.2026 at 16:30 hrs. and Tender Opening on 24.06.2026 at 11:00 hrs.
- इच्छुक विक्रेता विवरण जानने के लिए निविदा खोले जाने वाले सत्र में शामिल हो सकते हैं। निविदा के मूल्यांकन पर विचार करने के लिए उनकी उपस्थिति अनिवार्य नहीं है। / Interested vendors can attend the Bid opening sessions to know the details. Presence not mandatory to consider the quote for evaluation.
- वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Sr. Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.
- GeM ARPTS Report ID: GEM/GARPTS/07052026/LRW5VXZGSBSU

दिनांक DT: 22.05.2026

वरि. प्रधान क्रय एवं भंडार  
Sr. HEAD PURCHASE AND STORES

भारतीय अंतरिक्ष अनुसंधान संगठन



Indian Space Research Organisation

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)  
NELLORE**

**Tender for Fabrication, Painting and Supply of SS1 Segment  
Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems.**

**Bids to be submitted online**

**Tender No.: SDSC SHAR/VALF PURCHASE/SH202600072201 dated 26-05-2026**

## **A. Tender Details**

Tender No : **SDSC SHAR/VALF PURCHASE/SH202600072201**

Tender Date : **26-05-2026**

Tender Classification: **GOODS**

Purchase Entity : **VALF PURCHASE**

Centre : **SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA  
(SDSC SHAR)**

### **Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems.**

GEM/GARPTS/07052026/LRW5VXZGSBSU

As per tender documents

#### **A.1 Tender Schedule**

Bid Submission Start Date : **26-05-2026 14:00**

Bid Clarification Due Date : **02-06-2026 10:00**

Bid Submission Due Date : **23-06-2026 16:00**

Bid Opening Date : **24-06-2026 11:00**

Price Bid Opening Date : **30-06-2026 10:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. INSTRUCTIONS TO TWO PART TENDER**

1. We are proposing to invite Tenders in Two Parts viz., Part-I Techno and Commercial & Part-II Price. All Tenderers are requested to follow carefully the following instructions before preparing their offer.

##### **PART- I- TECHNO COMMERCIAL BID:**

(1) This part should contain detailed Specifications of the items quoted by you along with Technical Literature and Leaflets if any.

(2) All the Commercial terms and Conditions applicable also should be indicated separately under separate heads.

(3) The Commercial terms such as delivery terms, delivery period, payment terms, warranty, validity of the offer, Installation & Commissioning, Duties and Taxes etc shall come into this.

(4) Either Technical Specifications or Terms & Conditions as above should be very clearly reflected items wise with reference to the items called for in the tender.

(5) Please note that Prices should not be indicated in this part.

(6) Any deviations from the Technical Specifications and Commercial Terms shall be indicated separately.

##### **PART II-PRICE BID:**

(1) The prices applicable for the items, item wise in response to the tender shall come into this part.

(2) Tender shall indicate very clearly item wise prices with reference to their Technical Offer.

Note: 1. PLEASE NOTE THAT THE OFFERS SUBMITTED CONTRADICTORY TO ABOVE INSTRUCTIONS WILL BE LIABLE FOR REJECTION. PLEASE ENSURE OFFERS ARE SUBMITTED WITHIN THE DUE DATE.

2. BEING TWO PART TENDER, WE REQUEST YOU NOT TO DISCLOSE / INDICATE ANY OF THE PRICE VALUE WHILE SEEKING / PROVIDING CLARIFICATION. YOU SHOULD INDICATE ONLY IN PERCENTAGE. IN CASE IF YOU DISCLOSE ANY OF THE PRICE AMOUNT YOUR OFFER WILL BE REJECTED.

#### **2. STANDARD TERMS & CONDITIONS**

1. 1. OUR GST NUMBER: 37HYDF00385A1DZ- SDSC SHAR SRIHARIKOTA

2. Email for communication: psovalf(at)shar.gov.in

3. Instruction to Indigenous Suppliers:

A) Payment Terms shall be as specified in RFP. If not specifically mentioned Our Normal payment term is 100 percent within 30 days after receipt and acceptance of the item at our site. Please confirm

acceptance in your quotation.

**B) Purchase - Price preference to MSEs**

Purchase - Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase - Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 plus 15 percent may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply up to 25 percent of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

Micro and Small Enterprises which have technical capability to deliver the goods and Services as per prescribed technical and quality specifications and may not be able to meet the qualification criterion relating to prior experience minus prior turnover may be relaxed as per guidelines issued by Ministry of MSMEs and as amended from time to time.

Interested vendors shall specifically claim the benefit with supporting documents.

**C) Purchase - Price preference to Make-in-India Products:**

Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders - Notifications issued by concerned Nodal Ministry for specific Goods - Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document 50 percent. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rupees 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in-India) order 2017 dated 04.06.2020 and amendments thereof. In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

**D) Instruction to Foreign Suppliers-(if allowed as per RFP)**

a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L - C, and all bank charges shall be to your account. Confirm acceptance.

b) Please specify whether any export clearance is required in case of an order on you.

c) Warranty - Guarantee applicable for the item shall be mentioned in your offer

d) Special Certification for packing Material : as per Plant Quarantine (Regulation of Control into India) Order 2003, Articles packed with packing material of plant origin namely, hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, pear or sphagnum moss etcetera, will be allowed entry by Customs only with a Phytosanitary Certificate. In case of a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.

e) Confirm whether any Export License is required and for which End User Certificate is to be provided

by us, in case of an Order on you. (Enclose format for EUC, if applicable)

f) Either Indian Agent on behalf of the foreign principals or the foreign principal directly can quote against this order, but not both. In either case an Indian agent cannot represent more than one principal against the same tender.

g) In case the quote is in INR we prefer to execute the same on HSS Basis and for which Concessional Customs duty as per Notification number 50 - 2017 Customs dated 30.06.2017, Serial Number 539(A) as amended by Notification number 05 - 2018 dated 25.01.2018 and vide Notification No.05-2025 dt.01.02.2025 and 45-2025 dtd 24.10.2025. In case the quote is on Indian Rupee (Outside High Sea Sale), the price shall include taxes and duties if any. We shall not be able to provide any duty or IGST tax exemption - concession certificates. If the item quote is of USA make, please quote for all-inclusive price since we prefer to get the item on FOR destination basis.

h) Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum number F.No.6 - 18 - 2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

E) Common terms to Indigenous and foreign suppliers:

a.Warranty

You shall provide applicable warranty for the items offered by you without fail. For the applicable period you shall provide necessary warranty certificate.

b.Performance Bank Guarantee

Towards the performance of the systems during the warranty period you shall submit a performance bank guarantee equivalent to 3 percent of the order value to cover the warranty period. This PBG shall be interest free and the same shall be returned to you on successful completion of all contractual obligations. The said PBG shall have a further claim period of 2 months.

c.Security Deposit

On acceptance of the order, you shall submit an interest free amount equivalent to 3 percent of the total contract - order value towards security deposit. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee - Demand Draft - FDR receipts duly endorsed in the name of the centre. The Security Deposit will be returned to you on successful completion of the Contractual obligations; failing which it shall be forfeited - adjusted.

4.Offer Validity

Your offer shall be valid for 180 days in case of 2 part - 90 days in case of single part from the date of tender opening. In case your offer validity is less than the mentioned above, the said offer is liable for rejection which may please be noted.

5. Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage at 0.5 percent (zero point five percent) of the order value or part thereof the undelivered items for each calendar week of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10 percent (ten percent) of the order value.

## 6.FORCE MAJEURE:

Should a part or whole work covered under this contract be delayed in delivery - completion of work due to reasons of Force majeure which shall include legal lockouts, strikes, riots, civil commotion, fire, accidents, quarantines, epidemic, acts of God and War, stoppage of deliveries by the Government, freight embargoes etcetera; the delivery period - completion of work referred to in this Contract shall be extended by a period not in excess of duration of such Force Majeure. The occurrence shall be notified by either party within reasonable time.

Note:

I.Offers received through post, courier, fax or email will not be considered.

II.Technical and commercial bid (Part-I) shall not contain any price details. Optional accessories or other price details, if any shall be uploaded in Supporting documents related to Price Bid, to be opened along with Price Bid.

III.In respect of FIM being issued, the fabricator shall submit Bank Guarantee for equivalent sum compulsorily. In case, submission of Bank Guarantee is not possible, the reasons there for shall be clearly mentioned. However, for such cases the fabricators at their cost shall secure such FIM through Insurance Policy with Director, SDSC SHAR as beneficiary. In case of PSU and Government Organization, Indemnity Bond in lieu of Bank Guarantee is acceptable. Balance FIM - Scrap, if any shall be returned along with the supply of the items. Please confirm acceptance in your quotation.

IV.SDSC SHAR shall have the right to place part order among the parties for the items for which they are the lowest.

V.TERMS AND CONDITIONS IN THE RFP SHALL PREVAIL OVER OTHER TERMS AND CONDITIONS(in case of any contradiction or ambiguity)

## 3. General Instructions to Vendor

### 1. Instructions to tenderers

TeleNo.08623-225174/225127

Fax No.08623-225170/22-5028

e-Mail ID : hps@shar.gov.in, sselvan@shar.gov.in, psovalf@shar.gov.in

1. Interested tenderers may, at their option, login to <https://eproc.isro.gov.in> and submit your offers.

2. TENDER FEE IS NOT APPLICABLE.

3. EARNEST MONEY DEPOSIT IS NOT APPLICABLE IF NOT MENTIONED IN THE RFP SPECIFICATION.

4. Indian agents while quoting on behalf of their principals are requested to attach Principals original quote, necessary authorization letter from their Principals, copy of agency agreement etc. in their bid.

5. TWO PART BIDS: In case of Two part tender, price details shall not be uploaded in the Technical &

Commercial Bids (Part I), failing to which the bid will be treated as INVALID.

6. The offer should be valid for a minimum period of 180 days for 2 part / 90 days for single part from the date of opening.

7. Due date & time: Sufficient time has been allotted for Bid submission. Vendors are requested to complete Bid submission well in advance. Last minute requests for due date extension citing server problems etc. will not be entertained. Bids will not be entertained after the due date and time.

7 (A). Request for the extension of the due date will not be considered.

8.

(a) Bid Opening for Public Tender: In case of Public Tender-Two Part Tenders: Technical and Commercial Bids will be opened on the first day specified for Tender opening. Interested vendors can attend the tender opening session to know the bidding details (Bidders presence is not mandatory to consider the quote for evaluation). Price Bid opening of the selected vendors will be scheduled later and it will be intimated to the selected Bidder (s).

(b) For Limited Tender: Bidders participation is not allowed.

9. Prices are required to be quoted according to the units indicated.

10. Preference will be given to those tenderers offering supplies from ready stocks and on the basis of FOR destination delivery at site.

11. (a) All available technical literature, catalogues and other data in support of the specifications and detail of the items should be furnished as attachments.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensions details are available the same should be indicated in your offer.

(d) Specifications: Stores offered should strictly conform to our specifications. Deviations, if any, should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples wherever necessary. Test certificates wherever necessary should be attached. Whenever options are called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate response for the same.

12. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of quantity offered and the tenderers shall supply the same at the rates quoted.
13. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.
14. The tenderer will be required to furnish a document containing the name of his bankers as well as the latest income-tax clearance certificate duly counter signed by the Income-tax Officer of the Circle concerned under the Seal of his office, if required by the Purchaser.
15. The Purchaser reserves the right to place order on the successful tenderers for additional quantity up to 25% of the quantity offered by them at the rates quoted.
16. Sr. Head, Purchase and Stores, SDSC SHAR SRIHARIKOTA reserves the right to accept or reject any bid in part or full without assigning any reason thereof.
17. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

## C. Bid Templates

### C.1 Technical Bid - Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems.

1. STRUCTURAL ITEM :: Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems as per the enclosed specifications and drawings.

[Document : SS1 Nozzle Handling System Tender Drawings](#)

[Document : SS1 Nozzle Tilting System Tender Drawings](#)

[Document : Tender Annexures C1 to C7](#)

[Document : General & Technical Specifications](#)

[Document : SS1 Segment Horizontal Handling Tackle Tender Drawings](#)

#### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Detailed General and Technical Specifications enclosed seperately.		-		

#### Supporting Documents required from Vendor

1. Bidder should submit work completion certificates for the corresponding POs submitted
2. Bidder should submit Income Tax Reetruns (ITR) statement for the latest three financial years.
3. Bidder should submit audited balance statement for the latest three financial years.
4. Bidder should submit audited profit/loss statement for the latest three financial years.
5. Bidder should submit UDAYAM certificate for MSME

- 6. Bidder should submit PO copies satisfying the mass criterion mentioned in Section C2.**
- 7. Bidder should submit PO copies satisfying the PO value criterion mentioned in Section C2.**
- 8. Party should submit duly filled, signed and stamped Tender annexures C1-C7 documents.**
- 9. Party should sign on the SS1 Nozzle Handling Tackle drawing and submit it as a confirmation of their understanding of the work**
- 10. Party should sign on the SS1 Nozzle Tilting System drawing and submit it as a confirmation of their understanding of the work**
- 11. Party should sign on the SS1 Segment Handling Tackle drawing and submit it as a confirmation of their understanding of the work**
- 12. Party should sign all the pages of the specifications document and submit it as a confirmation of their acceptance to the specifications.**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Detailed supply conditions are enclosed in the Specification document.	Yes / No / Explain	
2	Items shall be delivered within 3 months from the date of release of purchase order.	Yes / No / Explain	
3	Material test certificates, welder certificate, warranty certificate and other relevant certificates should be submitted	Yes / No / Explain	
4	Loading, transportation and unloading at site is in the scope of the party	Yes / No / Explain	
5	Party has to obtain prior approval and necessary clearances before dispatching the items to SLC PROJECT SITE.	Yes / No / Explain	
6	As per the Notification No. No. 9/2025 - Integrated tax dated 17.09.2025, S. No. 462 and as per Notification No. No. 9/2025 - Central tax dated 17.09.2025, S. No. 462 issued by Ministry of Finance (Dept. of Revenue) & Government of Andhra Pradesh, Revenue (Commercial Taxes) Department, G.O.MS.No. 345, Dated: 20.09.2025 S.No.462, SDSC SHAR is eligible to avail GST/IGST @5% for the procurements related to Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for launch vehicles and satellites and payloads.  End Use Certificate for availing GST/IGST @5% shall be issued, in the event of PO.	Yes / No / Explain	
7	Please confirm here whether your quoted "UNIT PRICE" in our Price Bid is EXCLUDING GST or INCLUDING GST. ----- NOTE: If you are not clearly stating "GST is Inclusive OR Extra in basic cost" it will be treated as "GST is included in the quoted Basic/Unit cost in the price bid". Your offer will be evaluated as INCLUSIVE OF GST.	Yes / No / Explain	

8	Delivery Term FOR : SLC PROJECT SITE, MADHAVANKURICHI (MANDATORY)	Yes / No / Explain	
9	Packing and Forwarding(P & F) charges, extra if any, please mention percentage in price-bid. Please note that in case of Two part tenders, only percentage should be mentioned otherwise those offers shall be summarily rejected.	Yes / No / Explain	
10	Freight charges, extra if any, please mention percentage in price-bid Please note that in case of Two part tenders, only percentage should be mentioned otherwise those offers shall be summarily rejected.	Yes / No / Explain	
11	Delivery Period required for delivery of the items/completion of total scope of work: 04 months	Yes / No / Explain	
12	Payment Term 100% payment shall be made through RTGS within 30 days of receipt and acceptance of the item at our site.	Yes / No / Explain	
13	Warranty/Guarantee: Warranty/Guarantee for the offered item shall be from the date of acceptance of the item at our site for a minimum period of one year or specified in the tender document.	Yes / No / Explain	
14	Liquidated Damages (LD) :- Since delivery is the essence of this order, LD @ 0.5% per week or part thereof subject to a maximum of 10% of the order value for the delayed period of supply.	Yes / No / Explain	
15	Security Deposit (SD) 3% value of the order shall be deposited with SDSC within 10 days from the date of the Purchase Order towards security deposit in the form of Bank Guarantee(BG)/ FDR/DD towards performance of the Contract valid till completion of the contract period plus sixty days towards claim period. (This will be returned by SDSC immediately on execution of the order satisfactorily as per order terms. If not, the amount will be forfeited). NOT REQUIRED FOR LANDED COST BELOW RS.5 LAKHS.	Yes / No / Explain	
16	Performance Bank Guarantee (PBG) You have to submit a BG/DD/FDR in lieu of PBG from a Nationalized / Scheduled Bank for 3% of the order value at the time of supply valid till the completion of warranty period plus 60 days towards claim period.	Yes / No / Explain	

17	<p>Combined BG for PBG cum SD In case, if parties are unable to provide two separate BGs, i.e., one for SD &amp; one for PBG, they can submit a combined BG for SD &amp; PBG for 3% of the Order value valid till the completion of total contractual obligation (i.e., Supply period plus warranty period plus 60 days). Please confirm.</p>	Yes / No / Explain	
18	<p>Insurance Being a Govt. Of India Dept., Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper transport worthy packing.</p>	Yes / No / Explain	
19	<p>Validity of Offer In case of single part tender - the validity of offers/tenders should be 90 days. In case of two part tender - 120 days from the date of opening of Part-I bid and 60 days from the date of opening of Part-II bid. Tenders shorter than offer validity mentioned above will not be considered for evaluation.</p>	Yes / No / Explain	
20	<p>The bidder shall provide compliance to Order No. F.No.7/10/2021 PPD dated 23.02.2023 and amendments thereof by Ministry of Finance, Department of Expenditure, Public Procurement Division regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order. In this regard, you shall certify that the bidder entity is not from such a country or, is from such a country, has been registered with the Competent Authority.</p>	Yes / No / Explain	
21	<p>As per the above Order, are you (the Bidder/Company/Entity) OR offering product/service is from such a Country sharing Land border with INDIA.</p>	Yes / No / Explain	

22	<p>Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the BIDDER MUST BE MANUFACTURER OF THE OFFERED PRODUCT in case of bid for supply of goods. TRADERS ARE EXCLUDED from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence along with UDYAM REGISTRATION in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 plus 15% (Selected by Buyer) of margin of purchase preference/price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY.</p>	Yes / No / Explain	
23	<p>Are you claiming MSME Preference for this tendered item/service?</p> <p>Note: You should have been the MANUFACTURER of the offered product or SERVICE Provider of the said service (in service tender) as per your MSME Registration. (If YES, valid Udyam Registration documents shall be uploaded. Otherwise your claim will not be considered. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h))</p>	Yes / No / Explain	
24	<p>Please Select for the offered Product whether you are:  (1) Manufacturer (2) Authorized Agent (3) Distributor (4) Dealer (5) Reseller (6) Others</p>	Yes / No / Explain	

25	<p>ARBITRATION:- The Contract/PO shall be interpreted, construed and governed by the Laws in India. In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract/PO, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre - Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.</p>	Yes / No / Explain	
26	<p>Do you have Unique GeM Seller ID? If YES, provide details If NO, As per Office Memorandum No 6/9/2020-PPD dated 24/08/2020 of Department of Expenditure, it shall be mandatory for sellers providing Goods and Services to Central Government Organizations to be registered on GeM and obtain a Unique GeM Seller ID, at the time of Placement of Order/acceptance of contract. Tenderers shall ensure the same.</p>	Yes / No / Explain	
27	<p>Address on which PO is to be placed and GSTIN</p>	-	
28	<p>Please provide valid/currently using E-mail Id &amp; Contact no. for seeking further clarifications if any</p>	-	
29	<p>Remarks if any.</p>	-	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	P&F IN PERCENTAGE	FREIGHT PERCENTAGE	Remark
1	STRUCTURAL ITEM :: Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling systems as per the enclosed specifications and drawings.	1.00 Lot		-				

**FABRICATION, PAINTING AND SUPPLY OF SS1 SEGMENT  
HORIZONTAL HANDLING TACKLE AND SS1 NOZZLE TILTING  
& HANDLING SYSTEMS  
FOR  
SLC PROJECT**

**SPECIFICATIONS & PRICE SCHEDULE**

OWNER : INDIAN SPACE RESEARCH ORGANISATION

PROJECT : SSLV LAUNCH COMPLEX (SLC)

DELIVERY AT : **SSLV PROJECT OFFICE, SURVEY NO. 260-3C,  
MADHAVANKURICHI VILLAGE – 628206, OPP. TO  
KODAL NAGAR, THIRUCHENDUR TK., TUTICORIN  
DIST., TAMILNADU**



**SSLV LAUNCH COMPLEX (SLC)  
SATISH DHAWAN SPACE CENTRE  
SRIHARIKOTA -524124  
INDIAN SPACE RESEARCH ORGANISATION**

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: TITLE
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET 2 OF 3

SPECIFICATIONS & ANNEXURES			
SECTION	SPECIFICATION NO	ISSUE NO.	TITLE: SS1 RELATED HANDLING AND TILTING SYSTEMS
<b>SPECIFICATIONS</b>			
A1	SLC/SS1/HS	R0	General Terms and Conditions of the Contract
A2	SLC/SS1/HS	R0	General Specifications & Project information
B	SLC/SS1/HS	R0	Scope of work & Technical Specifications
<b>ANNEXURES</b>			
C1	SLC/SS1/HS	R0	Schedule of prices & general particulars
C2	SLC/SS1/HS	R0	Bid qualification criteria
C3	SLC/SS1/HS	R0	Schedule for general particulars / vendor evaluation format
C4	SLC/SS1/HS	R0	Exceptions and deviations
C5	SLC/SS1/HS	R0	Schedule of bidder's experience
C6	SLC/SS1/HS	R0	Data to be filled along with the bid
C7	SLC/SS1/HS	R0	Check list

LIST OF DRAWINGS			
S.NO	DRAWING TITLE	DRAWING NUMBER	SHEET
<b>SS1 SEGMENT HORIZONTAL HANDLING TACKLE</b>			
1.	GENERAL ASSEMBLY OF SS1-SEGMENTS HORIZONTAL HANDLING SYSTEM FOR SLC	10-MECH-12-1-60/A1/R1	1 of 4
2.	TACKLE STRUCTURE (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)	10-MECH-12-1-60/A1/R1	2 of 4
3.	PART DETAILS OF TACKLE (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)	10-MECH-12-1-60/A2/R1	3 of 4
4.	TOP & BOTTOM PIN ASSEMBLY (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)	10-MECH-12-1-60/A1/R1	4 of 4
<b>SS1 NOZZLE TILTING SYSTEM</b>			
1.	GENERAL ASSEMBLY OF TILTING SYSTEM FOR SS1 NOZZLE FOR SLC PROJECT	10-MECH-12-2-10	1 of 5
2.	A-FRAME	10-MECH-12-2-10	2 of 5
3.	SS1 NOZZLE SUPPORT RING	10-MECH-12-2-10	3 of 5
4.	SS1 NOZZLE HORIZONTAL SUPPORT STAND	10-MECH-12-2-10	4 of 5
5.	SS1 NOZZLE VERTICAL SUPPORT STAND	10-MECH-12-2-10	5 of 5
<b>SS1 NOZZLE HANDLING SYSTEM</b>			
1.	SS1 NOZZLE HANDLING SYSTEM (FOR SLC PROJECT)	10-MECH-12-1-35/A1	1 of 4

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R0

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: TITLE
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET 3 OF 3

2.	TACKLE HANDLING SYSTEM	10-MECH-12-1-35/A2	2 of 4
3.	TACKLE	10-MECH-12-1-35/A2	3 of 4
4.	TILTING BRACKETS	10-MECH-12-1-35/A2	4 of 4

ISSUE R0
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# **SECTION -A1**

## **GENERAL TERMS AND CONDITIONS OF THE CONTRACT**

**PROPOSAL DOCUMENT, CLARIFICATION AND ADDENDUM**

Quotations are invited from the interested bidders for the enclosed scope of work in two-part bid.

Part-1: Technical & un-priced part of the work and Part-2: Priced commercial part.

***Only experienced Bidders who are qualifying in bid-qualification criteria given in Section C2 shall quote.***

The RFP document is organized in three sections as follows.

Section –A1 : General Terms and Conditions of the Contract

Section –A2 : General Specifications & Project information

Section –B : Scope of work & Technical Specifications.

Section- C1 to C7 : Annexures.

**Title of the proposal:**

***“FABRICATION, PAINTING AND SUPPLY OF SS1 SEGMENT HORIZONTAL HANDLING TACKLE AND SS1 NOZZLE TILTING & HANDLING SYSTEMS FOR SLC PROJECT”***

***at***

***“SSLV PROJECT OFFICE, SURVEY NO. 260-3C, MADHAVANKURICHI VILLAGE – 628206, OPP. TO KODAL NAGAR, THIRUCHENDUR TK., TUTICORIN DIST., TAMILNADU”***

**Date Public Notification issued by ISRO: [as per the notification](#)**

**Last Date of downloading tender Document by tenderer: [as per the notification](#)**

**Last date of submission of tender documents in online by tenderer: [as per the notification](#)**

**Last date of Bid sealing in online by ISRO: [as per the notification](#)**

**Last date for giving open authorisation in online by tenderer: [as per the notification](#)**

## **1. PROPOSAL DOCUMENT**

- 1.1. Bidder shall sign & stamp each page of this tender document as token of his acceptance and submit the same before order placement.
- 1.2. Proposal documents shall remain the property of SDSC SHAR and shall not be used for any another purpose without the consent of SDSC SHAR.
- 1.3. The proposal shall be completely filled in all respects and shall be tendered together with requisite information & Annexure. Any offer incomplete in any particulars is liable to be rejected.
- 1.4. The Proposal (Unpriced Techno-commercial bid) with a complete set of the required documents shall be submitted in ISRO e-procurement website.
- 1.5. The Proposals shall be submitted on-line before the time limit for bid submission specified in the Letter Inviting Bid.
- 1.6. Supplier shall submit the open authorisation online with in the time limit specified in the Letter Inviting bid.
- 1.7. The Proposal will be opened on the date and on the time specified in the Letter Inviting Bid or as soon thereafter as convenient. Proposal not received in time will not be considered.
- 1.8. Bidders shall set their quotations in firm figures and without variations/additions in the terms of the Proposal documents.
- 1.9. Should there be any ambiguity or doubt as to the meaning of any of the tender clause/condition or if any further information is required, the matter shall be immediately brought to the notice of Head, Purchase & Stores of SDSC SHAR in writing.
- 1.10. All the items are interdependent for the completion of work. Hence, the overall L1 bidder for the tender shall be considered for evaluation.**

## **2. PREPARATION OF BIDS**

### **2.1 SITE VISIT**

Bidder is advised to visit & examine the site and it's surrounding to familiarize himself of the existing facilities & environment and shall collect all other information which may require for preparing & submitting the Bid and entering into the contract. Claims and objections due to ignorance of existing conditions or inadequacy of information will not be considered after submission of the Bid and during implementation.

### **2.2 VALIDITY OF OFFER**

Bid shall remain valid for acceptance for a minimum period of 4 (four) months from the due date of submission of the Bid. The Bidder shall not be entitled during the said period to revoke or revise his Bid or to vary the Bid except and to the extent required by SDSC SHAR in writing. Bid shall be revalidated for extended period as required by SDSC SHAR in writing. In such cases, unless otherwise specified, it is understood

that validity is sought and provided without varying either the quoted price or any other terms & conditions of Bid finalized till that time.

### 2.3 COST OF BIDDING

All direct and indirect costs associated with the preparation and submission of bid shall be to Bidder's account and SDSC SHAR will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process.

### 2.4 APPLICABLE LANGUAGE/ MEASUREMENTS

The bid and all correspondence incidentals to and concerning the bid shall be in the English Language. For supporting document and printing literature submitted in any other language, an accurate English Translation shall also be submitted. Responsibility for correctness in translation shall lie with the Bidder.

All the measurements shall be given in metric system.

### 2.5 ARRANGEMENT OF BID

The Bid shall be neatly presented on white paper with consecutively numbered pages. It should not contain any terms and conditions which are not applicable to the Bid. The Bid and all details submitted by the Bidder shall be signed and stamped on each page as token of acceptance, by a person legally authorised to enter into agreement on behalf of the Bidder. (Corrections / alteration, if any, shall also be signed by the same person).

### 2.6 SCHEDULE OF PRICES

The schedule of prices shall be read in conjunction with all the sections of proposal document. The price must be filled online in the same format of 'Schedule of Prices' in Section C1. No copy of price bid shall be enclosed along with other document and upload the same anywhere in the e-procurement portal.

### 2.7 DOCUMENTS COMPRISING THE BID

Bids shall be arranged in the following order.

#### 2.7.1 Part – I : Technical and Unpriced Commercial Part

**Technical and un-priced commercial part** shall comprise the attachments, specifying attachment number arranged in the order as follows:

- (a) Submission of bid letter.
- (b) Power of attorney in favour of authorised signatory of the bid / proposal documents.
- (c) All the annexure in Section-C1 to C7 enclosed in proposal duly filled, signed and sealed
- (d) Bid qualification criteria and all supporting documents.

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- (e) **Un-priced copy of schedule of prices** with all other commercial terms, taxes, duties, exemption certificates and conditions duly filled (Prices to be kept blank), signed and stamped.
- (f) Audited balance sheet including profit and loss account for last three financial years showing annual turnover.
- (g) Income tax certificate for last three financial years.
- (h) Data sheets for all the equipment & checklists enclosed in proposal duly filled, signed & stamped.
- (i) Technical literature & data sheets of equipment / machinery used by him and any other document as mentioned in the proposal.
- (j) Project execution plan.
- (k) Any other relevant document, bidder desires to submit.

### **2.7.2 Part – II: Priced Commercial Bid**

**Priced commercial bid** shall be filled online in the price bid format. Schedule of prices (Section C1) also to be filled in the online format and no separate document shall be attached. Deviations in terms and conditions, assumptions, conditions, discounts etc. shall be stipulated in format specified in the portal.

### **3. BID SUBMISSION**

Bids duly filled in by the Bidder should invariably be submitted as stipulated in the Letter inviting bid. Bids shall be submitted in the following manner.

#### **3.1 PART – I: UN PRICED TECHNO-COMMERCIAL PART OF THE BID FOR THE WORK**

Complete Techno–commercial part of the bid shall be filled online in the “Vendor Specified Terms’ form of the e-tender. Any documents related, technical literature, guarantee / warrantee certificates and any other relevant documents as per the tender shall be scanned in lower resolution format and uploaded to the e-tender under ‘Documents solicited from Vendor’ form only in ISRO e-procurement portal (<https://eprocure.isro.gov.in>).

The deviation statement and checklist shall be filled online, without which the bid will not be considered.

**Any bids/offers with price/cost details in Techno-Commercial Offer (Part –I) shall be rejected.**

**3.2 PART – II: PRICE PART OF THE BID FOR THE WORK**

Price bid shall be filled in the on-line 'price bid' form of the e-tender only in ISRO e-procurement <https://eprocure.isro.gov.in>. Any other terms and conditions given in this part shall not be considered and if insisted upon by the Bidder, bids are liable for rejection.

- a) SDSC SHAR may open Part – I of the bid on the due date of opening .Price Bids (Part-II) of technically and commercially acceptable offers shall be opened at a later date.
- b) SDSC SHAR reserves the right to reject any or all the Bids without assigning any reasons thereof.

**4. Vendor Evaluation Format**

SDSC SHAR seeks response to the given questionnaire for assimilating data which would be used for evaluating the capability of the supplier for executing the referred work. Hence, the supplier is requested to provide only genuine data and any discrepancy found at a later point of time may result in rejection of the supplier from purchase process. Furnishing of data cannot be construed as automatic qualification for participation in the tender. Questionnaire should be signed by a responsible and authorized person of the Company / Agency.

Schedule of general particulars / vendor evaluation format shall be filled as per Section: C3. Schedule of Bidders experience and details of present works being executed are to be filled as per Section: C5.

Note: In order to consider as valid experience, all the experience has to be supported with the technical details, completion certificate and purchase order.

**If warranted, department/ third party will carry out the inspection of the vendor site / site at which vendor has executed the order for evaluation of the capability and genuineness of the documents.**

**5. DETERMINATION OF RESPONSIVENESS**

SDSC SHAR will scrutinize tenders to determine whether the tender is substantially responsive to the requirements of the tender documents. For the purpose of this clause, a substantially responsive tender is one which inter-alia conforms to all the terms and conditions of the entire Tender document without any deviations and reservations. The decision of SDSC SHAR shall be final in this regard.

**6. BID EVALUATION**

6.1 During evaluation, SDSC SHAR may request Bidder for any clarification on the bid or additional documents.

6.2 Bidder must provide the point-by-point compliance to the technical specifications along with deviations as per "Schedule of deviations" attached in C4. The tender will be rejected, if the deviations are not acceptable to the Department.

6.3 Performance of Bidder on similar nature of works executed/ under execution shall be taken into consideration before selecting the Bidder for opening his price bid.

6.4 The time schedule for completion is given in the Proposal document. Bidder is required to confirm the completion period unconditionally.

6.5 SDSC SHAR reserves the right to accept a bid other than a lowest and to accept or reject any bid in full or part without assigning any reasons. Such decisions by SDSC SHAR shall bear no liability whatsoever consequent upon such decision.

6.6 The Bidder, whose bid is accepted by SDSC SHAR, shall be issued a Purchase Order (PO) to proceed with the work. Bidder shall confirm acceptance by returning a signed copy of the PO.

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SSLV LAUNCH COMPLEX (SLC)

SECTION: A2

SS1 RELATED HANDLING AND TILTING SYSTEMS

SHEET : 1 OF 13

# **SECTION –A2**

## **GENERAL SPECIFICATION & PROJECT INFORMATION**

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	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 2 OF 13
<p><b>1. INTRODUCTION</b></p> <p>Specification of “Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting &amp; Handling Systems for SLC Project”.</p> <p><b>2. SCOPE OF WORK AND TECHNICAL SPECIFICATIONS</b></p> <p>The detailed scope of work and technical specifications are given in Sections B of this document. The general terms and conditions are given below.</p> <p><b>3. SUPPLIER'S OBLIGATIONS &amp; FUNCTIONS</b></p> <p><b>3.1 SPECIFICATIONS AND DRAWINGS</b></p> <p>Supplier shall execute the works in compliance with the provisions of Contract, good engineering practices and codes requirements.</p> <p><b>3.2 SUBMISSION OF TECHNICAL DOCUMENTS</b></p> <p>Supplier shall prepare and submit to SDSC SHAR for approval of following documents and drawings:</p> <ul style="list-style-type: none"> <li>• Technical literatures &amp; data sheets of equipment used by him.</li> <li>• Erection sequence schedule along with erection drawings.</li> <li>• No activity shall be executed unless SDSC SHAR’s approval is obtained. The above documents shall be submitted in a format approved by SDSC SHAR.</li> </ul> <p><b>3.3 DESIGN, FABRICATION &amp; SUPPLY</b></p> <p>Supplier shall carry out detailed engineering, fabrication and supply the items in accordance with the scope, technical specifications and terms &amp; conditions of contract.</p> <p><b>3.4 DELIVERY AND STORAGE</b></p> <ul style="list-style-type: none"> <li>• Dispatch Instructions given in the Contract shall be strictly followed. Failure to comply with the instructions may result in delay in payment apart from imposing any other charges as may be deemed to fit.</li> <li>• The Supplier shall be responsible for transporting all the equipment to site and unloading of items at the identified area using suitable material handling equipments &amp; required man-power.</li> <li>• No equipment shall be delivered without obtaining dispatch clearance from SDSC SHAR.</li> <li>• All the equipment shall be properly packed to avoid any damage during transportation / handling / storage.</li> <li>• The equipment received at site shall be stored at a place assigned for this purpose.</li> </ul>		

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<p><b>4. TAXES AND DUTIES</b></p> <ul style="list-style-type: none"> <li>• The tendered items as per the above subjected tender comes under “Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for launch vehicles and satellites and payloads” having GST @ 5% (As per Dept of Revenue IGST Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; Sl. No.243B dt: 31.12.2018 (Amendment to Notifications No. 7/2018-Integrated Tax (Rate) dt: 25.01.2018. Clause A (ix) about Schedule I 243A))</li> <li>• Kindly accept to offer the item with 5% GST against End User Certificate from our Competent Authority that the items belong to the above category</li> <li>• It is the responsibility of the contractor to issue the Tax Invoice strictly as per the format prescribed under the relevant applicable GST law (CGST Act/SGST Act/UTGST Act/IGST Act). Contractor to indicate the proper GSTN Registration/ HSN code in their tax invoices.</li> <li>• CGST/SGST/UTGST/IGST shall be paid at actual against Tax Invoice but restricted to the amount and percentage in the contract.</li> <li>• GST details of SDSC SHAR are given below: <ul style="list-style-type: none"> <li>• Designation : Purchase and stores officer VALF</li> <li>• Contact no : 08623-226082</li> <li>• GSTIN : 37HYDF00385A1DZ</li> </ul> </li> </ul> <p><b>5. STATUTORY VARIATION</b></p> <ul style="list-style-type: none"> <li>• Statutory variation for CGST/SGST/UGST/IGST is applicable, provided the actual completion of services does not occur beyond the period stipulated in the order/contract or any extension (without levy of penalty). For variation after the agreed completion periods, the service provider alone shall bear the impact for the upwards revisions.</li> <li>• For downward revisions, the Department shall be given the benefit of reduction in CGST/SGST/UGST/IGST.</li> </ul> <p><b>6. RISK COVERAGE</b></p> <ul style="list-style-type: none"> <li>• The Supplier shall arrange comprehensive risk coverage for his personnel and equipments at his own cost covering the value of equipment including transportation to the site storage at site till completion of works at site. The period of such coverage shall be up to contractual completion period or any extension granted by Department thereof.</li> </ul>		

- The purchaser shall not be responsible for any type of risk allowance. This is solemnly lying with service provider.

## **7. INCOME TAX**

Income tax at the prevailing rate as applicable from time to time shall be deducted from the Supplier's bills as per Income Tax Act, 1961 and the rules there-under or any re-enactment or modifications thereof and a TDS certificate shall be issued.

## **8. BANK GUARANTEE FOR SECURITY DEPOSIT, PERFORMANCE BANK GUARANTEE:**

### **8.1. PERFORMANCE BANK GUARANTEE (PBG):**

Successful vendor has to submit a BG/DD/FDR in lieu of PBG from a Nationalized / Scheduled Bank for 3% of the order value after commissioning and acceptance of Folding Platforms valid till the completion of warranty period plus 60 days towards claim period.

### **8.2. SECURITY DEPOSIT (SD)**

3% value of the order shall be deposited with SDSC within 10 days from the date of the Purchase Order towards security deposit in the form of Bank Guarantee (BG)/ FDR/DD towards performance of the Contract valid till completion of the contract period plus sixty days towards claim period. (This will be returned by SDSC immediately on execution of the order satisfactorily as per order terms. If not, the amount will be forfeited).

### **8.3. COMBINED BG FOR PBG CUM SD**

In case, if parties are unable to provide two separate BGs, i.e., one for SD & one for PBG, they can submit a combined BG for SD & PBG for 3% of the Order value valid till the completion of total contractual obligation (i.e., Supply period plus warranty period plus 60 days).

Note: No interest shall be payable on any bank guarantee.

## **9. PACKING AND FORWARDING**

- The Supplier shall arrange to have all the material suitably packed as per the standards and as specified in the contract. Unless otherwise provided for in the contract, all containers (including packing cases, boxes, tins, drums, and wrappings) used by the Supplier shall be non-returnable.
- All packing and transport charges, transit handling costs, transit risk coverage and transport fees of agents employed at the place of delivery or elsewhere, shall be deemed included in the price to be paid to the Supplier.

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: A2
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 5 OF 13
<p><b>10. ARBITRATION</b></p> <ul style="list-style-type: none"> <li>• In the event of any dispute(s) and/or difference(s) arising out of or relating to the interpretation and application of the Work Order, such dispute(s) and/or difference(s) shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties.</li> <li>• If such a resolution is not possible within 30 days from the date of receipt of written notice of the existence of such dispute(s) and/or difference(s), the unsolved dispute(s) and/or difference(s) shall be referred to the Arbitrators appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Amendment Act, 2015 as amended from time to time.</li> <li>• The arbitration shall be conducted Satish Dhawan Space Centre SHAR, Sriharikota. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties.</li> <li>• The applicable language for Arbitration shall be in “English” only.</li> <li>• Services under the Work Order shall be continued by Party during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Centre (SDSC SHAR) or unless the matter is such the Work Order cannot be possible continued until the decision (whether final or interim) of the Arbitrator is obtained.</li> <li>• In case order is concluded on the Public Sector Undertakings, the following Arbitration Clause will be applicable:  <p>In the event of any dispute(s) or difference(s) relating to the interpretation and application of the provisions of the commercial contracts between ISRO/SDSC SHAR &amp; Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between ISRO/SDSC SHAR &amp; CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs &amp; Excise Departments), such dispute(s) or difference(s) shall be taken by either party for resolution through the “Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD)”, as mentioned in the Office Memorandum F No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22nd May, 2018 issued by the Director of the</p> </li> </ul>		

Department of Public Enterprises (DPE) under the Ministry of Heavy Industries and Public Enterprises, Government of India.

#### **11. APPLICABLE LAW AND JURISDICTION**

The laws of India shall govern this purchase order for the time being in force. The Courts of Andhra Pradesh, India only shall have jurisdiction to be with and decide any legal matters or disputes what so ever arising out of the purchase order.

#### **12. FORCE MAJEURE**

Should a part or whole work covered under this purchase order be delayed due to reasons of Force Majeure which shall include legal lockouts, strikes, riots, civil commotion, fire accident, quarantines, epidemic, natural calamities and embargoes the completion period for work, equipment referred to in this agreement shall be extended by a period not in excess of the duration of such Force Majeure. The occurrence shall be notified within reasonable time.

#### **13. WARRANTY**

- The bidder shall provide **12 months** warranty for the entire system for a defect liability, after final official handing over at his cost. During this period, supplier has to provide and adhere to the following:

#### **14. SCHEDULE OF PRICE**

- CONTRACT price shall include all costs of "Fabrication, Painting, Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling Systems for SLC Project which shall include cost for transport to SLC site, unloading using necessary material handling equipments and manpower" as per this contract, any other cost for proper and complete execution of the CONTRACT.
- Supplier shall quote the prices similar to price bid format enclosed as Section – D1 only in online. The rate quoted shall be on FOR SLC site, Tuticorin, Tamil Nadu, basis.

#### **15. DISCOUNTS**

Tenderer shall not indicate any discount separately and quoted price should be after deducting the discount.

#### **16. TERMS OF PAYMENTS**

- 100% payment shall be made to the vendor within 30 days after successful inspection & acceptance by the Dept staff at SLC site.

#### **17. DELIVERY SCHEDULE**

- The realization of fabrication works within the schedule is very essential. Hence, bidders are requested to adhere to the delivery schedule given in this contract.

- Supply of all the items shall be completed **on or before 4 (Four) months** from the date of Purchase Order release.

**18. LIQUIDATED DAMAGES**

In the event of the Supplier failing to supply the items within the delivery period specified in the contract agreement or in extension agreed thereto, Department shall reserve the right to recover from the Supplier as liquidated damages, a sum of 0.5 percentage per week or part thereof of the undelivered portion of the total contract price of equipment or work. However, the total liquidated damages shall not exceed 10.0 percentage of the total contract price.

**19. DISCLOSURE AND USE OF INFORMATION**

- If the documents supplied by SDSC SHAR are marked "Strictly Confidential", Supplier shall take all necessary steps to ensure the same.
- Supplier shall guarantee that all information and data received during execution of Purchase Order from SDSC SHAR shall be classified as "confidential" within the meaning of the Official Secrets Act and will not be divulged to any third party without prior written permission of SDSC SHAR. All drawings & documents shall be returned after execution of work.
- No publicity of any kind whatsoever regarding this work shall be given without prior clearance from SDSC SHAR.

**20. ACCEPTANCE AND REJECTION:**

- On completion of the work or part of the work as specified in the contract, the representative of the Department referred to, shall check as soon as possible, but in any event within one month of notification of readiness for acceptance that the work performed complies with the contract requirements as regards quantity and quality.
- In the event of rejection of any of the articles, whereby the Supplier feels himself aggrieved, he may within eight days of the receipt of notification of rejection and before such articles have been removed from the place of inspection, give the Department notice of objection. Such objection shall be considered by a Board of Appeals of the Department. The Department shall, without prejudice to the arbitration clause in the contract, take a decision upon presentation of the Board's findings.

- On completion of tests, the members of the Inspection Organization of the Department or Inspection agency appointed by Department shall prepare a report, which must be countersigned by the Supplier.

## 21. SUSPENSION

- Department may notify the Supplier to suspend performance of any or all of his obligations under the Contract. Such notice will specify the reasons for suspension and the effective date of suspension. Supplier there upon shall suspend the performance of such obligations until ordered in writing to resume performance of Contract by Department.
- If Supplier's performance or his obligations remain suspended or the rate of progress is reduced, then, the time of completion will be suitably extended and all costs incurred by Supplier as a result of suspension or reduction in rate of progress will be paid to Supplier provided that the suspension or reduction in the rate of progress is not by reasons of Supplier's default or breach of Contract.

## 22. CANCELLATION

### GENERAL RULE

The Department shall have the right at any time to cancel a contract either wholly or in part by giving written notice by registered mail. From the time of receipt of the written notice, the Supplier shall undertake to observe the instructions of the Department as to the winding up of the contract both on his own part and on the part of his sub-Suppliers.

### WITHOUT FAULT OF SUPPLIER

- In the case of cancellation of a contract by the Department without any fault of the Supplier, the Supplier shall on receipt of Department's instructions forthwith take the necessary steps to implement them. The period to be allowed to implement them shall be fixed by the Department after conclusion with the Supplier and, in general, shall not exceed three months.
- Subject to the Supplier confirming, Department shall take over from the Supplier at a fair and reasonable price all finished parts not yet delivered to the Department, all unused and undamaged material, bought-out components and articles in course of manufacture in the possession of the supplier and property obtained by or supplied to the Supplier for the performance of the contract, except such material, bought-out components and articles in course of manufacture as the supplier shall, with the agreement of the Department, elect to retain.

**WITH FAULT OF SUPPLIER:**

- The Department reserves the right, after full consideration of all relevant circumstances, including the observations of the supplier, to cancel a contract in any of the following circumstances.
- In the event of the Supplier's failure to meet
  - I. The Technical requirements of the Supplier.
  - II. The Progress and/or delivery requirements.
- If the Supplier has not observed the provisions of the contract concerning the disclosure and use of information provided by the Department.
- If the Supplier fails to comply with the provisions of the contract concerning the equipment, supplies and technical documents made available by the Department.
- If the Supplier transfers his contract without the Department's authorization or concludes sub-contracts against the Department's explicit directives.
- In the event that Supplier unjustifiably repudiates the Contract or fails to ship or dispatch all or part of the goods ordered for reasons other than those attributed to the Department's actions or as provided in the Force Majeure clause, the Department may, by giving an appropriate notice in writing to the Supplier, fix a Date of Essence by which the Supplier must complete the dispatch in full. If the Supplier fails to do so, the Department, in addition to his right to recover Liquidated Damages in terms of the Contract, shall also have the right to cancel this Contract and make substitute purchases from other sources. If the goods are in a partial state of fabrication, Department may have the fabrication completed by other means, in which event Supplier shall be liable to Department for the additional expenses incurred thereby, but shall not have any claim on savings, if any, in such cases.
- In the event of such cancellation, the Department shall unless otherwise specified in the contract, only pays.
  - In the case of a fixed-cost contract for the supply of equipment or material. The contractual value of items delivered and accepted under the contract before receipt of notification of cancellation, or to be accepted under the special conditions of cancellation.
  - In the other cases. Fair and reasonable price in respect of such work as has been carried out prior to the receipt by the Supplier of notification of cancellation.

**23.FRAUDULENT PRACTICES, BRIBERY AND CORRUPTION OF GOVERNMENT SERVANTS**

The Supplier represents and undertakes that he has not given, offered or promised to give, directly or indirectly any amount, gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the department or otherwise in procuring the contracts or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the contract or any other contract with the Government for obtaining a contract or showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the government. Any breach of the aforesaid undertaking by the contract or any one employed by him or acting on his behalf or for his benefit (whether with or without the knowledge of the Supplier) or the commissioning of any offence by Supplier or any one employed by him or acting on his behalf, as defined in chapter IX of the Indian Penal code, 1860 or the prevention of corruption Act. 1947 or any other Act enacted for the prevention of corruption shall, without prejudice to any other legal action, entitle the Department to cancel the contract either wholly or in part, and all or any other contracts with Supplier and recover from the Supplier such amount or the monetary value thereof and the amount of any loss arising from such cancellation without any entitlement or compensation to the Supplier. The Department will also have the right to recover any such amount from any contracts concluded earlier between the Supplier and the Government of India. The Supplier will also be liable to be debarred from entering into any contract with the Government of India for a minimum period of five years. A decision of the Department to the effect that a breach of the undertaking had been committed shall be final and binding on the Supplier.

**24.RISK AND COST PURCHASE:**

Timely delivery of goods/services is of prime importance and where the vendor fails to fulfil their contractual obligations, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Stores and/ or services similar to those ordered/cancelled, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the Supplier and the Supplier shall be liable to the Procuring Entity for the extra expenditure, if any, incurred or accrued by the Procuring Entity for arranging such procurement. However, the Supplier shall not be entitled to benefits if any, from such procurement.

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<p><b>25. LAND BOARDER SHARING DECLARATION</b></p> <p>The bidder shall provide compliance to Order No. F.No.7/10/2021 PPD dated 23.02.2023 and amendments thereof by Ministry of Finance, Department of Expenditure, Public Procurement Division regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order. In this regard, you shall certify that the bidder entity is not from such a country or, is from such a country, has been registered with the Competent Authority.</p> <p><b>26. MAKE-IN-INDIA (MII) CLAUSE:</b></p> <ul style="list-style-type: none"> <li>• Provisions contained in Public Procurement Policy (Preference to Make in India); Order 2017 issued by DPIIT vide OM No. P-45021/2/2017-PP (BE-II) dated 16.09.2020 &amp; directives related including latest amendments (if any) is applicable for this tender. You are requested to provide Self Declaration Certificate that the offered Item meets Local Content Requirement of Class 1 or Class 2 as per Make in India (MII) Policy, clearly indicating the Percentage of local content &amp; the details of Location(s) at which value addition is made in the offered product. It may be noted that Local Content shall not include services such as Transportation, Insurance, Installation, Commissioning, Training and after sales service support like AMC/CMC etc. Minimum 50% local content for Class-1 local supplier and minimum 20% local content for class 2 local suppliers.</li> <li>• Bidders shall submit self-declaration indicating percentage of local content along with location of value addition in INDIA.</li> </ul> <p><b>27. PURCHASE PREFERENCE TO MICRO AND SMALL ENTERPRISES (MSES):</b></p> <p>Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the BIDDER MUST BE MANUFACTURER OF THE OFFERED PRODUCT in case of bid for supply of goods. TRADERS ARE EXCLUDED from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence along with UDYAM REGISTRATION in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 plus 15%</p>		

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(Selected by Buyer) of margin of purchase preference/price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY.

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**PROJECT INFORMATION**

- 1.0 Project Title : SSLV LAUNCH COMPLEX (SLC)
- 2.0 Location of Plant : SSLV LAUNCH COMPLEX, SSLV PROJECT OFFICE, SURVEY NO. 260-3C, MADHAVANKURICHI VILLAGE – 628206, OPP. TO KOODAL NAGAR, THIRUCHENDUR TK., TUTICORIN DIST., TAMILNADU
- 3.0 Elevation : 22 m
- 4.0 Access to Site : Road about 21km from Thiruchendur and about 46km from Koodankulam approximately.
- 5.0 Terrain : Uneven with level varying significantly.
- 6.0 Climatic Conditions
- a) Temperature
- Mean of daily max : 34 °C
- Mean of daily min. : 28 °C
- Maximum Temperature : 39 °C
- Design ambient temperature for performance guarantee : 45.0 °C
- b) Relative humidity
- i. Range : 58% to 72%
- ii. Design relative humidity for performance guarantee : 80%
- c) Rainfall
- i. Annual average maximum : 1222.7 mm
- 7.0 Wind Load
- Basic wind speed : 7m/s  
(Enhanced by a factor 1.4)
- 8.0 Seismic Data : As per IS : 1893 latest issue
- Zone : Zone II

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**SSLV LAUNCH COMPLEX (SLC)**

SECTION: B

**SS1 RELATED HANDLING AND TILTING SYSTEMS**

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# **SECTION -B**

## **TECHNICAL SPECIFICATION**

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: B
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 2 OF 13

**1. SCOPE**

- This specification covers the description of scope of work, functional requirements, technical parameters, general design, materials, construction features, interfaces, list of drawings, and bought out items.
- The scope of the contractor shall include understanding of the tendered items and its functional requirement, procurement of raw material, fabrication, machining, procurement of bought out items, shop inspection, packing , forwarding, transportation, delivery and unloading at SLC site as per the enclosed specifications and handing over of the items to ISRO.

**2. QUANTITY**

The following are the list of items comprising this tender.

S. No	Description	Quantity
1	Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle	01 set*
2	Fabrication, Painting and Supply of SS1 Nozzle Tilting System	01 set*
3	Fabrication, Painting and Supply of SS1 Nozzle Handling System	01 set*

\*Set means all the items mentioned in the drawings are to be supplied.

\*\*Since all the above items are inter-dependant, overall L1 will be considered for order placement.

**3. DETAILED SCOPE OF WORK / EQUIPMENT AND SERVICES TO BE PROVIDED BY CONTRACTOR**

For Successful supply of the items as per the tender, the scope of tender shall include but not limited to the following items:

- Complete understanding of functional requirements of the items, interfaces and thereby ensuring satisfactory operation of the system.
- Understanding of supplied drawings and preparation of required part drawings.
- Procurement of raw materials and bought out items with qualification.
- Carrying out of fabrication and machining as per approved drawings.

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- Transportation of manufactured items and related materials at site, unloading, storing the items at specified location at SLC site.
- Paint and painting of all the supplied equipments. Colour to be painted will be intimated after the release of Purchase Order.
- Shop inspection (in shop floor & at SLC site) after fabrication along with all required calibrated measuring instruments.
- First fill of oil, grease, lubricants consumables, etc.
- Arrangement for carry out the inspection on works at various for manufacturing and testing procedures in the document are only for the general guideline of the tenderer. The tenderer shall furnish these details in their offer as required in the relevant articles of this specification.

#### **4. LIST OF DRAWINGS**

**The list of drawings mentioned below are tentative general arrangement drawings and for tendering purpose only. Fabrication drawings will be issued along with the Purchase Order.**

S.No	Drawing No.	Description
<b>SS1 SEGMENT HORIZONTAL HANDLING TACKLE</b>		
1	10-MECH-12-1-60/A1/R1 SHEET 1 OF 4	GENERAL ASSEMBLY OF SS1-SEGMENTS HORIZONTAL HANDLING SYSTEM FOR SLC
2	10-MECH-12-1-60/A1/R1 SHEET 2 OF 4	TACKLE STRUCTURE (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)
3	10-MECH-12-1-60/A2/R1 SHEET 3 OF 4	PART DETAILS OF TACKLE (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)
4	10-MECH-12-1-60/A1/R1 SHEET 4 OF 4	TOP & BOTTOM PIN ASSEMBLY (HORIZONTAL HANDLING SYSTEM FOR SS1 SEGMENTS FOR SLC)
<b>SS1 NOZZLE TILTING SYSTEM</b>		
1	10-MECH-12-2-10 SHEET 1 OF 5	GENERAL ASSEMBLY OF TILTING SYSTEM FOR SS1 NOZZLE FOR SLC PROJECT
2	10-MECH-12-2-10 SHEET 2 OF 5	A-FRAME
3	10-MECH-12-2-10	SS1 NOZZLE SUPPORT RING

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	SHEET 3 OF 5	
4	10-MECH-12-2-10 SHEET 4 OF 5	SS1 NOZZLE HORIZONTAL SUPPORT STAND
5	10-MECH-12-2-10 SHEET 5 OF 5	SS1 NOZZLE VERTICAL SUPPORT STAND
<b>SS1 NOZZLE HANDLING SYSTEM</b>		
1	10-MECH-12-1-35/A1 SHEET 1 OF 4	SS1 NOZZLE HANDLING SYSTEM (FOR SLC PROJECT)
2	10-MECH-12-1-35/A2 SHEET 2 OF 4	TACKLE HANDLING SYSTEM
3	10-MECH-12-1-35/A2 SHEET 3 OF 4	TACKLE
4	10-MECH-12-1-35/A2 SHEET 4 OF 4	TILTING BRACKETS

**5. MANUFACTURING, ASSEMBLY AND INSPECTION**

**5.1 General Instructions for Fabrication are specified in the subsequent clauses.**

- The fabrication of components shall confirm to provisions of IS : 800 – 2013
- All rolled material before being laid off shall be clean, free from bends, twist etc. and straight within tolerance allowed by IS: 1852 – 1885. If straightening or flattening is necessary, it shall be done by methods that will not injure the material. Long Plates shall be straightened by passing through a mandrel or levelling rolls and structural shapes by the use of mechanical or hydraulic bar section straightening machines.
- For butt-weld joints, edge preparation shall be preferably done by machining and may be done by mechanically controlled gas cutting machine. Sub surfaces shall be ground cleaned and inspected before fitting/ welding.
- Welding shall be performed as per IS: 9595 – 1996.
- All welding shall be carried out by qualified and approved welders shall perform welding in accordance to ASME Sec IX.
- Unless otherwise specified on drawings, tolerances for fabrication shall be as per ISO: 13920.

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- Edge preparation shall be carried out for all plates before welding. For butt-weld joints, edge preparation shall be preferably done by machining and may be done by mechanically controlled gas cutting machine. Sub surfaces shall be ground, cleaned and inspected before fitting / welding.
- Unless otherwise specified on drawings, all butt welds shall be full penetration welds.
- Unless otherwise specified on drawings, all fillet welds shall be 50% of the minimum plate thickness and shall be on both sides of the plate. Also, the weld shall be continuous.
- Welding sequence shall be such that the distortion and residual stresses are minimised. All welds shall be deposited in proper sequence so as to balance the applied heat as far as possible. (A wandering sequence shall be used whenever necessary).
- The procedure to be followed by CONTRACTOR for all weld repairs shall be subject to approval by the PURCHASER.
- Threaded joints that are to be seal welded shall be thoroughly cleaned before welding.
- All sharp corners of machined/ fabricated items shall be smoothed by de-burring, hand grinding, chipping and filing.
- Fabricator employed at site shall have adequate machining, welding, metrology and portable NDT facilities.
- All fabrication work undertaken in parts shall bear distinct match marking to facilitate further identification.
- During manufacturing and assembly, bolt tightening shall be carried out using torque wrench/ impact wrench to ensure required tightening/ tension in the bolts.

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**5.2 Inspection at Shop**

- Dimensions, various clearances, surface finish etc as specified in drawings.
- Levelling and alignment of fabricated items as per drawings.
- Prior to dispatch of fabricated items to SLC site, the supplier has to call for an inspection.
- During which the department personnel will carry out a detailed inspection of the fabricated items at the factory/shop floor. Only upon clearance by the department personnel items shall be dispatched to SLC site.

**6. CODES AND STANDARDS**

- The fabricated items shall comply with all currently applicable statutes, regulations and safety codes in the locality where the equipment is to be supplied. The equipment shall also conform to the latest applicable Indian or equivalent standards. Other international standards are also acceptable, if these are established to be equal or superior to the listed standards. Nothing in this specification shall be construed to relieve the CONTRACTOR of this responsibility.
- The following are some of the codes and standards relevant to this specification.

IS:2062	Hot rolled medium and High tensile Structural Steels
IS:1367 part13	Technical supply conditions for threaded fasteners Hot-dip galvanized coatings ( second revision)
IS:800	Code of practice for use of structural steel in general building construction.
IS:1835	Steel Wires for Ropes
IS:6594	Technical supply conditions for steel wire ropes and strands.
IS:2266	Steel Wire Ropes for General Engineering Purposes.
IS:2363	Glossary of terms relating to wire ropes.

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IS:3973	Selection, installation, maintenance and technical supply conditions of wire ropes.
IS: 1364	Hexagonal Head bolts, Screws and nuts of product grades A and B.
IS:816	Code of Practice for Use of Metal Arc Welding for general Construction in Mild Steel.
IS:823	Code of Practice for Use of Metal Arc Welding of Mild Steel.
IS:1181	Qualifying Tests for Metal Arc Welders (Engaged in Welding Structures other than pipes).
IS:1323	Code of Practice for Oxy-Acetylene Welding for Structural Work in Mild steel.
ASTM E94	Standard Guide for Radiographic Examination
ASTM E165	Standard Test Method for Liquid Penetrant Examination
ASTM E709	Standard Guide for Magnetic Particle Examination
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Products
ASTM A388	Standard Practice for Ultrasonic Examination of Steel Forgings
ASTM A275	Standard practice for Magnetic Particle Examination of Steel Forgings

**7. SPECIFIC REQUIREMENTS**

- All bought out items supplied shall have capacities not less than those stated in the attached drawings and necessary test certificates shall be furnished in this regard.
- Any items which may not have been specifically mentioned herein but are needed to complete the equipment / system shall also be treated as included and the same shall also be furnished, unless otherwise specifically excluded as indicated.

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- All tools and tackles required during various stages of execution of order right from manufacture at shop to the supply at site shall be in the scope of the Contractor.

**8. RELIABILITY AND QUALITY**

The inspection procedures shall be categorized as follows:

- Category A: Stage wise and final inspection including review of documents by Department.
- Category B: Stage wise and final inspection including review of documents by the Contractor. Department shall perform final inspection and review documents.
- Category C: Final inspection and review of documents shall be carried out by the Contractor. Department shall carry out the final review of documents.

The minimum requirements for ensuring quality at various stages are spelt out below.

The following are the basic inspection requirements to be followed upon receipt of raw material:

Review of material test certificates	Category C
UT of plates for thickness greater than 20mm	Category C

The following are the minimum in-process tests that shall be carried out (if applicable):

Welding procedure & welder / welding operator's performance qualification	Category C
100% MT / PT for flame cut edges for plate thickness exceeding 38mm.	Category B
100% PT after back gouging	Category B
100% MT / PT for fillet welds when both plates exceed 25mm thickness.	Category B
100% MT / PT for fillet welds between tension flanges & webs.	Category B
100% RT / UT for butt welds	Category B

Heat treatment shall be carried out on the following (if applicable):

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Carbon steel plates where thickness exceeds 20 mm	Category C
All other components as referred to in the drawings	Category C

The following are the final inspection / tests that shall be carried out during various stages of manufacture, as applicable:

Visual and dimensional inspection of components / sub-assemblies	Category A
Blue matching for bolted components	Category A

The schedule of tests stated above is indicative and not exhaustive in nature. CONTRACTOR shall carry out any other tests at shop / site as per directions of PURCHASER.

**9. SCOPE OF INSPECTION**

- Raw Material Inspection shall be carried out at the Vendor's works for compliance of the raw materials to the specified standards.
- Bought out components shall be inspected either at Vendor's works or at the Sub-contractor's premises for compliance with the Specifications.
- **Wire rope shall be tested to two times the SWL of wire rope** and the load test certificate shall be provided. Make of the wire rope shall be **M/s Usha Martin only**.
- Fabricated components shall be inspected at the Vendor's works for compliance with the component drawings. Sub-Assemblies shall be inspected at the Vendor's works for compliance with the Sub-Assembly drawings and for performance requirements.
- All the items shall be inspected at Purchaser's premises after site delivery for compliance with the Assembly Drawings and performance requirements.
- All measuring and testing instruments / equipment required for carrying out all tests at VENDOR's works and at PURCHASER's site shall be provided by the Contractor.

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**10. SURFACE PREPARATION AND PAINTING**

- All the items shall be painted as per the instructions given below.
- All the shop-fabricated items shall be grit blasted, primer painted.
- After primer painting, All items shall be intermediate painted with inhibitive polyamide epoxy, DFT-100 microns (min).
- The total surface shall be final painted with sufficient number of coats using acrylic aliphatic polyurethane finish paint, having a DFT of 40 microns.
- All box sections, before closing, shall be painted with primer and finish paint inside the Box.
- The colour of the paint to be used for each item will be intimated after the release of Purchase Order.

**10.1 PREPARATION OF SURFACES**

- All surfaces to be painted shall be clean, dry and free from oil, grease, dirt, dust, corrosion and weld spatters.
- Any other surface contaminant except tightly bonded residues of mill scale rust is permissible to a limit of not more than 5% of whole surface and a maximum of 10% on any particular square inch area.
- Surfaces that may become inaccessible after erection or installation or both, shall be prepared and painted while still accessible as per the same procedure mentioned.

**10.2 GRIT BLASTING**

- The entire surface of all the fabricated materials is to be grit blasted as per near white quality of steel structures painting council (SSPC) standard of SA 2.5 of SIS 055900.
- The surface profile after blasting shall be between 37-65 microns and should be of jagged in nature.

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: B
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 11 OF 13

- Hand cleaning by chipping and scraping followed by wire brushing / abrasive wheels is allowed for items where surface preparation is difficult by grit blasting after taking approvals from purchaser / TPIA. All surfaces shall be degreased using a suitable solvent to remove oil & grease and shall be dried off before painting.

### **10.3 PAINING SCHEME**

- Immediately after grit blasting, one coat of inorganic zinc silicate primer shall be applied to a dry film thickness (DFT) of 65 microns (minimum), intermediate painting with inhibitive polyamide epoxy to a dry film thickness of 100 microns followed by a final coat of 40 microns of acrylic aliphatic polyurethane finish paint. Colour code will be finalized by purchaser after award of contract.
- All paint and primer shall be of standard quality and procured from approved manufacturers. The tenderer shall provide “Elcometer” / Paint thickness measuring gauges free of charge and shall measure the thickness of paint in the presence of the representative of the purchaser at random locations selected by him.
- Machine finished surfaces shall be protected against corrosion by a rust inhibiting coating that can be easily removed prior to erection or which has characteristics that make removal unnecessary prior to erection.
- Touch-up painting for making good to any damaged shop painting and completing any unfinished portion of the shop coat shall be carried out by the Tenderer at free of cost. The materials and specification for such painting in the field shall be in accordance with the requirements of the specification for shop painting.
- Painting shall not be done in frosty or foggy weather or when humidity is such as to cause condensation on the surfaces to be painted. Before painting of steel, which is delivered unpainted, is commenced,

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: B
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 12 OF 13

all surfaces to be painted shall be dried and thoroughly cleaned from all loose scale and rust.

- All field rivets, bolts, welds and abrasions to the shop coat shall be spot painted with the same paint used for the shop coat. Where specified, surfaces which will be in contact after site assembling shall receive a coat of paint (in addition to the shop coat, if any) and shall be brought together while the paint is still wet.
- Bolts and fabricated steel members, which are galvanized or otherwise treated, shall not be painted.
- Paints shall be stored under cover in airtight containers. Paints supplied in sealed containers shall be used as soon as possible once the container is opened.
- Paints shall be checked for shelf life to meet the requirements before application. Proper action shall be taken well in advance prior to actual usage.

#### **10.4 PAINT SPECIFICATIONS**

a) Inorganic Zinc Silicate Primer:

- Two part, self cured
- Dry temperature resistance to 400 °C
- Minimum shelf life of 12 months
- Excellent abrasion resistance
- Minimum coverage of 9 sq m./litre at 65 microns (minimum)
- Volume of solids 60% (minimum) by weight and 80% of zinc in dry film by weight
- No mud cracking at an applied thickness of 75 microns.
- Primer shall be applied minimum 65 microns DFT

(b) All items shall be intermediate painted with inhibitive polyamide epoxy, DFT-100 microns (min).

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: B
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET : 13 OF 13

(c) Air drying Acrylic Aliphatic polyurethane finish paint having excellent UV resistance.

- As per approved manufacturer's specifications.
- Minimum of 40 microns DFT
- Colour code will be finalised by department after award of contract.

**11. DATA TO BE FURNISHED AFTER AWARD OF CONTRACT**

The contractor shall ensure the following documentation are prepared and submitted to PURCHASER for his review / record

- Progress reports
- The CONTRACTOR shall submit documents as specified in various sections of this specification and also as per the specific instructions of the PURCHASER.

**12. FINAL DOCUMENTS**

- CONTRACTOR shall submit all the raw material test certificates, Ultrasonic testing of the raw material, DP test certificates of all necessary welds. Dimensional inspection reports of individual components.

**SCHEDULE OF PRICES (UN-PRICED COPY) & GENERAL PARTICULARS**

1. Bidders shall not alter the contents of this schedule of prices. If the bidder wants any additions / alterations, these shall be brought out separately in the format as given in this schedule of prices.
2. Equipment and material to be supplied shall be in accordance with section A, B & C of this specification.
3. The quoted price shall be price in Indian Rupees for Supply of material, manufacture, inspection at manufacturer's works, packing, forwarding, transportation from place of manufacture to site, transit insurance, unloading / receipt at site, storage / handling at site inclusive of all taxes and duties as applicable except sales tax on finished products, and service tax which shall be separately indicated in the price bid.

S.No	Item	Qty.	Cost in Rs.
1.	Fabrication, Painting and Supply of SS1 Segment Horizontal Handling Tackle and SS1 Nozzle Tilting & Handling Systems for SLC Project.	01 lot	
2.	GST @ 5%		
	Total cost		

**\* All the items are interdependent for the completion of work. Hence, the overall L1 bidder for the tender shall be considered for evaluation.**

**Note:**

1. Cost off packing, forwarding and transportation shall be loaded to the unit rate, not to be quoted extra.
2. Quoted price, whether inclusive or exclusive of GST shall be clearly mentioned.
3. **Any bids/offers with price details in Techno-Commercial Offer (Part -I) shall be rejected.**

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE: \_\_\_\_\_

SEAL OF THE COMPANY

SPEC: SLC/SS1/HS	SSLV LAUNCH COMPLEX (SLC)	SECTION: C2
	SS1 RELATED HANDLING AND TILTING SYSTEMS	SHEET 1 OF 2

**BID QUALIFICATION CRITERIA FOR FABRICATION, PAINTING AND SUPPLY OF SS1 SEGMENT HORIZONTAL HANDLING TACKLE AND SS1 NOZZLE TILTING & HANDLING SYSTEMS FOR SLC**

Bidders who are qualifying / meeting following Technical and financial criteria are eligible to participate in the bid. Bidder shall furnish all the information mentioned in the criteria with documentary proof and submit along with quotation. Bids of the parties which are not meeting the following criteria will not be considered for evaluation and will be rejected without seeking any further clarifications.

**A. TECHNICAL QUALIFICATION REQUIREMENTS**

The bidder shall meet the following technical qualifying requirements and shall submit relevant certificates to establish his credentials.

1. The Bidder shall be an organization with minimum 5 years of experience ending by 31.12.2025 having executed contracts for fabrication and erection of structural items.
2. The firm shall have successfully completed Fabrication of at least 1 no of structural work of total 5t in single work order or at least 2 nos. of structural work of each 3t , during last 10 (ten) years ending with 31.03.2026. Bidders have to provide relevant certificates, PO copy, Completion certificates along with the submission of bid for consideration of bid document.

Bidders have to provide relevant documentary proof for the above experience, along with the submission of bid for consideration of bid document.

**B. FINANCIAL QUALIFICATION REQUIREMENTS**

1. Firm should have successfully completed fabrication and erection of structural items for the given value of works in last 10 (ten) years
  - not less than Rs.15 lakh in a single order  
OR
  - not less than Rs.10 lakh in two separate orders (each)

Documentary proofs like LOI/PO are to be submitted

2. Bidder shall submit audited profit/loss & balance statement of financial status for last three years.
3. Bidder shall submit ITR documents for the last three financial years.

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: C2
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET 2 OF 2

**C. THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED ALONG WITH THE TECHNO COMMERCIAL BID**

1. Firm establishment certificate and nature of work.
2. Satisfactory work Completion certificates from the clients, with the work order copies.

**D. BID SELECTION PROCEDURE AND PROCESS OF PRE-QUALIFICATION**

1. Short listing based on documents submitted, satisfying the all-eligibility criteria given above by the firm or individual along with their Bid / application. (No submission of any document as given in above list within stipulated time leads to rejection of Bid).
2. Subsequently Bidder's competency, their technical achievements and financial status will be evaluated suitable for this project. Feedbacks from Bidder's clients will be verified.
3. Visit to sites by technical team (ISRO or Third party) where Bidder has established above mentioned works.
4. If required, visit will be made to their factory/ firm by technical team (ISRO or third party) for accessing the capability of manufacturer.
5. Scrutiny of all technical specification and supply conditions mentioned in techno commercial bid.

**SCHEDULE OF GENERAL PARTICULARS / VENDOR EVALUATION FORMAT**

S. NO.	DESCRIPTION	RESPONSE
1.	Name of Company	
2.	Address of Company	
3.	Type of Company (Proprietary/Pvt.Ltd/Public Ltd/Joint Venure/Consortium)	
4.	Registration number	
5.	Year of inception of the company	
6.	Registered address	
7.	Name & address of the office of the Chief Executive of the company	
8.	Name & Designation of the officer of the Bidder to whom all correspondence shall be made for expeditious technical/ commercial co-ordination.  Telephone number Fax number E-mail address	
9.	Locations of the Branches of Company (if any)	
10.	Annual turn-over of the company for the last three years	
11.	Major customers (Enclose copies of the Purchase Orders)	
12.	Any customers feedback on the services which is in writing (Pl. enclose copies)	
13.	Quality certification of the company	
14.	Orders executed during last three years, (Separate sheet can be attached).	
15.	Shop floor area covered	
16.	No. of employees	
17.	Handling facility available:	
18.	Welding professionals:	
19.	Details of inspection facilities / Instruments available ( Brief description & specifications shall be provided)	
20.	Bid validity period (Min. 4 months from date of bid opening)	

SIGNATURE :  
NAME :  
DESIGNATION :  
COMPANY :  
DATE :

SEAL OF THE COMPANY

**EXCEPTIONS AND DEVIATIONS**

In line with Proposal Document, Bidder may stipulate Exceptions and deviations to the proposed conditions if considered unavoidable.

S.No	Reference in Specification		Dept. Specification	Offered Specification	Deviation
	Page no	Clause no			

**NOTE:**

Only deviations are to be written in the above form.

Any deviations taken by the Bidder to the stipulations of the Proposal document shall be brought out strictly as per this format and enclosed along with the bid.

Any deviations not brought out in this Proforma and written elsewhere in the Proposal document shall not be recognized and the same is treated as null and void.

Any wilful attempt by the Bidders to camouflage the deviations by giving them in the covering letter or in any other documents that are enclosed may render the Bid itself non-responsive.

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

SPEC: SLC/SS1/HS	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: C5
	<b>SS1 RELATED HANDLING AND TILTING SYSTEMS</b>	SHEET: 1 of 1

**SCHEDULE OF BIDDERS EXPERIENCE**

The bidder shall furnish here under a list of works executed by him to whom a reference may be made by the PURCHASER in case the PURCHASER considers such a reference necessary.

S. NO.	Name & address of Client / Name & address of project or plant (incl. Tel.no., fax no., e-mail and name & Designation of person who can be contacted.	Purchase Order / Contact no. and Date.	Brief details of equipment / system covered	Scope of services	Contract price (Rs)	Scheduled date of completion	Actual date of completion	Reasons for delay in completion, if applicable.	REMARKS

SIGNATURE :  
NAME :  
DESIGNATION :  
COMPANY SEAL:

**DATA TO BE FILLED ALONG WITH THE BID**

S. NO.	DESCRIPTION	OFFER
1.	Confirm that the system shall be realised as per technical specification, approved manufacturing drawings, bill of material to meet the functional requirement.	Yes / No
2.	Confirm that all the bought-out items are to be procured as per the specification from the approved parties.	Yes / No
3.	Confirm that fabrication of all items shall be done as per IS: 800 & tolerance in fabrication shall be maintained as specified in relevant drawings.	Yes / No

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

**CHECK LIST**

S.No	Description	Response by supplier
1	All documents related to Prequalification criteria mention in <b>Section C2</b> have been met and all related documents are enclosed in technical Bid	Yes / No
2	Are all the technical particulars as called for in the data sheets section A, B, & Annexure C1 to C7 and commercial details as called for in schedule of prices are filled up.	Yes / No
3	The detailed scope of work and technical specifications are understood and price was quoted accordingly.	Yes / No
4	Confirmation that the quoted prices are firm and fixed till the completion of scope of work.	Yes / No
5	Validity of Offer is 4 months (minimum).	Yes / No
6	Vendor Evaluation Format is attached	Yes / No
8	Delivery Schedule with milestones	Yes / No
9	Acceptance of departmental payment terms & conditions	Yes / No
10	Are General terms and Conditions of Contract for Supply included in proposal acceptable?	Yes / No
11	If not acceptable, are the deviations brought out in the "Schedule of Deviations"	Yes / No
12	Are there any deviations from enquiry technical specifications?	Yes / No
13	If there are technical deviations, are these filled in "Schedule of Deviations from Tech. Specifications"?	Yes / No
14	Warranty for the fully commissioned and accepted system is 12 months	Yes / No
15	PBG of 3% as per clause 8.1 of Section-A2	Yes / No
16	SD of 3% as per clause 8.2 of Section-A2	Yes / No
17	Combined BG for SD & PBG for 3% as per clause 8.3 of Section-A2	Yes / No
18	Liquidated Damages as specified in the specification document are acceptable	Yes / No
19	Last three years audited financial results are enclosed	Yes / No
20	Registration certificate of the company is enclosed	Yes / No
21	All the forms in Section C1 to C7 are filled	Yes / No
23	Un priced copy enclosed along with technical un-priced bid.	Yes / No
24	Section Priced Bid Format (C1) filled in E-procurement portal Price Bid form only.	Yes / No
25	Signed copy of the complete Specification document is submitted.	Yes / No

SIGNATURE: \_\_\_\_\_

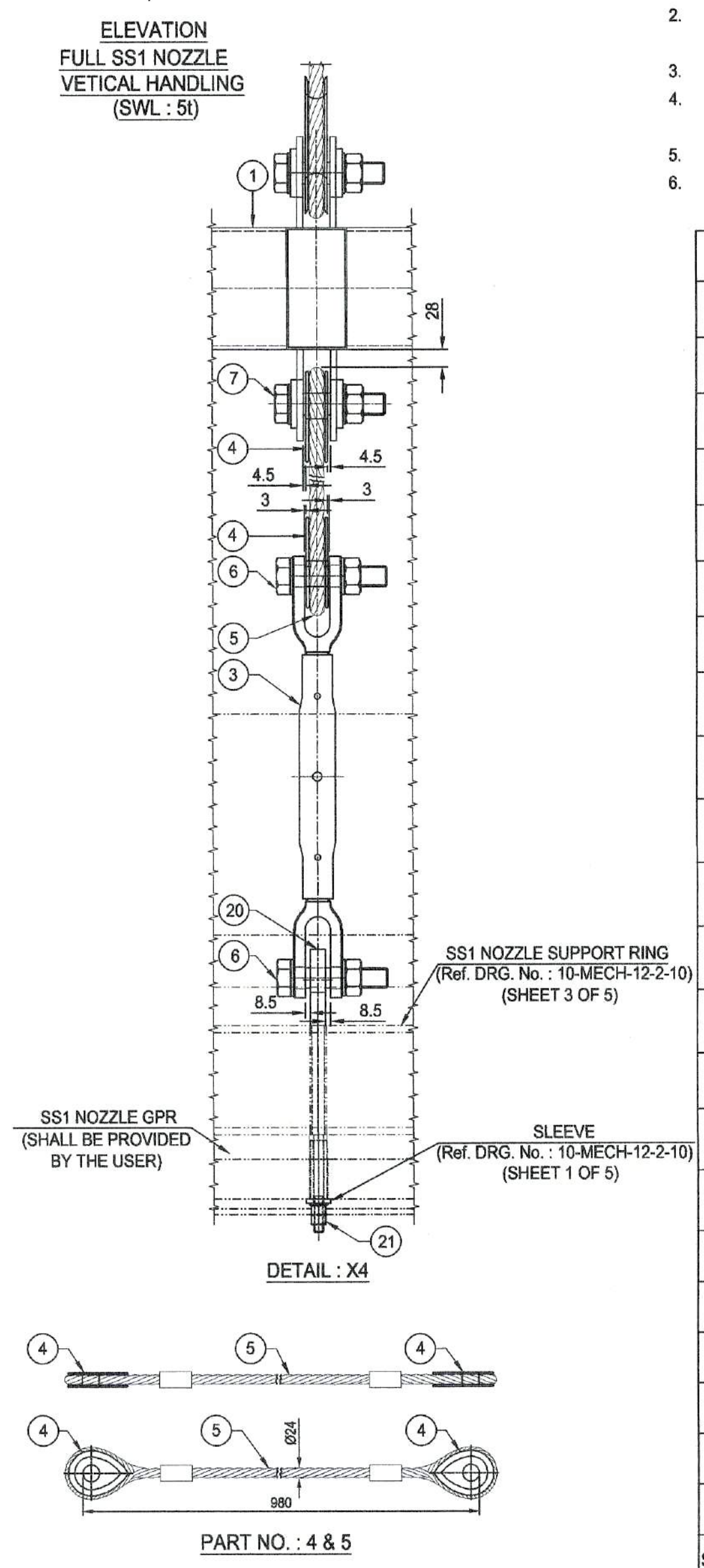
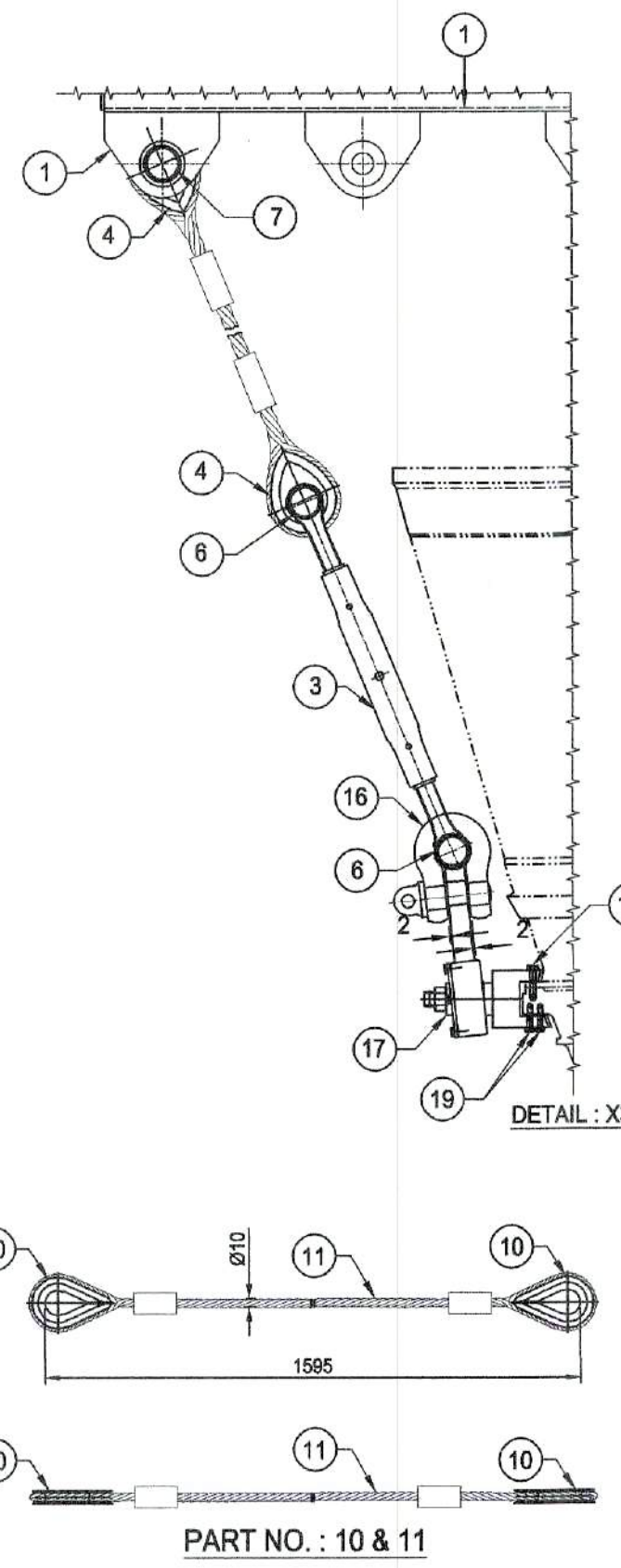
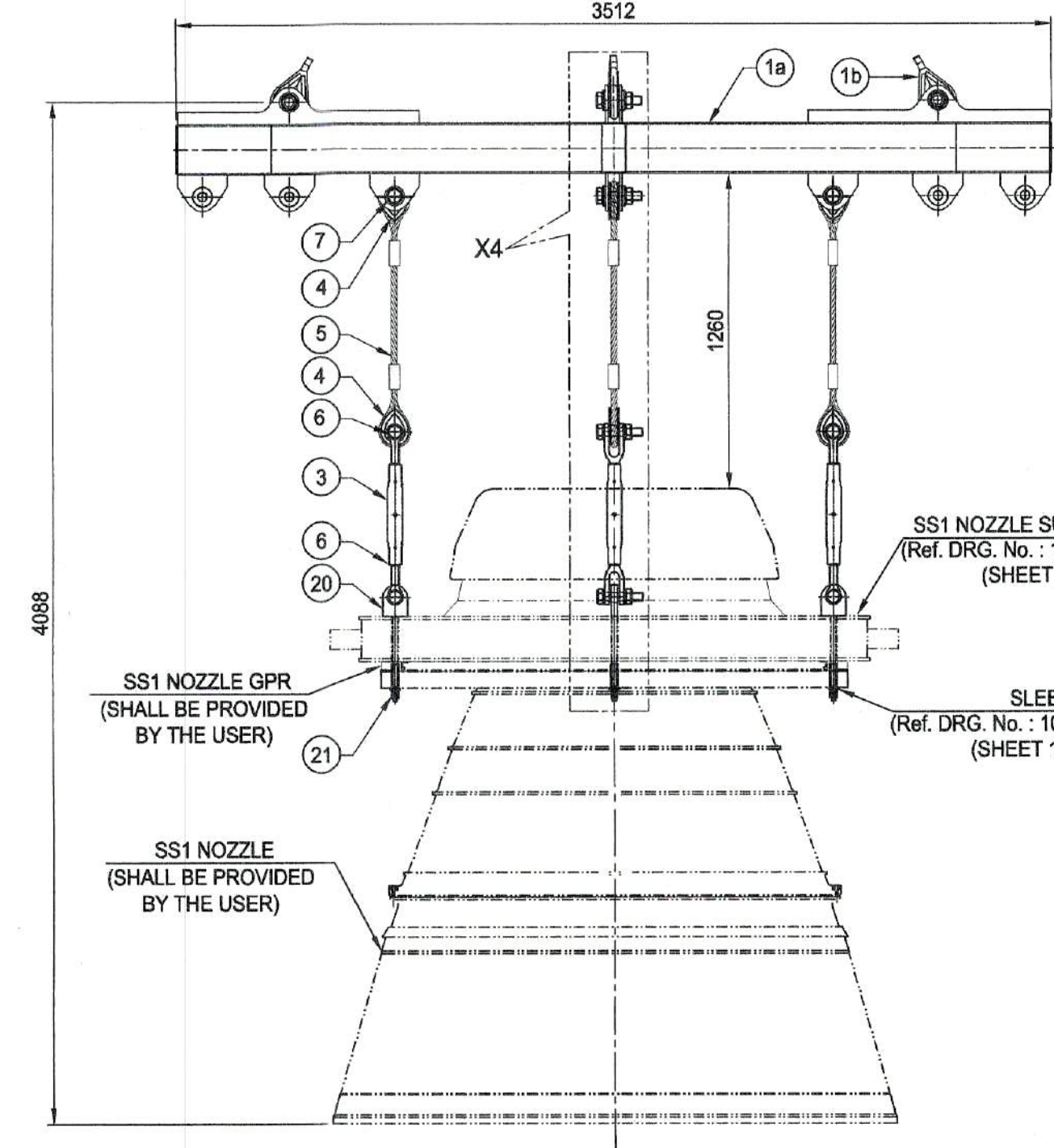
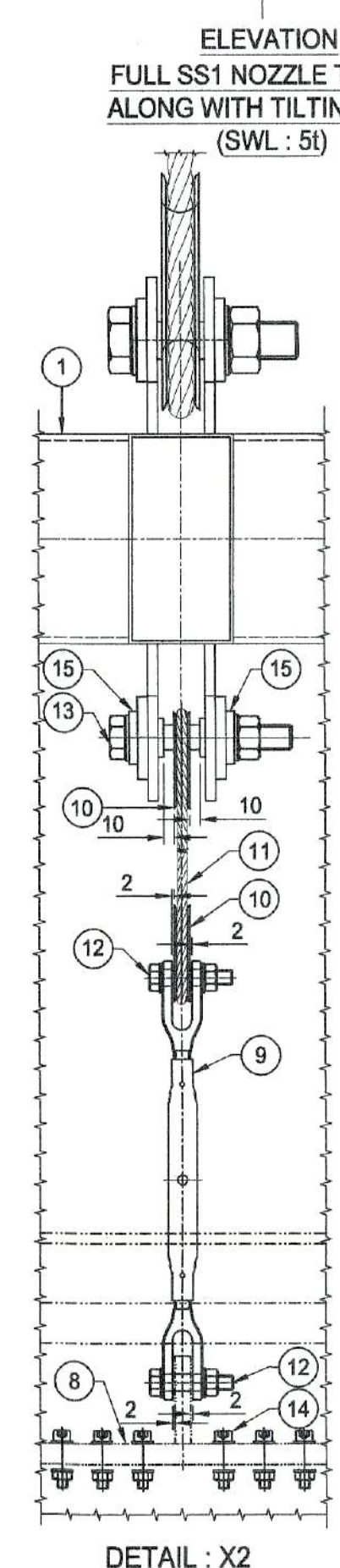
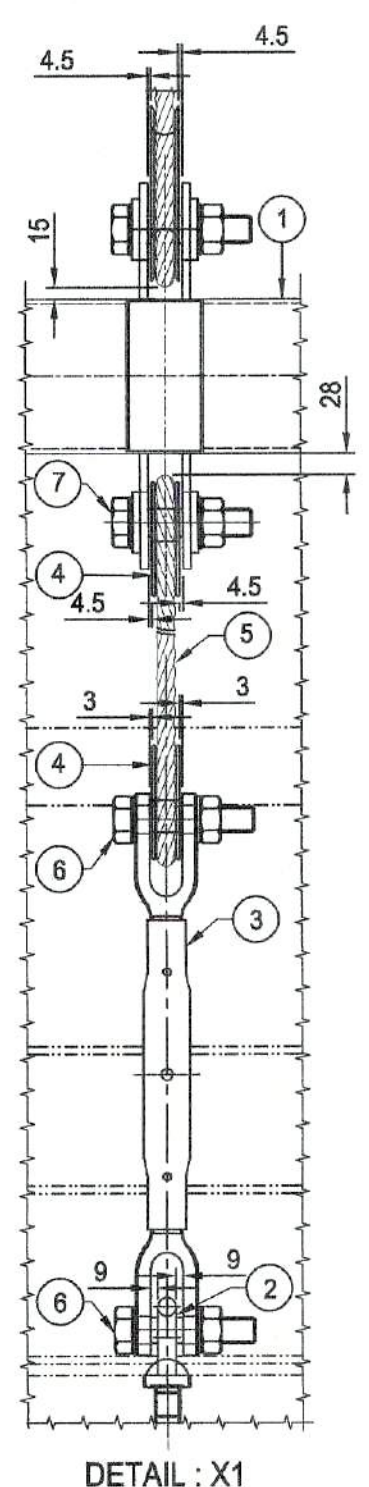
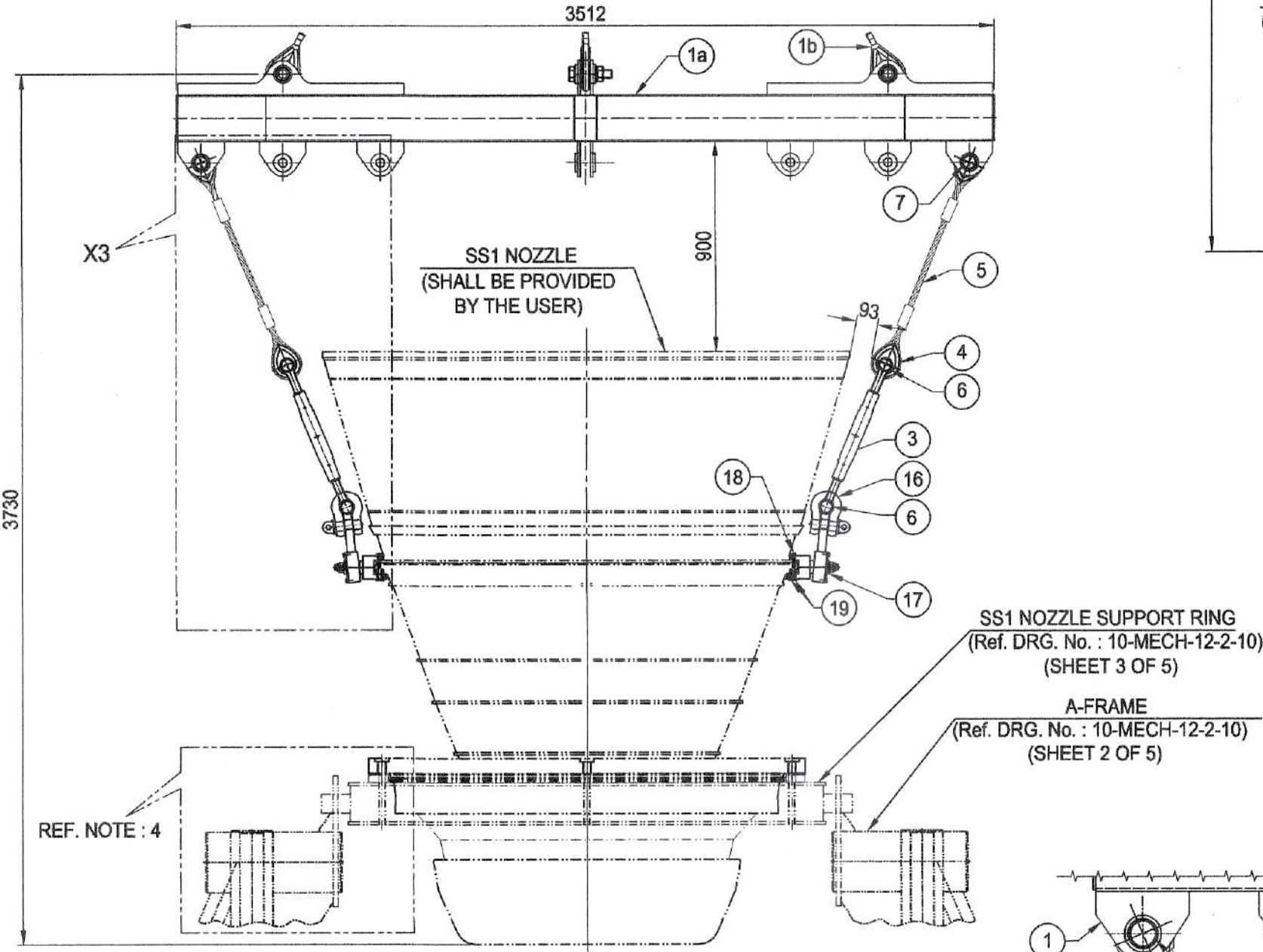
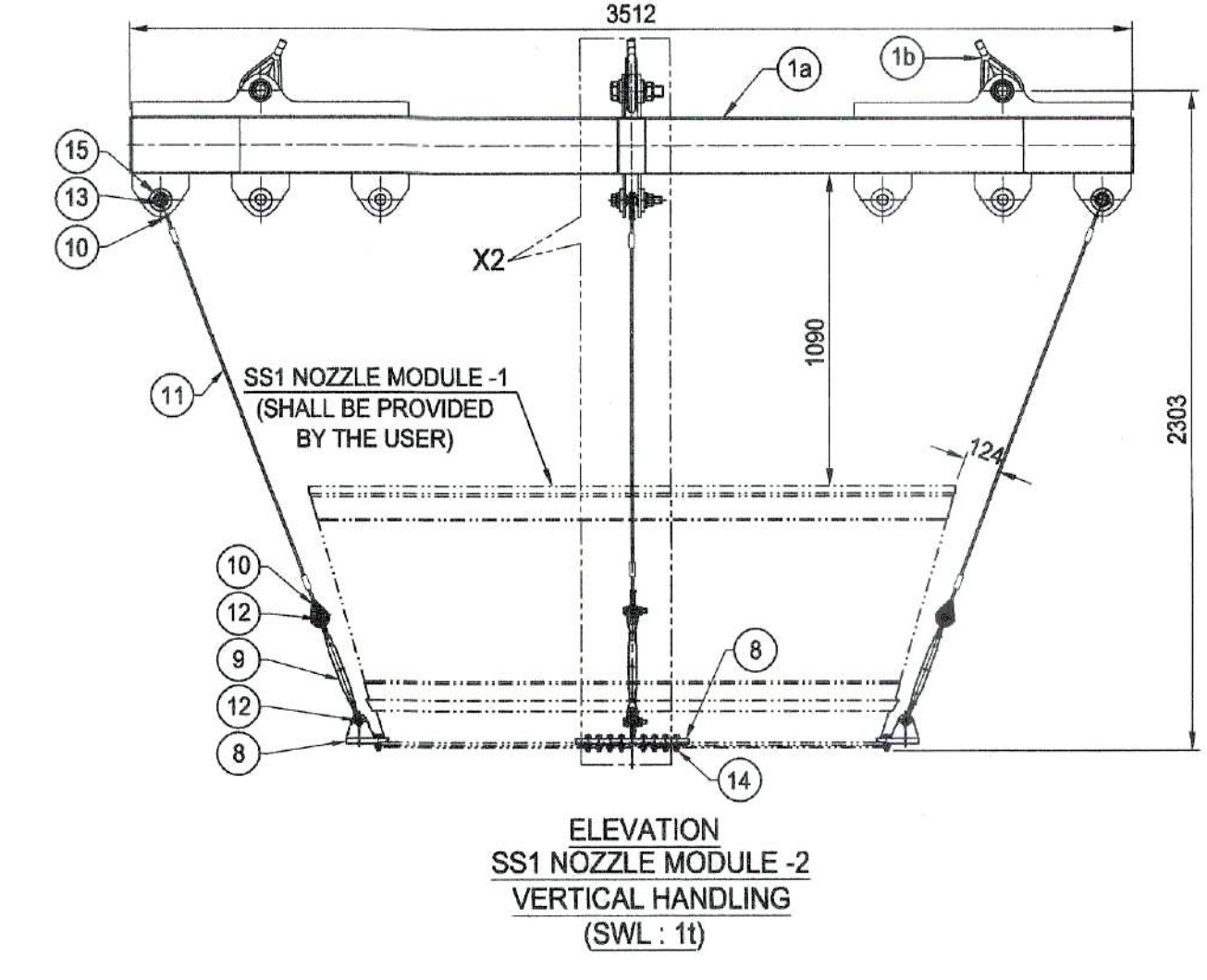
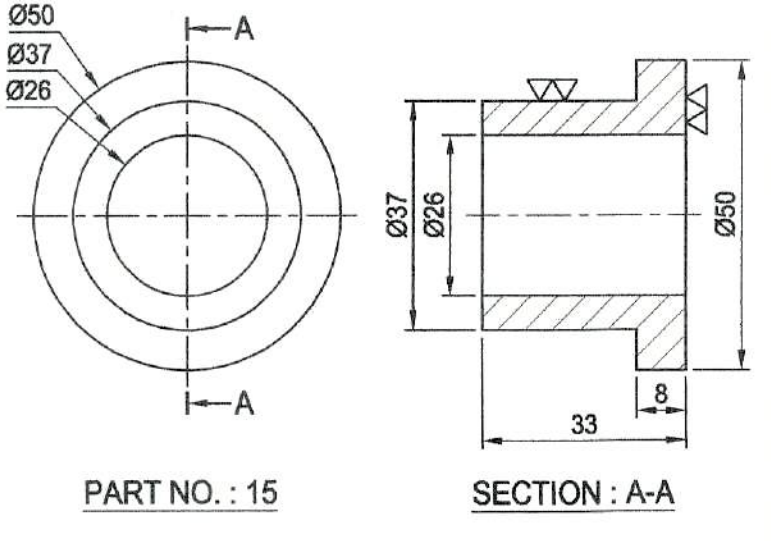
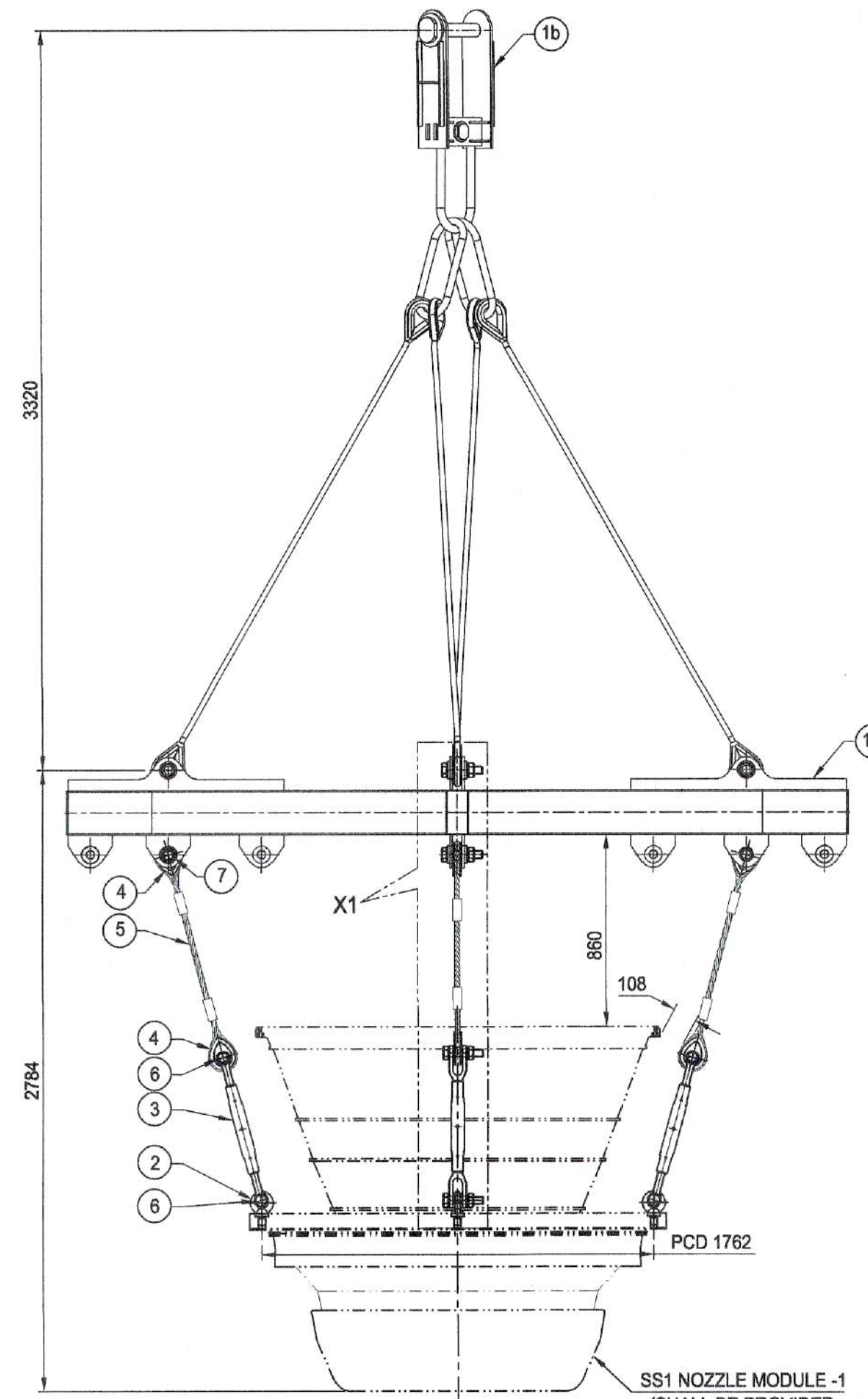
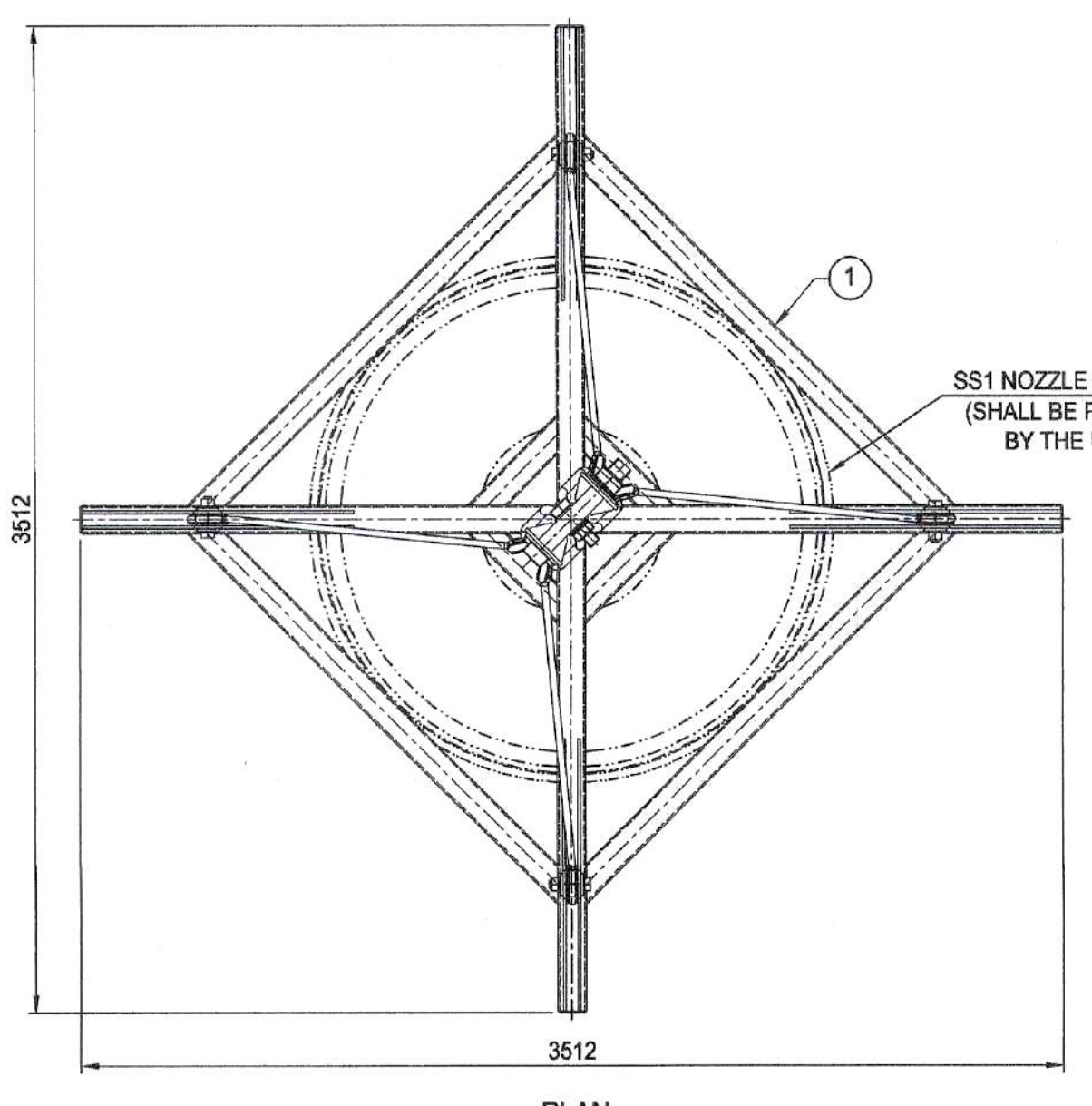
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DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

ISSUE  
R0



**SPECIFICATIONS OF RIGGING SCREW (TURN BUCKLE)**  
(SCREW FORK AT BOTH ENDS)

ITEM	NOMINAL SIZE	CLOSED LENGTH	OPEN LENGTH	CAPACITY (SWL)
PART No. : 3	M39	660mm	960mm	50 kN
PART No. : 9	M16	370mm	550mm	9.0 kN

- SPECIFICATIONS OF WIRE ROPE SLING**
- WIRE ROPE SHALL BE AS PER IS : 2266 -2002 WITH A NOMINAL DIA OF 24 mm WITH STEEL CORE CORRESPONDING TO 1570 TENSILE DESIGNATION AND A BREAKING LOAD OF 300 kN AND CONSTRUCTION OF 6 x 19M (12/6-1) (PART No. : 5)
  - WIRE ROPE SHALL BE AS PER IS : 2266 -2002 WITH A NOMINAL DIA OF 20 mm WITH STEEL CORE CORRESPONDING TO 1570 TENSILE DESIGNATION AND A BREAKING LOAD OF 52 kN AND CONSTRUCTION OF 6 x 19M (12/6-1) (PART No. : 11)
  - WIRE ROPE SHALL BE PRE-STRETCHED BEFORE FORMING INTO A SLING

- SPECIFICATIONS OF THIMBLE**
- SOLID THIMBLE SHALL BE AS PER IS:2315-1978 CORRESPONDING TO A NOMINAL ROPE SIZE OF DIA 25 mm AT BOTH ENDS. (PART No. : 4)
  - OPEN TYPE THIMBLE SHALL BE AS PER IS:2315-1978 CORRESPONDING TO A NOMINAL ROPE SIZE OF DIA 10 mm AT BOTH ENDS. (PART No. : 10)

- NOTE:**
- ALL DIMENSIONS SHOWN ARE FINISHED DIMENSIONS.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - PART NO. : 8 IS BASED ON REF. DRAWING No. 260-112-19-57-0068 OF VSSC.
  - GENERAL ASSEMBLY OF SS1 NOZZLE SUPPORT RING & A FRAME WITH NOZZLE REF. TO DRAWING No. 10-MECH-12-2-10 (SHEET 1 OF 5)
  - STRUCTURE SHALL BE PAINTED AS PER THE PURCHASE ORDER.
  - CHECK THE STATUS OF THE DRAWING BEFORE STARTING FABRICATION.

TOTAL MASS : 730 KG. (APPROX)

S.No.	DESCRIPTION	MATERIAL	QTY.	W.T.	REMARK
21	WASHER M16 WITH 2 M16 HEX NUT	IS : 1363	4 SET	--	
20	SS1 NOZZLE LIFTING BRACKET	IS : 2062 Gr - B	4	12	REF. SHEET 4 OF 4
19	HEX. HEADED BOLT M8 X 35 Lg. WITH NUT AND WASHER	IS : 1363	12	--	CLASS 8.8
18	HEX. HEADED BOLT M10 X 45 Lg. WITH NUT AND WASHER	IS : 1363	10	--	CLASS 8.8
17	TILTING BRACKET - 1	IS : 2062 Gr - B	2	47	REF. SHEET 4 OF 4
16	SHACKLE T(8) BW 10	IS : 6132	2	--	
15	BUSH OD 50 X ID 26 X 33 Thk.	IS : 2062 Gr - B	8	3	
14	SOCKET HEAD SCREW M10 X 45 Lg. WITH NUT AND BOTH SIDE WASHER	IS : 2269	32	--	CLASS 8.8
13	HEX. HEADED BOLT M24 X 160 Lg. WITH NUT AND BOTH SIDE WASHER (Th. Lg. - 60)	IS : 1363	4	--	CLASS 8.8
12	HEX. HEADED BOLT M14 X 70 Lg. WITH NUT AND BOTH SIDE WASHER (Th. Lg. - 34)	IS : 1363	8	--	CLASS 8.8
11	WIRE ROPE SLING	IS : 2266	4	--	REF. SPECIFICATION
10	OPEN TYPE THIMBLE	IS : 2315	8	--	REF. SPECIFICATION
9	RIGGING SCREW (TURN BUCKLE) M16	IS : 3121	4	--	REF. SPECIFICATION
8	SS1 NOZZLE MODULE-2 LIFTING BRACKET	En-8	4	6	REF. NOTE No. : 3
7	HEX. HEADED BOLT M36 X 150 Lg. WITH NUT AND BOTH SIDE WASHER (Th. Lg. - 70)	IS : 1363	4	--	CLASS 8.8
6	HEX. HEADED BOLT M33 X 160 Lg. WITH NUT AND BOTH SIDE WASHER (Th. Lg. - 78)	IS : 1363	8	--	CLASS 8.8
5	WIRE ROPE SLING	IS : 2266	4	--	REF. SPECIFICATION
4	SOLID THIMBLE	IS : 2315	8	--	REF. SPECIFICATION
3	RIGGING SCREW (TURN BUCKLE) M39	IS : 3121	4	--	REF. SPECIFICATION
2	EYE BOLT M33 X 3.5-H X 40 Lg.	IS : 1490	4	--	
1b	TACKLE HANDLING SYSTEM	IS : 2062 Gr - B	1	72	REF. SHEET 2 OF 4
1a	TACKLE	IS : 2062 Gr - B	1	602	REF. SHEET 3 OF 4

STATUS	SIGN	DATE	DO NOT SCALE THE DRAWING ASK IF IN DOUBT UNLESS OTHERWISE SHOWN ALL DIMENSIONS ARE IN MILLIMETERS REMOVE SHARP EDGES & BURRS CHAMFER 1 M.M. X 45° MACHINING FINISH IN MICRONS :- ▽ 8 - 25 ▽▽ 0.025 - 1.6	DEVIATION FOR NON TOLERANCED DIMENSIONS (IS - 2102)	<p><b>SCEND</b></p> <p>SHAR CENTRAL DESIGNS</p> <p>DESIGNED: [Signature]</p> <p>DRAWN: AKASH 05-02-23</p> <p>DRG. CHK: [Signature]</p> <p>APPROVED: [Signature]</p> <p>SIGN. DATE</p>
DISCUSSION / REVIEW			DIAMETERS & LENGTHS UPTO & INCL. 6 ±0.1 6 - 30 ±0.2 30 - 120 ±0.3 120 - 315 ±0.5 315 - 1000 ±0.8 1000 - 2000 ±1.2 2000 - 4000 ±2.0 4000 & ABOVE ±3.0	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL. 1- 6 ± 1°-00' 6- 30 ± 0°-30' 30-120 ± 0°-20' 120-400 ± 0°-10'	

TITLE: SS1 NOZZLE HANDLING SYSTEM (FOR SLC PROJECT)

GOVERNMENT OF INDIA  
 INDIAN SPACE RESEARCH ORGANISATION  
 SATISH DHAWAN SPACE CENTRE SHAR  
 SRIHARIKOTA

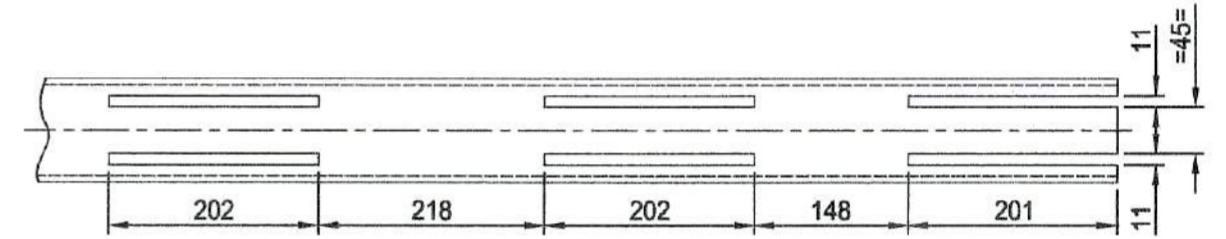
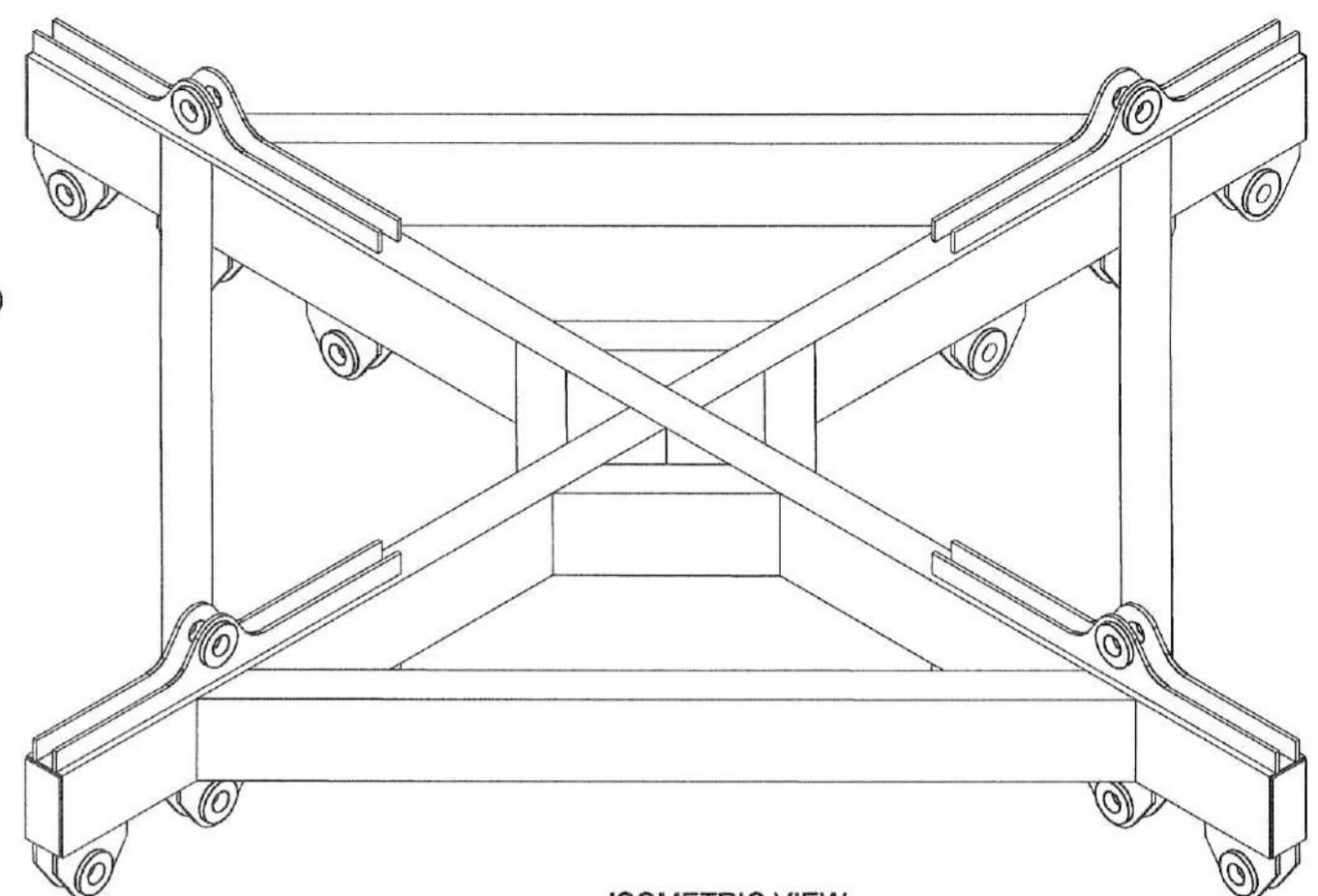
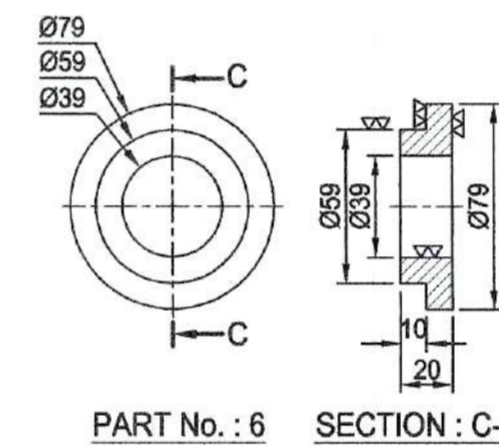
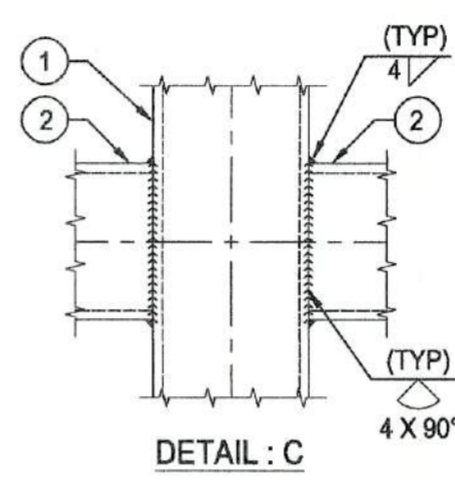
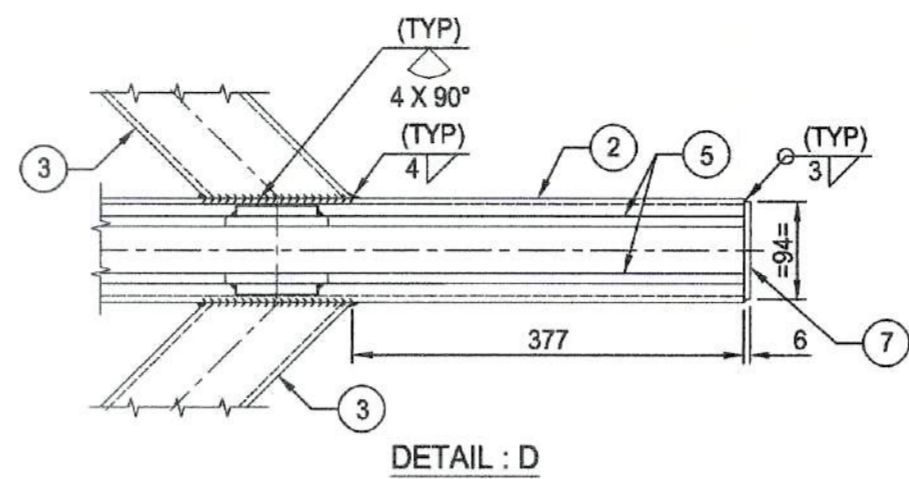
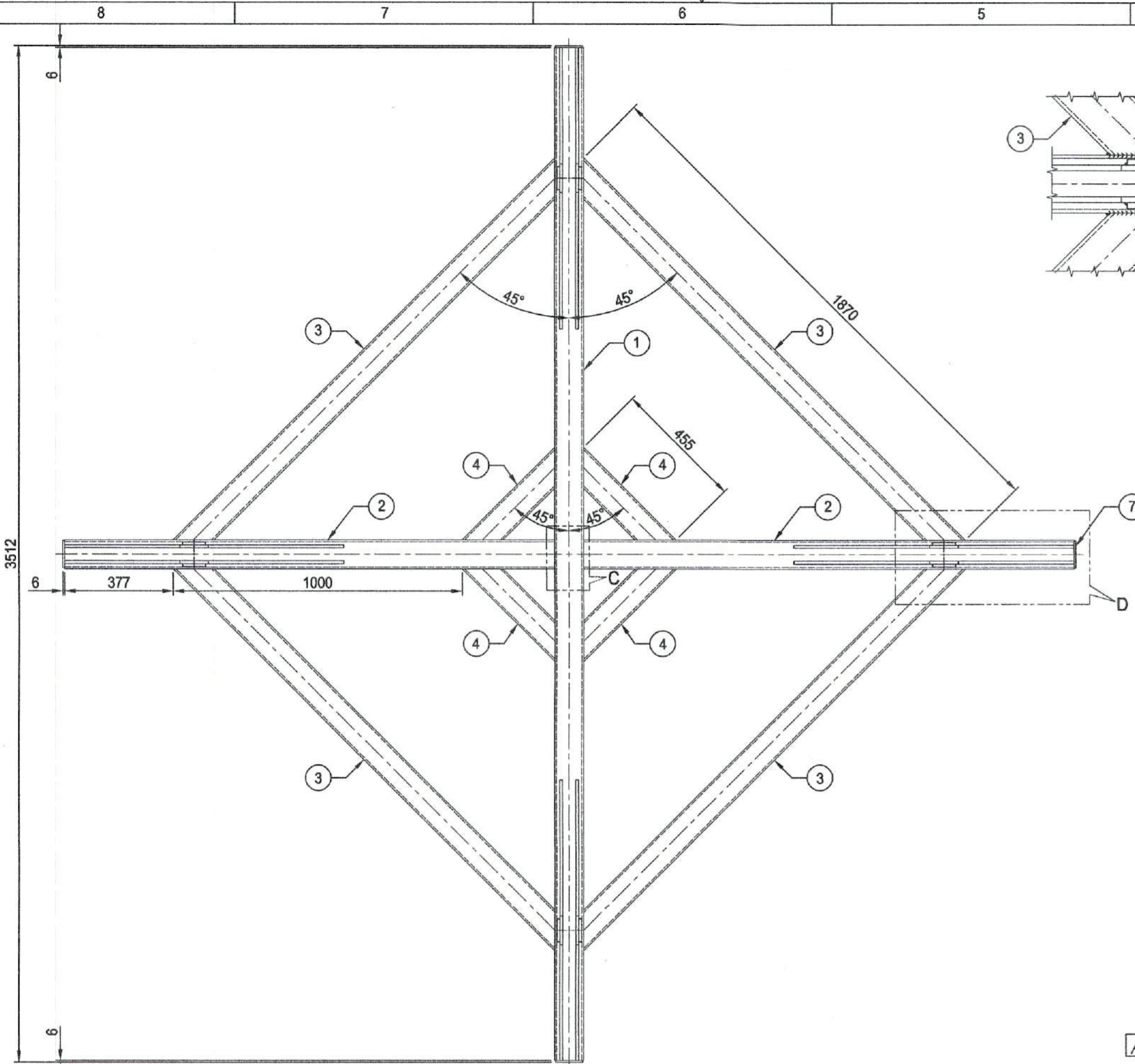
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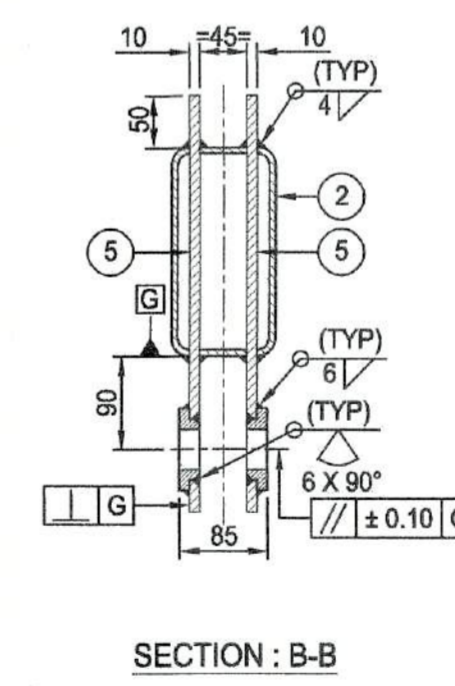
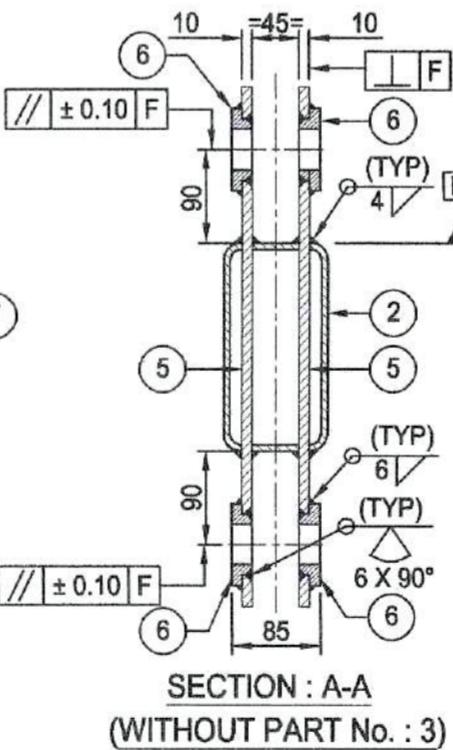
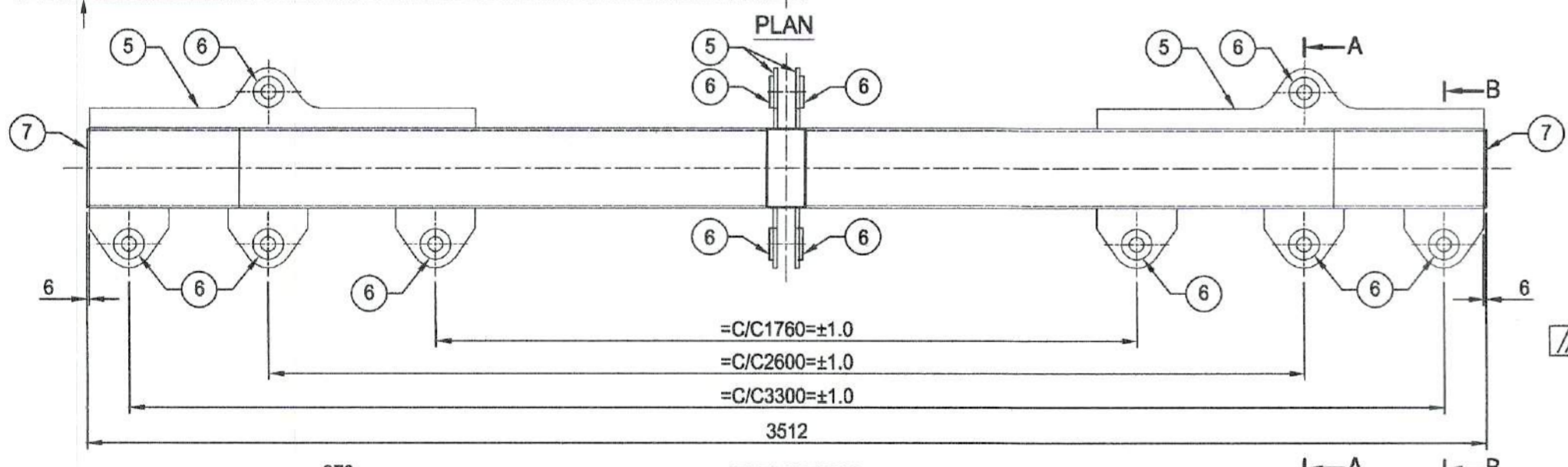
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SHEET 1 OF 4

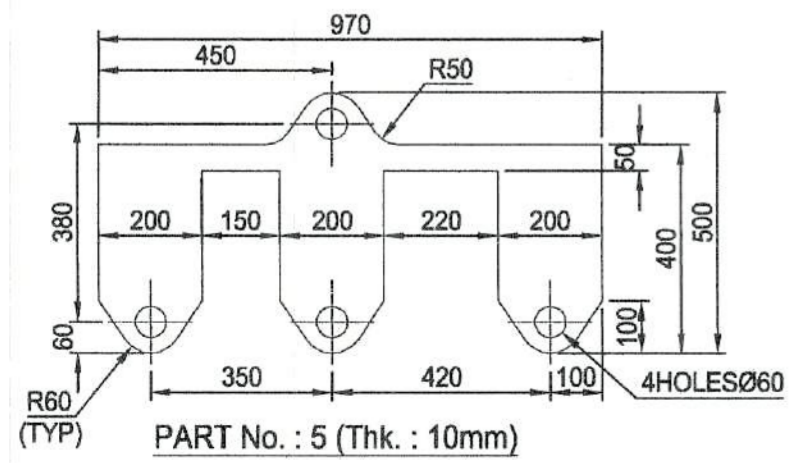




- NOTE:
1. ALL DIMENSIONS SHOWN ARE THE FINISHED DIMENSIONS.
  2. ALL WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES.
  4. APPROVED PAINTING SCHEME SHALL BE FOLLOWED AS PER THE PURCHASE ORDER TERMS.
  5. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION/MACHINING.



S.NO	DESCRIPTION	MATERIAL	QTY	W.T	REMARKS
7	COVER PLATE 194 X 94 X 6 Thk.	IS : 2062 Gr - B	4	3	
6	BUSH OD 79 X ID 39 X 20 Thk.	IS : 2062 Gr - B	32	19	
5	LIFTING PLATE 970 X 500 X 10 Thk.	IS : 2062 Gr - B	8	152	
4	REC. HOLLOW SECTION 200 X 100 X 6.0 Thk. - 455 Lg.	IS : 4923	4	48	SHALL BE CUT & WELD ACCORDINGLY
3	REC. HOLLOW SECTION 200 X 100 X 6.0 Thk. - 1870 Lg.	IS : 4923	4	197	SHALL BE CUT & WELD ACCORDINGLY
2	REC. HOLLOW SECTION 200 X 100 X 6.0 Thk. - 1700 Lg.	IS : 4923	2	90	
1	REC. HOLLOW SECTION 200 X 100 X 6.0 Thk. - 3500 Lg.	IS : 4923	1	92	



STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE	<i>[Signature]</i>	28/2/24
FABRICATION		
UNRESTRICTED	RESTRICTED	CONFIDENTIAL

DO NOT SCALE THE DRAWING  
ASK IF IN DOUBT  
UNLESS OTHERWISE SHOWN  
ALL DIMENSIONS ARE IN MILLIMETERS  
REMOVE SHARP EDGES & BURRS  
CHAMFER 1 M.M. X 45°  
MACHINING FINISH IN MICRONS :-  
▽ 8 - 25      ▽ 1.6 - 8  
▽▽ 0.025 - 1.6      ▽▽▽ < 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS - 2102)	
DIAMETERS & LENGTHS UPTO & INCL	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL
6 ± 0.1	1 - 6 ± 1°-00'
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	
1000 - 2000 ± 1.2	
2000 - 4000 ± 2.0	
4000 & ABOVE ± 3.0	

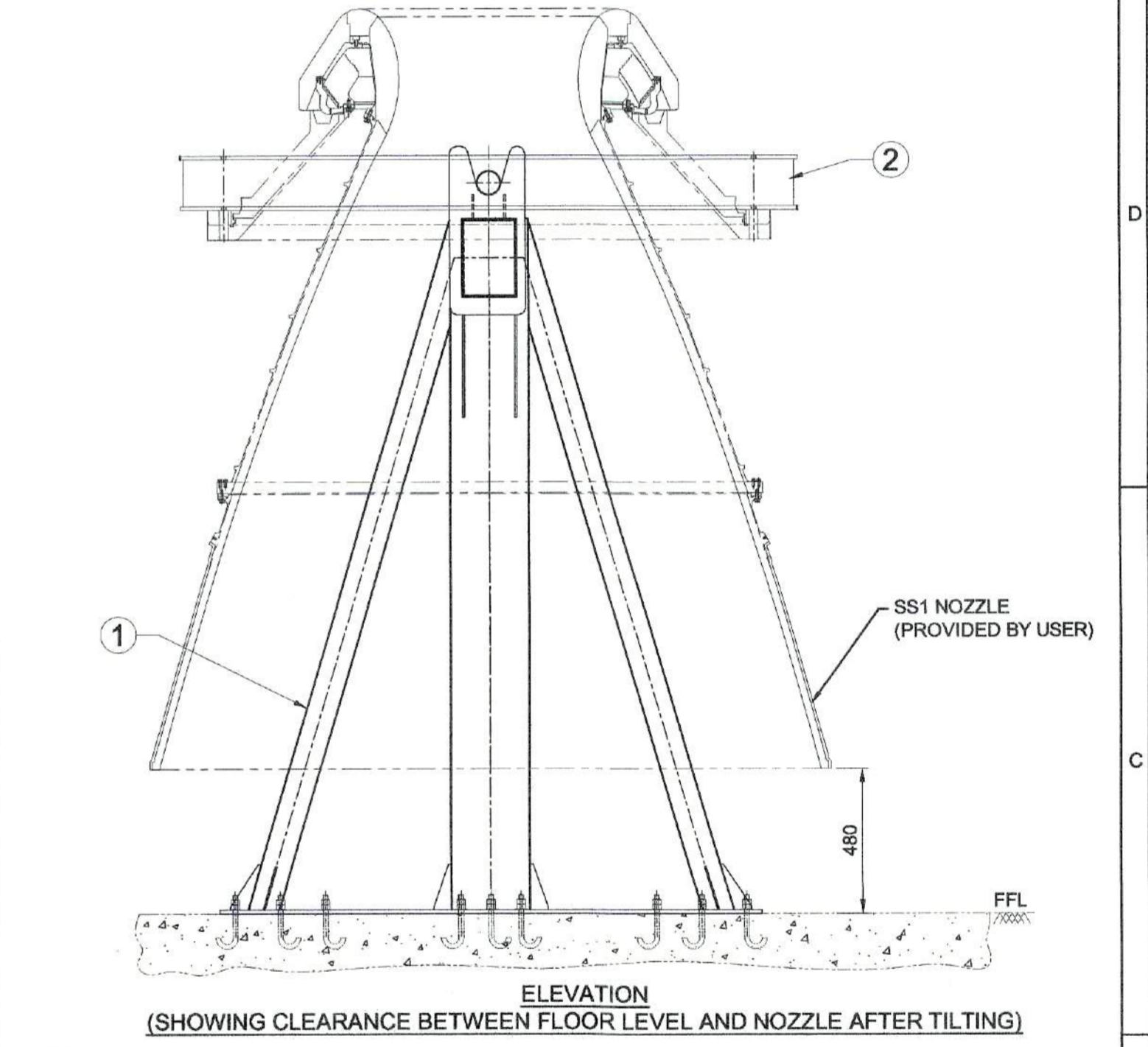
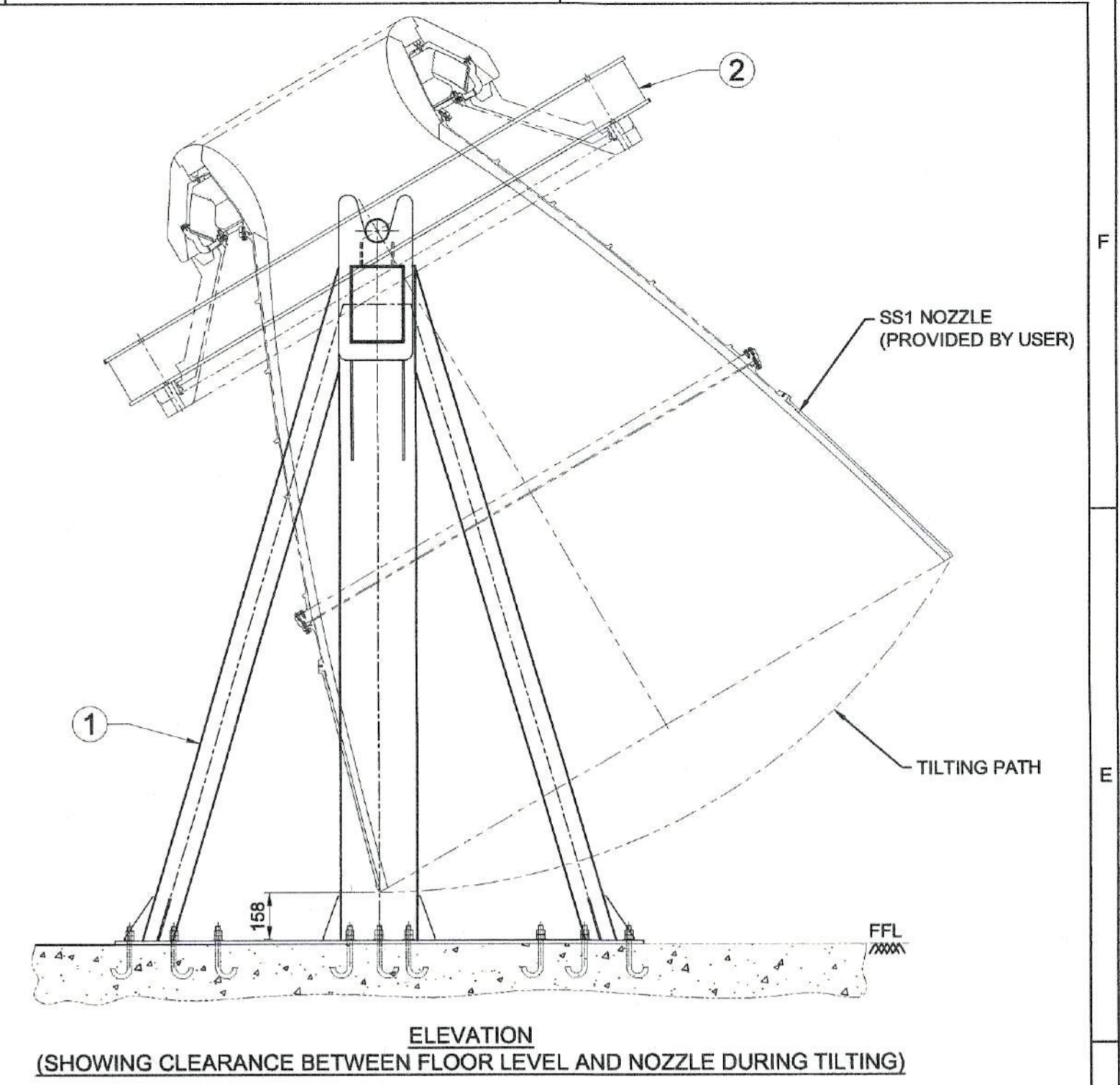
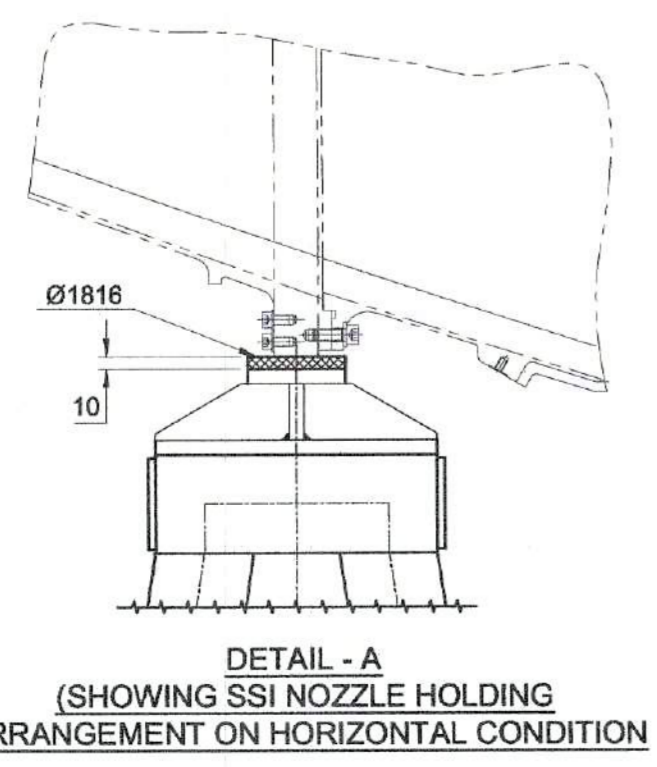
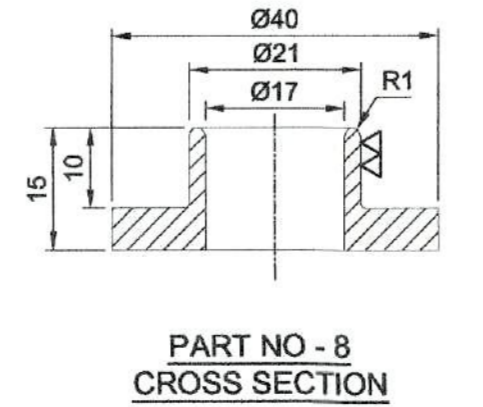
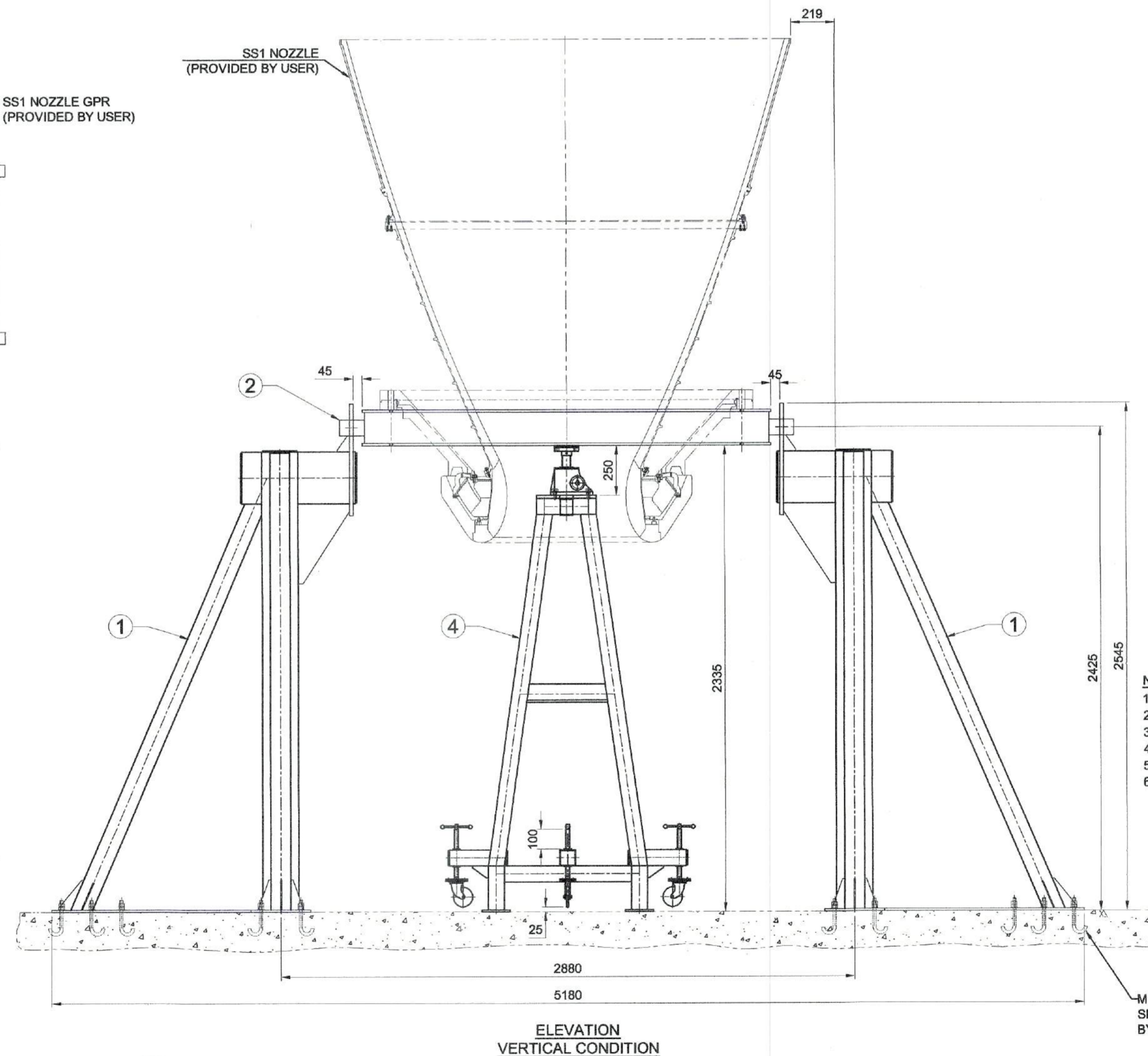
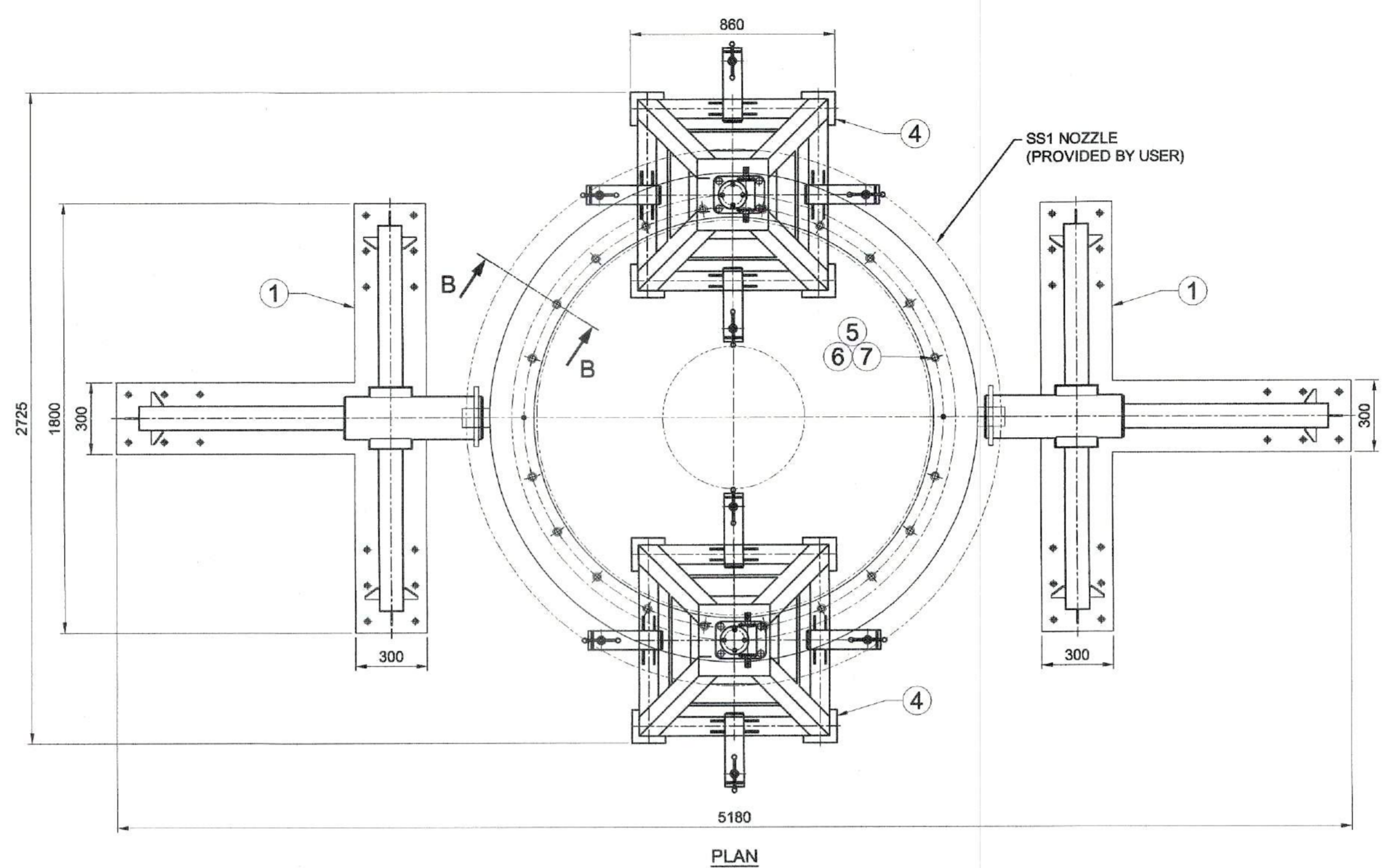
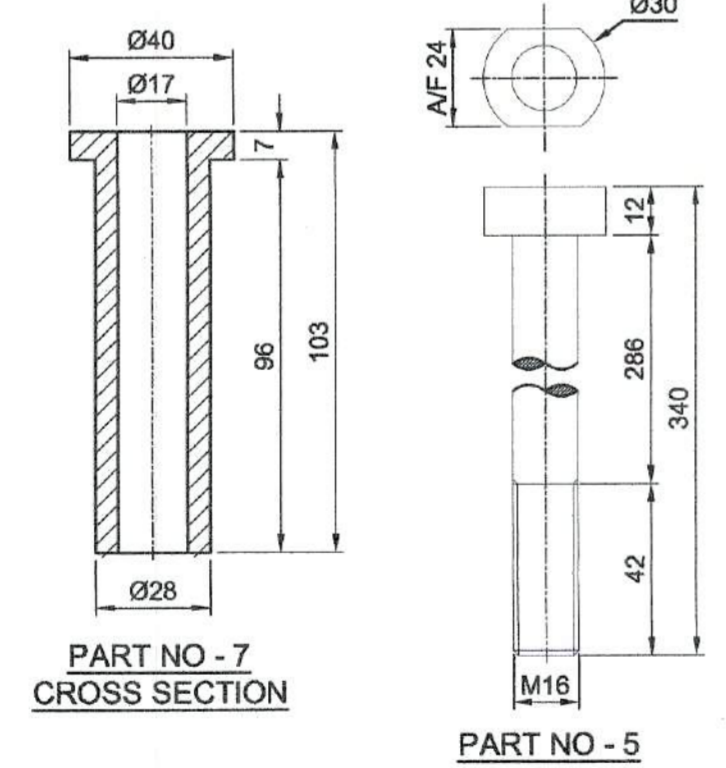
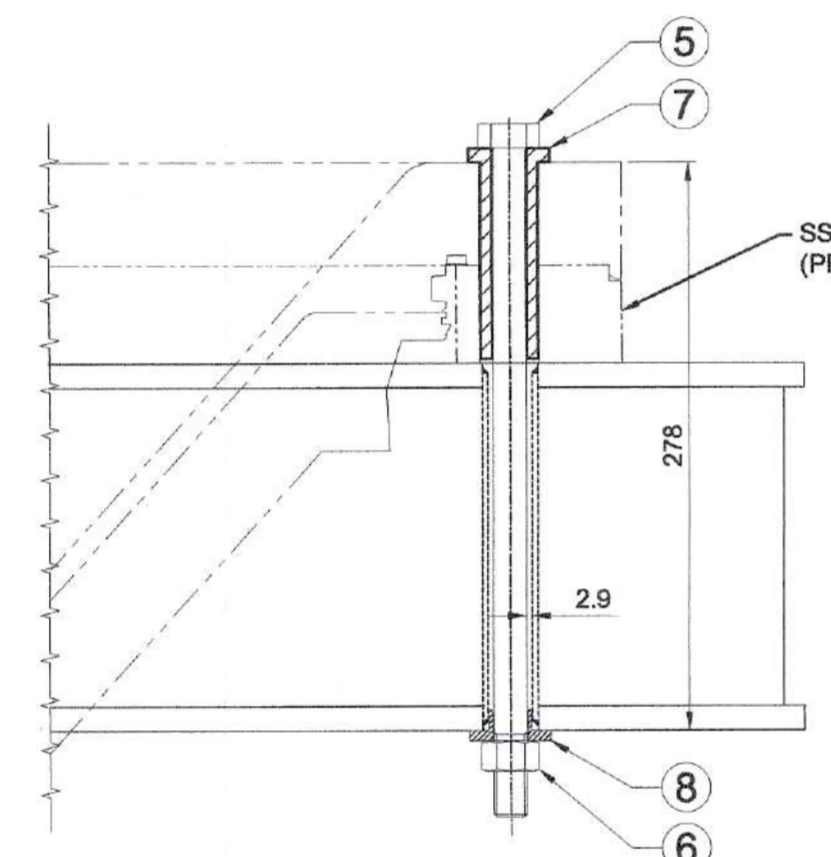
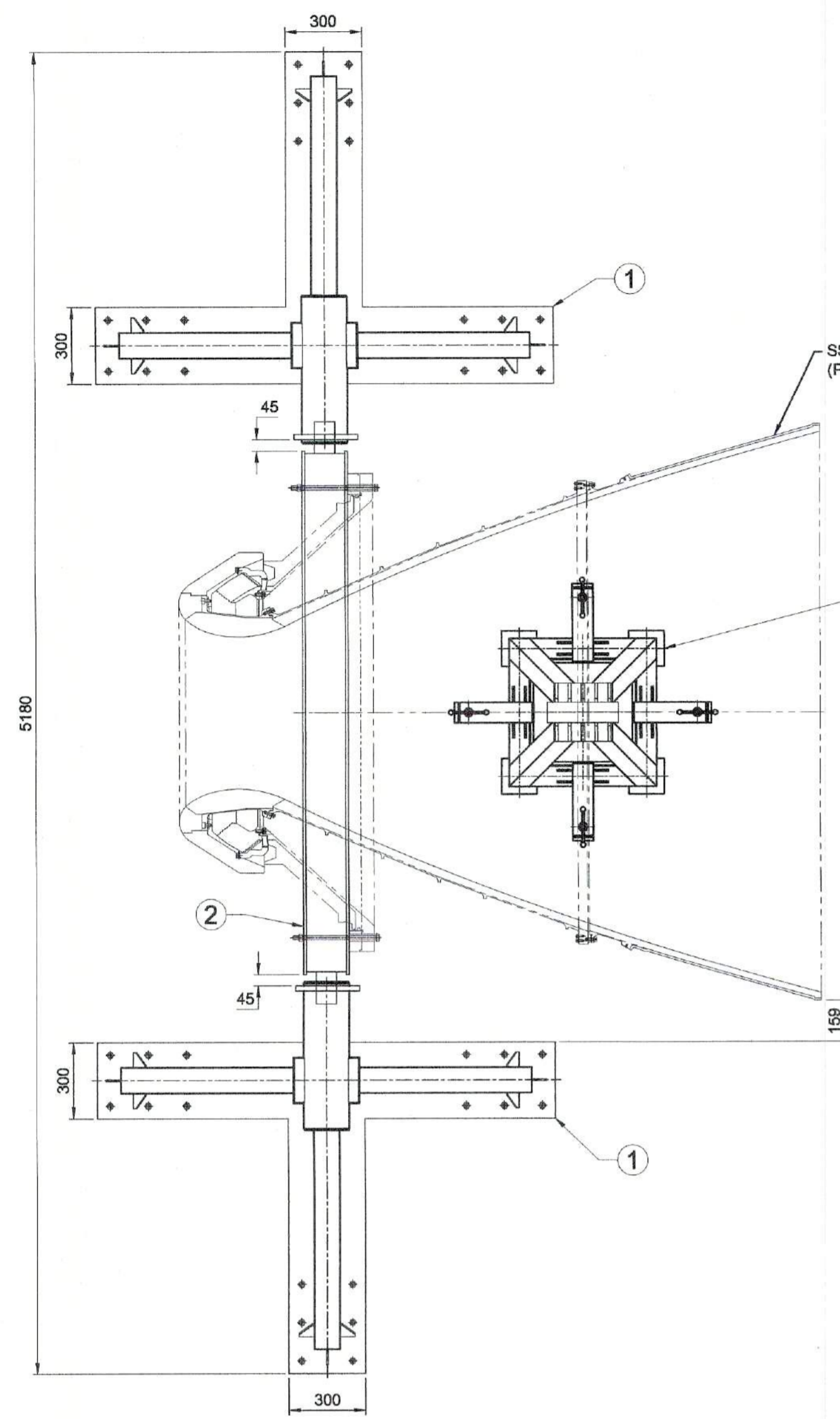
**SCEND**  
SHAR CENTRAL DESIGNS

DESIGNED: *[Signature]*  
DES.CHKD: *[Signature]*  
DRAWN: AKASH 05-02-23  
DRG.CHKD: *[Signature]*  
APPROVED: *[Signature]*

SIGN. DATE

TITLE				
<b>TACKLE</b>				
<b>GOVERNMENT OF INDIA</b>				
<b>INDIAN SPACE RESEARCH ORGANISATION</b>				
<b>SATISH DHAWAN SPACE CENTRE SHAR</b>				
<b>SRIHARIKOTA</b>				
SCALE	1:15	DRG. NO.	10-MECH-12-1-35/A2	PROJECTION
				<i>[Projection Symbol]</i>
				SHEET 3
				OF 4





- NOTES:
1. ALL DIMENSIONS SHOWN ARE FINAL FINISHED DIMENSIONS.
  2. ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. ALL FINISHED SURFACES SHALL BE PAINTED AS PER TENDER DOCUMENT.
  5. TACKLE & TILTING BRACKETS TO HANDLE SSI NOZZLE (NOT SHOWN IN ASSEMBLY) SHALL BE PROVIDED BY USER.
  6. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

SWL : 5t TOTAL WEIGHT: 1688 .Kg(Approx)

S.NO	DESCRIPTION	MATERIAL	QTY	W.T	REMARKS
8	BUSH Ø40 X 15Lg	MS	20	3	
7	SLEEVE Ø40 x 103Lg	MS	20	20	
	M16 NUT	IS:1364	20		
5	BOLT Ø30 X 340 Lg.	IS:2062 E350 GR-BR	20	38	
4	SSI NOZZLE VERTICAL SUPPORT STAND	-	2	374	SHEET 5 OF 5
3	SSI NOZZLE HORIZONTAL SUPPORT STAND	-	1	144	SHEET 4 OF 5
2	SSI NOZZLE SUPPORT RING	-	1	427	SHEET 3 OF 5
1	A-FRAME	-	2	682	SHEET 2 OF 5

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		26/2/24
FABRICATION		
UNRESTRICTED	RESTRICTED	CONFIDENTIAL

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SHOWN  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 M.M. X 45°  
 MACHINING FINISH IN MICRONS :-  
 ▽ 8 - 25 ▽ 1.6 - 8  
 ▽ ▽ 0.025 - 1.6 ▽ ▽ < 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS -2102)	
DIAMETERS & LENGTHS UPTO & INCL. 6 ±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1 - 6 ± 1'-00
30 - 120 ±0.3	6 - 30 ± 0'-30
120 - 315 ±0.5	30 - 120 ± 0'-20
315 - 1000 ±0.8	120 - 400 ± 0'-10
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

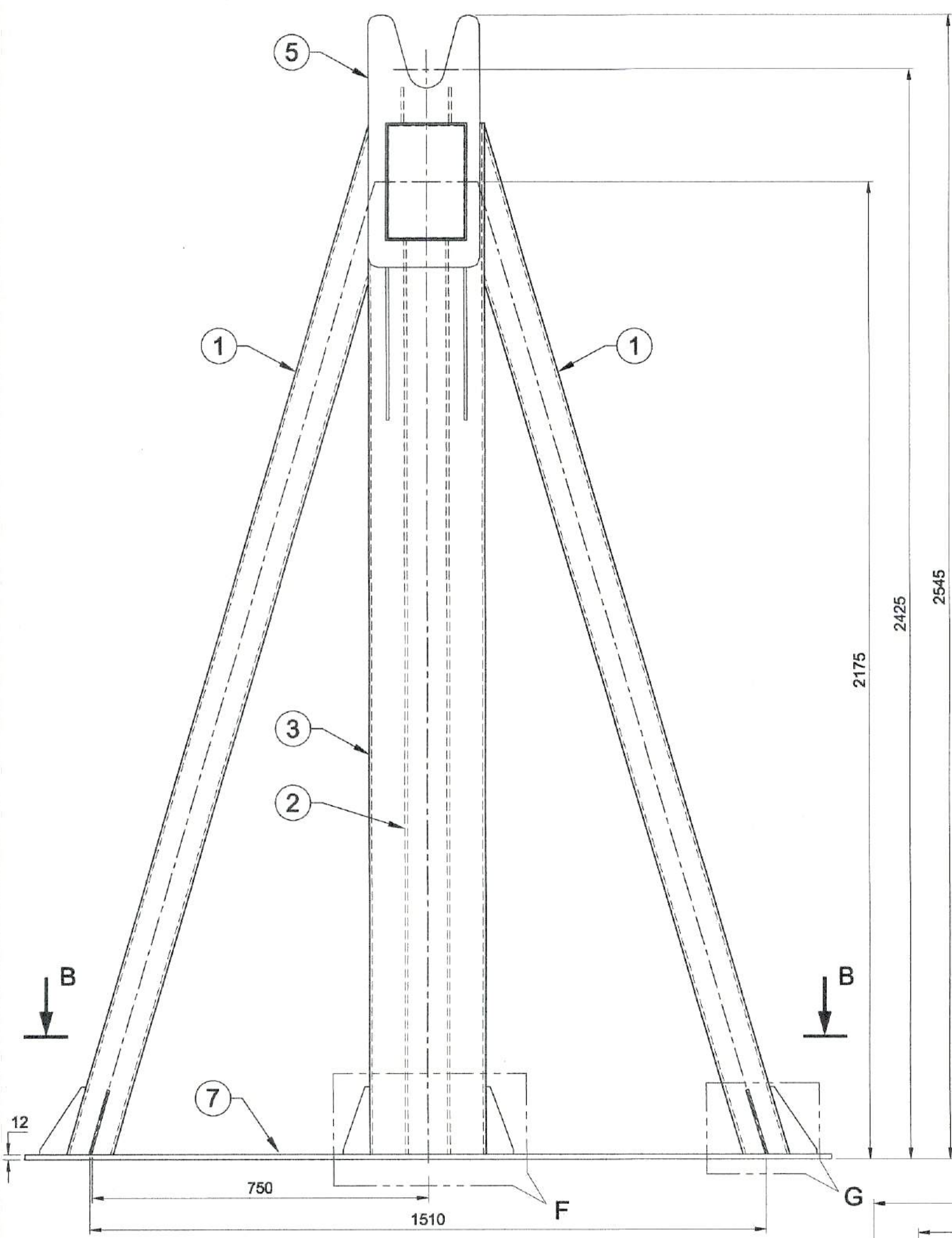
**SCEND**  
 SHAR CENTRAL DESIGNS  
 DESIGNED: [Signature]  
 DES. CHKD: [Signature]  
 DRAWN: RAVI 5.2.24  
 DRG. CHKD: [Signature]  
 APPROVED: [Signature]

TITLE: GENERAL ASSEMBLY OF TILTING SYSTEM FOR SSI NOZZLE FOR SLC PROJECT

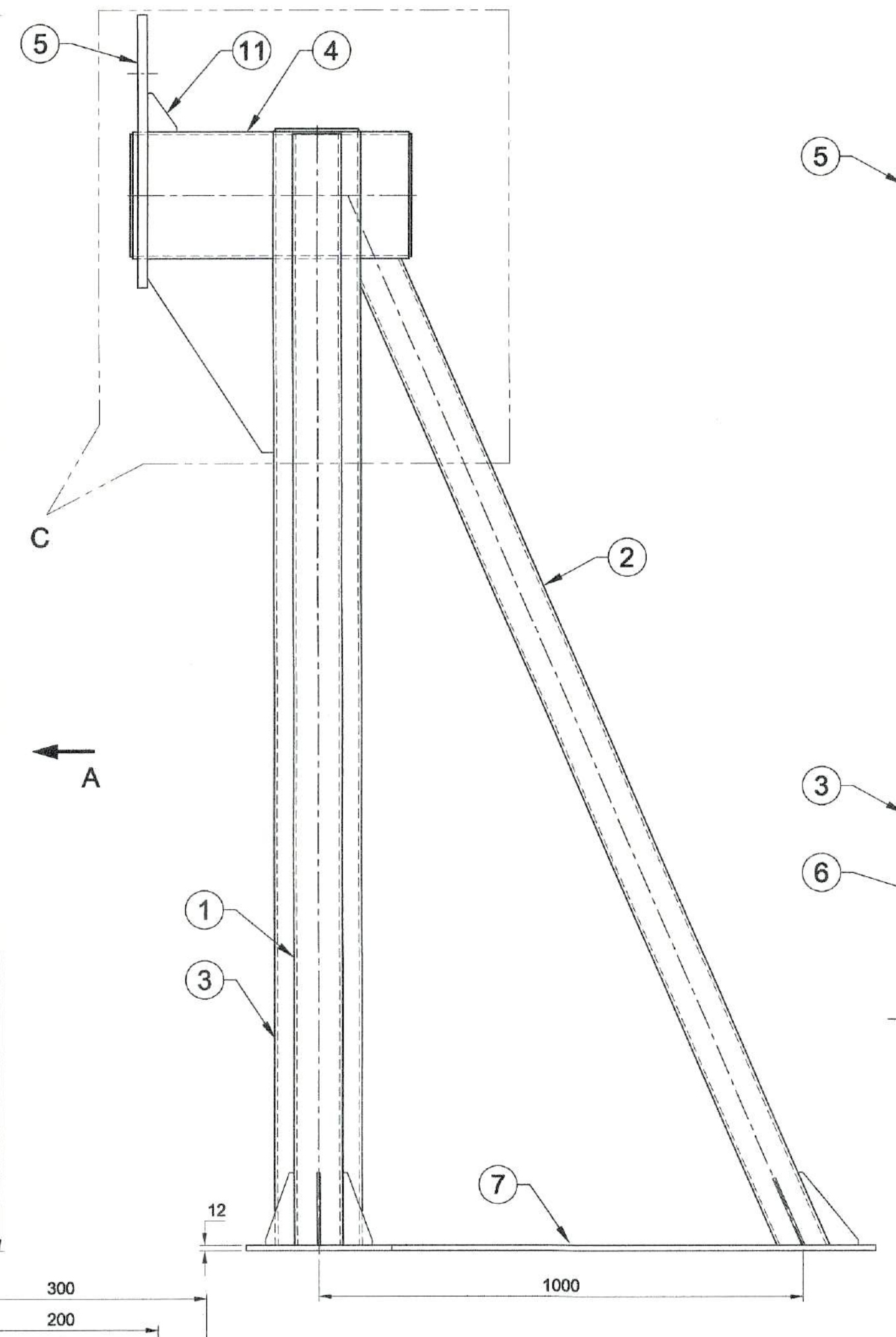
GOVERNMENT OF INDIA  
 INDIAN SPACE RESEARCH ORGANISATION  
 SATISH DHAWAN SPACE CENTRE SHAR  
 SRIHARIKOTA

SCALE: 1:20 DRG. NO. 10-MECH-12-2-10 SHEET 1 OF 5

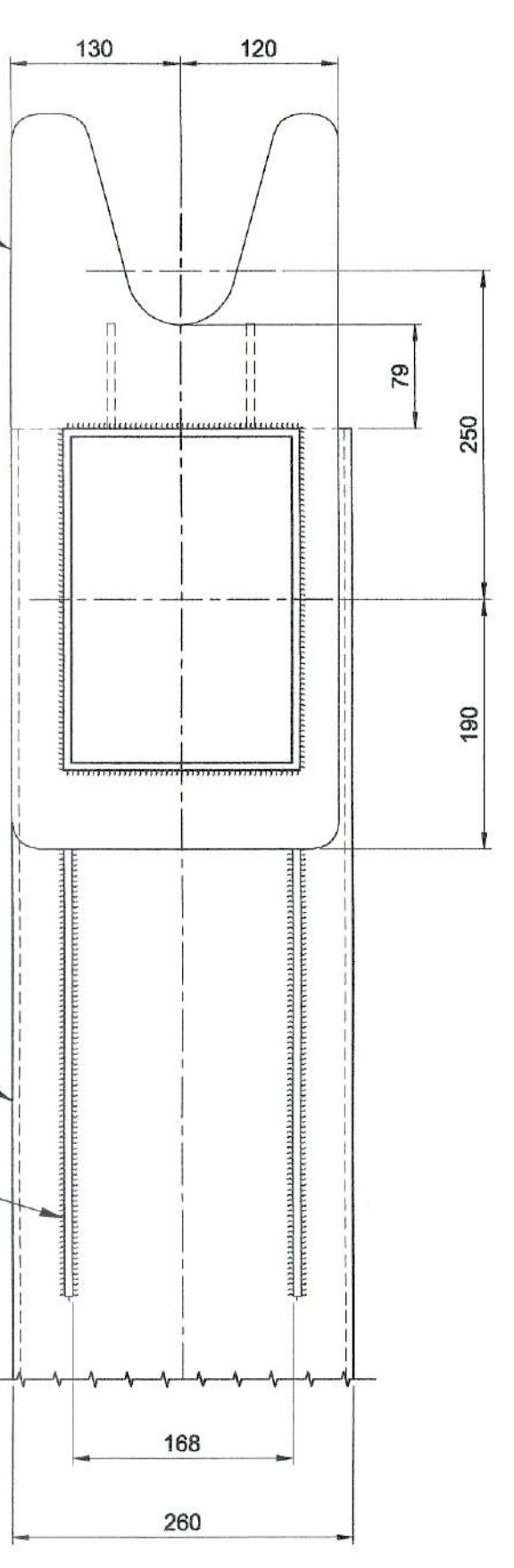
SCEND/AG134/2023/A1/RAVIGUPTA



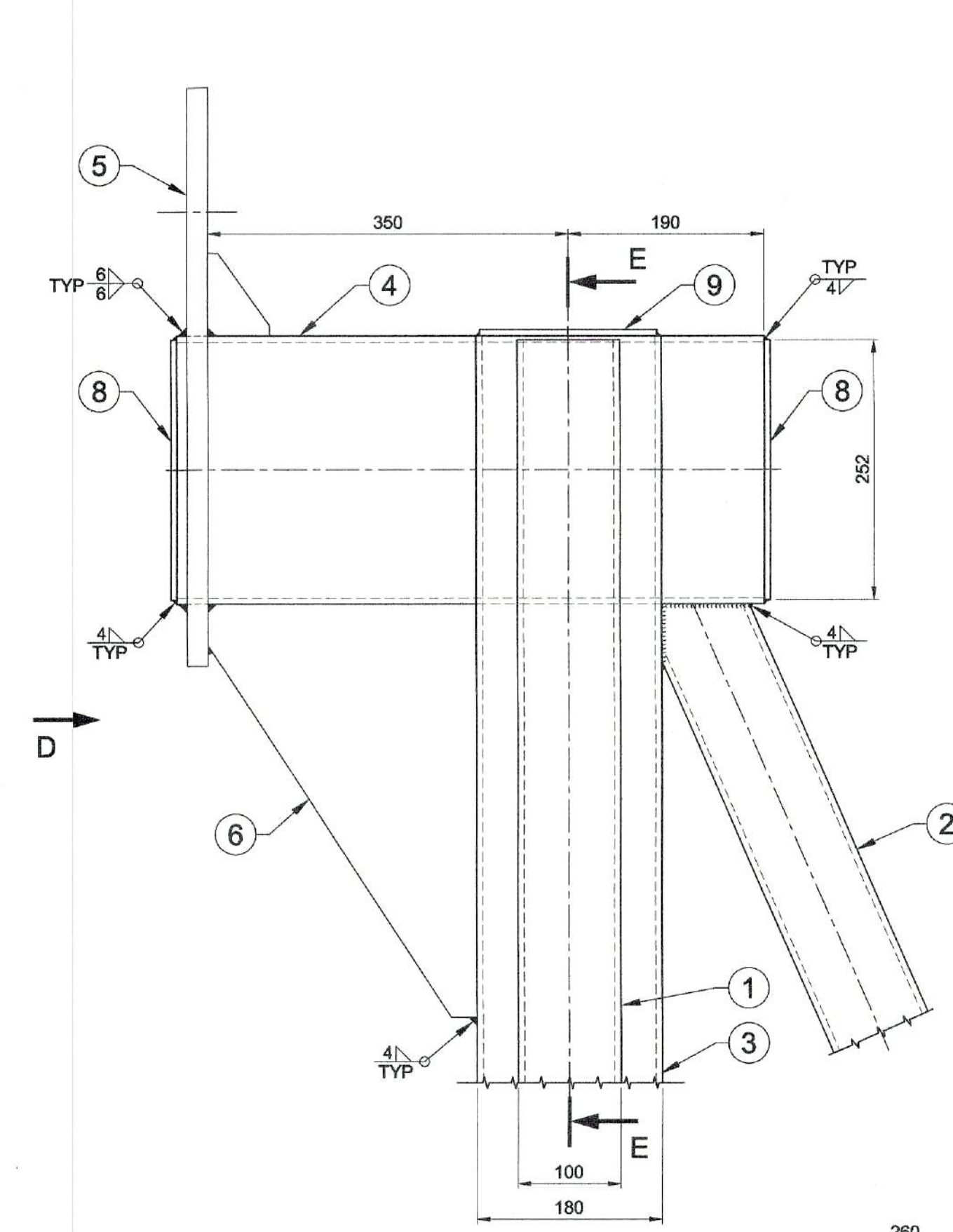
ELEVATION



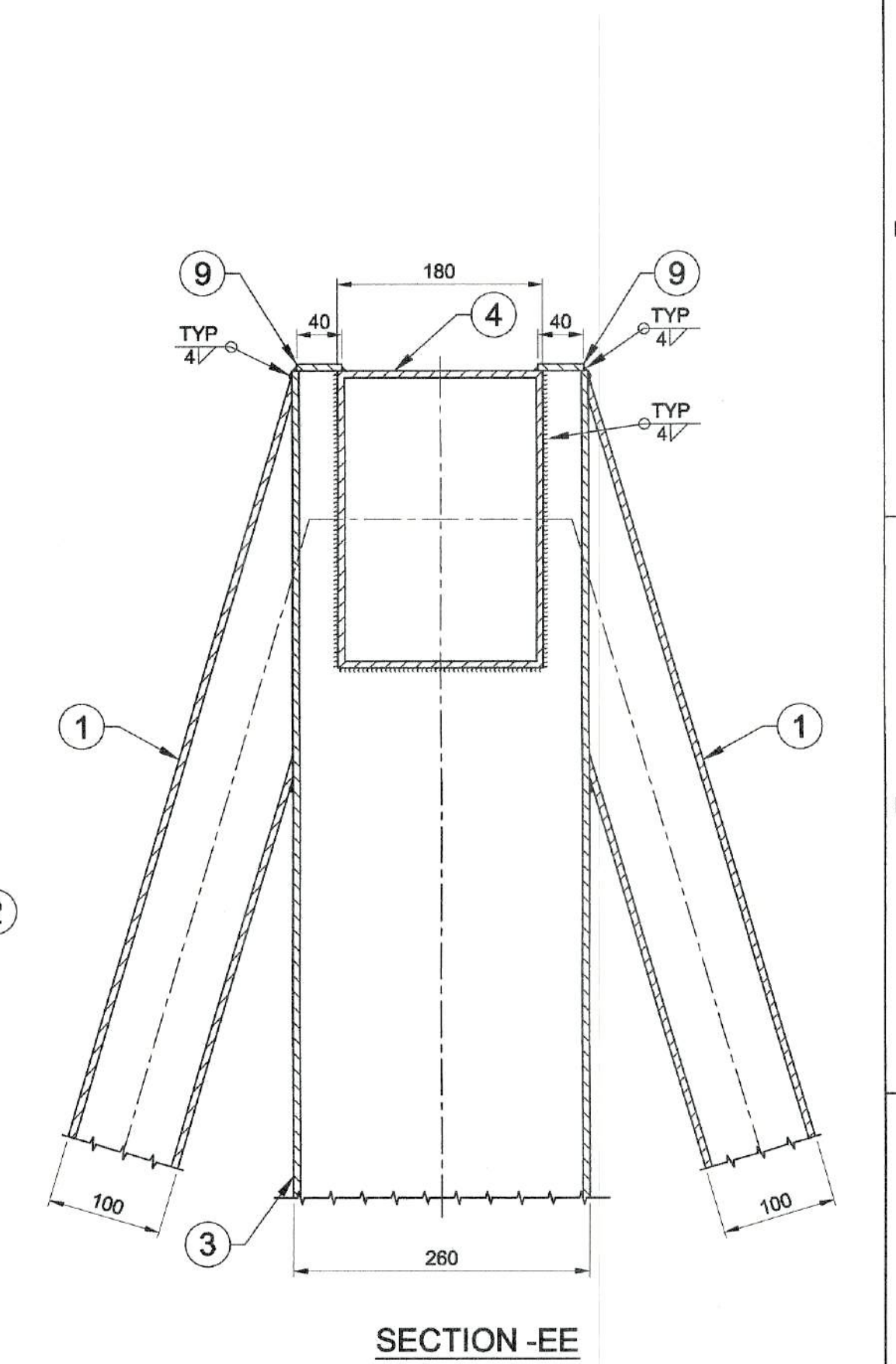
VIEW - A



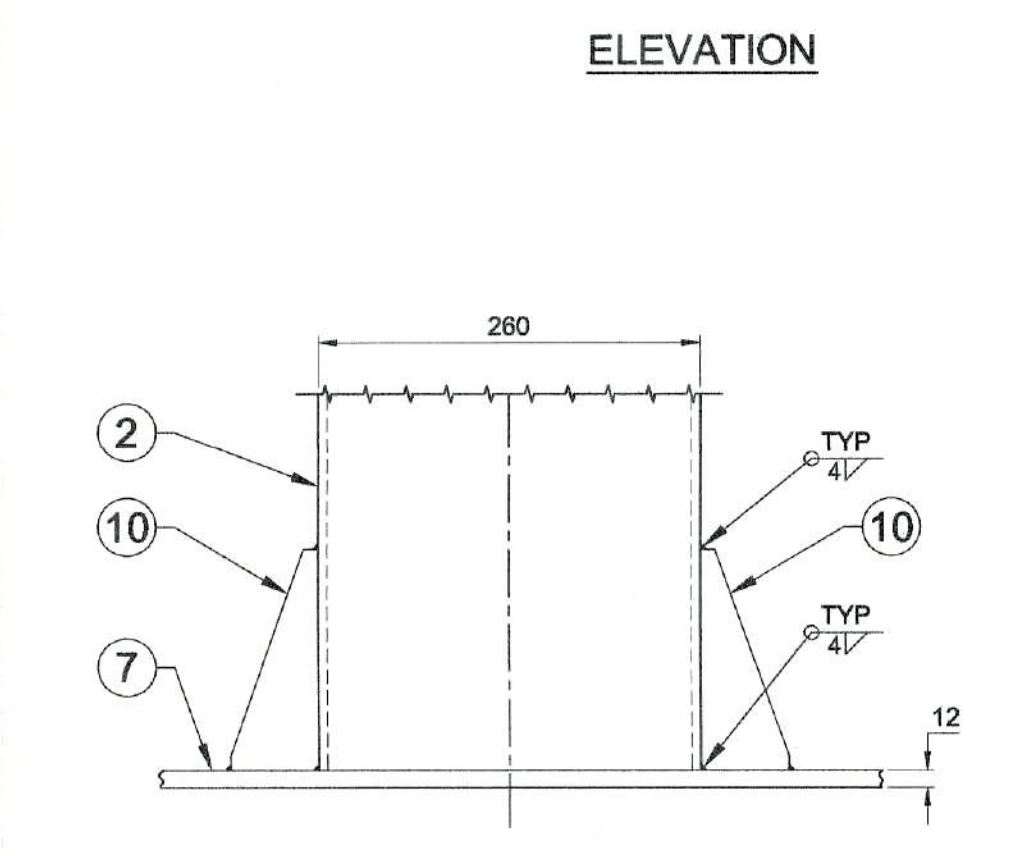
VIEW - D



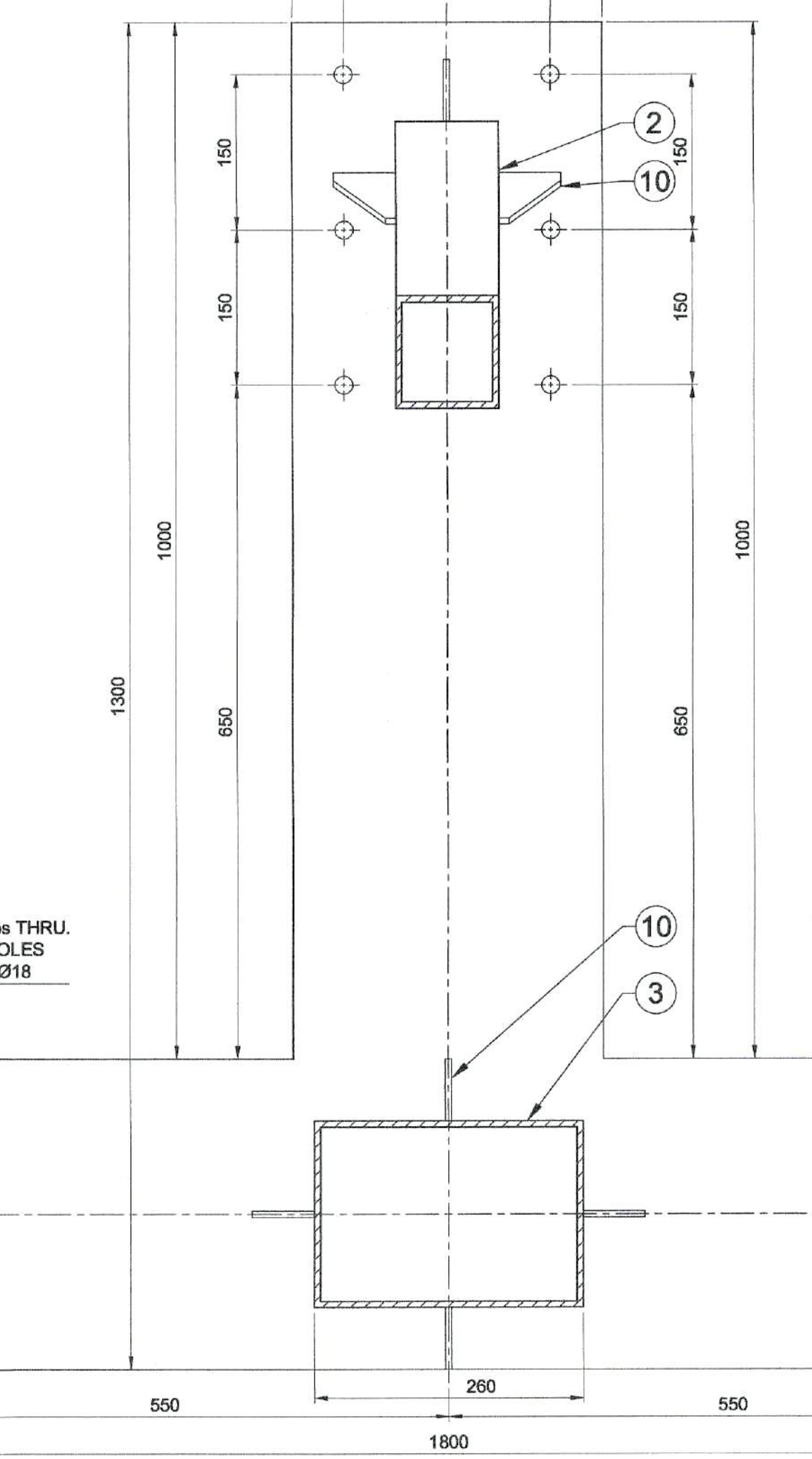
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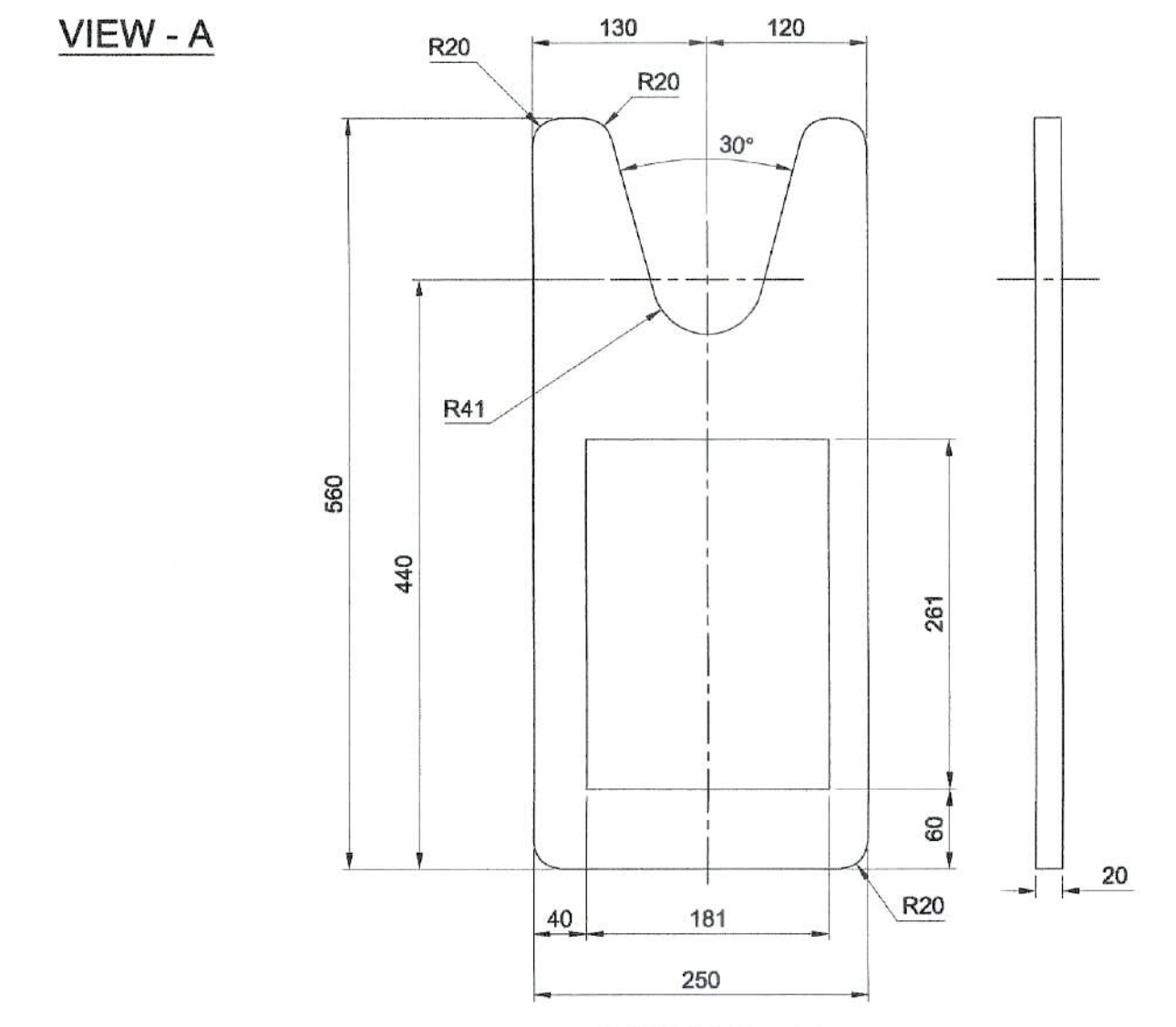
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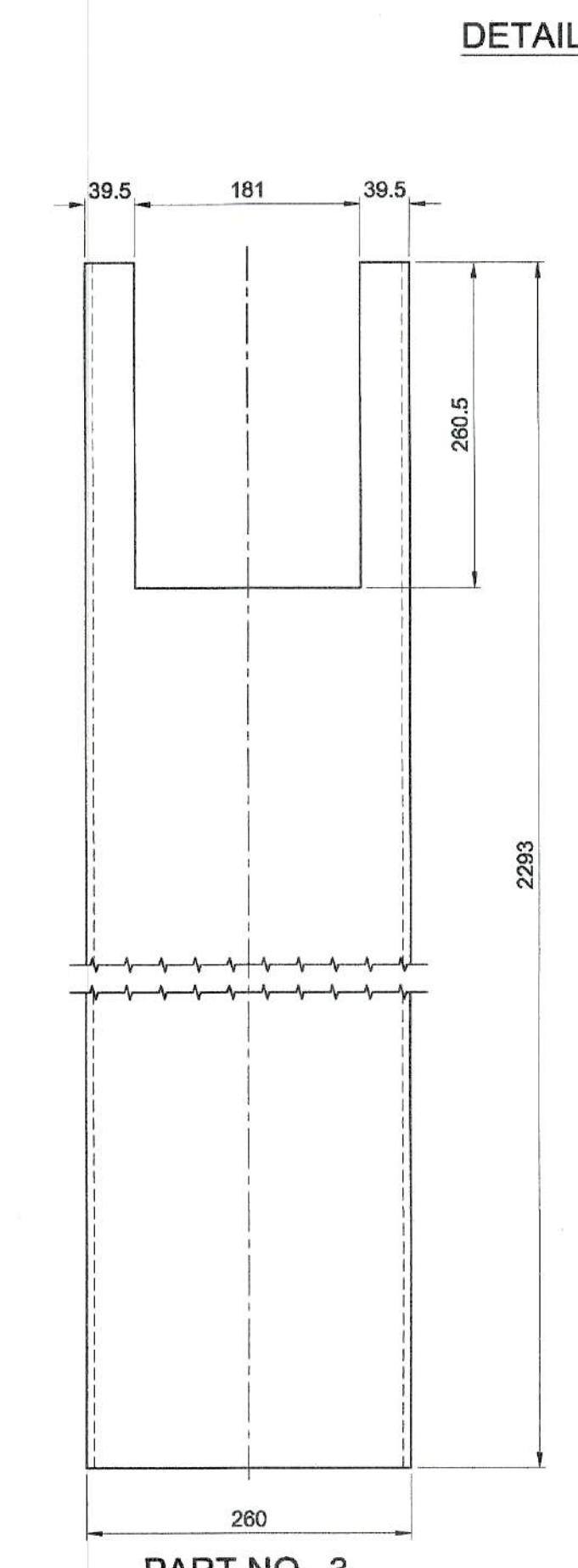
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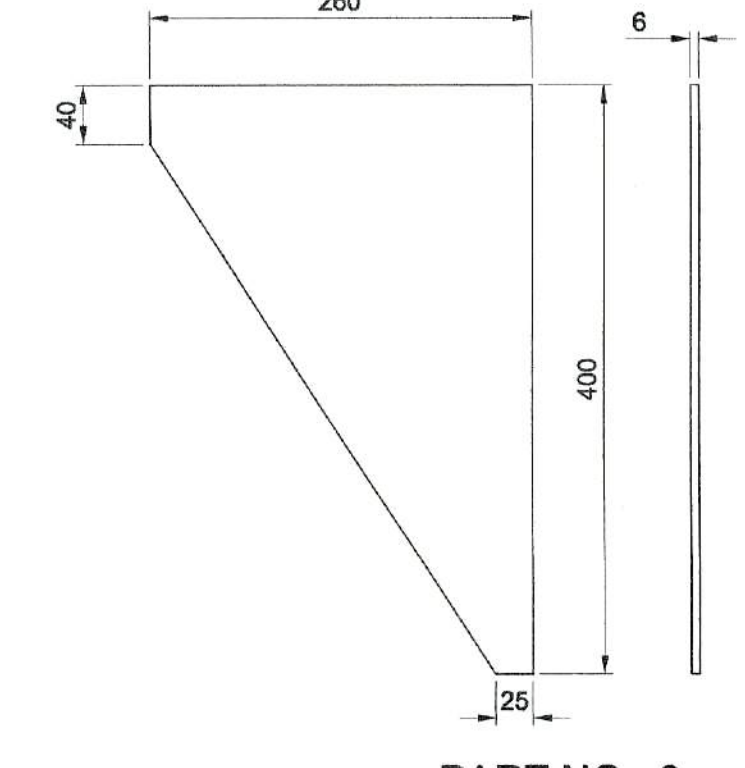
SECTION - BB



PART NO - 5



PART NO - 3



PART NO - 6

- NOTES:
1. ALL DIMENSIONS SHOWN ARE FINAL FINISHED DIMENSIONS.
  2. ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. A FRAME QUANTITY IS GIVEN FOR ONE ASSEMBLY ONLY. NO OF ASSEMBLIES REQUIRED IS TWO.
  5. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

TOTAL WEIGHT: 341 .Kg(Approx)

S.NO	DESCRIPTION	MATERIAL	QTY	W.T	REMARKS
11	STIFFNER 70 x 80 x 6Thk	IS:2062 GR-B	2	1	
10	STIFFNER 150 x 60 x 6Thk	IS:2062 GR-B	13	6	
9	PLATE 172 x 40 x 6Thk	IS:2062 GR-B	2	1	
8	PLATE 252 x 172 x 6Thk	IS:2062 GR-B	2	4	
7	PLATE 1800 x 1300 x 12Thk	IS:2062 GR-B	1	79	
6	STIFFNER 400 x 260 x 6Thk	IS:2062 GR-B	2	6	
5	PLATE 560 x 250 x 20Thk	IS:2062 GR-B	1	12	
4	RECTANGULAR HOLLOW SECTION 260 x 180 x 6Thk, 570Lg	IS:4923	1	23	TATA STRUCTURA
3	RECTANGULAR HOLLOW SECTION 260 x 180 x 6Thk, 2293Lg	IS:4923	1	91	TATA STRUCTURA
2	SQUARE HOLLOW SECTION 100 x 100 x 6Thk, 2250Lg	IS:4923	1	38	TATA STRUCTURA
1	SQUARE HOLLOW SECTION 100 x 100 x 6Thk, 2387Lg	IS:4923	2	81	TATA STRUCTURA

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		26/01/23
FABRICATION		
UNRESTRICTED	RESTRICTED	CONFIDENTIAL

DO NOT SCALE THE DRAWING  
ASK IF IN DOUBT  
UNLESS OTHERWISE SHOWN  
ALL DIMENSIONS ARE IN MILLIMETERS  
REMOVE SHARP EDGES & BURRS  
CHAMFER 1 M.M. X 45°  
MACHINING FINISH IN MICRONS :-  
▽ 8 - 25    ▽ 1.6 - 8  
▽▽ 0.025 - 1.6    ▽▽▽ < 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS - 2102)  
DIAMETERS & LENGTHS UPTO & INCL. 6 ±0.1  
6 - 30 ±0.2  
30 - 120 ±0.3  
120 - 315 ±0.5  
315 - 1000 ±0.8  
1000 - 2000 ±1.2  
2000 - 4000 ±2.0  
4000 & ABOVE ±3.0

LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.  
1 - 6 ± 1'-00  
6 - 30 ± 0'-30  
30 - 120 ± 0'-20  
120 - 400 ± 0'-10

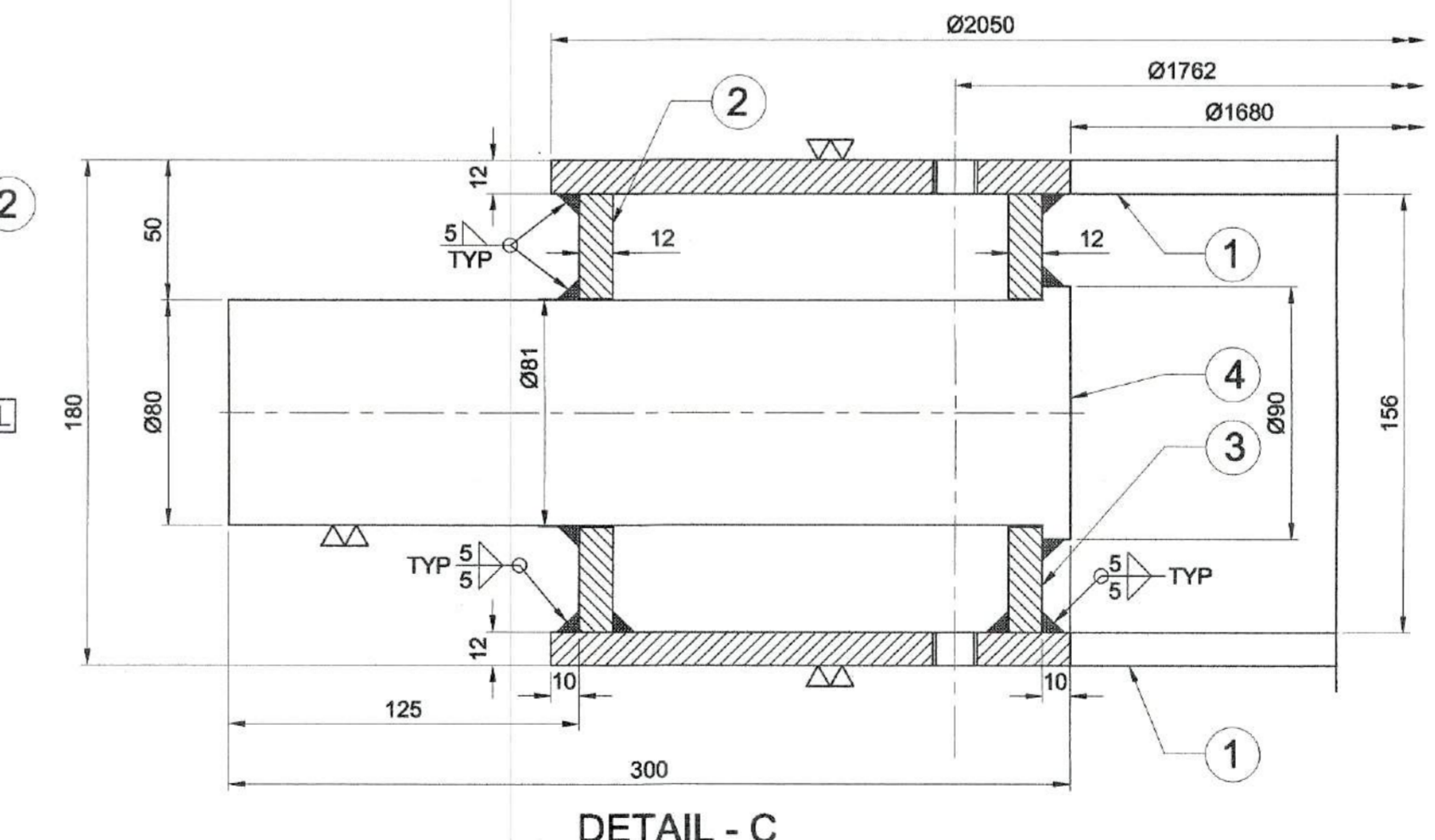
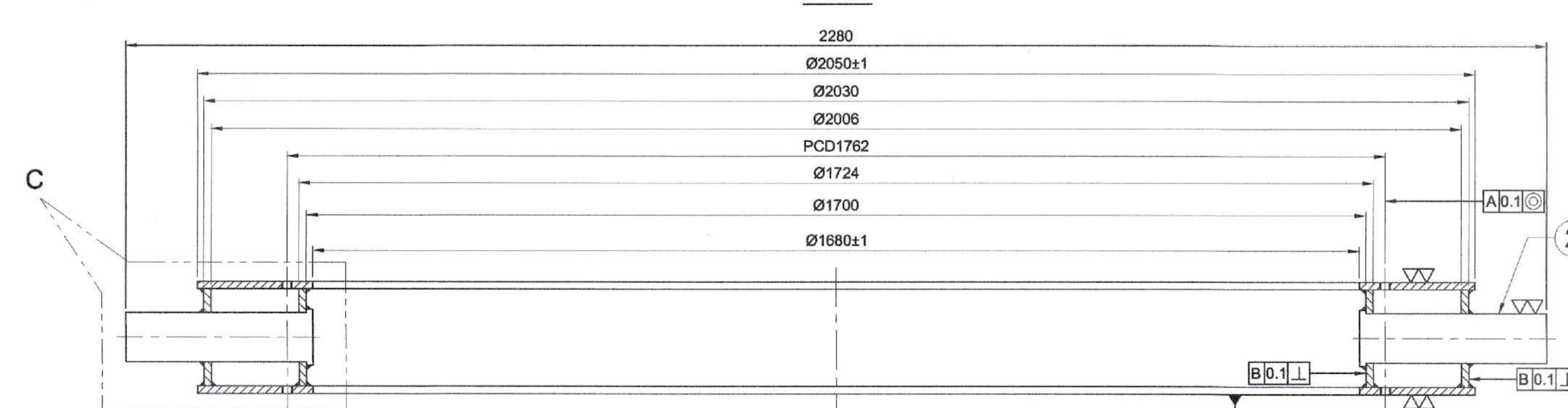
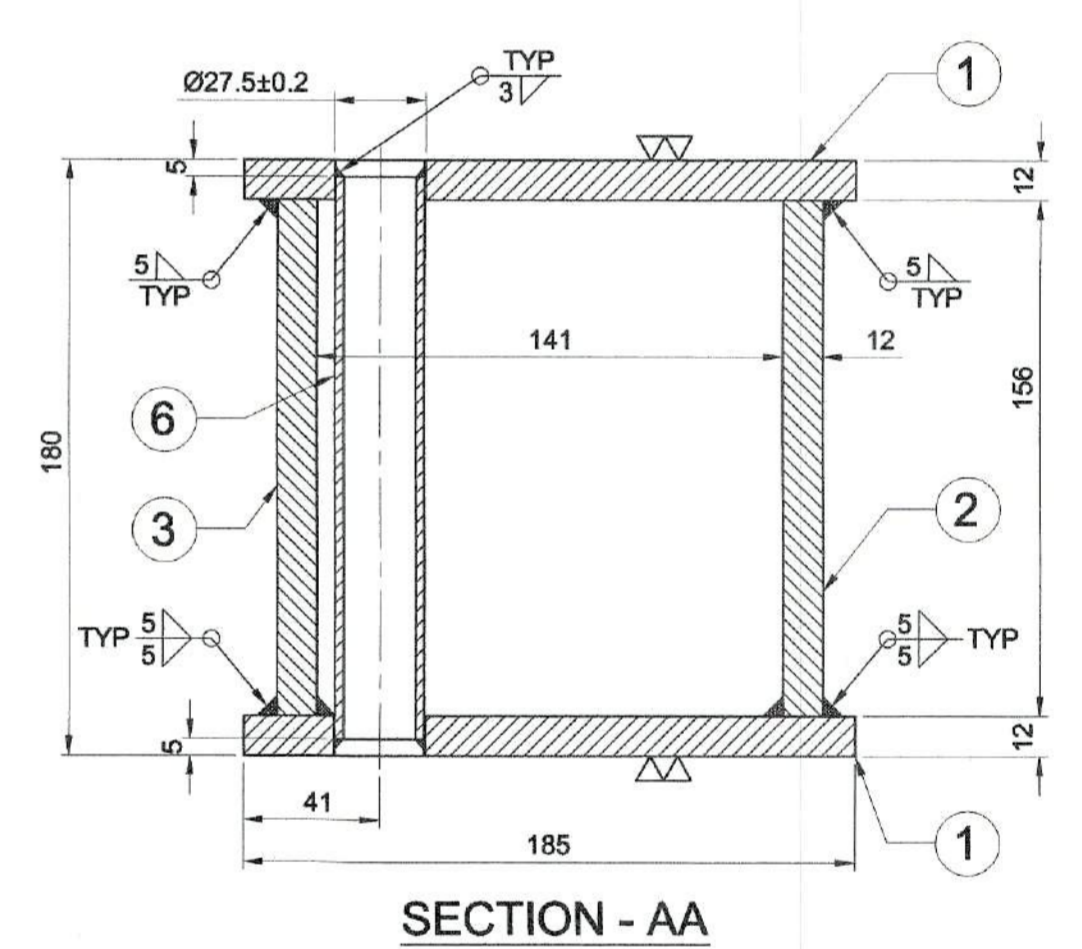
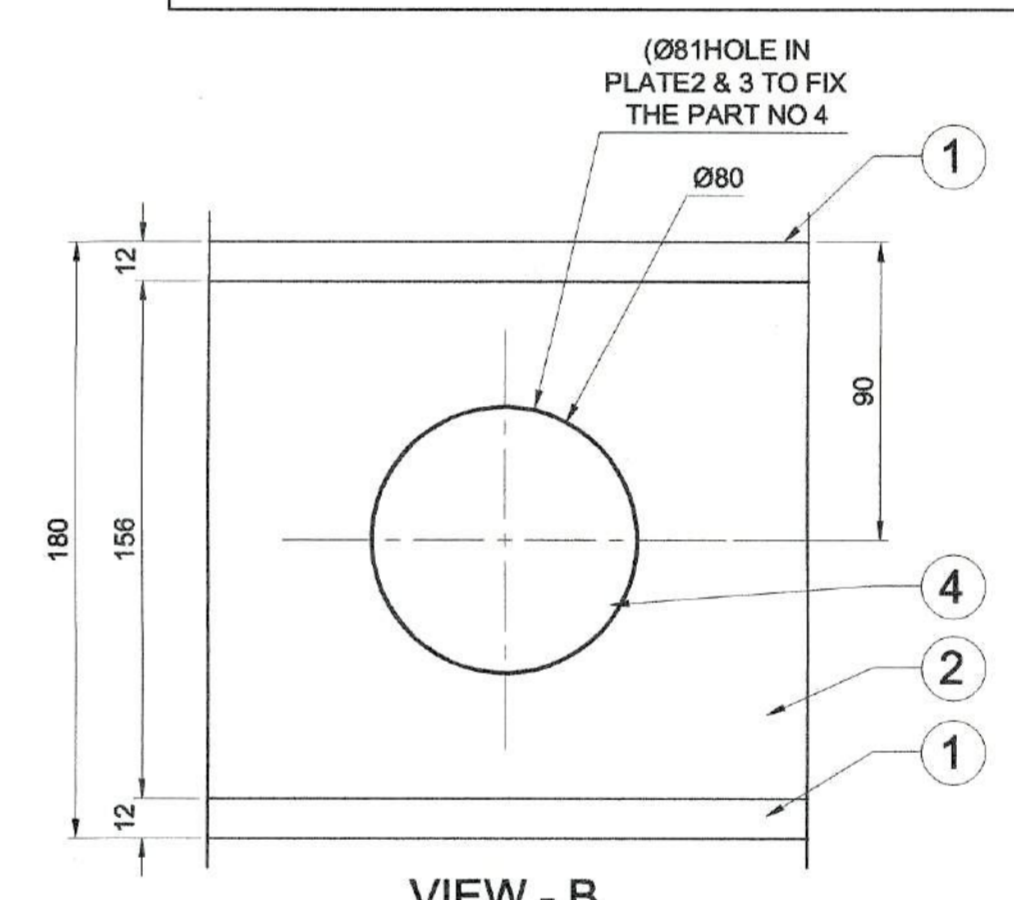
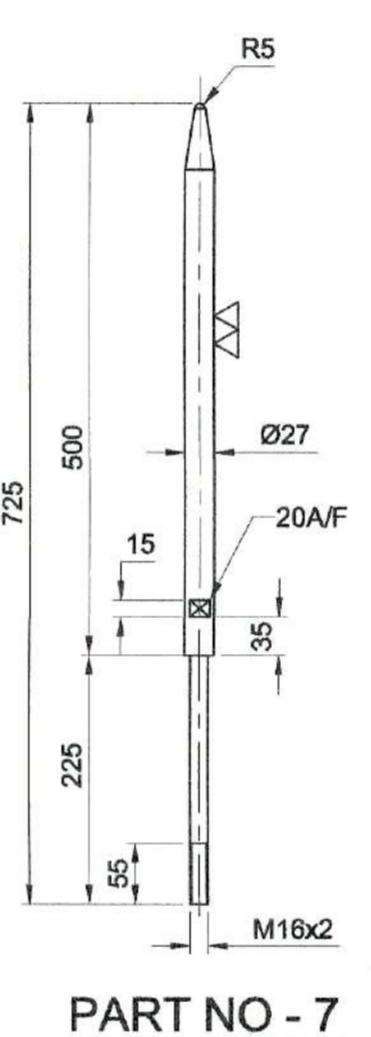
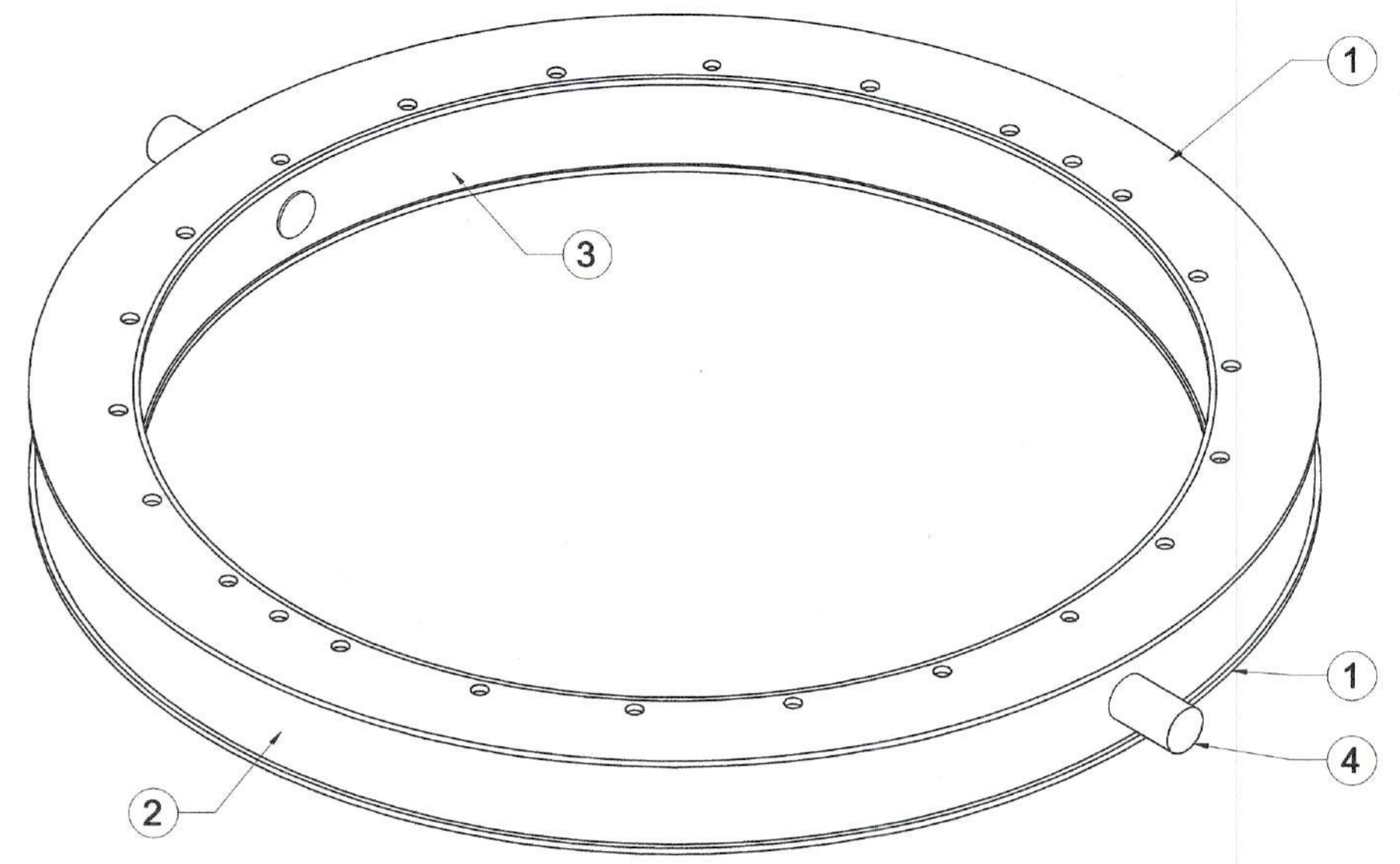
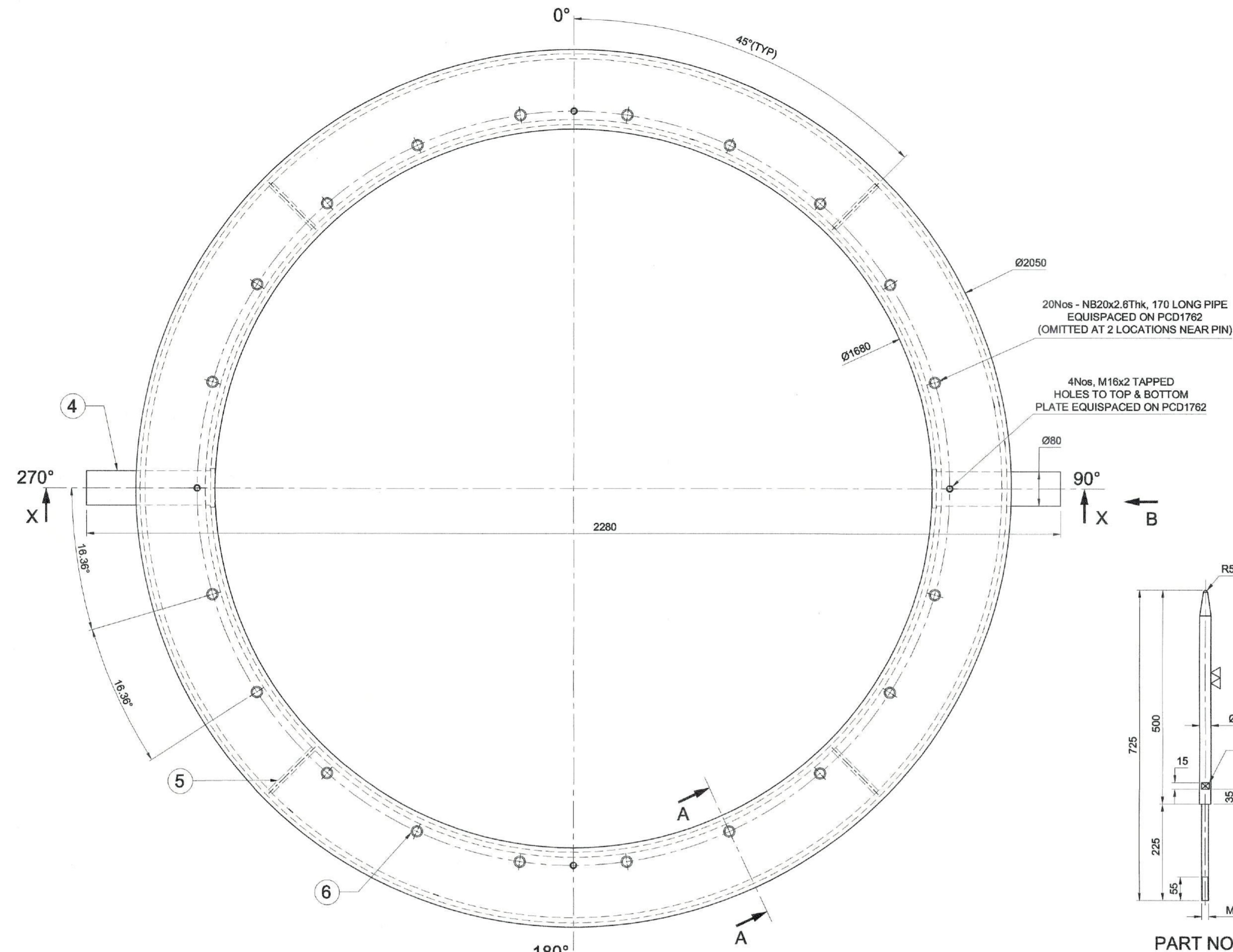
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SHAR CENTRAL DESIGNS  
DESIGNED: [Signature]  
DES.CKCD: [Signature]  
DRAWN: RAVI 7.11.23  
DRG.CKCD: [Signature]  
APPROVED: [Signature]

TITLE: **A-FRAME**

GOVERNMENT OF INDIA  
INDIAN SPACE RESEARCH ORGANISATION  
SATISH DHAWAN SPACE CENTRE SHAR  
SRIHARIKOTA

PROJECTION: [Symbol]

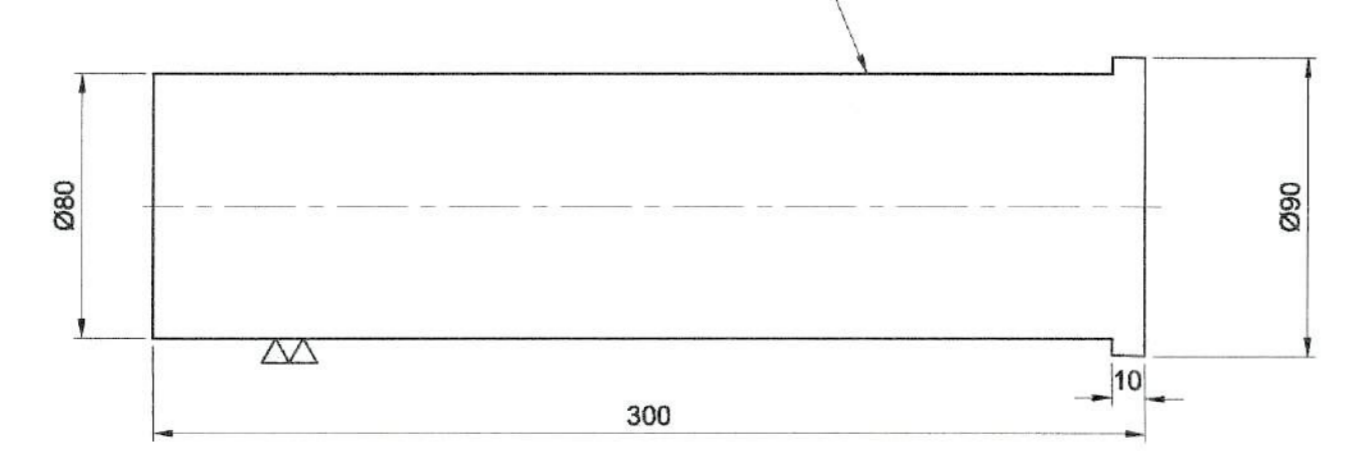
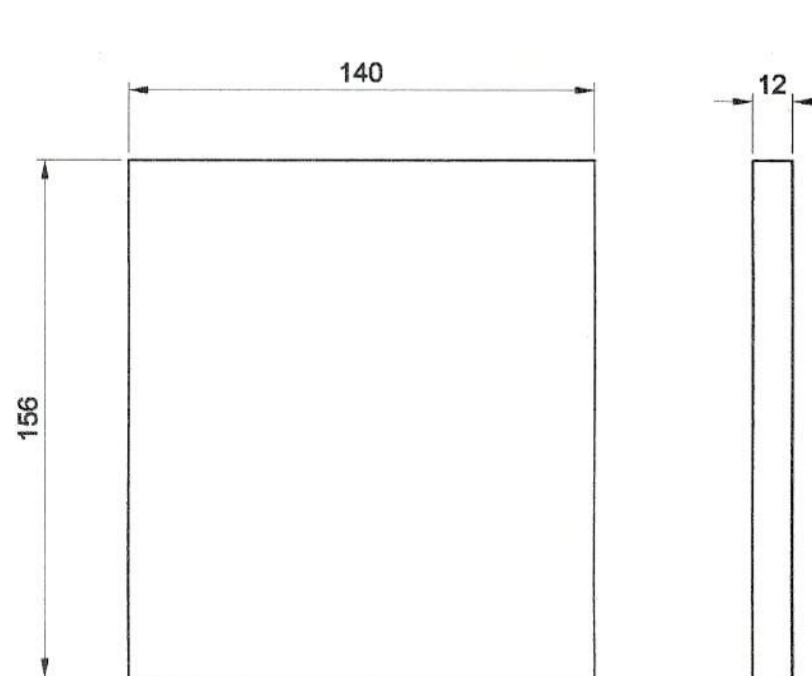
SCALE: 1:10    DRG. NO. 10-MECH-12-2-10    SHEET 2 OF 5



- NOTES:
1. ALL DIMENSIONS SHOWN ARE FINAL FINISHED DIMENSIONS.
  2. ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. MACHINING SHALL BE CARRIED OUT AFTER STRESS RELIEVING.
  5. ALL SHARP CORNERS ARE TO BE CHAMFERED SUITABLY.
  6. PART NO 1, 2 & 3 CAN BE MADE OUT OF 4 NOS. OF PLATE SEGMENTS WELDED TOGETHER.
  7. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

TOTAL WEIGHT: 427 .Kg(Approx)

S.NO	DESCRIPTION	MATERIAL	QTY	W.T	REMARKS
7	GUIDE ROD Ø27 x 725Lg	IS:2062 E:250	4	13	TO BE SUPPLIED WITH M16 NUT
6	NB20 - OD26.9 x 2.6Thk, 170Lg	IS:1161	20	5	
5	STIFFNER 156 x 141 x 12Thk	IS:2062 E:250	4	8	
4	PIN Ø80 x 300Lg	EN-24T	2	24	UTS-800MPa YS-640MPa BHN-290
3	SHELL OD1724 x ID1700 156HEIGHT	IS:2062 E:250	1	79	
2	SHELL OD2030 x ID2006 x156HEIGHT	IS:2062 E:250	1	93	
1	PLATE OD2050 x ID1680 x 12Thk	IS:2062 E:250	2	204	



STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		
UNRESTRICTED	RESTRICTED	CONFIDENTIAL

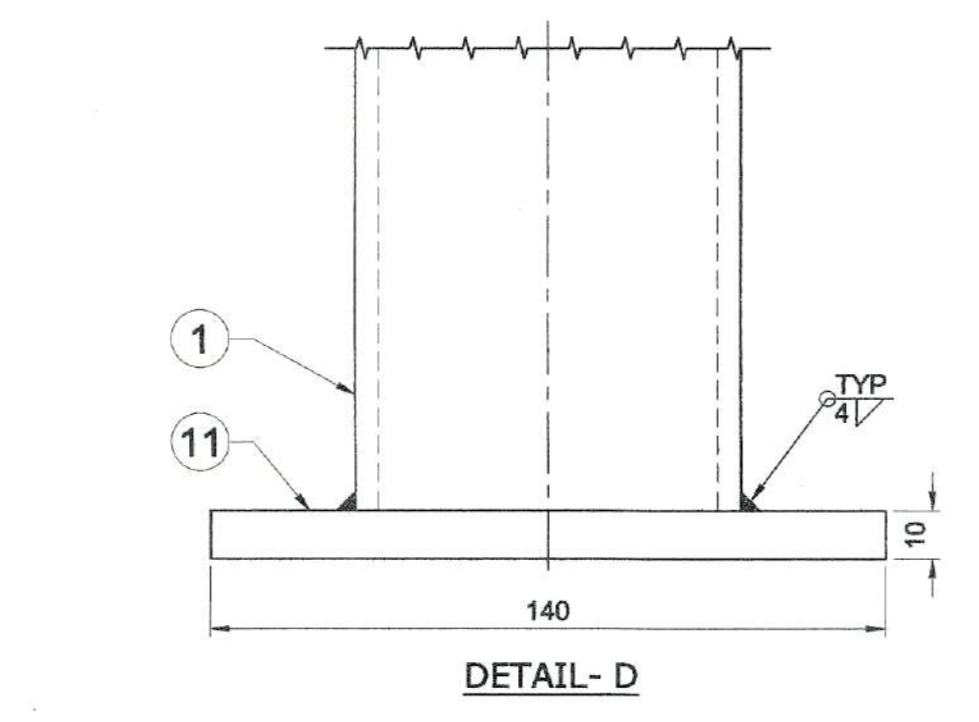
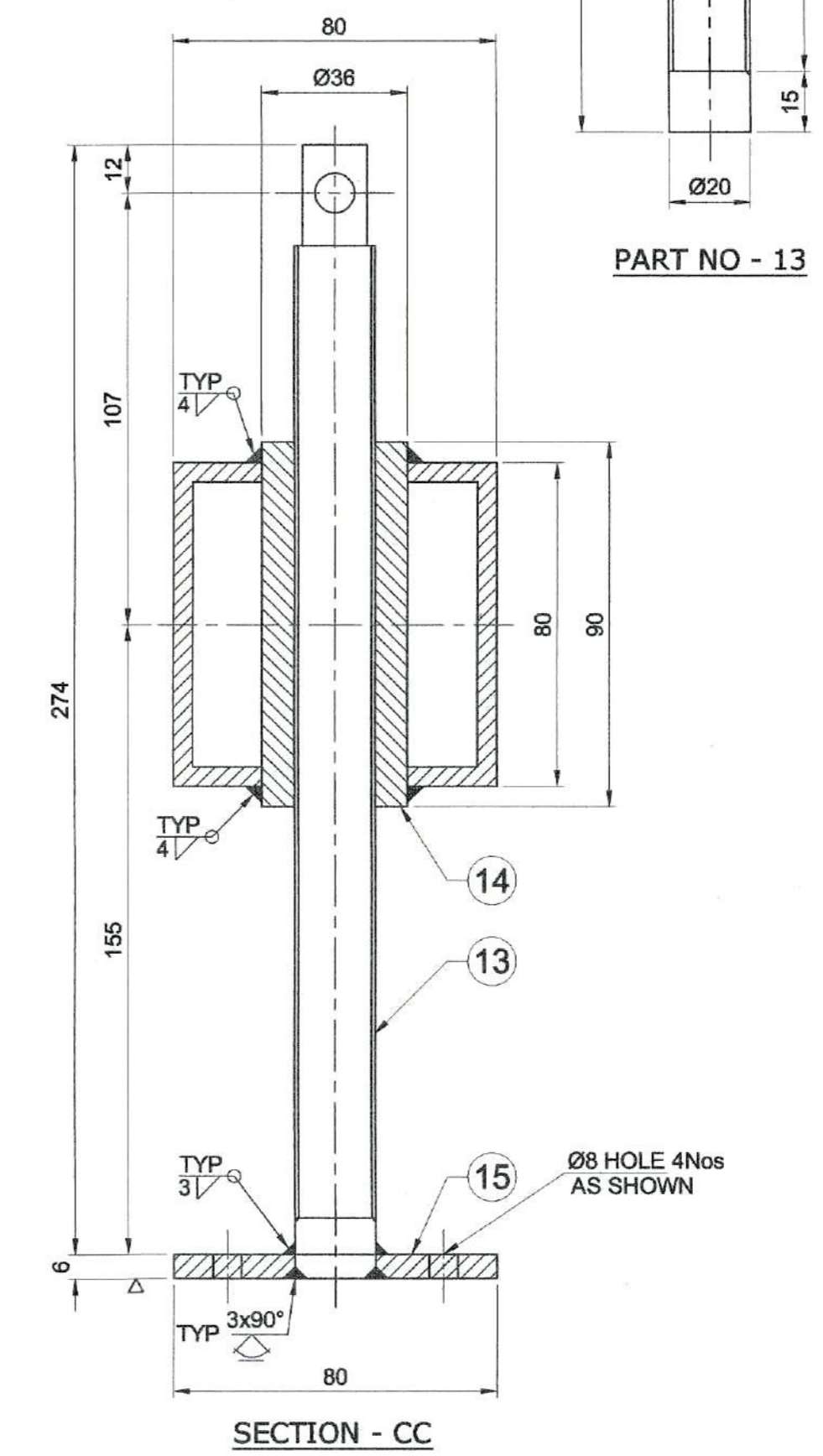
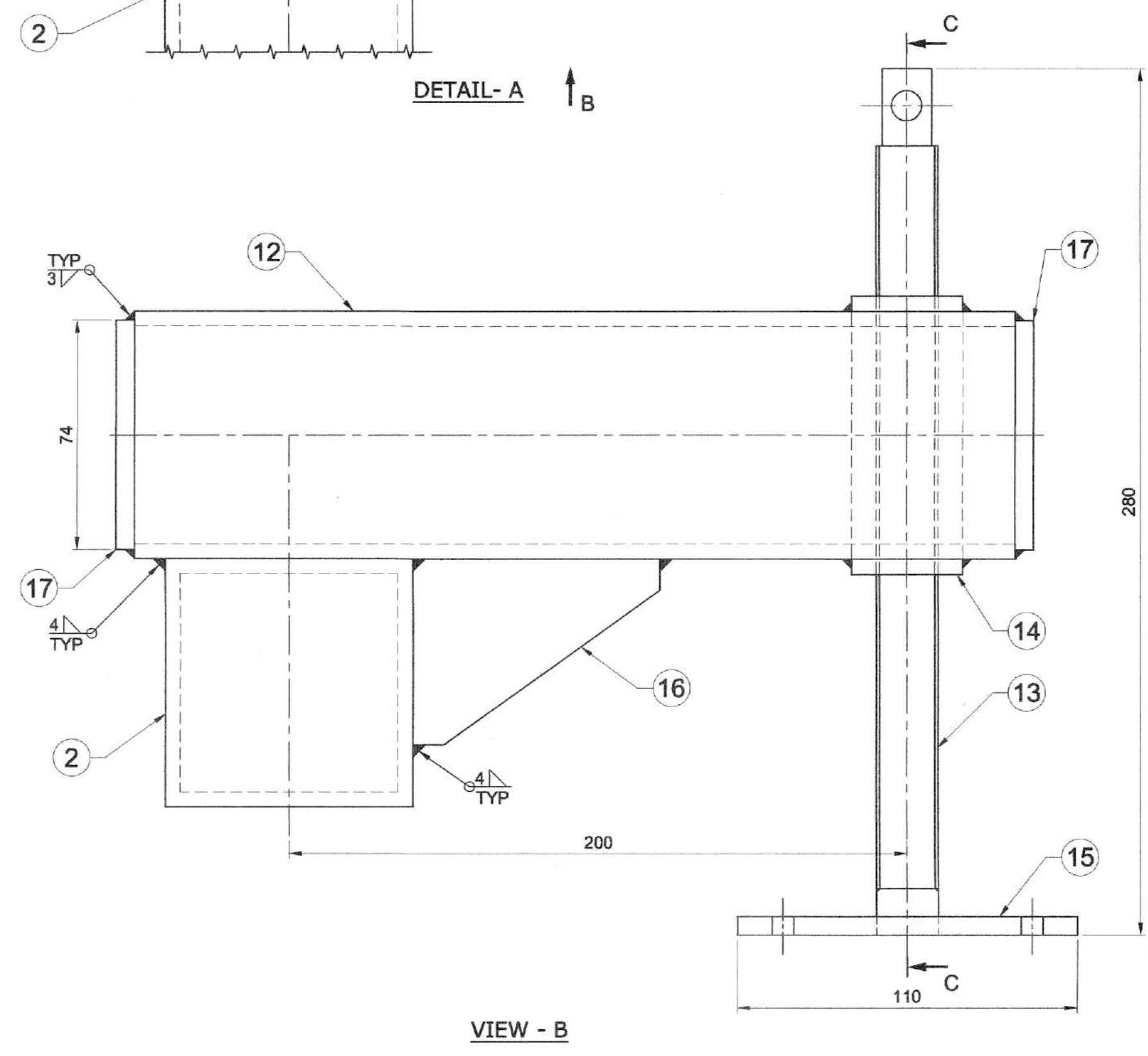
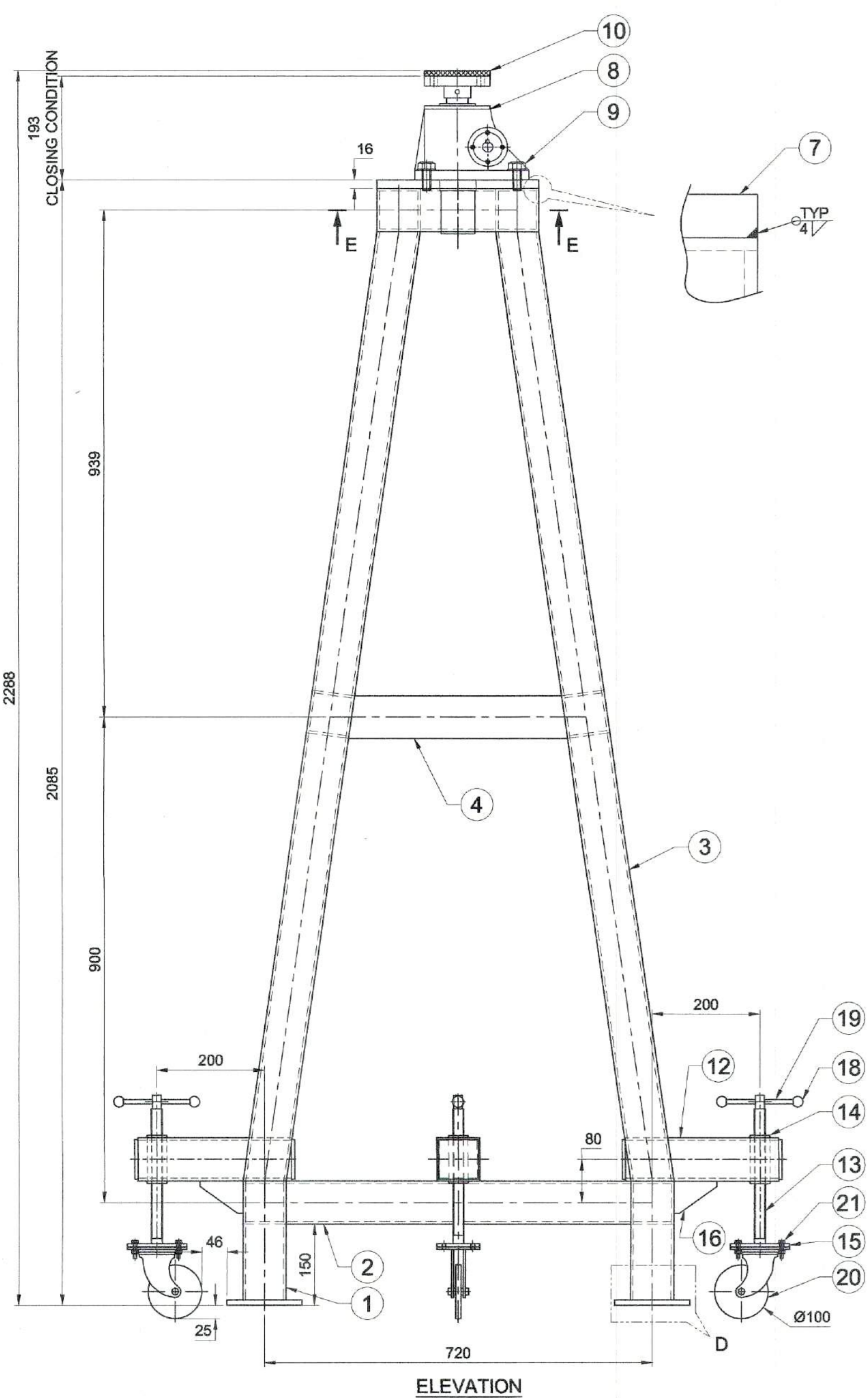
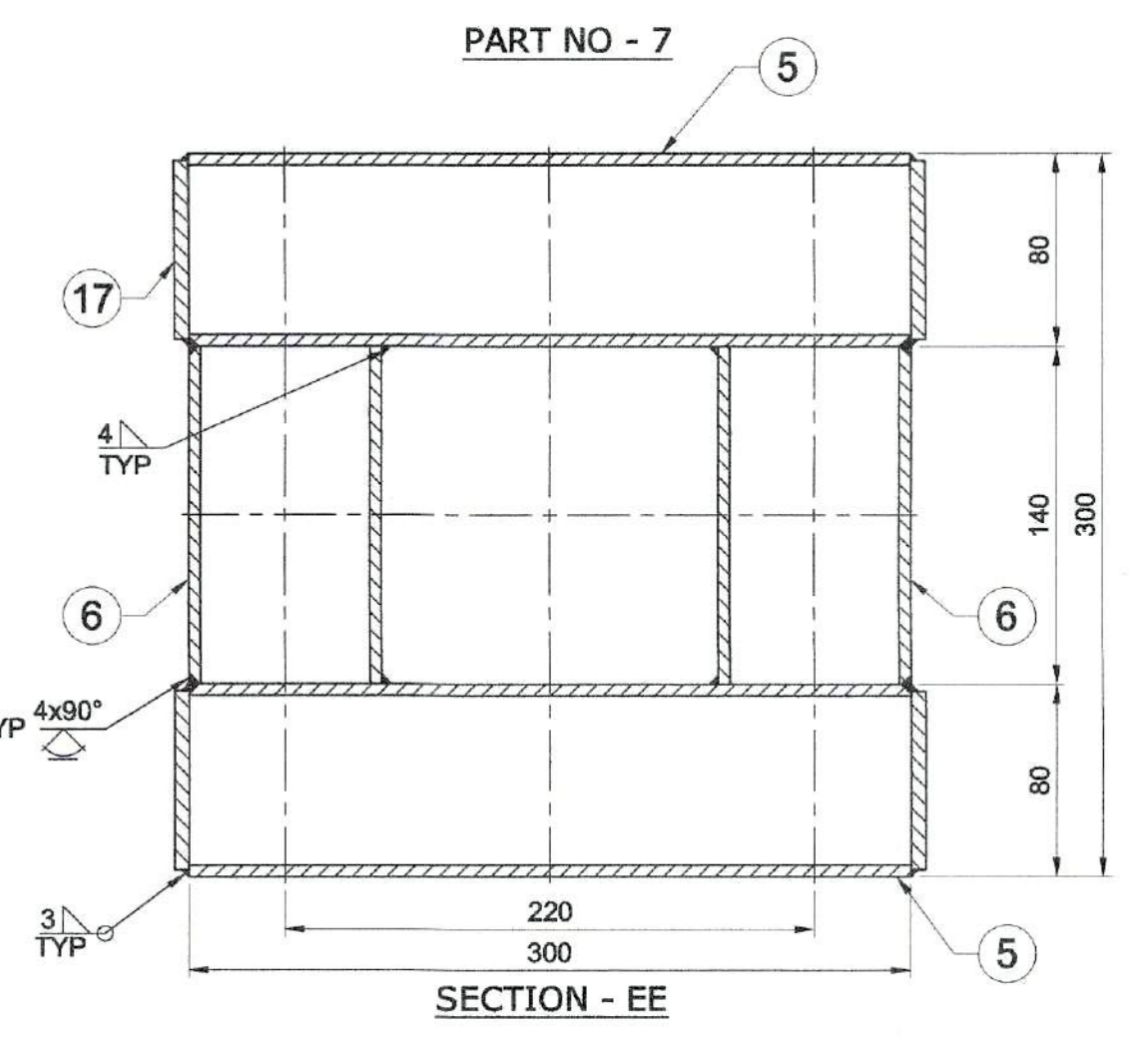
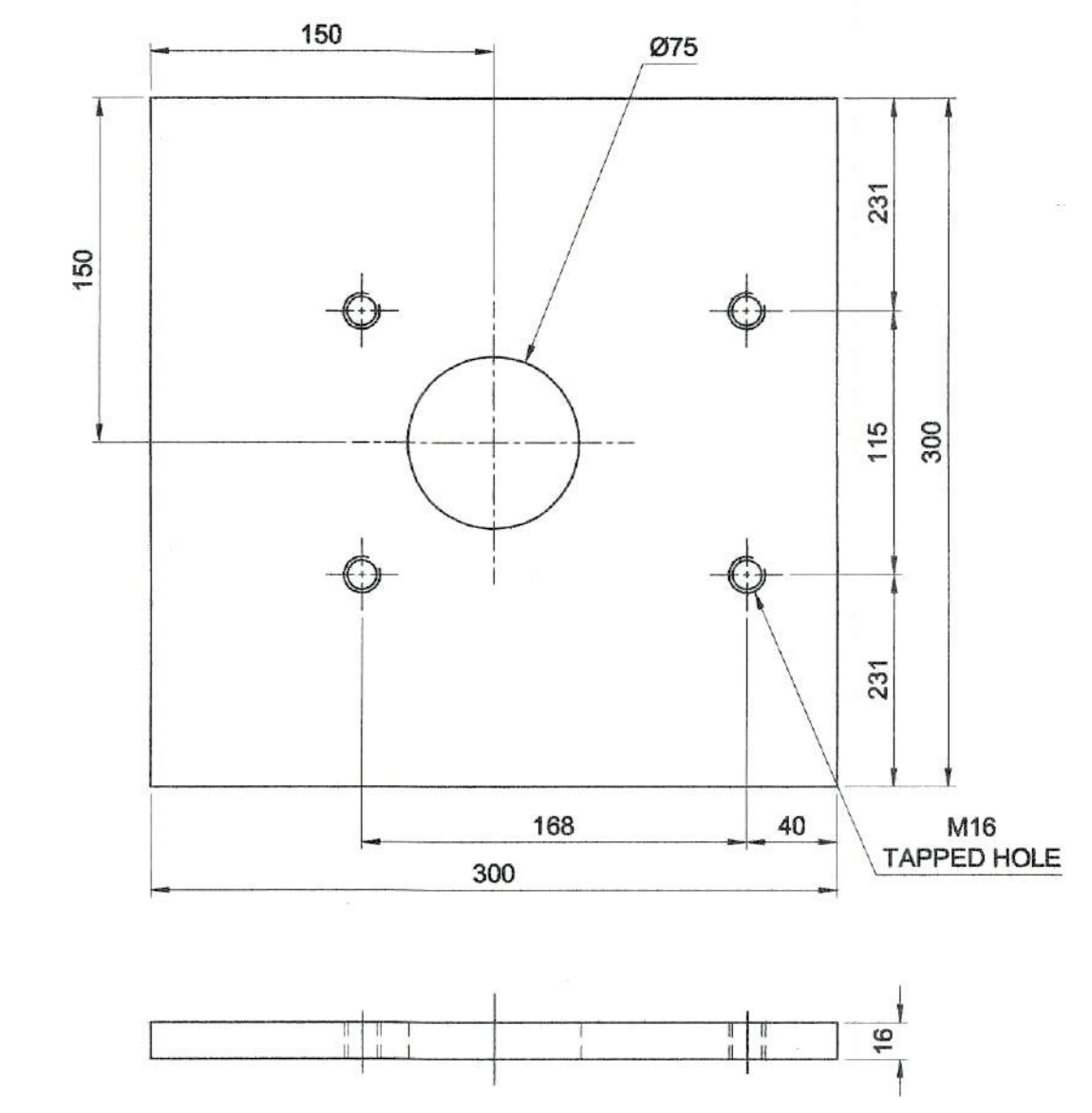
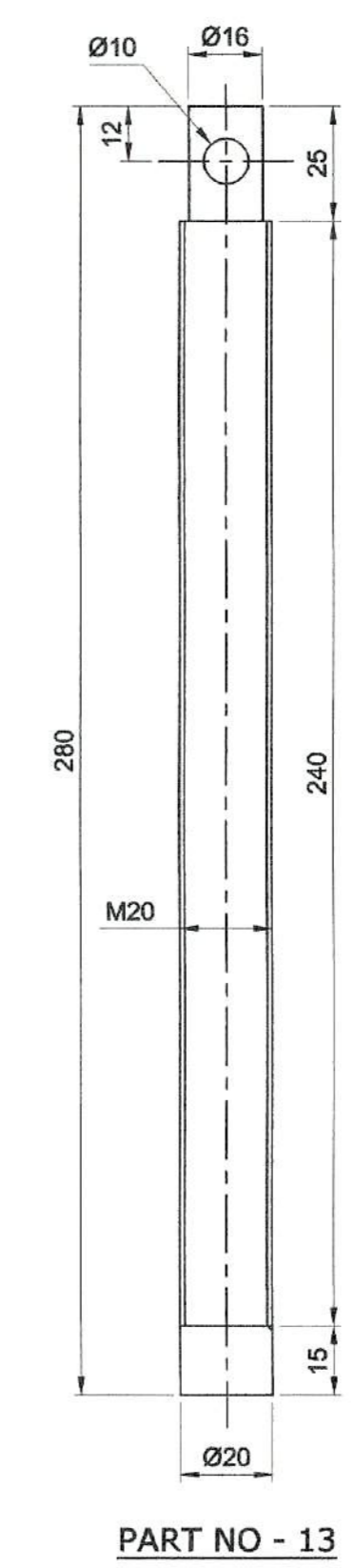
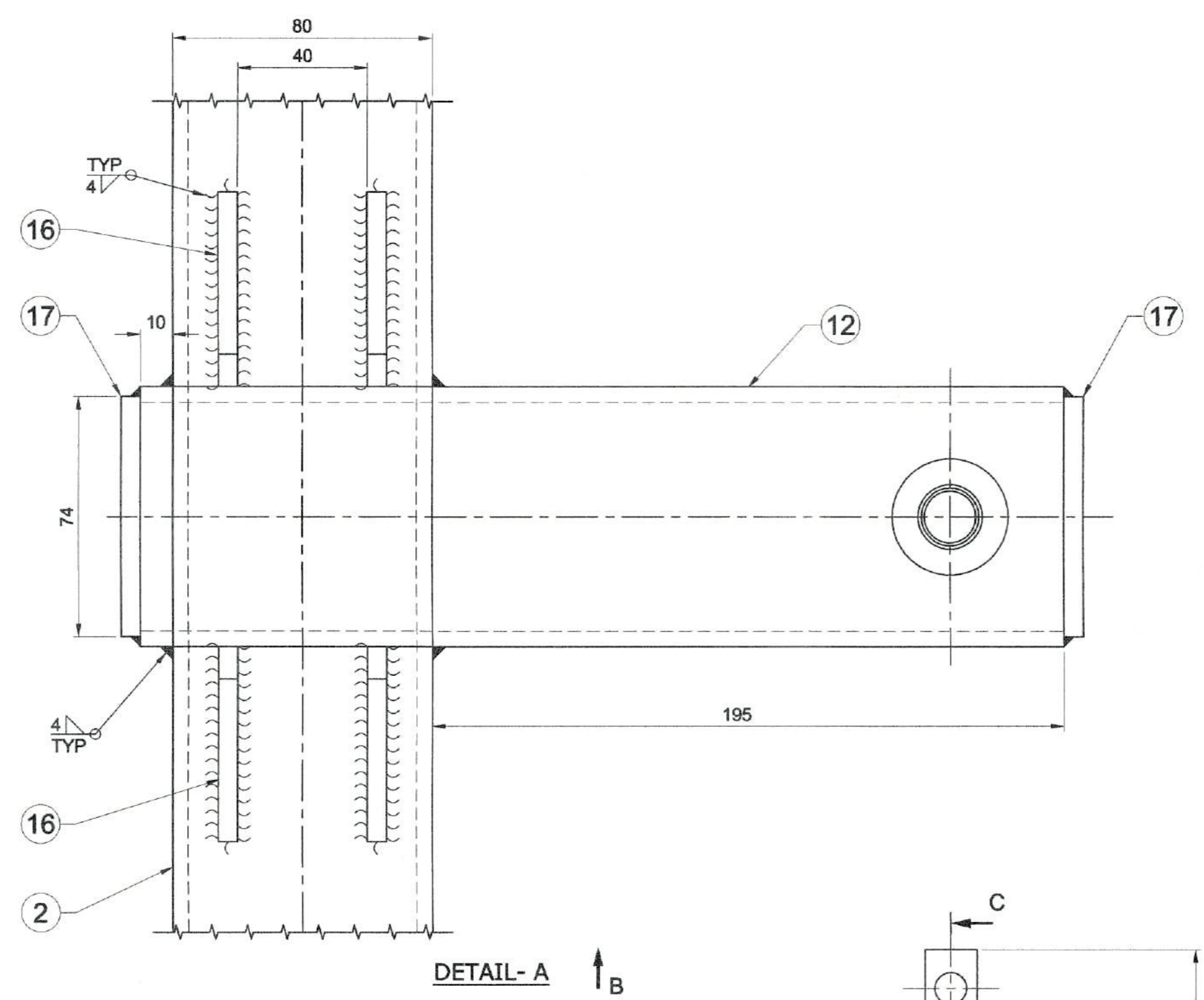
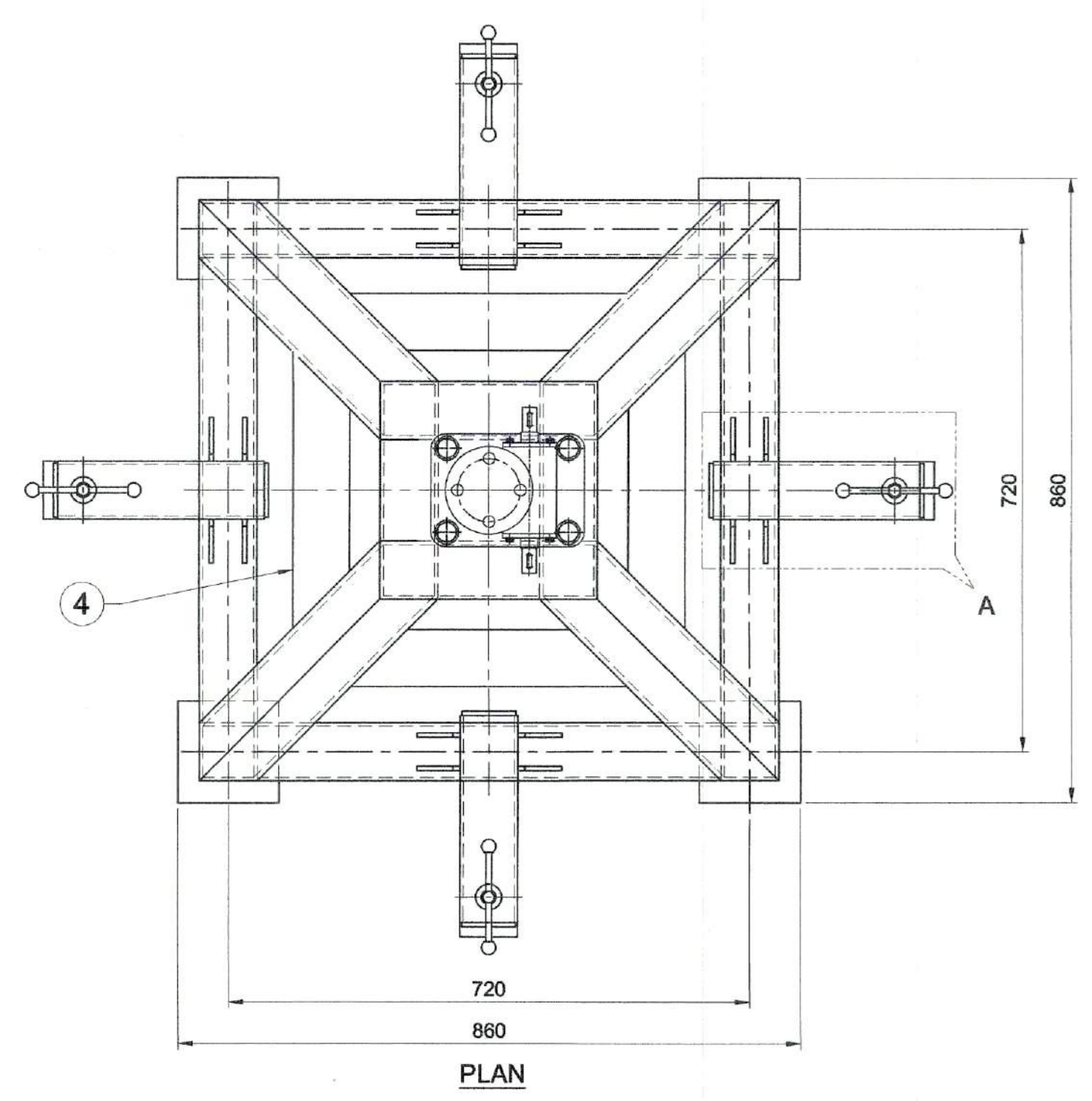
DO NOT SCALE THE DRAWING  
ASK IF IN DOUBT  
UNLESS OTHERWISE SHOWN  
ALL DIMENSIONS ARE IN MILLIMETERS  
REMOVE SHARP EDGES & BURRS  
CHAMFER 1 M.M. X 45°  
MACHINING FINISH IN MICRONS :-  
▽ 8 - 25   ▽▽ 1.6 - 8  
▽▽▽ 0.025 - 1.6   ▽▽▽▽ < 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS -2102)	
DIAMETERS & LENGTHS UPTO & INCL. 6 ±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1 - 6 ± 1'-00
30 - 120 ±0.3	6 - 30 ± 0'-30
120 - 315 ±0.5	30-120 ± 0'-20
315 - 1000 ±0.8	4000 & ABOVE ±3.0
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

**SCEND**  
SHAR CENTRAL DESIGNS  
DESIGNED: [Signature]  
DES.CCHK: [Signature]  
DRAWN: RAVI 7.11.23  
DRG.CHRD: [Signature]  
APPROVED: [Signature]

TITLE: **SS1 NOZZLE SUPPORT RING**  
GOVERNMENT OF INDIA  
INDIAN SPACE RESEARCH ORGANISATION  
SATISH DHAWAN SPACE CENTRE SHAR  
SRIRAHKOTA  
PROJECTION: [Symbol]  
SCALE: 1:5  
DRG. NO. 10-MECH-12-2-10  
SHEET 3 OF 5  
SCEND/AG/134/2023/A1/RAVI/GUPTA





**8. SCREW JACK SPECIFICATION:**  
SCREW JACK TYPE MWJ 5, TYPE 1 DESIGN A UPRIGHT,  
MAKE: HITORK OR EQUIVALENT  
CLOSE HEIGHT - 193mm, LIFT - 80mm

**20. WHEEL SPECIFICATIONS**  
MAKE: REVVO  
MODEL: TS3 100 NY03  
DIA OF WHEEL: 100 mm  
LOAD CAPACITY: 125 kg (275 lb)

- NOTES:**
- ALL DIMENSIONS SHOWN ARE FINAL FINISHED DIMENSIONS.
  - ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - PART NO 10 SHALL BE PASTED ON PART NO 8 WITH SUITABLE ADHESIVE.
  - WHEEL ASSEMBLIES ARE PROVIDED FOR MOVEMENT OF STAND ALONE.
  - QUANTITY IS GIVEN FOR ONE ASSEMBLY ONLY. NO OF ASSEMBLIES REQUIRED IS TWO.
  - CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

TOTAL WEIGHT: 187 .Kg(Approx)

S.NO	DESCRIPTION	MATERIAL	QTY	W.T	REMARKS
21	HEX BOLT WITH NUT & WASHER M6 x 30Lg	IS:1367	16	-	
20	WHEEL	NYLON	4	-	REFER SPEC.
19	HANDLE Ø8 x 150Lg	IS:2062 Gr: B	4	-	
18	BALL GRIP Ø32	IS:2805	8	-	
17	PLATE 74 x 74 x 6Thk	IS:2062 Gr: B	8	2	
16	STIFFENER 80 x 60 x 6Thk	IS:2062 Gr: B	24	5	
15	PLATE 110 x 80 x 6Thk	IS:2062 Gr: B	4	2	
14	NUT Ø36 x 90Lg	IS:2062 Gr: B	4	3	
13	SCREW ROD Ø20 x 280Lg	IS:2062 Gr: B	4	3	
12	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 285Lg	IS:4963	4	12	
11	PLATE 140 x 140 x 10Thk	IS:2062 Gr: B	4	6	
10	FELT Ø122 x 10Thk	-	1	-	
9	HEX SCREW WITH WASHER M16 x 40Lg	IS:1367	4	-	
8	WORM GEAR SCREW JACK CLASSIC	-	1	-	REFER SPEC.
7	PLATE 300 x 300 x 16Thk	IS:2062 Gr: B	1	11	
6	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 140Lg	IS:4963	2	3	
5	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 300Lg	IS:4963	2	7	
4	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 407Lg	IS:4963	4	18	
3	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 1780Lg	IS:4963	4	77	
2	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 640Lg	IS:4963	4	28	
1	SQUARE HOLLOW SECTION 80 x 80 x 4.8Thk, 220Lg	IS:4963	4	10	

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		
UNRESTRICTED	RESTRICTED	CONFIDENTIAL

DO NOT SCALE THE DRAWING  
ASK IF IN DOUBT  
UNLESS OTHERWISE SHOWN  
ALL DIMENSIONS ARE IN MILLIMETERS  
REMOVE SHARP EDGES & BURRS  
CHAMFER 1 M.M. X 45°  
MACHINING FINISH IN MICRONS :-  
▽ 8 - 25    ▽ 1.6 - 8  
▽▽ 0.025 - 1.6    ▽▽▽ < 0.025

DEVIATION FOR NON TOLERANCED DIMENSIONS (IS - 2102)	
DIAMETERS & LENGTHS UPTO & INCL. 6 ±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1 - 6 ± 1'-00
30 - 120 ±0.3	6 - 30 ± 0'-30
120 - 315 ±0.5	
315 - 1000 ±0.8	
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	120-400 ± 0'-10

**SCEND**  
SHAR CENTRAL DESIGNS  
DESIGNED: [Signature]  
DES.CKD: [Signature]  
DRAWN: RAVI 7.11.23  
DRG.CKD: [Signature]  
APPROVED: [Signature]

TITLE: **SS1 NOZZLE VERTICAL SUPPORT STAND**

DESIGNED BY: [Signature]

DESIGNED FOR: **GOVERNMENT OF INDIA  
INDIAN SPACE RESEARCH ORGANISATION  
SATISH DHAWAN SPACE CENTRE SHAR  
SRIHARIKOTA**

PROJECTION: [Symbol]

SCALE: 1:10    DRC. NO.: 10-MECH-12-2-10

SHEET 5 OF 5

SCENDIAG134/2023/A1/RAVI/GUPTA