



Chhattisgarh State Renewable Energy Development Agency (CREDA)

(Dept. of Energy, Govt. of Chhattisgarh)

Near Energy Education Park, Village Fundhar

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TENDER DOCUMENT No. 153398/CREDA/SPV IRRIGATION PUMPS/2024-25 Dated: 26-02-2024

E-Tender for standardisation of Rates for Survey, Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems (SPWPS) of capacities 02, 03 & 05 (HP) anywhere in Chhattisgarh State, including CMC, complete system warranty, insurance and its repair and maintenance for 5 Years under Saur Sujla scheme of CREDA.

Particulars	From Date & Time	To Date & Time	Place
Date of issue of notice inviting bid	26.02.2024 05:00 PM	---	-----
Period of availability of bidding document at website	26.02.2024 05:00 PM	27.03.2024 05:00 PM	http://www.creda.co.in/tenders
Submission of pre bid queries in writing or through E-mail	26.02.2024 05:00 PM	06.03.2024 05:00 PM	At H.O. CREDA, Raipur (C.G.) RE-V, Section or by E-mail : credatendercell@gmail.com
Display of Sample & Submission of MAF	22.03.2024 11:00 AM	22.03.2024 05:00 PM	At CREDA H.O. Raipur
Submission of Online Bid (Technical + e-Price Bid) and Submission of Documents in hard copy	07.03.2024 05:00 PM	27.03.2024 05:00 PM	https://eproc.cgstate.gov.in and at H.O. CREDA Raipur (C.G.), RE-V, Section
Online Opening of Technical Bid	28.03.2024 12:00 Noon		At CREDA H.O., Raipur (C.G.) Conference Hall, Raipur. (https://eproc.cgstate.gov.in)
Evaluation of technical bid and Declaration of Eligible bidders (Bidders who are technically & financially qualified)	04.04.2024 12:00 Noon		At Conference Hall, CREDA H.O., Raipur (C.G.)
Online Opening of e- Price Bid	10.04.2024 12:00 Noon		At Conference Hall, CREDA H.O., Raipur(C.G.)

Tender Document Cost- Rs.25, 000.00 + 18% GST = Rs.29, 500.00

(in words Rupees Twenty Nine Thousand Five Hundred Only)

E.M.D.- Rs.5,00,000.00 (in words Rupees Five Lakh Only) for Individual & Consortium bidders and Rs. 2,00,000 (in words Rupees Two Lakh Only) for Start-Up & New Entrepreneur bidders to be deposited in CREDA's account via Demand Draft/ Pay Order or RTGS / NEFT.

Document can also be downloaded from our website www.creda.co.in with the cost of tender as mentioned in NIT, which shall have to be deposited along with the tender document.

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NOTICE INVITING TENDER

CREDA Invites Online Tender for standardisation of Rates for Survey, Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems (SPWPS) of capacities 02, 03 & 05 (HP) anywhere in Chhattisgarh State, including complete system warranty, CMC, insurance and its repair and maintenance for 5 Years under Saur Sujla Scheme of CREDA from registered System Integrators of CREDA and other eligible companies with minimum 2 years track record in SPV Irrigation pumping systems, as per following details -

S.No.	Item Description	Approximate Quantity	Cost of Tender Document	EMD	Essentials
1.	SPV Irrigation Pumps 2 HP (AC/DC Submersible/ Surface)	1000	Rs 25,000.00 +18% GST = Rs.29,500.00	Rs.5,00,000.00	As per clause no.1a to 1g of Eligibility Criteria (Page no. 08 & 09)
2.	SPV Irrigation Pumps 3 HP (AC/DC Submersible/ Surface)	14000			
3.	SPV Irrigation Pumps 5 HP(AC/DC Submersible/Surface)	5000			
TOTAL		20,000	29,500.00	5,00,000.00	----

This tender is being floated in anticipation to receipt of administrative sanction from department of energy, govt. of Chhattisgarh. This tender will be subjected to above sanction.

The quantity of pumps mentioned in above table may vary as per actual site conditions & demand.

Important Events and time schedule for this tender are as follows-

Particulars	From Date & Time	To Date & Time	Place
Date of issue of notice inviting bid	26.02.2024	---	----
Period of availability of bidding document at website	26.02.2024 05:00 PM	27.03.2024 05:00 PM	http://www.creda.co.in/tenders
Submission of pre bid queries in writing or through E-mail	26.02.2024 05:00 PM	06.03.2024 05:00 PM	At H.O. CREDA, Raipur (C.G.) RE-V, Section or by E-mail : credatendercell@gmail.com
Display of Sample & Submission of MAF	22.03.2024 11:00 AM	22.03.2024 05:00 PM	At CREDA H.O. Raipur
Submission of Online Bid (Technical + e-Price Bid) and Submission of Documents in hard copy	07.03.2024 05:00 PM	27.03.2024 05:00 PM	https://eproc.cgstate.gov.in and at H.O. CREDA Raipur (C.G.), RE-V, Section
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Online Opening of e- Price Bid	10.04.2024 12:00 Noon		At Conference Hall, CREDA H.O., Raipur(C.G.)

Technical Bid and Price Bid shall be submitted online only at <https://www.eproc.cgstate.gov.in>. However Technical Bid (as per the checklist) also has to be submitted in hard copy duly signed by bidder at H.O. Tender Cell, CREDA. If there is any discrepancy in the e-Bid and hard copy, only the e-bid shall be valid. **In no case the hard copy of documents shall be evaluated, it is only for record keeping of CREDA.** Bidders are advised to follow the instructions provided for registration and e-Submission process accordingly.

(For any query about e-bidding please visit user manual at <https://www.eproc.cgstate.gov.in>) Details of this tender are mentioned at Tender Documents which can be downloaded from our website www.creda.co.in.

The Bidder shall have to deposit tender document cost along with EMD as mentioned above through demand draft/RTGS/NEFT payable to CREDA Raipur while submitting tender.

Bidders are requested to submit their suggestions/objections/reservations, if any with details so as to avoid any confusion and to ensure clarity and transparency regarding the tender in writing or by e-mail.

Any Addendum/Corrigendum/Amendment Notice, if needed, shall be uploaded on CREDA's Website.

CREDA reserves all rights to accept/reject any or all tenders in full/part without assigning any reasons thereof.

**Superintending Engineer
Tender Cell,
H.O. CREDA, Raipur (CG)**

CHECK LIST OF DOCUMENTS TO BE UPLOADED IN THE E-BIDDING PORTAL

To ensure that your Bid uploaded on the Chhattisgarh e-Procurement portal i.e. <https://eproc.cgstate.gov.in> is complete in all respects, please go through the following checklist & tick mark for the enclosures attached with your Bid –

Sl. No.	Envelope	Description of documents to be uploaded in the e-bidding portal	Complied (Yes/ No)	(Page No.)
1	A. Pre-Qualification	EMD and Tender Document Fee submission form of the bidder confirmed by CREDA. (as on page – 6)		
2		Scanned Copy of Undertaking of the Bidder as mentioned on Page – 7 of the tender document on the letter head of bidder.		
3		Scanned copy of original tender document duly signed & with stamp on each page, as a confirmation of acceptance of the Terms & Conditions (T&C).		
4		PAN, GSTIN issued in the name of the bidder.		
5		Self-certificate from Bidder for not been debarred/ blacklisted from any Government organisation.		
6		Consortium Agreement along with MoU and Power of Attorney (If Applicable). (Annexure II)		
7		Declaration of conflict of interest - by bidder about any relatives working/not working with CREDA along with notarized Affidavit. (Annexure IV) (Hard Copy to be submitted as per Clause 6d, Section – 1)		
8		Copy of Registration Certificate as System Integrator of CREDA in SPV Program valid at the time of submission of bid.		
9	B. Technical and Financial Qualification	Valid original Test Reports of SPV Pumping system or Consent from the owner of test reports and MAF on behalf of owner. (wherever applicable)		
10		Attested copy of Original Net Worth Certificate duly signed by Chartered Accountant as on 31st March 2023.		
11		Attested copy of Original Turn Over certificate in 05 years (out of last 08 financial years i.e. 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23) works done in SPV Projects.		
12		Copy of ITRs for in last 03 financial years i.e. 2020-21, 2021-22 & 2022-23 of the Bidder.		
13		Completion and Performance Certificates of Installation and Commissioning of SPV Irrigation Pumps by the Bidder in Govt. Scheme of any State or Market mode scheme of CREDA 05 years (out of last 08 financial years i.e. 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23). (Annexure-I)		
14		Proof of being Eligible manufacturer of SPV-Pumps/ Controller /Structure etc. of SPV irrigation pumping system.		
15		Manufacture Authorization certificates of all components of SPV irrigation pumps.		
16		Technical Data Sheet for each component showing full technical details.		
17		Declaration for using same make of equipment's as per the test certificate. (Annexure – IX)		
18		C	Supporting Document for Price Bid mentioned at Page No. 41	

Details of EMD and Tender fee attached

Tender No. and Date	
Name of the Bidder	
Bidder's Bank Account Details	
(i) Name of the bank	
(ii) Branch	
(iii) IFS Code	
(iv) Account No.	
(v) Transaction reference number	EMD - _____; Bid Document Fee - _____
(vi) Date of transaction	EMD - _____; Bid Document Fee - _____
(vii) EMD	Rs /- In Words (Rs)
(viii) Bid Document Fee	Rs /- In Words (Rs)

Name	CREDA
Bank & Branch Name	ICICI Bank, Panchpedi Naka, Raipur
Bank Account Number	134601000400
Branch IFS Code	ICIC0001346

(Sign & Seal of the bidder)

***NOTE -**

1. The EMD and the Tender Document Fee shall have to be deposited as mentioned in the NIT in CREDA's bank account (amount mentioned above). Bidder shall have to upload the transaction details as above or a scanned copy of the DD (if transaction is done through DD)
2. In case the transaction is done through DD, the original DD has to be submitted in envelope A as per Clause 6(d).

UNDERTAKING OF THE BIDDER

(To be submitted on letter head)

I/We have read carefully and examined the notice inviting tender, schedule, General Rules and terms and conditions of the contract, special conditions, Schedule of Rates and other documents and Rules referred to in the tender document for the supply.

I/We hereby tender my rates for the execution of the work for CREDA as specified within the time stipulated in the schedule in accordance with all aspects with the specifications, designs, drawings and instructions with such conditions so far as applicable.

I/We agree to keep the tender valid for **One Hundred Eighty (180) days** from the due date of submission thereof and not to make any modifications in its terms and conditions.

A sum of **Rs. Five Lakhs for Individual & Consortium Bidder/ Rs. Two Lakhs for Start-Up & New Entrepreneur Bidder** is hereby forwarded as **Earnest Money** in the form of crossed Demand draft/Pay order or RTGS / NEFT payable to CREDA at Raipur (C.G.). If I/We fail to commence or complete the sanction ordered in specified time or fail to fulfil the any condition of tender document, I/We agree that the CREDA shall, without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely. The said Earnest Money shall be retained by CREDA towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be required by CREDA.

I/We hereby declare that I/We shall treat the tender documents, specifications and other records connected with the work as secret/confidential and shall not communicate information derived there from to any person other than a person to whom I/We have authorized to communicate the same or use the information in any manner prejudicial to the safety of CREDA/Government.

I/We shall abide to all the laws and shall be responsible for making payments of all the taxes, duties, levies and other Govt. dues etc. to the appropriate Govt. departments.

Our GST Registration No. _____ . The PAN No. under the Income Tax Act is _____. The GST Clearance certificate is attached herewith.

I/We shall be responsible for the payment of the respective taxes to the appropriate authorities and should I/we fail to do so, I/we hereby authorize CREDA to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

I/We declare that none of our relatives is working in CREDA either on Regular/Contract/Placement basis or I/We don't have any partnership/ subcontract obligation with any employee working in CREDA at present, directly or indirectly, and we will not enter in such obligation in future also. If any breach of declaration is found, then we shall be responsible for our debarment and any other action taken by CREDA.

Dated:

Signature

Place:

Name of bidder with seal.....

Witness:

Signature:

Name:

Postal Address:

SECTION - 1 INSTRUCTIONS FOR BIDDERS

1. ELIGIBILITY CRITERIA:

a. MINIMUM EXPERIENCE

Bidders of Chhattisgarh should have minimum direct experience of Supply and installation of **250 Nos.** and that of other state should have minimum direct experience of supply and installation of **700 Nos.** of SPV Irrigation Pumps under a Govt. Scheme of any state or Market Mode Scheme of CREDA 05 years (out of last 08 financial years i.e. 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23). Satisfactory commissioning/functioning report containing complete system details from the concerned state/central agencies department shall be provided along with bid document. All these SPV irrigation pumping system should be in successful operation as on date. (Experience in terms of works done for other private / non Govt. companies/ firms etc. shall not be considered).

b. Experience Certificates submitted should be in attached format (as per Annexure-I) or **other Format containing similar information as in attached format (Annexure- I) shall be considered only in-case of submitted in Hindi / English Language only.** Work order, L.O.I. / L.O.A etc., will not be acceptable.

c. Bidders must have a Positive Net worth as on **31st March 2023 (which is defined as "Net value of the Assets minus (-) Net value of liabilities")**. They shall have to submit an attested copy of **Original Certificate** duly signed by a qualified and registered Chartered Accountant having UDI number as a proof. Produced certificate must tally with the audited balance sheet/CA certificate.

d. Bidders should have an aggregate turnover of minimum **10 Crores** in 05 years (out of last 08 financial years i.e. 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23) under SPV Projects. Attested copy of certified copies of the annual returns and audited balance sheet submitted to the Registrar of Companies/ Income Tax Authorities should be enclosed. For the preceding years, an **Original Summarized Sheet** of turnover certified by registered CA must be enclosed.

e. Bidder must have either valid Test Report in his name or written consent from owner (hereinafter owner means manufacturer of SPV Module/Pump/Controller only) of the test report to use such test certificate/reports for all 12 categories of pump i.e. 02, 03 & 05HP, AC & DC, Surface & Submersible. Such owner of the Test Reports must have to provide the Original valid Test Report to CREDA, on or before the date of sample display, for which they are providing consent or using the same.

In case, the bidder, in future wishes to change components such as module and/or pump/controller OR the system configuration as a whole, then they must take prior approval from CREDA in addition to the submission of valid original test report of such a configuration along with written consent of owner (manufacturer of SPV Module/Pump/Controller only). CREDA reserves the right to accept or reject the modified configuration of SPV Irrigation Pumps.

f. Bidders who are debarred from business by Govt. /Govt. Agency in any state would not be eligible to participate in this bid. A self-declaration should be submitted by the bidder to this effect, failing which bid shall be rejected.

g. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- (I) Made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/or
- (II) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion litigation history, or financial failures etc; and/or

- (III) Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to CREDA.

2. CONSORTIUM-

There can be consortium for the contract bid in the constituent firm indicating clearly, amongst other things, the proposed distribution of responsibilities, both financial as well as technical for execution of the work amongst them. For the purpose of this clause the most experienced partner shall be the lead partner. The copy of the consortium agreement in accordance with the requirements mention in **Annexure II**. Lead partner shall be nominated as being partner-in-charge and this authorization shall be evidenced by submitting a Power of Attorney signed by second partner. Consortium shall be allowed in this tender up to two partners submitted to fulfilling following criteria:-

- a. The term Bidder used hereinafter would therefore apply to both as single entity and as Consortium. Consortium of companies/organizations/bidders (maximum of two members) must be continuously in existence for at least 1 (one) year as consortium bidders from the date of issue of notice inviting bid. Both the partners should have at least 1(one) year experience in the field of installation of solar irrigation pumping systems.
- b. Consortium partners will have to open ESCROW bank account. Payment will be given in same account.
- c. One of the partners of the consortium shall act as Lead member. Both the partners of the Consortium shall mandatorily have installation experience of SPV irrigation pumping system.
- d. Both the partners should individually fulfil criteria of 1c, 1f and 1g.
- e. Both the partners should jointly fulfil eligibility criteria as per clause 1a, 1b, 1d and 1e. In case of minimum experience as per clause 1a & 1b, incorporation of the Lead Member in the Consortium shall determine the minimum experience required for the Consortium to qualify. For example: if in case in a consortium the Lead partner is outside of Chhattisgarh state then the consortium should have minimum experience as mentioned in clause 1a i.e 700 nos.
- f. Member of any Consortium Firm shall not be permitted to participate either in individual capacity or as a member of any other Consortium in the same tender. Submission or participation in more than one bid will cause disqualification of all the bids submitted by the bidder.
- g. All formalities including signing the agreement in respect of submission of tender shall be done only in the name of '**Lead Member**' and not in the name of consortium. However, name & other details of both the members of Consortium should be clearly mentioned in the bid.
- h. Any one partner of consortium preferably lead partner shall mandatorily have minimum 2 (two) years installation experience of SPV Irrigation Pumping Systems.
- i. The lead partner of consortium shall be solely responsible for any liability, penalty, insurance, CMC and other terms and conditions mentioned in this Tender Document. In event of default by any partner in the execution of his part of contract, both the partners shall be debarred from the tender, execution of work and empanelment list of CREDA.
- j. Notwithstanding the permission to assigning the responsibilities of defaulting partner above, both the partner of consortium will retain the full and undivided responsibility for the performance of their obligation under the bid.
- k. Both the partner shall be registered in CREDA. Otherwise consortium bid/bidders shall be disqualified.
- l. The bid submitted shall include all the relevant information mentioned in this tender document applicable to consortium partner shall be furnished separately for each partner like affidavit as in **Annexure-IV** mentioning information of relatives, Experience certificate, **Schedule-I,II,III,IV** etc. In case of fails to do, bid shall be rejected.

- m. A copy of Memorandum of Understanding (MoU) certified by Magistrate/Sub-Judge/ Notary Public on 100 Rupees stamp paper, executed between the members of Consortium shall be submitted along with the tender. The complete details of the members of the consortium, their share and responsibility in the Consortium etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.
- n. Once the bid is submitted, the MoU shall not be modified / altered/ terminated during the period of execution including any extension thereafter by CREDA or validity of any letter of award awarded to the said Consortium. In case, the Bidder fails to observe/comply with this stipulation, the full Security Deposit shall be liable to be forfeited.
- o. A duly notarized agreement, attested by Magistrate/Sub-Judge/ Notary Public on 100 Rupees stamp paper, of Consortium shall be executed between the 'Lead Member' and Consortium partner. This Agreement should be submitted in original with bid. **(Annexure - II)**
- p. Copy of the original Memorandum of Understanding (MoU) as stated in clause 2(m) and original copy of agreement as stated in clause 2(o) shall be submitted separately. In absence of any of each shall lead to disqualification from the bid.
- q. Duration of MoU and Consortium Agreement shall be valid during the entire execution period/ validity of letter of award and any extension thereafter/currency of the contract including the period of extension, if any.
- r. Any change/modification in constitution of Consortium Firm shall not be allowed. Members of the consortium are not allowed to enter into separate consortium(s) with other companies/organisations/bidders to participate in other bids of CREDA as long as this bid is valid.
- s. Splitting of EMD/fees among the members of Consortium shall not be permitted.
- t. Members of the Consortium Firm shall be jointly and severally liable to CREDA for execution of the project/ Work/ Assignment/ attending meetings/Review for the allocated works etc. The Consortium members shall also be liable jointly and severally for the loss, damages caused to the CREDA during the course of execution of any awarded contract or due to non-execution of the contract or part thereof. Governing Laws for Consortium Firm: The Consortium Agreement in all respect be governed by and interpreted in accordance with Indian Laws.
- u. After successful completion of work, experience certificate shall be given by CREDA in accordance with percentage of participation as mentioned in consortium agreement.

All correspondence by CREDA shall be done with the 'Lead member' of Consortium only.

3. START-UP& NEW ENTREPRENEUR BIDDERS-

- a. **START-UP :-** CREDA may consider Start-up Company registered only in area of Solar PV modules/Motor-pump Sets/Solar Motor Pump Controller/Solar Pump inverters and PV System integrator, if they produces certificate of being a Start-up entities as issued by Government of India.
NEW ENTREPRENEUR: - CREDA shall consider Companies/Proprietorship firm/Partnership firm as NEW ENTREPRENEUR which are registered in CREDA as System Integrator on or before the date of submission of Bid.
 - i. Registration certificate as System Integrator in CREDA on or before the date of submission of Bid.
 - ii. Start-up & New Entrepreneur bidders having experience in Solar Pumping Systems, Off-grid Power Plant or Grid connected Solar Power Plant will get preference in allocation of Pumps.
 - iii. Start-Up & New Entrepreneur bidders must have either valid Test Report in their name or written consent from owner (manufacturer of SPV Module/Pump/Controller only) of the test report to use such test certificate/reports for all 12 categories of pump i.e. 02, 03 & 05 HP, AC & DC, Surface & submersible as per clause 1e.

- iv. Start-Up certificate of concerned ministry, Govt. of India.
- v. Pumps may be allocated to these bidders as follows on acceptance of lowest /approved rates subject to eligibility:-
 - Bidders having nil experience in this scheme: 20 nos.
 - Bidders having 01 year experience in this scheme: 30 nos.
 - Bidders having 02 years of experience in this scheme: 50 nos.
 - Bidders having 03 years of experience in this scheme: 70 nos.
 - Bidders having 04 or more years of experience in this scheme: May be allocated as per their accessed capacity, regularity in submission of COMC Certificate, previous year's performance.
 - Previous year's performance is to be calculated on the basis of complaints disposal.
- b. EMD of **Rs. 2 Lakhs** in the form of Demand Draft/Pay Order or RTGS/NEFT.
- c. **Start -up & New Entrepreneur bidders are not allowed to Quote Prices. At the time of submitting e-Price bid, such bidders must select "Y" under regret option.**

3. BIDDING PROCESS -

For ease of accessing the e-bidding website and registration the following is to be done by bidder -

- a. Visit <https://eproc.cgstate.gov.in>
- b. Prospective bidders are requested to download, read and understand the Manuals present on the website so as to clearly understand the bid submission process.
- c. The user will be directed to e-bidding page where all information regarding registration is available along with helpline details.
- d. Technical bid and Price Bid shall be submitted online only at <https://eproc.cgstate.gov.in> latest by 05:00 PM on 27.03.2024 Bids submitted after scheduled time and date shall not be considered.

5. EMD -

- a. Earnest Money Deposit of Rs. Five Lakhs for individual & Consortium Bidders/Rs. Two Lakhs for Start-up and New entrepreneur submitted in the form of Demand Draft/Pay Order or RTGS/NEFT as mentioned in the NIT vide no. 17008/CREDA/SPV IRRIGATION PUMPS/2024-25 Date: 26.02.2024, EMD submitted in any other form e.g. **Cash/Bank Guarantee/FDR /TDR etc. shall not be accepted.**
- b. The EMD shall be released to the bidder after 05 years of successful commissioning of last pump under SSY-IX Scheme.

6. SUBMISSION OF DOCUMENTS -

- a. All the documents including technical and financial Bid should be submitted online on Chhattisgarh e-Procurement portal <https://eproc.cgstate.gov.in> as per the items mentioned in the Checklist on page no. 05 in this bid.
- b. Bidders are advised to finish all the bidding portal related activities such as registration, USB certificate/token approval, and payments etc. well in advance so as to avoid last minute difficulties during the bid submission.
- c. Bidders are also advised to make them fully aware with the bid submission mechanism to avoid last minute hassles and doubts during bid submission. CREDA shall only entertain genuine technical issues/glitches, provided that the bidder submits evidence regarding the same.
- d. Additionally, the bidders shall also have to submit all the documents, in hard copy, as required in this bid as per the checklist on page 05 on 27-03-2024 by 05:00 P.M at Head Office, CREDA. Bidders shall have to submit only the documents as per the checklist in the following envelopes:
 - Envelope A – Pre Qualification Documents (original DD should be submitted in this envelope)

- Envelope B –Financial Qualification Documents.
- Envelope C –Technical Qualification Documents.

Note: The envelopes mentioned above is only for hard copy submission and not to be confused with the envelope mentioned in checklist on Page no. 5. The documents submitted in hard copy (offline) to CREDA Head Office must match with those submitted in the Chhattisgarh e-Procurement portal. Any document other than the uploaded document shall not be considered. CREDA's tender committee will only evaluate the documents submitted on Chhattisgarh e-Procurement portal. In no case the hard copy of documents shall be evaluated, they are only for record keeping by CREDA.

7. SPECIFICATION AMENDMENTS –

- a. The specifications of SPV Modules, Pumps, Pump Controller, Structures and foundation etc. should be as specified in this bid. If any amendments are issued by CREDA in due course of time, in this context, then those shall be applicable under this bid.
- b. CREDA reserves the right to amend or change minor specifications of the entire or any component of SPV irrigation pumping system even after the issuance of sanction order as per the site conditions and demand.

8. GST & PAN -

Bidder shall have to submit copies of GST registration number and PAN numbers issued by the appropriate authority.

9. RMS –

- a. **Remote Monitoring System (RMS) of Solar Water Pumping Systems should have following minimum features or modules:**
 - i. Solar System Performance: DC Voltage, DC current, AC output Current, Power, Drive frequency, Energy, etc.
 - ii. Pump Performance: Running Hours, Water Discharge (Output), etc.
 - iii. RMS Performance: %Device Connectivity, % Data Availability, etc.
 - iv. Geo Location: Real time latitude and longitude should be captured
 - v. Events and Notifications: Faults related to Pump Operation, Solar generation, Controller/Drive faults like overload, dry run, short circuit, etc.
 - vi. Consumer Management: Name, Agriculture details, Service No. Contact Details etc.
 - vii. Asset Management: Ratings, Serial Number, Make, Model Number of Pump, Panel and Controller, Geo Location, IMEI number (of communication module)and ICCID (of SIM).
 - viii. Complaint and Ticket Management
 - ix. Consumer Mobile Application: Generation, Running Hours, Water Discharge, Complaint logging, etc.
 - x. The above data may be called by CREDA as and when needed through USB or mobile.
- b. RMS provided by all bidders should connect to State Level Solar Energy Data Management platform, which will have interface with National Level Solar Energy Data Management platform.
- c. Communication Architecture should be as per following:
 - i. **Communication Connectivity:**
 1. Pump Controller Connectivity: Communication between RMS and Pump Controller should be on UART/RS485 MODBUS RTU protocol to ensure interoperability irrespective of make and manufacturer
 2. Remote Connectivity: RMS of SWPS should be using GSM/GPRS/2G/3G/4G cellular connectivity

3. Local Connectivity: Ethernet/Bluetooth/Wi-Fi connectivity to configure parameters, notifications, communication interval, set points etc. or to retrieve locally stored data.
4. Sensor Connectivity: RMS should have provision for at least two Analog/Digital inputs with 0.1% accuracy to address the requirement of local sensors connectivity if required by SIA/Consumer for applications such as irradiation, flow meter for water discharge, moisture sensor for micro irrigation, etc.
5. RMS should have provision to give remote On/Off command to pump through farmer mobile app.

ii. Communication Modes:

1. Push Data on Event/Notification: such as pump on, pump off, protection operated, etc.
2. Push Data Periodically: important parameters of solar pump (as mentioned above) should be pushed to central server on configurable interval. Interval should be configurable for 60 sec or less.
3. Command on Demand: It should be possible to send commands via GSM or GPRS to RMS either to control pump operations or to update configuration.

iii. Communication Protocol: RMS should provide data on MQTT protocol to establish communication with thousands of systems.

iv. Security:

1. Communication between RMS and Server should be secured and encrypted using TLS/SSL/X.509 certificate etc.
2. As a part of IT protocol, Authentication and Authorization should be implemented using token/password mechanism

v. Message Format: RMS should provide data in a JSON message format as required by respective SNA

vi. Data Storage: In case of unavailability of cellular network, RMS should store data locally and on availability of network it should push data to central Server. Local data storage should be possible for at least five years in case of unavailability of cellular network.

vii. Firmware Over-The-Air: RMUs should have Firmware Over-The-Air (FOTA) feature. Through FOTA one should be able to update – Display, Data logging interval, IP of the server, APN, Data logging parameters etc. Software updating should be possible with 2G and even without the presence of SD card. Software updating process and/or failure to update software shouldn't disrupt pumping operations.

10. THE BID -

- a. The Pre-Qualification, Technical-Financial Qualification Documents and Price Bid, other related documents must be uploaded in the portal i.e. <https://eproc.cgstate.gov.in> from 07.03.2024, 05:00 PM onwards till 27.03.2024, up to 05:00 PM.
- b. Nobody is authorized to receive or grant receipt for Bid delivered on behalf of CREDA. Bid received through any other mode shall not be considered and shall be rejected.

11. ANALYSIS OF RATE -

- a. Bidder should quote their rates considering variation of site conditions and all other factors in price of different components and keeping the quantum and quality of work in mind. Benchmark cost is attached here with **Annexure - III**
- b. If the successful bid is unbalanced in relation to the benchmark cost as stated in **Annexure-III** by more than **10%**, the successful bidder shall have to provide Additional Performance Security (APS) to the extent of difference of **90%** of

benchmark cost and rates quoted by the successful bidder for total allocable quantity in such categories in which he has submitted unbalanced bid, in the form of Demand Draft/RTGS issued by approved scheduled bank in favour of CREDA.

- c. The Additional Performance Security (APS) shall be retained by CREDA and the same shall be returned after successful Completion of allocated work. Those other bidders who accept the L1 Rates including start-up and new entrepreneur, are also required to submit Additional performance security for allocated work.
- d. Selection of L-1 Rates: - The Successful bidder who found to be L1 (as manner described in this tender document, Clause no. – 34 of Section-II), shall be offered allocated quantity of pumps (as described in this tender document, Clause no.-35of Section-II). L1 bidder shall have to accept the offer of CREDA within 10 days along with laid down “ADDITIONAL PERFORMANCE SECURITY”, this APS amount of complete allocated quantity shall be submitted at the time of Agreement. The amount of APS will be communicated to L1 bidder along with acceptance letter. Highly unbalanced rate shall not be considered while deciding final approved rates.
- e. If L1 bidder refuses to accept the offer and to deposit intended APS within the prescribed time, then his bid will be rejected by sanctioning authority and earnest money shall be forfeited and blacklisted for 2 years and debarred to participate in any tender and any activity of CREDA till further orders.
- f. In case L1 bidder accept the offer and deposit the APS, L1 rates of the pumps will be fixed for rest of the successful bidders. Now other bidder shall be offered rest quantity of pumps (as prescribed in this tender document, Clause No.- 36 of Section-II).
- g. In Case L1 bidder refuse to accept the offer and doesn't deposit prescribed APS, offer letter shall be sent to the L2 bidder on L2 rates. Same process shall be repeated till the final rates are fixed.
- h. By the process mentioned above the final rates will be fixed and shall be offered to other successful bidders.
- i. The APS Shall be submitted by other successful bidder before Sanction of allocated pump.
- j. If the bidder fails to complete the work or left the work incomplete, this Additional Performance Security (APS), S.D. and EMD shall be forfeited by the CREDA, the agreement shall be terminated and bidder shall be blacklisted and debarred to participate in any tender and any activity of CREDA till further orders.
- k. Start-up bidders will also be required to submit the Additional performance security (APS).
- l. The bidders will be allowed to quote rates up to 10 % high with respect to benchmark cost. Other bidders who have quoted rates higher than 10% w.r.t. benchmark will not be allotted any work.

12. **REGISTRATION OF BIDDER -**

Bids shall be rejected of all those bidders who are not registered as system integrator with CREDA on or before the date of submission of bid.

13. **VALIDITY OF THE BID-**

Full descriptive particulars and complete specifications should accompany the offer. Offers should be kept open for acceptance for at least **180 days** from the date of opening.

After finalization of this tender the approved rates shall be valid till 31.03.2026 from the date of award; however CREDA shall have liberty to increase or decrease this validity if needed.

14. **TERMS & CONDITIONS -**

- a. The terms, conditions and specifications mentioned in tender document shall be binding on the bidders and no condition or stipulation contrary to the conditions shall be acceptable.

It may please be noted that the bidders who do not accept terms and conditions

stipulated in this tender documents, their offers shall be liable to be rejected out-rightly without assigning any reason whatsoever.

- b. Each page of tender document & enclosures shall be signed by the bidder and seal affixed. All the pages of the documents issued must be submitted along with the technical offer. In case of any corrections / alterations in the tender, the bidder should attest the same; otherwise tenders may not be considered. In case of Consortium both the partners shall sign & seal.
- c. Bidders are also instructed to submit their tenders in properly arranged manner (with index, proper paging and with flags on important documents). Incomplete, lose, conditional or improper arranged tenders will not be accepted.

15. CREDA RESERVES THE RIGHT -

- a. To reject or accept any or all Bids fully or partly without assigning any reason on the grounds considered advantageous to CREDA, whether it is the lowest Bid or not.
- b. To split the quantities against the Bid further for the same items/work. No reason will be assigned by CREDA for this and will be binding on the Bidders.
- c. To increase or decrease the aggregate quantities as per discretion or circumstances.
- d. Due to large quantum of work & limitation of the time period for completion of the work CREDA may, if required, take consent from other eligible Bidders if they agree to work on rates approved by CREDA.
- e. CREDA may undergo agreement with those eligible Bidders who give consent to work on rates standardized by CREDA and may allocate work to them. Rates approved through this Bid may be standardized for all eligible Bids to work in year 2024-25 & 2025-26 and shall be valid till 31-03-2026. However CREDA reserves right to curtail or extend this period.
- f. CREDA reserves the right to amend or change minor specifications of the entire or any component of SPV irrigation pumping system even after the issuance of sanction order as per the site conditions and demand.
- g. Before opening the price bid CREDA will evaluate the bid of any bidder on the basis of last 05 years performance and quality of work assured with proper Operation and maintenance (O&M) of the project.
- h. In case of any quality and/or Operation and maintenance issue found, CREDA shall not consider the bid of respective bidder.

16. COMMUNICATIONS -

- a. All the communication between Bidder and CREDA shall be in writing. Notice sent in writing or by other Electronic means shall be effective on confirmation of the transmission. Notice sent by registered post or speed post shall be effective of delivery or at expiry of normal delivery period as under taken by Postal Service.
- b. Offers through Telegraph/Fax/Emails/Post/Courier or open offers etc. received shall be summarily rejected.

17. BID DOCUMENT FEE AND EARNEST MONEY DEPOSIT -

- a. Each Bidder should submit Bid Document Fee and earnest money in the form of Demand Draft/Pay Order or RTGS/NEFT. Each bidder should submit Tender Document Fee and Earnest Money Deposit (EMD) in the form of RTGS/NEFT as single transaction only as mentioned in the TENDER No. **153398/SPV IRRIGATION PUMPS/2024-25 Dated 26.02.2024.**
- b. **Tender Document Fee and EMD submitted in any other form e.g. Cash/Bank Guarantee/FDR/TDR etc. shall not be accepted.**

18. SUBMISSION / DISPLAY OF SAMPLES -

- a. Prospective bidders are allowed to provide Original Manufacturer Authorization Form (MAF) in manufacturer's letter head issued for this tender for all the major components of

SPV irrigation pumping systems & Consent for Test Report as per clause-1e only from registered manufacturer/vendor in CREDA at the time of sample display as well as in the technical bid, if the components as per the test report is already submitted by manufacturer/vendor.

- b. Owner (manufacturer of SPV Module/Pump/Controller only) must have to submit the original test report to CREDA.
- c. In case there is any component not displayed by Manufacturers/Vendors, bidders shall have to display these samples separately and also submit original Test Report to CREDA for the same.
- d. CREDA shall examine the samples displayed either by bidder himself or by manufacturers and issue Sample Verification certificate to individual bidders. The bidders shall have to mandatorily upload this certificate in addition to manufacturer authorization in the e-technical bid.
- e. If Bidder/ Owner of the Test Report provides any false/fake information or documents, then they shall be debarred/blacklisted up to 03 years for participation of any activity of CREDA and their EMD will be forfeited and registration in CREDA shall be cancelled.

19. PRE-BID QUERIES -

- a. All suggestions, doubts, confusion, request, queries etc., shall have to be presented to CREDA in writing or through email at credatendercell@gmail.com on or before 05:00 PM 06.03.2024. After that any representation in this regard shall not be considered.
- b. The purpose of pre-bid queries is to clarify issues and questions related to this tender that can be raised at that stage. Any amendments in the bid documents which may become necessary as a result of pre-bid queries received shall be part of original Bid document and communicated through corrigendum on CREDA website (www.creda.co.in) and on Chhattisgarh e-Procurement Portal <https://eproc.cgstate.gov.in>

20. TECHNICAL CRITERIA -

- a. Bidder must have either valid Test Report in his name or written consent from owner (hereinafter owner means manufacturer of SPV Module/Pump/Controller only) of the test report to use such test certificate/reports for all 12 categories of pump i.e. 02, 03 & 05 HP, AC & DC, Surface & Submersible Such owner of the valid Test Report must have to provide the Original Test Report to CREDA, on or before the date of sample display, for which they are providing consent or using the same.

In case, the bidder, in future wishes to change components such as module and/or pump/controller OR the system configuration as a whole, then they must take prior approval from CREDA in addition to the submission of valid original test report of such a configuration along with written consent of owner (manufacturer of SPV Module/Pump/Controller only). CREDA reserves the right to accept or reject the modified configuration of SPV Irrigation Pumps.

- b. Bidders who are debarred from business by Govt. /Govt. Agency in any state would not be eligible to participate in this bid. A self-declaration should be submitted by the bidder to this effect, failing which bid shall be rejected.
- c. The Bidder should have sufficient technically qualified and well-experienced manpower for execution of the project and after sales service of the systems. These details may be called by CREDA and in case there is any deficiency found the Bidder may be debarred.

21. FORFEITURE OF EARNEST MONEY DEPOSIT -

It should be clearly understood that in the event of bidder failing to enter into the agreement in the prescribed format on their quoted rates and also fails to execute assigned works under any Scheme of CREDA, within stipulated time, if he is so communicated within the

validity period of the offer, the full amount of earnest money will be forfeited and bidder shall be debarred from future business with CREDA. CREDA's decision in this regard will be final and binding on the bidder.

22. PRICE OF SUPPLY OF SOLAR IRRIGATION PUMPING SYSTEMS WITH INSTALLATION, COMMISSIONING AND TESTING OF SOLAR PUMP SET -

- a. The Price must be quoted for each category (including all models) of solar irrigation pumping system with Supply, installation, commissioning and testing, MMS, Lightening arrester, 02-nos. earthing kit, Civil works and all other required BOS like HDPE Pipe, Suction Pipe, Rope wire, Clamp, Bore cap, Cables, Suitable Nut Bolts etc. with 5 years system warranty, insurance and CMC.

The GST shall be paid extra as per prevailing rate (**GST notification no. 24/2018-Central Tax (Rate) dated 31.12.2018 & notification no. 8/2021-Central Tax (Rate) dated 30.09.2021.**) The prices shall be filled exactly as per **e-Price Bid enclosed.**

- b. HDPE pipe and cables should be as per depth of bore/requirement of site but **it shall be minimum 50 metres for 02 HP Pumps, minimum 70 meters for 03 HP pumps and minimum 100 metres for 05 HP Pumps.**
- c. Any change in GST shall be applicable during the period of contract.
- d. In this regard if there is any change in the composition ratio of goods and services by any Authority/ Courts, same shall be applicable.
- e. **There shall be no escalation of rates under any circumstances.**

23. ENGINEERING DOCUMENT -

Bidder will have to submit Engineering Documents with technical details, drawings, Specifications of components and make etc. to CREDA for approval, as and when asked by CREDA. Works may only be started out only after approval of the Engineering Document and their samples.

24. SAMPLES -

If required, samples of the components shall have to be submitted to the CREDA in prescribed manner after receipt of notification of CREDA for testing, verification purpose without any additional cost.

25. INSPECTION -

CREDA reserves right to inspect the material at Godowns /Temporary Stores before dispatch and also at works sites.

26. MANDATORY DEDUCTION -

- i. CREDA shall deduct various statutory taxes like IT TDS, GST TDS and various cess on the payment made by the beneficiaries as contribution to SI's and subsidy payable by CREDA i.e. total cost of system.
- ii. **WCT-** This deduction will be made at the rate of 01% on the total cost (including beneficiary share) of the system.
- iii. **Royalty-** In the absence of Royalty clearance certificate royalty will be deducted at the market rate on the consumption of minor minerals like sand and aggregates.

27. MANDATORY EMPLOYMENT-

Qualified diploma engineer with minimum wage rupees 15000/- per month for works above rupees 20 lakhs and Qualified graduate engineer with minimum wage Rupees 25000/- per month for works above Rupees 01 crore shall have to be deployed by the System Integrator. (As per CG Govt.'s order no. F7-17/2020/1-6 Dated 02.12.2020)

28. TAX OBLIGATIONS -

CREDA shall deduct TDS for Income Tax, applicable cess on Civil Work etc. under various acts and deposited with the appropriate authority.

29. JURISDICTION OF THE COURT -

Any dispute arising out of the contract shall be subject to and will be resolved as per the decision of C.E.O. , CREDA and if the matter still unresolved then further matter can be put forth before Hon'ble High Court of Chhattisgarh.

30. CORRUPTOR FRAUDULENT PRACTICES-

- a. The CREDA requires the Bidder/SI to strictly observe the laws against fraud and corruption in force in India, namely, Prevention of Corruption Act, 1988.
- b. It is required that each Bidder/SI (including their respective officers, employees and Sub-contractors) adhere to the highest ethical standards, and report to the Government/ Department all suspected acts of fraud or corruption or coercion or collusion of which it has knowledge or become aware, during the tendering process and throughout the negotiation or award of a contract.

SECTION - 2

GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS-

In writing General Conditions of Contract, the specifications and bill of quantity, the following words shall have the meanings hereby indicated, unless there is something in the subject matter or content inconsistent with the subject.

- a. **"MNRE"** shall mean the Ministry of New and Renewable energy, Govt. of India.
- b. **"CREDA"** shall mean the Chhattisgarh State Renewable Energy Development Agency which is a state nodal agency of MNRE, represented through the Superintending Engineer.
- c. **"Work"** shall mean any work entrusted to the bidder as mentioned in the scope of work and sanction order.
- d. The **"Engineer in charge"** shall mean the Engineer or Engineers authorized by CREDA for the purpose of this contract. Inspecting Authority shall mean any Engineering person or personnel authorized by CREDA to supervise and inspect the erection of the SPV irrigation pump.
- e. **"The Eligible SI/Bidder"** shall mean the bidder awarded with the contract or their successors and permitted assigns. Contract Price shall mean the sum named in or calculated in accordance with the provisions of the contract as the contract price. General Conditions shall mean the General conditions of Contract.
- f. **"Specifications"** shall mean the specifications annexed to these General Conditions of contract and shall include the schedules and drawings attached thereto or issued to the eligible SI from time to time, as well as all samples and pattern, if any,
- g. **"Month"** shall mean calendar month. "Writing" shall include any manuscript, typewritten, printed or other statement reproduced in any visible form whether under seal or written by hand.
- h. **"Bidder of Chhattisgarh State"** shall mean Bidder registered as a Pvt. Ltd. / Ltd. / Partnership / Proprietorship firm incorporated and/or worked in the State of Chhattisgarh (Under CREDA Scheme) consistently for five years shall be treated as Bidder of Chhattisgarh.
- i. **"Site"** (where pumps to be installed) shall mean the agricultural land, being used for agriculture purpose only.
- j. **"Beneficiary"** shall mean small and marginal farmer only. Hereinafter Farmer means whose profession is agriculture only

2. PROOF OF MANUFACTURER -

Those bidders who are also manufacturers of an important component of SPV irrigation pump such as SPV Modules, Surface or Submersible Pump, VFD or Structures of SPV irrigation Pumps shall have to submit proof of their manufacturing unit, appropriate registration documents and list of Machineries and Equipment's.

3. CONTRACT DOCUMENT-

The term "Contract" shall mean and include the General conditions, specifications, schedules, drawings and sanction orders etc., issued against the contract schedule of price or their final general conditions, any special conditions applying to the particular contract specification and drawings and agreement to be entered into. Terms and conditions not herein defined shall have the same meaning as are assigned to them in the Indian contract Act or any other Act in vogue or by any person of common knowledge and prudence.

4. MANNER OF EXECUTION -

- a. Execution of work shall be carried out under Saur Sujla Scheme of CREDA in an approved manner as outlined in the technical specifications or where not outlined, in accordance with desired Specifications laid down by CREDA, to the reasonable

satisfaction of the Engineer.

- b.** Successful Bidder hereinafter called the **SI** (System Integrator).
- i.** The eligible SI shall conduct a detailed survey of site (agriculture land) and submit application of beneficiary, who shall be small and marginal farmers only, along with Processing Fee, after due verification and signature by Deputy Director of Agriculture. All necessary documents and survey details shall have to be submitted in concerned District Office of CREDA in prescribed manner.
 - ii.** System integrator and Engineer-in-Charge of District Office of CREDA after getting consent from beneficiary shall examine these applications, after satisfaction will decide the type of pump like AC / DC and Submersible or Surface type, for beneficiary. SI should take permissions from CREDA. Engineer-in-charge may visit the site if he/she is not satisfied with survey report.
 - iii.** After satisfaction Engineer-in-charge will forward the application to Executive Engineer of concerned Regional office of CREDA for approval.
 - iv.** Executive Engineer of concerned Regional office of CREDA shall issue the sanction order of subsidy to eligible SI for installation of SPV irrigation pump.
 - v.** HO CREDA will be final authority to approve the type of pump and set of combination of pump.
 - vi.** System Integrator shall take Sanction within 10 days after receiving application from CREDA/ Agriculture Dept. The SI shall start work within **15 days** after the date of sanction of work.
 - vii.** All the materials required for the installation of SPV irrigation pumps as per Sanction Order issued shall be kept at site in the custody of the SI. CREDA shall not be responsible for any loss or damage of any material during the installation.
 - viii.** All the electrical works should be done as per various provisions of Indian Electricity Act. The persons engaged for carrying out electrical works should have a valid **B-class** license or above issued by licensing board of Chhattisgarh.
 - ix.** SI will collect beneficiary contribution at rate as notified by the State Govt. and processing fee (fixed by Government) directly from beneficiaries. The processing fees will be submitted in CREDA with the application. After installation joint inspection will be done in presence of beneficiary, SI and CREDA and after successful commissioning of SPV irrigation pumps and its approval from CREDA a JCC will be signed and the subsidy claim will be forwarded for payments as per guidelines and procedures of CREDA. SI will retain the beneficiary's contribution, but the same amount would be deducted from quoted price while making final payment.
 - x.** The SI must complete allocated work as schedule mentioned in the sanction order.
- c.** All SPV Irrigation pumps shall be installed on agriculture land for the irrigation purpose only. Eligible beneficiary shall be small and marginal farmer only. Farmer means hereinafter whose profession is agriculture only. It is the responsibility of SI that they should not submit the application of beneficiaries who are not eligible and no payment shall be given for such installations.

5. VARIATIONS, ADDITIONS & OMISSIONS -

CREDA shall have the right to alter, amend, omit, split or otherwise vary the quantum of work, by notice in writing to the SI. The eligible SI shall carry out such variation in accordance with the rates specified in the contract so far as they may apply and where such rates are not available; those will be mutually agreed between CREDA and the eligible SI.

6. INSPECTION -

- a.** The Engineer-in-Charge or his authorized representative(s) shall be entitled at all reasonable times to inspect and supervise and test during installation and

commissioning. Such inspection will not relieve the eligible SI from their obligations under this contract.

- b. Material can be inspected before dispatch or in transit by the authorized representatives of CREDA at the factory / godown at the cost of the eligible SI, if desired by CREDA.
- c. CREDA will undertake real time performance and quality test of randomly selected solar pumping system and components during the course of execution as per CREDA specifications and guidelines to ensure quality and performance of pump and components.

7. **COMPLETION OF WORK -**

- a. Time being the essence of contract, the installation of the SPV irrigation pumps shall be completed within the time schedule prescribed in the Sanction order.
- b. After finalizing of rates and successful bidder, approved rates along with draft agreement will be sent to all successful bidders for acceptance, they will have to provide Acceptance within 10 days of issuance of draft agreement.
- c. CREDA will issue "LETTER OF INTENT" after execution of agreement, to those bidders who accept the approved rates.
- d. After issuance of "LOI", System integrator will start Survey, Selection of beneficiary, installation & Commissioning and all other works within the time as given in above Point "A".
- e. Detailed Manner of execution is mentioned in Section-2, Clause 4 of this tender document.

8. **ELIGIBLE SYSTEM INTEGRATOR'S LIABILITY IN CASE OF DEFAULT-**

CREDA, may, by written notice of default to the eligible SI, terminate the contract in circumstances detailed hereunder -

- a. If in the opinion of the CREDA, the eligible SI fails to complete the work within the time specified in the sanction order or within the period for which extension has been granted by CREDA to the eligible SI.
- b. If in the opinion of CREDA, the eligible SI fails to comply with any of the provisions of this contract.
- c. In the event of CREDA terminating the contract in whole or in part as provided in paragraph (a) above, CREDA reserves the right to engage another eligible SI or agency upon such terms and in such a manner as it may deem appropriate and the eligible SI shall be liable to CREDA for any additional costs due to the cost inflation in delayed period or any losses caused to CREDA as may be required for the completion of erection of the SPV irrigation pumps and or for penalty as defined under this tender document until such reasonable time as may be required for the final completion of the work.
- d. If the original bidder does not complete the work in stipulated time and delays the completion then penalty may be imposed on original bidder for the delayed period to compensate the inflation hike in material cost. So that no extra burden incurred on the next bidder to whom the work will be re-allotted.
- e. In the event CREDA does not terminate the contract as provided in paragraph (a) the eligible SI shall continue performance of the contract, in which case he shall be liable to CREDA for penalty for delay as set out in this tender document until the work is completed.

9. **FORCE MAJEURE -**

The eligible SI shall not be liable for any penalty for delay or for failure to perform the contract for reasons of FORCE MAJEURE such as act of God, acts of public, enemy, LWE

problems, acts of government, cyclone, fires, floods, epidemics/pandemics, quarantine restrictions / lockdown, strikes, freight embargoes provided that if SI shall submit delay notice with appropriate cause of delay to the CREDA in writing within **15 days** of force majeure. CREDA shall verify the facts and may grant such extension as facts justify. Delay in supply of any accessories of Solar Pumps etc. by the related vendors, to whom the bidder has placed order, shall also not be treated as force majeure.

10. REJECTION OF WORKS -

In the event of any of the material supplied/work done by the eligible SI is found defective in material or workmanship or otherwise not in conformity with the requirements of this contract specifications, CREDA shall either reject the material and/or work and advise the eligible SI to rectify the same. **CREDA may impose penalty for such rejection up to the 200% cost of the entire system. Habitual/repeated offenders shall be black listed/debarred to participate in the any Tender/ Activity of CREDA till further orders.** The eligible SI on receipt of such notices shall rectify or replace the defective material and rectify the work free of cost. If the eligible SI fails to do so CREDA may -

- a. At its option replace or rectify such defective materials and/or work and recover the extra cost so involved from the eligible SI plus **15%** service charges of the cost of such rectification, from the eligible SI and/ or terminate the contract for balance work/supplies with enforcement of penalty **as stated above.**
- b. Defective materials/workmanship will not be accepted under any conditions and shall be rejected outright without compensation. The eligible SI shall be liable for any loss/damage sustained by CREDA due to defective work **with enforcement of penalty as stated above.**

11. EXTENSION OF THE TIME -

If the completion of installation is delayed due to any reason beyond the control of the eligible SI, the eligible SI shall without delay give notice to the CREDA in writing of his claim for an extension of time. CREDA on receipt of such notice may or may not agree to extend the contract/delivery date of the Solar System as may be reasonable but without prejudice to other terms and conditions of the contract.

Chief Executive Officer, CREDA has full right for unconditional time extension.

12. MAKES OF EQUIPMENTS TO BE USED IN THE WORK -

- a. The Solar Modules, Solar Pumps, Controller & Other BOS shall be made in India.
- b. The eligible SI has to ensure that equipment's as per Technical Requirements of guidelines of CREDA as complied with. The eligible SI has also to ensure that he will use only components of approved vendors of CREDA. The material/works for which CREDA or BSI or ISI specification is not available, engineer-in-charge of the works will examine and approve the material/works, preferably of all makes on which CREDA has report of satisfactory performance.
- c. Manufacturer Authorization Form (MAF) on manufacturer's letter head for Solar Pump/Module/Pump Controller/Structure which the bidder is intending to use in the installation shall be submitted at the time of sample submission and the same shall be submitted with technical bid also.
- d. The SI shall ensure that all the major components of the SPV Irrigation pumps such as Solar Modules, Solar Pump, Pump Controller, and Structure are procured from registered vendors of CREDA of respective components.

13. WARRANTY PERIOD AND POST INSTALLATION SERVICES -

- a. The work done/material supplied by the eligible SI should be warranted for satisfactory operation and against any defect in material and workmanship including Pumps, Controllers and other balance of equipment's, at least for a period of **5(five)**

- years**, from the date of commissioning of the SPV Irrigation Pumps including other works as per scope of work.
- b. Warrantee on SPV Modules shall be for **10 (ten) years** from the date of commissioning of the SPV Irrigation Pumps must be warranted for their output peak watt capacity, which should not be less than **90%** at the end of **10 years** and not less than **80%** at the end of **25 years**.
- c. The above warrantee certificates shall be furnished to the CREDA for approval. Any defect noticed during this period should be rectified by the supplier free of cost upon written notice from CREDA provided such defects may be due to bad workmanship or bad materials used.
- d. The warrantee period shall be extended by the period during which the plant remains non-operative due to reasons within control of the eligible SIs.
- e. This warrantee must be an unconditional onsite warrantee and the eligible SI will have to replace the defective material within **7days** positively from the date of information given to him.
- f. Care should necessarily be taken to make the SPV irrigation pumps operational, once the reporting of the fault/non-operational status is done, within **07 days**. If the SPV irrigation pump is not made operational within **15 days**, the rectification/replacement (keeping the same configuration in consideration) will be done by CREDA at the risk and cost of system integrator, after rectification / replacement the warranty clause will remain compliable as per tender conditions and if the system integrator fails to rectify the faulty system within 30 days then this may lead to blacklisting and debarment of SI from all the activities of CREDA for 03 Years.
- g. System Integrators shall have to establish their service stations in the allocated area and shall have to keep sufficient quantity of spares and man power to ensure proper service network for taking care of smooth functioning of SPV irrigation pumps installed by them and it is essential to keep spares at least 10 % of installed pumps which is to be submitted to District/ Regional office of CREDA after Completion of allotted work. SI shall have to give a toll free number to register complaints.
- h. **Comprehensive Maintenance Contract (CMC)-**
- i. The Contractor should provide 5 years comprehensive maintenance of the Solar Photovoltaic Water pumping system, which shall include corrective maintenance as well as routine service visits during CMC period.
- ii. CMC shall be in line with scheme guidelines and its amendment (if any). Apart from the monitoring, regular periodical maintenance of system has to be done. The report has to submit on online portal of O&M CREDA in prescribed format (Annexure-XI) along with signatures of both service Engineer/System integrator and concerned district officer of CREDA. Maintenance report in digital form to be sent to Scheme implementing agency (SIA) and also uploaded on the portal of SIA whenever such portal or mobile app is made available.
- iii. The deputed personnel shall be in a position to check and test all the equipment regularly, so that preventive actions, if any, could be taken well in advance to save any equipment from damage.
- iv. Normal and preventive maintenance of the Solar Photovoltaic Water pumping systems such as cleaning of module surface, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing of motor pump sets, changing filters etc. are also the duties of the deputed personnel during maintenance visits.
- v. During the operation and maintenance period of the Solar Photovoltaic Water Pumping Systems, if there is any loss or damage of any component due to miss

management or miss handling or due to any other reasons pertaining to the deputed personnel by empanelled vendor, what-so-ever, the supplier shall be responsible for immediate replacement or rectification. The damaged component may be repaired or replaced by a new component.

- vi. The maintenance shall include replacement of any component irrespective of whether the defect was a manufacturing defect or due to wear and tear.

14. TERMS OF PAYMENT -

The following terms of payment shall apply for the tender -

- a. **90%** of the total billed (Eligible Subsidy) amount as per the sanction order after satisfactory supply, installation, and commissioning & performance test of the SPV irrigation pumps at site with proper handing over.
- b. Balance **10%** of total billed (Eligible Subsidy) amount shall be retained by CREDA as Security Deposit for a period of **60 months** from date of commissioning.

15. PENALTY FOR DELAY IN COMPLETION OF CONTRACT-

- a. If the eligible SI fails to complete the assigned work within the schedule time specified in the Work Order or any extension granted there to, CREDA will recover from the SI as penalty of upto two percent (2%) per month of the system price excluding GST for every delayed system. For this purpose, the date of taking over shall be reckoned as the date of completion. The total penalty shall not exceed 10% (Ten percent) of the cost in 05 months. The eligible SI shall not be liable for any penalty for delay or for failure to perform the contract for reasons of FORCE MAJEURE.
- b. Review of the progress of installation of SPV Irrigation pump allocated to SIs shall be done time to time by CREDA and if the progress of installation is found unsatisfactory, the allocation of entire remaining uninstalled pumps or their part of can be re-allocated to other SI as per discretion of CREDA.
- c. In case of not completion of work by System Integrator after maximum penalty period i.e. 05 months from last date of completion. The work shall be allocated to other System Integrator as describe in above point 15 b.

In this case the escalated cost of the system shall be recovered from S.D. and/or EMD in all project of SI failing compliance of allocated work within stipulated and extended time for completion of work.

16. SECURITY DEPOSIT (SD) -

- a. **10% of the total cost (mentioned above) shall be retained as SD during the five years of warrantee period. No interest shall be payable on the SD.**
- b. Period for which SD is to be retained may be extended in case the warrantee period is extended due to non-performance of the system.
- c. All costs of damages and delays for which the eligible SI is liable to the CREDA will be deducted from any money due to the eligible SI including the security deposit of any project under CREDA.

17. INSURANCE -

- a. The eligible SI shall arrange insurance coverage for the materials and SPV irrigation pumping system at his/ beneficiary's custody for the work under execution, successful commissioning and subsequent handover to the beneficiary. The eligible SI shall take up insurance or such other measures for the manpower so as to cover the claim for damage arising under workmen's compensation Act and other applicable State/Central laws. CREDA shall not bear any responsibility on this account.
- b. Eligible SI shall also arrange for insurance coverage for complete SPV irrigation pumping system during CMC period i.e. for **05 year** from the date of installation, at single instance (5 years insurance premium must be paid at the time of insurance).

Insurance must cover for all the damages including natural calamities and theft of SPV irrigation pumping system.

- c. In case of such incidence, SI must assist and co-ordinate with respective beneficiary to lodge F.I.R. and shall collect all documents required to claim the insurance and should replace the lost/damaged part, in anticipation of receipt of insurance claim, within **7 days** from the date of intimation of lost/damage by beneficiary or any other source (even during the visit of SIs for CMC) to respective SI, failing which the rectification/replacement (keeping the same configuration in consideration) will be done by CREDA at the risk and cost of system integrator. However, after rectification/replacement, the warranty clause will remain compliant as per tender conditions. No claim in this regard will be entertained.

Note: All the responsibilities regarding Insurance of Solar Pumping System including lodging F.I.R. and other essential documentation to get Claim against insurance shall be the part of System Integrator.

18. PENALTY DUE FROM THE ELIGIBLE SI -

All costs of damages and delays for which the eligible SI is liable to the CREDA will be deducted from any money due to the eligible SI including the security deposit of any project under CREDA.

19. RESPONSIBILITY OF ELIGIBLE SI -

Notwithstanding anything mentioned in the specifications of subsequent approval or acceptance of the SPV irrigation pump by CREDA, if any, the ultimate responsibility for satisfactory performance of the entrusted work shall rest with the eligible SI. If in any case the eligible SI does not complete the work as per the sanction orders issued to them then CREDA may take over the task & complete the project at the risk and cost of eligible SI.

20. RESPONSIBILITY TO RECTIFY THE LOSS AND DAMAGE -

If any loss or damage occurs to the work or any part thereof or materials/plant/equipment's for incorporation therein the period for which the eligible SI is responsible for the cause thereof or from any cause whatsoever, the eligible SI shall at his own cost rectify/replace such loss or damage, so that the permanent work conforms in every respect with the provision of the contract to the satisfaction of the Engineer. The eligible SI shall also be liable for any loss or damage to the work/equipment's occasioned by him in course of any operation carried out to him during performing the contract.

21. RESPONSIBILITY TOWARDS THE WORKMAN OR OUTSIDERS -

- a. **The eligible SI shall have to take insurance coverage from any authorized Insurance Company against Workmen compensation due under Workmen Compensation Act and submit copy of the insurance document before issuance of Sanction order.**
- b. The eligible SI shall ensure all safety measures during execution and repairs of the work. CREDA, will, in no case be responsible for any accident fatal or non-fatal, caused to any workman or outsider in course of transport or execution or repairs of work.
- c. All the expenditure including treatment or compensation will be entirely borne by the eligible SIs. The eligible SI shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations.
- d. CREDA shall have all rights to deduct such claims of payments from SI in case of complaints of such violations.

22. NON-ASSIGNMENTS -

- a. The Eligible bidder shall not assign or transfer the work orders issued as per this contract or any part thereof without the prior approval of CREDA. This can be allowed only as per Policy of CREDA.
- b. If eligible bidder transfer/ assign/ Sublet full or any part of work allotted to him without prior permission from CREDA in writing to any third party then the bidder shall be liable to debar/ blacklisted from any Bid/ Activities of CREDA till further order.
- c. If in any stage, any dispute or irregularity found in subcontracting the work, this

sublet/subcontract will be terminated from the immediate effect.

23. **CERTIFICATES NOT TO AFFECT RIGHTS OF CREDA -**

The issuance of any certificate by CREDA or any extension of time granted by CREDA shall not prejudice the rights of CREDA in terms of the contract nor shall they relieve the eligible SI of his obligations for due performance of the contract.

24. **SETTLEMENT OF DISPUTES -**

Except as otherwise specifically provided in the contract, all disputes concerning questions of fact arising under the contract shall be decided by the Chief Executive Officer (CEO), CREDA provided a written appeal by the eligible SI is made to CREDA. The decision of the CEO, CREDA shall be final and binding to the all concerns.

25. **LAWS GOVERNING CONTRACT -**

The contract shall be constituted according to and subject to the Laws of India and jurisdiction of the High Court of Bilaspur, Chhattisgarh.

26. **LANGUAGE AND MEASURES -**

All documents pertaining to the Contract including specifications, schedules, notice correspondences, operating and maintenance instructions, drawings or any other writings shall be written in English / Hindi language. The metric system of measurement shall be used in this contract.

27. **CORRESPONDENCE -**

- a. Any notice to the eligible SI under the terms of the contract shall be served by registered mail to the registered office of the eligible SI or by hand to the authorized local representative of the eligible SI and copy by post to the eligible SI's principal place of business.
- b. Any notice to CREDA shall be served to the Superintending Engineer, CREDA Raipur in the same manner.

28. **SECRECY -**

The eligible SI shall treat the details of the specifications and other documents as private and confidential and they shall not be reproduced without written authorization from CREDA.

29. **AGREEMENT -**

The successful eligible SI shall have to enter into an agreement with the CREDA in the approved contract agreement form within **10 days** of the receipt of call from CREDA.

30. **DECLARATION OF CONFLICT OF INTEREST -**

- a. Any regular employee working or worked on basis of contract or through placement agency cannot work directly or indirectly in any scheme of CREDA. If such a person is found working with any SI then, such SI shall be blacklisted for three years.
- b. The bidder shall not be permitted to Bid for the work if the section of HO CREDA (responsible for implementation of work) in which his near relative is posted. Furthermore, the successful bidder shall not be given work in the district in which his near relative is posted. The bidder shall also intimate the names of his near relatives working in CREDA. Bidder shall also intimate the name of persons who are working with him in any capacity and who are near relatives to any employee in CREDA. Any breach of this condition by SI would render himself liable to be blacklisted for three years and removed from approved list of SIs in CREDA.

Note: - By the term near relatives are meant Wife, Husband, Parents and son, Brother, Sister, Brother-in-law, Father-in-law, and Mother-in-law etc.

- c. Bidder must produce an affidavit (Annexure – IV) stating the names of retired/removed employee of CREDA (if any) in his employment who retired /removed within last two

years, if in case there is no such person in his employment, his affidavit should clearly state this fact. This affidavit is mandatory, if it is not produced along with the bid, the bid shall be rejected.

31. CAPACITY ASSESMENT OF THE BIDDER -

The SI's maximum capacity for installation of solar irrigation pumps (in nos.) under this bid shall be assessed as –

- a. No. of SPV Irrigation Pumps of capacity above 3HP installed in any 05 years out of last 08 F.Y. (i.e. 2015-16,2016-17,2017-18,2018-19,2019-20,2020-21,2021-22 & 2022-23)-
----- **a**
- b. No. of SPV Irrigation Pumps of capacity 3HP and below installed in any 05 years out of last 08 F.Y. (i.e. 2015-16,2016-17,2017-18,2018-19,2019-20,2020-21,2021-22 & 2022-23)----- **b**

Assessed maximum capacity for installation of pumps in this bid shall be as per following formula: **[(a+ b) – (Non operational under warranty pumps of SI in Saur Sujla Scheme at the time of bid opening X 2)]**

32. TENDER EVALUATION CRITERIA -

- a. e-Price Bid shall be opened only of the bidders fulfilling the following criteria:-
 - i. Bidders of Chhattisgarh should have minimum direct experience of supply and installation of 1000 nos. of SPV Irrigation Pumps in financial years i.e. 2020-21, 2021-22 & 2022-23 in the state of Chhattisgarh only.
 - ii. Bidders from outside of Chhattisgarh state should have minimum direct experience of supply and installation of 2000 nos. of SPV Irrigation Pumps financial years i.e. 2020-21, 2021-22 & 2022-23 in the state of Chhattisgarh only.
 - iii. Consortium Bidders (if both partners are from Chhattisgarh) should have minimum direct experience of supply and installation of 1000 nos. of SPV Irrigation Pumps financial years i.e. 2020-21, 2021-22 & 2022-23 in the state of Chhattisgarh only.
 - iv. Consortium Bidders (if any or both partner are from outside of Chhattisgarh) should have minimum direct experience of supply and installation of 2000 nos of SPV Irrigation Pumps financial years i.e. 2020-21, 2021-22 & 2022-23 in the state of Chhattisgarh only.
- b. Offers of only those parties, who satisfied above Clause **32 (a)**, found qualified based on Eligibility Criteria and Techno-commercial Bid, will be taken into further consideration and financial bid of only those parties will be opened.
- c. Other things being equal, the lowest rates shall normally be preferred, but CREDA shall have rights and liberty to amend/lower the rates.
- d. **Conditional bids shall not be accepted.**
- e. CREDA shall have rights and liberty to call any /other parties who are technically qualified but not accepted to work on approved rates, as and when required in accordance with quantum of work and scheduled time limits for completion of targets.

33. EVALUTION OF PRICE BID-

Price bid shall be evaluated on the basis of Quoted rates. Lowest rates of each category of pump shall be considered however CREDA shall have discretionary power to amend/lower the rates.

34. EFFECTIVE PRICE -

Effective price shall be calculated as per following formula for decide the order of offered rates for allocation as per Clause 35.

Effective price =

(Unit price of 03HP AC Surface X W1)+(Unit price of 03HP DC Surface X W2)+(Unit price of 03HP AC Submersible X W3)+(Unit price of 03HP DC Submersible X W4) + (Unit price of 05HP AC Surface X W5)+(Unit price of 05HP DC Surface X W6)+(Unit price of 05HP AC Submersible X W7)+(Unit price of 05HP DC Submersible X W8)

$W1+W2+W3+W4+W5+W6+W7+W8$

W1= 2.44, W2= 2.44, W3= 2.57, W4= 2.62, W5= 3.31, W6= 3.59, W7= 3.31, W8= 3.64

Where Weightage W1, W2. = Benchmark Cost (as per annexure- III) of respective Pump
1, 00,000

The calculated effective price shall be used for determination of L1, L2 and so on for work allocation. If two bidders have same effective price, the one whose accessed capacity is higher, shall be considered better placed for above ordering. The bidders who fall under the range of L1+15% will only be considered for agreement and allocation of work.

35. ALLOCATION OF TARGETS AND AREA OF WORK

The allocation of quantities shall be done as per following for all categories of pumps:

L-1	1500 or assessed capacity whichever is less.
L-2 to L-3	1000 or assessed capacity whichever is less.
L-4 to L-5	750 or assessed capacity whichever is less.
L-6 & Others	Balance un-allocated quantity shall be allocated to the balance bidders who fall under the range of L1 +15% only, and will be considered for allocation of target in ratio of their assessed capacity. This allocation will be less than 750 i.e. the allocation of L-4 & L-5 Bidders.

- a. However, the increase or decrease of these allocations shall be decided at sole discretion of CREDA, which shall be final, binding and conclusive on the bidders.
- b. Allocation can be further extended and amended as per the discretion of CREDA, in interest of expeditious work completion.
- c. CREDA reserves all rights for allocation of works anywhere in Chhattisgarh.
- d. Review of the progress of installation of pump allocated to Bidders shall be done time to time by CREDA and if the progress of installation is found unsatisfactory, the allocation of entire remaining uninstalled pumps or their part of can be re-allocated to other Bidder as per discretion of CREDA.
- e. Bidders, who have been submitting CMC Certificates on regular basis and have fewer complaints for their installed pumps, shall be given preference in allocation of Pumps.
- f. Bidder having long association/ registration with CREDA shall be given preference in allocation of work.
- g. Previous performance is to be calculated on the basis of complaints disposal.

36. BID REJECTION -

If financial bid of a bidder has been opened on the basis of technical bid of a bidder, which has been determined to be substantially responsive to the bidding document but if in latter stage it is found that bidder does not meet the eligibility criteria or the technical bid is found substantially non-responsive, CREDA reserves rights to reject such bid of a bidder at any stage.

We (on behalf of Bidder) have read all the above stated details & accept to comply with it in total.

Date

Signature

Name

Seal of the Bidder

SECTION - 3

SCOPE OF WORK

General Scope of Work for this tender shall be in accordance with the Guidelines of Market Mode Scheme of CREDA. The scope in brief will be as follows-

1. Survey of Sites, designing, supply, installation & commissioning of SPV irrigation pumps of various capacities as per design and specifications approved by CREDA on turnkey basis. Bidder shall have to take approval of the engineering documents, Bill of Materials and samples from CREDA prior to commencement of the work. Five years unconditional onsite warrantee for manufacturing defects shall be required for each of the system after successful commissioning and proper handing over. Final handing over of solar pump will be done by System Integrator after 05 years CMC, to beneficiary in working state.
2. The scope of work shall also include the followings :
 - a. Survey of Sites, estimation of yield of bore well/water source, Right Selection of Pump Size & Type, Submission of site clearance certificate where the SPV irrigation pumps are to be installed. A layout plan of the site should also be submitted clearly indicating the identified location for installation of SPV Modules, Structures and other components shall be installed.
 - b. Sanction order shall be issued only after receipt of beneficiary contribution and processing fee by concerned Zonal /Regional office of CREDA along with necessary documents and application form.
 - c. SI shall furnish all necessary information to beneficiary for SPV Pump, Rates, Subsidy, Beneficiary Contribution, Processing Fee, Warrantee, Do & Don'ts etc., so as to avoid further misunderstandings and disputes.
 - d. Collection of Beneficiary Share and Processing Fee (**as mentioned in guidelines issued by state Government**)
 - e. Submission of Application Form in CREDA in prescribed manner along with necessary documents and processing fee.
 - f. Detailed planning of time bound smooth execution of project.
 - g. Design, supply, installation & commissioning of SPV irrigation pumps of required capacities and type as per design and specifications approved by CREDA, on turnkey basis.
 - h. Performance Guarantee Test: Successful performance guarantee test to demonstrate the rated capacity of SPV irrigation pump as per CREDA's norms shall have to be conducted by SI in presence of representatives of CREDA, if required.
 - i. Providing User Manuals and Warrantee Cards to beneficiaries.
 - j. Bidders must have to affix two stickers (one in controller/centre pole and other in back side of panel) with details as prescribed by CREDA.
 - k. SI shall have to submit JCCs within **20 days** of Installation and Commissioning of SPV irrigation pumps in District Office of CREDA.
 - l. Unconditional onsite warrantee for manufacturing defects for Five years faultless operation, assure inventory for maintenance.
 - m. SI/Supplier has to provide quarterly monitoring report of actual ground conditions for every installation.
 - n. Providing Prompt Service Facilities to customers/beneficiaries.
 - o. Risk liability of all personnel associated with implementation and realization of the project.
 - p. Training of at least two persons nominated by user, on the various aspects of operation and maintenance of the offered system after commissioning of the system.
 - q. The eligible SI shall maintain sufficient inventory of the spares (as per clause 13g.) to ensure that the system can be made functional within **7 days** from the communication of breakdown of the system during currency of the warrantee period.
 - r. The eligible SI shall run the system on trial basis and shall closely monitor the performance of the system before handing over the system and ensure water discharge as per MNRE specifications. CREDA shall examine the water discharge and ascertain if the discharge is adequate with reference to the capacity of the SPV Pump.
 - s. System Integrators shall have to establish their service stations in the allocated area and shall have to keep sufficient quantity of spares and man power to ensure proper service network for taking care of smooth functioning of SPV irrigation pumps installed by them. SI shall provide toll free/Mobile number of service centre to register complaints.

SECTION - 4

SPECIFICATION FOR SOLAR PHOTOVOLTAIC WATER PUMPING SYSTEMS

1. SCOPE -

This specification covers design qualifications and performance specifications for Centrifugal Solar Photo Voltaic (SPV) Irrigation Pumping Systems to be installed on a suitable bore well, open well, water reservoir, water stream, etc. and specifies the minimum standards to be followed under New Scheme for Farmers launched by Government of India on 08.03.2019.

2. TERMINOLOGY -

In addition to the terminology specified in 3 of IS 5120 and IEC 62253, the following shall also apply.

- a. **Static Water Depth**— It is the depth of water level below the ground level when the pump is not in operation.
- b. **Draw-Down**— It is the elevation difference between the depth of static water level and the consistent standing water level in tube well during operation of pump set.
- c. **Submergence**— It is the minimum height of water level after drawdown above the pump suction casing.
- d. **Manometric Suction Lift**— Manometric suction lift is the vacuum gauge/suction manometer reading in meter of water column when pump operates at suction lift.
- e. **Static Suction Lift**— Static suction lift/head is the vertical distance between sump water level and centre of pump inlet.
- f. **Daily Water Output**— It is the total water output on a clear sunny day with three times tracking SPV panel, under the “Average Daily Solar Radiation” condition of 7.15 KWh / m² on the surface of SPV array (i.e. coplanar with the SPV Modules).
- g. **Wire to Water Efficiency**— It is the combined system efficiency of SPV Converter/Controller with Inbuilt MPPT mechanism, Pump set and piping.
- h. **SPV Controller**— Pump Controller converts the DC voltage of the SPV array into a suitable DC or AC, single or multi-phase power and may also include equipment for MPPT, remote monitoring, and protection devices.
- i. **Maximum Power Point Tracker (MPPT)** — MPPT is an algorithm that is included in the pump controller used for extracting maximum available power from SPV array under a given condition. The voltage at which SPV array can produce maximum power is called 'maximum power point' voltage (or peak power voltage).

3. CONSTRUCTIONAL FEATURES -

a. General -

SPV Irrigation Pumping System set uses their radiance available through SPV array. The SPV array produces DC power, which can be utilized to drive a DC or an AC pump set using pump controller. A SPV Irrigation Pumping system typically consists of pump set may be of any one of the following types -

- i Mono-block pump set;
- ii Open well submersible pump;
- iii Submersible pump;

b. Motor -

The motor of the pump set may be of the following types -

- i. AC Induction Motor.
- ii. DC Motor [PMSM/BLDC/SRM (with brush or brushless)].
- iii. Provision for remote monitoring for the pumps must be made in the pump controller through an integral arrangement having following basic functions:
 1. Controller must be assigned with a unique serial number and its live status must be observed remotely on online portal through login credentials.
 2. Live status must indicate whether controller is ON/OFF.
 3. The parameter i.e. the water output , water flow rate, in fault condition, array input voltage/current, power and motor frequency should at logged at an interval of 10 minutes
 4. Controller must have a back up to store the data locally (at least for 1year)

c. Solar Photo Voltaic (SPV) Array -

- i **SPV** array contains specified number of same capacity, type and specification modules connected in series or parallel to obtain the required voltage or current output. The SPV irrigation pumping system should be operated with a PV array minimum capacity in the range of **1800 Watts peak to 4800 Watts peak**, measured under Standard Test Conditions (STC).The module used should be DCR. Sufficient number of modules in series and parallel could be used to obtain the required voltage or current output. The power output of individual PV modules used in the PV array, under STC, should be a minimum of 300 Watts peak for 02 HP, minimum 320 Watts peak for 03 & 05 HP pumps and 535 Watts peak and above Mono PERC Solar modules can also be use for 05 HP Pumps with adequate provision for measurement tolerances. Use of PV modules with higher power output is preferred.
- ii Modules supplied with the SPV irrigation pumping systems shall have certificate as per IS14286/IEC 61215 as suggested by MNRE or equivalent National or International/ Standards. STC performance data supplied with the modules shall not be more than one year old.
- iii Modules must qualify to IS/IEC 61730 Part I and II as suggested by MNRE for safety qualification testing and shall be compliant to Domestic Component Requirement (DCR) as per as per MNRE specifications or equivalent National or International/ Standards.
- iv The minimum module efficiency should be minimum 15 percent and fill factor shall be more than 70percent.
- v Modules must qualify to IEC TS 62804-1:2015 as suggested by MNRE for the detection of potential-induced degradation - Part 1: Crystalline silicon (Mandatory in case the SPV array voltage is more than 600 VDC)
- vi The name plate shall conform the IS 14286/IEC61215 as suggested by MNRE or equivalent National or International/ Standards.
- vii Module to Module wattage mismatch in the SPV array mismatch shall be within (\pm) 3 percent.
- viii Variation in overall SPV array wattage from the specified wattages shall be within zero percent to +10percentand higher wattage will be acceptable.
- ix The PV Modules must be warranted for output wattage, which should not be less than 90% of the rated wattage at the end of 10 years and 80% of the rated wattage at the end of 25 years.

x IDENTIFICATION AND TRACEABILITY –

Each PV module must use a RF identification tag (RFID), which must contain the following information:

1. Name of the manufacturer of PV Module
2. Name of the Manufacturer of Solar cells
3. Month and year of the manufacture (separately for solar cell and module)
4. Country of origin (separately for solar cells and module)
5. I-V curve for the module (should be submitted in soft copy at D.O.)
6. Peak Wattage, Im, Vm and FF for the module
7. Unique Serial No and Model No of the module
8. Name of the test lab issuing IEC certificate
9. Other relevant information on traceability of solar cells and module as per ISO 9000 series.

The RFID must be inside of module lamination. The module laminate, but must be able to withstand harsh environmental conditions.

- xi** The panel should be supplied with CREDA Logo in the form of sticker on the back of SPV panel or duly laminated inside the glass of solar module with the remark "Manufactured for CREDA". Inter connections of solar modules should be through good quality male female joint. Name of manufacturer, Sl. No. of Module & manufacturing year should be clearly fixed inside the glass lamination of every module. Back label should be affixed behind every module which should clearly state the specifications & capacity of the module.
- xii** All SPV modules must be indigenously built and made in India.

d. Motor- Pump set

- i.** Solar pump must be indigenously built and made in India.
- ii.** The SPV irrigation pumping systems may use any of the following types of motor pump sets -
 1. Surface pump set
 2. Submersible pump set
- iii.** The "Motor-Pump Set" should have a capacity in the range of 2 HP to 5 HP and should have the following features -
 1. The mono block DC/ AC centrifugal motor pump set with the impeller mounted directly on the motor shaft and with appropriate mechanical seals which ensures zero leakage.
 2. The motor of the capacity ranging from 2 HP to 5 HP should be AC/DC. The suction and delivery head will depend on the site specific condition of the field.
 3. Submersible pumps could also be used according to the dynamic head of the site at which the pump is to be used.
 4. Selection of pump at the time of survey must be done appropriately as per site conditions, depth & yield of the bore well.
- iv.** The pump and all external parts of motor used in submersible pump which are in contact with water, should be of stainless steel of grade 304 or higher as required. The motor- pump set should have a 5 years warranty and therefore, it is essential that the construction of the motor and pump should be made using parts which have a much higher durability and do not need replacement or

corrode for at least 5 years of operation after installation.

- v. The suction/ delivery pipe shall be of HDPE or UPVC column pipes of appropriate size, electric cables, floating assembly, civil work and other fittings required to install the Motor Pump set. In case of HDPE pipes the minimum pressure rating of 8 kg/sqcm-PE100 grade for pumps up to 3 HP, 10 kg/sqcm-PE100 grade for 5 HP pumps. UPVC column pipe/HDPE Pipe must be provided as per bore depth as per MNRE specification.

e. Module Mounting Structure (MMS) -

- i. MMS as per drawings (**which is given as Annexure "V"-A₁ to A₅₄**) should be installed along with the hot dipped galvanized (minimum **80 microns**) array support structure for mounting of SPV modules at site. The panel frame structure should be capable of withstanding a minimum wind load of **150 Km per hour**, after grouting and installation. MMS should be sturdy & designed to assist SPV Modules to render maximum discharge. The hardware (fasteners) used for installation of SPV Modules & MMS should be of suitable Stainless Steel **SS 304** grade or Hot dipped galvanized 8.8 grade. Each MMS should be grouted on pedestals & Foundation as per drawings. Each module should be fastened using four theft proof nut bolt. Module Mounting Structure including foundation bolt, other nut & bolt, steel nut & bolts, washer, theft proof nut & bolts, clamps for holding controller etc. for 06nos. & 09 nos. modules shall be as per drawing and specification attached in tender document.
- ii. Module Mounting Structures should have theft proof arrangements with the use of GI Steel C-channel along with the array support structure for locking arrangement of SPV modules for protecting them from theft. Its size should be with reference to the specifications of the SPV modules such that modules can comfortably slide in the channel while installation. It should not hide any portion of the photovoltaic circuit encapsulated in the lamination of the SPV module, there by un-affecting the efficiency & rating of the SPV modules. Anti-Theft Nut Bolts of SS-304 (with washers) must be used for better theft proofing along with "C" Channel MMS.
- iii. To enhance the performance of SPV irrigation pumping systems arrangement for seasonal tilt angle adjustment and three times manual tracking in a day should be provided. In order to make structure rigid, the gap between Telescopic pattern supports should be minimal, further, for bearing of centre load of whole structure only pins should be used instead of threaded bolts.
- iv. The general hardware for structure fitment should be either Stainless Steel **SS 304** grade or Hot dipped galvanized 8.8 grade. Modules should be locked with antitheft bolts of SS 304 Grade. Foundation should be as per drawing attached.

f. SPV Controller

- i. Controller must be indigenously built and made in India.
- ii. Maximum Power Point Tracker (MPPT) shall be included to optimally use the power available from the SPV array and maximize the water discharge.
- iii. The SPV Controller must have IP (65) protection or shall be housed in a cabinet having at least IP (65) protection.
- iv. Adequate protections shall be provided in the SPV Controller to protect the solar powered pump set against the following:
 1. Dry running;
 2. Open circuit;

3. Accidental output short circuit;
 4. Under voltage;
 5. Reverse polarity;
 6. SPD to arrest high current surge; and
 7. Lightning arrestor.
- v. A good reliable DC Circuit Breaker as per IS/IEC 60947-2 as suggested by MNRE suitable for switching DC power ON and OFF shall be provided in the SPV Controller.
- vi. All cables used shall be as per IS694 as suggested by MNRE. Suitable size of cable shall be used in sufficient length for inter-connection between the SPV array to SPV Controller and the SPV Controller to solar powered pump set. Selection of the cable shall be as per IS14536 as suggested by MNRE.
- vii. Controller shall have provision for GSM/GPRS Gateway with Geo tagging. GSM/GPRS Charges to be included in the Costing till the end of Warranty period of the Pump set.
- g. Universal Solar Pump Controller (USPC)-**

Since pumps are generally used for 150 days in a year, the installed solar capacity can be optimally utilized by using Universal Solar Pump Controller (USPC), through which farmers can use solar power for other activities like operating chaff cutter, floor mill, cold storage, drier, etc., and increase his income. Option would be given to the farmer to opt for USPC and the difference price b/w USPC and normal controller will be borne by either that farmer individually or concerned district administration/ any concerned govt. deptt.

USPC Specifications for Stand-alone applications:

- i. **Preamble:** The Controller for Solar PV pumping system is the heart and brain of the system. The Solar PV pumping system deployed at huge cost to the farmer and the exchequer for the Government is currently utilised only for half of the days in a year (around 150 days per year) on an average. In order to optimally utilize the solar photovoltaic system that generates the electricity throughout the year during sunshine hours, the controller supplied for installation of solar pumping system should be able to perform several other tasks for agricultural and other needs of a farmer. This will increase the productivity of agriculture sector and income of farmer. With the use of USPC the solar system could be used effectively throughout the year.
 - ii. **Technical Specification for Stand Alone and On Grid Application**
The USPC with SPV modules and structure can be used for agrarian applications such as water pumping, apple grading and polishing system, wheat (grain) flour grinding machine / aata chakki, cutter/chaff, deep-fridge / cold storage, blower fan for cleaning of grains, heating loads and any other standard voltage (400/415V) three phase motor/equipment of capacity not more than the capacity of Solar PV pumping system. The USPC operation schematic diagram is shown in Fig. 1. Further, the applications are not limited upto the few shown in the figure.
1. Following table gives specifications of electrical supply from USPC for motors other than the solar pumps. For operating the pump the UPSC must follow the MNRE specifications for SPV pumping systems.

S.No.	Description	Desired requirement
1	Motor Supply Phases	Three phase R-Y-B
2	Rated motor frequency	48-50Hz

3	Frequency operation	0 to 52Hz
4	Rated motor voltage	415V± 5%
5	Desired motor operation	Constant V by F or constant motor flux control

2. Proposed electrical properties of USPC when operating motors other than motor- pump set:

Sr No.	Description	Desired requirement
1	Characteristic of voltages	Pure sinusoidal or Filtered AC output voltage at motor terminal. No PWM pulses allowed at the motor terminal, as it generates pronounced voltage spikes. The USPC output is intended to use for the traditional induction motors based applications which are design for sinusoidal grid supply.
2	THD of motor terminal voltages	Below 3%
3	THD of motor current (in case of balance/linear motor)	Below 5%
4	Balance supply	Three phases should be balanced and no negative sequence components to be allowed
5	Voltage spikes	Recurring or non-recurring voltage spikes more than 620V (peak of 440V AC supply) is not allowed between any two terminals
6	Alarms and Protections	Output voltage low, Output frequency low/high, Low irradiance/PV power, Current overload, Peak Torque overload

3. Controller should be able to run SPV pumping system as per MNRE specifications as well as any other type of motor of suitable rating, subject to the load characteristics of the equipment in which the motor is used is any of the following:
- Constant torque loads
 - Constant power loads
 - Quadratic loads
 - Impact loads
 - Hydraulic loads

Subject to the maximum torque being not more than 150% of the rated torque of the motor.

4. To ensure energy efficiency of solar PV system and to maintain reliability of PV installation against aging effect, module mismatch with time, partial shading, etc. , the desired USPC properties and configuration should be as follows:
- Static MPPT efficiency of USPC should be equal or more than 98% during operation of 10 to 100% of rated STC PV power, and average MPPT tracking efficiency in the dynamic condition should be greater than 97 % with hot and cold profiles when feeding the water pumping, hydraulic or heating loads, so as to maintain MPPT irrespective of variation in solar energy or irradiance. `
 - USPC efficiency should be as follows for the operation at 80% rated STC power of the PV array:

Sr No.	SPV pumping system capacity	Controller power efficiency should be more than or equal to
1	3 HP	93.00%
2	5 HP	93.00%

- c. Considering voltage variation over the year due to variation in temperature, irradiance and effect due to ageing, environmental damages to PV panels with time, USPC should have MPPT channels as an integral part of system (or externally connected part) with wide range of input PV voltage for MPPT tracking of the PV panels. Input voltage range variation should be tested as per manufacturer declaration (min, nominal or 90% of the maximum) or if no declaration is made than at least it should be tested as per the table given below.

Sr No.	Motor Pump set capacity	Input voltage range		
		Minimum	Nominal	Maximum
1	3 HP	(Vnominal-50)	Nominal	(Vnominal+50)
2	5 HP	(Vnominal-70)		(Vnominal+70)

- There should be Mode selection located on control panel of the USPC along with display and user should be able to select either to run motor-pump set of any other application. The software/firmware required to operate these applications must get automatically loaded when an appropriate position of the switch is engaged.
- USPC must have at least four numbers of three phase output cables to feed power to the applications. The output power cable for specific application should get selected automatically upon selection of applications via keypad or via mobile or via remote control connectivity. The manual selector switch should not be used at the output to manage different loads. This is to ensure the hassle free operation of applications by farmer with adequate safety.

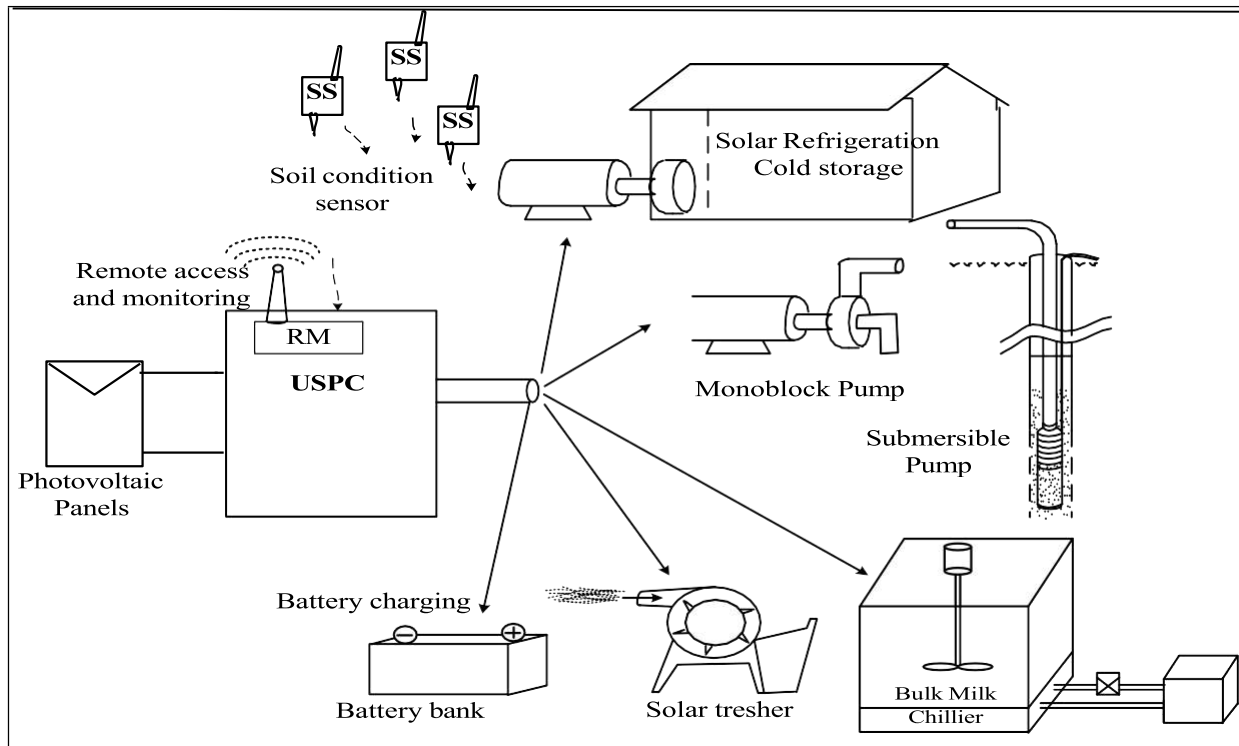


Fig. USPC operation schematic diagram.

7. USPC based Solar system must be equipped with Remote monitoring and remote fault identification:
- a. Remote monitoring features should be integral part of solar pump controller and should provide time wise remote monitoring of PV voltage, PV Power, Water output, head, when used in solar pump mode. When operated in farm equipment mode, it should show, PV voltage, PV power, motor voltage, motor current and motor frequency.
 - b. Cumulative energy generation from PV panels for a month, year and 5years should be provided.
 - c. Remote monitor should show current status of system like On, Off and fault.
 - d. Software associated with remote monitoring should also provide location of SPV pumping system.
 - e. Controller should have support of sufficient Internal memory/ SD card / memory card to support remote monitoring in case of network failure.

USPC must have IP65 protection or must be housed in a cabinet having at least IP65 protection.

h. Earthing Arrangement

- i Earthing of the motor shall be done as per IS 9283 as suggested by MNRE in accordance with the relevant provisions of IS 3043 as suggested by MNRE. Separate earthing shall be provided for Controller, pump and SPV array.
- ii For safety purpose, it shall be ensured during installation that the earthing is capable of taking care of leakage current.
- iii In case of UPVC/HDPE pipes used as discharge pipe, a separate non-corrosive, low resistance.
- iv Conductor from motor earth terminal to control panel earth terminal shall be provided for earthing.
- v A lightning arrestor shall be provided with every SPV Irrigation Pumping System.

i. Use of Indigenous Components

SI must use only indigenously manufactured solar panels with indigenous solar cells and modules. Further, the motor-pump-set, controller and balance of system should also be manufactured indigenously.

j. Performance Requirements

Under the "Average Daily Solar Radiation" condition of 7.15 KWh / sq.m. on the surface of PV array (i.e. coplanar with the PV Modules), the minimum water output from a Solar PV Water Pumping System at different "Total Dynamic Heads" should be as specified below -

i For D.C. Motor Pump Set -

1. 110 liters of water per watt peak of PV array, from a Total Dynamic Head of 10 meter (Suction head, if applicable, maximum of 7 meter) and with the shut off head being at least 12meter.
2. 55 liters of water per watt peak of PV array, from a Total Dynamic Head of 20 meter (Suction head, if applicable, up to a maximum of 7 meters) and with the shut off head being at least 25meter.
3. 38 liters of water per watt peak of PV array, from a Total Dynamic Head of 30 meters and the shut off head being at least 45meter.
4. 23 liters of water per watt peak of PV array, from a Total Dynamic Head of 50meter and the shut off head being at least 70meter.
5. 15 liters of water per watt peak of PV array, from a Total Dynamic Head of 70 meters and the shut off head being at least 100meter.
6. 10.5 liters of water per watt peak of PV array, from a Total Dynamic Head

of 100 meters and the shut off head being at least 150meter.

The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season etc.

Indicative performance specifications for the Shallow and Deep well SPV Irrigation Pumping Systems are given in the Annexure VII.

ii For A.C. Induction Motor Pump Set -

1. 99 liters of water per watt peak of PV array, from a Total Dynamic Head of 10meter (Suction head, if applicable, maximum of 7 meters) and with the shut off head being at least 12meter.
2. 49 liters of water per watt peak of PV array, from a Total Dynamic Head of 20 meter (Suction head, if applicable, up to a maximum of 7 meters) and with the shut off head being at least 25meter.
3. 35 liters of water per watt peak of PV array, from a Total Dynamic Head of 30meter and the shut off head being at least 45meter.
4. 21 liters of water per watt peak of PV array, from a Total Dynamic Head of 50meter and the shut off head being at least 70meter.
5. 14 liters of water per watt peak of PV array, from a Total Dynamic Head of 70meter and the shut off head being at least 100meter.
6. 9 liters of water per watt peak of PV array, from a Total Dynamic Head of 100meter and the shut off head being at least 150meter.

The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season, etc.

Indicative performance specifications for the Shallow and Deep well SPV Irrigation Pumping Systems are given in the Annexure VIII.

4. TESTS FOR HYDRAULIC AND ELECTRICAL PERFORMANCE OF PUMPSET -

- a. The motor-pump set shall be tested independently for hydraulic and electrical performance as per the relevant IS specification including following test -
 - i. Constructional requirements/features
 - ii. General requirements
 - iii. Design features
 - iv. Insulation resistance test
 - v. High voltage test
 - vi. Leakage current test
- b. Testing of SPV Irrigation Pumping Systems shall be done as per procedure specified by the MNRE.

5. GUARANTEE OF PERFORMANCE -

- a. The SPV Irrigation Pumping Systems shall be guaranteed for their performance of the nominal volume rate off low and the nominal head at the guaranteed duty point as specified in 7.1 under the "Average Daily Solar Radiation" condition of 7.15 KWh/m² on the surface of SPV array (i.e. coplanar with the Photo Voltaic (PV) Modules). The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season etc.
- b. Solar Photo Voltaic Water Pumping Systems shall be guaranteed by the manufacturer against the defects in material and workmanship under normal use and service for a period of at least 60 months from the date of commissioning.
- c. Sufficient spares for trouble free operation during the Warrantee period should be made available as and when required.

6. MARKING AND PARAMETERS TO BE DECLARED BY THE MANUFACTURER -

The motor pump-set and Controller used in SPV Irrigation Pumping Systems shall be securely marked with the following parameters declared by the manufacturer:

a. Motor Pump-set-

- i. Manufacturer's name, logo or trade-mark;
- ii. Model, size and SI No of pump-set;
- iii. Motor Rating (kW /HP);
- iv. Total head, m, at the guaranteed duty point;
- v. Capacity (LPD) at guaranteed head;
- vi. Operating head range m;
- vii. Maximum Current(A);
- viii. Voltage Range (V)and;
- ix. Type - AC or DC Pump set;&
- x. Photo Voltaic (PV) Array Rating in Watts peak(W_p)

b. Controller-

- i. Manufacturer's name, logo or trade-mark;
- ii. Model Number;
- iii. Serial Number;
- iv. Voltage Range;
- v. Power Range in kW for Controller; and
- vi. Current rating(A)

c. Structure-

- i. Manufacturer's logo or trade-mark;

7. OPERATION AND MAINTENANCE MANUAL -

An Operation and Maintenance Manual in Hindi, should be provided with the solar PV pumping system. The Manual should have information about solar energy, photovoltaic, modules, DC/AC motor pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Helpline number and Name and address of the Service Centre and contact number of authorized representative to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set should also be provided to the beneficiary.

8. Raw material test certificates (MTC) of all types of raw material used in dual axis manual tracking type MMS as per appropriate IS code should be submitted along with dispatch documents.

9. TESTS TO BE PERFORMED ON DUAL AXIS MANUAL TRACKING TYPE MMS FOR SOLAR WATER PUMPING SYSTEM -

- a. For ascertaining proper welding of structure part following should be referred -
 - i. Weld wire grade should be of grade **(ER 70 S -6)** as suggested by MNRE.
 - ii. D.P. Test (Pin Hole / Crack) **(IS822)** as suggested by MNRE.
- b. For ascertaining hot dip galvanizing of fabricated structure following should be referred -
 - i. Min coating required should be as per IS4759 as suggested by MNRE.
 - ii. Testing of galvanized material.
 1. Preece Test (CuSO₄ Dip Test) **(IS2633)** as suggested by MNRE.
 2. Mass of Zinc **(IS 6745)** as suggested by MNRE.
 3. Adhesion Test **(IS2629)** as suggested by MNRE.

e – Price Bid**e – Price Bid (For supply, installation, Commissioning & Testing of Pump)**

Schedule of Rates for SPV DC- AC Surface/ Submersible Pumps

(e-bidding as per Specifications & Scope of Work of No. 153398/CREDA/SPV IRRIGATION PUMPS

/2024-25 Dated : 26.02.2024)

Supply, Survey, formulation of proposal, Installation and Commissioning of Solar Photovoltaic Pumps (all types of MNRE Models) anywhere in the State of Chhattisgarh.

(Rates in Rs. without GST)

Pump Capacity (HP)	Pump Type	Pump Position	Pump Cooling Category	Controller Type	UOM (Unit of Measurement)	Rate of Complete Solar Pumping System including installation & commissioning with 05 year CMC & Insurance
2	AC	Submersible	Water Filled	Normal (Without USPC)	LS	
	AC	Surface	Water Filled	Normal (Without USPC)	LS	
	DC	Submersible	Water Filled	Normal (Without USPC)	LS	
	DC	Surface	Water Filled	Normal (Without USPC)	LS	
	AC	Submersible	Water Filled	With USPC	LS	
	AC	Surface	Water Filled	With USPC	LS	
	DC	Submersible	Water Filled	With USPC	LS	
	DC	Surface	Water Filled	With USPC	LS	
3	AC	Submersible	Water Filled	Normal (Without USPC)	LS	
	AC	Surface	Water Filled	Normal (Without USPC)	LS	
	DC	Submersible	Water Filled	Normal (Without USPC)	LS	
	DC	Surface	Water Filled	Normal (Without USPC)	LS	
	AC	Submersible	Water Filled	With USPC	LS	
	AC	Surface	Water Filled	With USPC	LS	
	DC	Submersible	Water Filled	With USPC	LS	
	DC	Surface	Water Filled	With USPC	LS	
5	AC	Submersible	Water Filled	Normal (Without USPC)	LS	
	AC	Surface	Water Filled	Normal (Without USPC)	LS	
	DC	Submersible	Water Filled	Normal (Without USPC)	LS	
	DC	Surface	Water Filled	Normal (Without USPC)	LS	
	AC	Submersible	Water Filled	With USPC	LS	
	AC	Surface	Water Filled	With USPC	LS	
	DC	Submersible	Water Filled	With USPC	LS	
	DC	Surface	Water Filled	With USPC	LS	

- a.** Above rates are for anywhere in the State of Chhattisgarh inclusive of roadworthy packing, loading, unloading, all types of incidental expenses, 5 years warrantee, insurance and COM as mentioned in the tender document. Above rates applicable for all types of pump models for each category as per MNRE Specifications 2019-20 and Tender Annexure – A.
- b.** As per GST notification no. 24/2018-Central Tax (Rate) dated 31.12.2018 and 8/2021-Central Tax (Rate) dated 30.09.2021. GST Rate will be applicable under composite supply and installation basis. Rate of GST on supply of Goods (70% of gross consideration treated as supply of Goods) 12% GST and balance portion (30% of gross consideration treated as taxable installation services) 18% GST will be paid extra. No other cost will be claimed other than above quotes price & the applicable GST.

Note: In this regard if there is any change in the composition ratio of goods and services by any Authority/ Courts, same shall be applicable.

Signature of the Authorized Signatory :

Seal of Company :

Date :

Supporting Document for Price Bid

This is a supporting document for Price bid. This rate list has to be uploaded in “excel format only” under Envelop 'C' online in <https://eproc.cgstate.gov.in>.

(Rates in Rs. without GST)

Pump Capacity (HP)	Pump Type	Pump Position	Pump Cooling Category	Controller Type	UOM (Unit of Measurement)	Rate of Pump (in multiples of 100)	Rate of Modules (in multiples of 100)	Rate of Controller (in multiples of 100)
2	AC	Submersible	Water Filled	Normal (Without USPC)	LS			
	AC	Surface	Water Filled	Normal (Without USPC)	LS			
	DC	Submersible	Water Filled	Normal (Without USPC)	LS			
	DC	Surface	Water Filled	Normal (Without USPC)	LS			
	AC	Submersible	Water Filled	With USPC	LS			
	AC	Surface	Water Filled	With USPC	LS			
	DC	Submersible	Water Filled	With USPC	LS			
	DC	Surface	Water Filled	With USPC	LS			
3	AC	Submersible	Water Filled	Normal (Without USPC)	LS			
	AC	Surface	Water Filled	Normal (Without USPC)	LS			
	DC	Submersible	Water Filled	Normal (Without USPC)	LS			
	DC	Surface	Water Filled	Normal (Without USPC)	LS			
	AC	Submersible	Water Filled	With USPC	LS			
	AC	Surface	Water Filled	With USPC	LS			
	DC	Submersible	Water Filled	With USPC	LS			
	DC	Surface	Water Filled	With USPC	LS			
5	AC	Submersible	Water Filled	Normal (Without USPC)	LS			
	AC	Surface	Water Filled	Normal (Without USPC)	LS			
	DC	Submersible	Water Filled	Normal (Without USPC)	LS			
	DC	Surface	Water Filled	Normal (Without USPC)	LS			
	AC	Submersible	Water Filled	With USPC	LS			
	AC	Surface	Water Filled	With USPC	LS			
	DC	Submersible	Water Filled	With USPC	LS			
	DC	Surface	Water Filled	With USPC	LS			

SCHEDULE - I**PART 'A': GENERAL INFORMATION**

(Strike off whichever is not applicable. Separate sheets should be used, wherever necessary)

- 01.** Name & Address of the Bidder :
- 02.** Name & Address of the firm/Company etc. :
- a.** Registered office :
- b.** Factory/works address :
- c.** Fax Nos. :
- d.** Telephone / Mobile Nos. :
- e.** Email id :
- 03.** Confirm whether bidder is Manufacturer : Yes/No
- 04.** Only manufacturer to give following particulars
- a.** Address of factory :
- b.** Year of starting manufacture :
- c.** Whether same/similar materials :
Manufactured earlier
(if yes, give reference)
- d.** Yearly/monthly production capacity :
- e.** Maximum yearly production :
Achieved so far
- 05.** Whether the firm is SSI Unit of : Yes/No
Chhattisgarh State:
- a.** If yes, write registration No. :
- b.** Whether documentary evidence :
Regarding registration enclosed
- c.** Items for registration :
- d.** Period of registration :
- e.** Whether latest copy Competency/ : Yes/No
Certificate furnished
- 06.** Whether the firm is 100% owned by
- a.** State Government : Yes/No
- b.** Central Government : Yes/No
- If yes, Notification/certificate issued from : Yes/No
- The competent authority to this effect is
Enclosed
- 07.** **a.** Whether the bidder is old participant : Yes/No
with CREDA
- b.** If yes, whether documentary : Yes/No
Evidence is enclosed.
- 08.** Any other information that bidder may like : If yes, give details
to give in order to highlight his bid

PLACE :

SIGNATURE OF BIDDER

NAME IN FULL

DATE:

DESIGNATION/STATUS

FIRM/COMPANY SEAL

SCHEDULE - I

PART 'B' : COMMERCIAL INFORMATION

(Strike off, whichever is not applicable. Separate sheets should be used. Wherever necessary)

- 01. a. Earnest Money Details : Bank draft/Bankers cheque payable to "CREDA", Raipur
- b. Amount of E.M.D. & full details :
- c. Reference of documentary : Yes/No
 evidence regarding exemption enclosed.
- 02. Whether the offer is valid for 6 months : Yes/No
 from the date of opening of commercial/technical bid.
- 03. Rate of Sales Tax on the date of bid :
 (Exclusive in the rate quoted)
- 04. **DISCOUNT:**
 - a. Whether any rebate/discount is offered. : Yes/No
 - b. If yes, whether the rebate is unconditional/ conditional : Yes/No
 Rate/amount of rebate/discount
 - c. If conditional State condition : Yes/No
- 05. **PAYMENT TERMS:**
 Whether CREDA's terms of payment is acceptable to bidder : Yes/No
- 06. **COMPLETION PERIOD OF WORK:**
 Whether bidder is agreeing for completion period of work as : Yes/No
 Specified in the tender
- 07. **PENALTY CLAUSE:**
 Whether agreeable to CREDA's Penalty Clause : Yes/No
- 08. Whether agreeable to CREDA's clause of warrantee period : Yes/No
- 09. **SECURITY DEPOSIT:**
 Whether Security Deposit clause is understood : Yes/No
- 10. Indicate State, Central Sales Tax Registration Number State : Yes/No
 Central:
 (Please Note that in case of non-registration with Commercial Tax,
 Department Purchase Tax as admissible shall be deducted by
 the Purchaser from the Bills of the supplier)
- 11. Please mention whether rates offered are : Yes/No
 applicable for part quantities.

PLACE:

SIGNATURE OF BIDDER

DATE:

NAME IN FULL
DESIGNATION/STATUS
FIRM/COMPANY SEAL

SCHEDULE - II**PART 'C': TECHNICAL INFORMATION**

(Strike off whichever is not applicable. Separate sheets should be used. Wherever necessary)

01. Whether material offered is exactly as per technical specification : Yes/No
02. Whether the copies of completion certificate received during last 3 years : Yes/No
From other State Nodal Agency or from other Organization for Solar Pumping systems (if yes, give details) enclosed.
03. Whether pamphlets/technical details literatures along with drawing etc. : Yes/No
furnished with the offer (if yes, give details)
04. Whether the bidder agrees to furnish material test certificates in : Yes/No
respect of chemical composition and physical properties from Govt./ Govt. approved lab with each batch of supplies.
05. Whether the bidder has furnished details of manufacturing : Yes/No
equipments and short history of plant (if yes, give details)
06. Whether details of manufacturing process furnished with offer. : Yes/No
(if yes, give details)
07. a) Whether all testing facilities are available. : Yes/No
If so, give details and in case of non-availability of facilities indicate approved lab available in surrounding areas where tests are proposed to be conducted.

PLACE

SIGNATURE OF BIDDER

DATE

NAME IN FULL

DESIGNATION/STATUS

FIRM/COMPANYSEAL

SCHEDULE - III**TECHNICAL DEVIATIONS**

From,
Bidder Name & Address -

To,
The CE,
CREDA, HO,
Raipur

Sub - Technical Deviations.

Dear Sir,

The technical deviations & variations to the specifications stipulated in the tender, for the item quoted are as under -

Sl.No.	Condition	Clause No. of Tender document	Page No. of Tender document	Statement of deviations and variations

2. Except aforesaid deviations, the entire order, if placed, on us shall be executed in accordance with your specifications and other conditions. Variation/deviations etc. if found, elsewhere in our offer should not be given any considerations while finalizing the tender.

PLACE

SIGNATURE OF BIDDER

DATE

NAME IN FULL

DESIGNATION/STATUS

FIRM/COMPANY SEAL

NOTE-Continuation sheet of like size & format may be used as per bidder's requirements and shall be annexed to this schedule.

SCHEDULE - IV**PAST EXPERIENCE****From :**

Bidder's Name & Address -

To,

**The SE,
CREDA, HO,
Raipur****Sub - Performance/ Past Experience.****Dear Sir,**

We furnish herewith the record of our performance and experience as follows -

Sl.No.	Purchaser's Name & Address	Order No. Date	Ordered Quantity	Qty. supplied (Nos.)	Value of Order
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PLACE

SIGNATURE OF BIDDER

DATE

NAME IN FULL

DESIGNATION/STATUS

FIRM/COMPANY SEAL

NOTE- Photocopy of the completion certificate received from other State Agencies/Govt. Undertakings etc. should be enclosed.

**(EXPERIENCE CERTIFICATE ON THE OFFICIAL LETTER HEAD OF CONCERNED GOVERNMENT
DEPARTMENT WITH SEAL AND SIGN BY AUTHORIZED SIGNATORY)**

Ref. No.....

Date.....

CERTIFICATE OF COMPLETION - OFF GRID SPV IRRIGATION PUMPS

This is to certify that Name of Bidder, Address of Registered Office has successfully completed the work of design supply, installation & commissioning ofNos. Off grid SPV Irrigation Pumps (.....Scheme) against various Sanction of Name of Agency at various locations in.....State, as per following details -

Capacity & Type of SPV Irrigation Pumps (HP / AC / DC / Submersible / Surface)	Year & Scheme	Total no. of Pumps	Remarks
Total -			

This workmanship and performance of the above installed systems are found satisfactory and are in successful operation.

**Seal & Sign
(Authorised Signatory)**

CONSORTIUM AGREEMENT

(Note: This agreement should be on a non-judicial stamp paper of Rs. 100/- and shall be attested by Magistrate/Sub-Judge/ Notary Public)

This Consortium Agreement executed on this Day of.....2024

BETWEEN

M/S....., a Company/Proprietorship Firm/Partnership Firm incorporate under the Law of companies Act 1956/2013 and having its registered/principal office at..... (GST No.....) through its proprietor S/o..... (herein after called the "Partner-I"/ "Lead Partner" which expression shall include its successors, executors and permitted assigns)

AND

M/s..... a Company/Proprietorship Firm/ Partnership Firm under Firm (GST No.) and having its registered/principal office at..... Through its Partner Mr. S/o (herein after called the "Partner-II"/"Second Partner" which expression shall include its successors, executors and permitted assigns)

This agreement is for the purposes of submission of bid as per the **TENDER DOCUMENT NO. 153398 dated 26.02.2024** and entering into a contract in case of award for the work of Survey, Design, Supply, Installation & Commissioning of Solar Photo Voltaic Irrigation pumps of various capacities with five years onsite warrantee, CMC& insurance anywhere in the state of Chhattisgarh for **SOLARIRRIGATIONPUMPS of CHHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY (CREDA)**

AND WHEREAS as per Tender document, Consortium bids will also be considered by the Owner provided they meet the specific requirements in that regard.

NOW THIS INDENTURE WITNESSETH AS UNDER -

In consideration of the above premises and agreements all the partners to this Consortium do hereby now agree as follows:

1. We the partners in the Consortium hereby confirm that the name and style of the Consortium shall be "..... /" "Consortium."
2. **FORMATION AND PRINCIPLE PLACE OF BUSINESS**

FORMATION -

The partner of the consortium do hereby form a Consortium pursuant to the laws of state of Chhattisgarh in order for the consortium to carry on the purposes for which provision is made herein

PRINCIPAL PLACE OF BUSINESS -

The Consortium Partner shall maintain principal place of business at
The partners of the consortium may re-locate its office from time to time or have additional offices as the partners may determine

3. **PURPOSE OF THE CONSORTIUM -**

The object of the consortium to bid and perform Tender No. 153398/CREDA/SPV IRRIGATION PUMPS/2024-25 dated: 26.02.2024 from CHHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY (CREDA) For Survey, Design, Supply, Installation & Commissioning of Solar Photo Voltaic Irrigation pumps of various capacities with Five Years on Site warrantee, CMC& Insurance

anywhere in the state of Chhattisgarh for Solar Irrigation Pumping System and to deal with the same in any manner what so ever.

4. TERM -

The term of the consortium shall commence as of the date hereof and shall be terminated and dissolved upon the earliest to occur of (i) on mutual understanding of partners by executing separate agreement regarding dissolution of consortium (ii) the unanimous agreement of the partners (iii) the order of a court of competent jurisdiction (iv) Competition of the above mention tender

5. PERCENTAGE OF PARTICIPATION -

CONSORTIUM PARTNER	PARTNER	PERCENTAGE
1) M/S	Lead Partner (Partner 1)	.....
2) M/s	Other Partner (Partner 2)	.....
TOTAL -		

6. PARTICIPATION -

Both the partners have decided to perform the above mention work of CREDA in their above proportionate work.

7. The Lead Member is hereby authorized by the second Member of the Consortium to bind the Consortium and receive instructions for and on their behalf. For this purpose second member will submit a duly signed Power of Attorney.
8. A copy of Memorandum of Understanding (MoU) certified by Magistrate/Sub-Judge/ Notary Public on 100 Rupees stamp paper, executed between the members of Consortium shall be submitted along with the tender. The complete details of the members of the consortium, their share and responsibility in the Consortium etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.
9. Duration of MoU and this Agreement shall be valid during the entire execution period/ validity of letter of award and any extension thereafter/currency of the contract including the period of extension, if any.
10. Any change/modification in constitution of Consortium Firm shall not be allowed. Members of the consortium are not allowed to enter into separate consortium(s) with other companies/organisations/bidders to participate in other bids of CREDA as long as this bid is valid.
11. The lead partner of consortium shall be solely responsible for any liability, penalty, insurance, CMC and other terms and conditions mentioned in this Tender Document. In event of default by any partner in the execution of his part of contract, both the partners shall be debarred form the tender, execution of work and empanelment list of CREDA.
12. Notwithstanding the permission to assigning the responsibilities of defaulting partner above, both the partner of consortium will retain the full and undivided responsibility for the performance of their obligation under the bid.
13. The bid submitted shall include all the relevant information mentioned in this tender document applicable to consortium partner shall be furnished separately for each partner like affidavit as in **Annexure-IV** mentioning information of relatives, Experience certificate, **Schedule- I,II,III,IV** etc. In case of fails to do, bid shall be rejected.

- 14. Members of the Consortium Firm shall be jointly and severally liable to CREDA for execution of the project/ Work/ Assignment/ attending meetings/Review for the allocated works etc. The Consortium members shall also be liable jointly and severally for the loss, damages caused to the CREDA during the course of execution of any awarded contract or due to non-execution of the contract or part thereof. Governing Laws for Consortium Firm: The Consortium Agreement in all respect be governed by and interpreted in accordance with Indian Laws.
- 15. Subject to the terms of this Agreement, the all member shall be responsible for providing technical and financial support and responsible for execution of project as per agreement to be signed.
- 16. In case of any breach of the said Contract by any of the partners of the CONSORTIUM, we hereby agree to be fully responsible for the successful execution/performance of the contract in accordance with the terms of the Contract.
- 17. Further, if the Owner suffered any loss or damage on account of any breach of the contract or any shortfall in the completed equipment/ plant, meeting the guaranteed performance parameters as per the technical specifications/ contract documents, the lead Partner and Second Partner of these presents undertake to promptly make good such loss or damage caused to the Owner, on the Owner’s demand without any demur.
- 18. The financial liability of the partners to this Consortium Agreement, to the Owner with respect to the any or all claims arising out of the performance or non-performance of the contract shall, however be not limited in any way so as to restrict or limit the liabilities of either of the partner.
- 19. This Consortium Agreement shall be governed, construed and interpreted in accordance with Laws of India. Courts of Raipur (C.G.) shall have exclusive jurisdiction in all matters arising there under.
- 19. It is further agreed that this CONSORTIUM Agreement shall be irrevocable and shall form an integral part of the Contract and shall continue to be enforceable till the Owner discharges the same. It shall be effective on the date first above mentioned for all purposes and intents.

IN WITNESS WHEREOF, the partners to this Consortium agreement have, through their respective authorized representatives, have executed these presents and affixed their hands and common seal of their respective companies on the day, month and year first above mentioned.

FOR, M/s

FOR, M/s

(MR.)
Lead Partner/Partner-1

(MR.....)
Other Partner/Partner-2

WITNESS -

1.....

2.....

WITNESS -

1.....

2.....

BENCHMARK COST OF SPV IRRIGATION PUMPING SYSTEMS

S. No.	Particular	Approved Rates of Solar Pumps (Without GST)
1	2 HP DC SPV Surface Pump	148850/-
2	2 HP AC SPV Surface Pump	129998/-
3	2 HP DC SPV Submersible Pump	170300/-
4	2 HP AC SPV Submersible Pump	148200/-
5	3 HP DC SPV Surface Pump	244000/-
6	3 HP AC SPV Surface Pump	244000/-
7	3 HP DC SPV Submersible Pump	261500/-
8	3 HP AC SPV Submersible Pump	257000/-
9	5 HP DC SPV Surface Pump	359000/-
10	5 HP AC SPV Surface Pump	331000/-
11	5 HP DC SPV Submersible Pump	363500/-
12	5 HP AC SPV Submersible Pump	331000/-

Note:-

Above rates are FOR anywhere in the State of Chhattisgarh inclusive of roadworthy packing, loading, unloading, all types of incidental expenses, 5 years warrantee, insurance and CMC as mentioned in the tender document.

FORMAT FOR THE AFFIDAVIT

(Declaration of conflict of Interest)

(Note: This affidavit should be on a non-judicial stamp paper of Rs. 100/- and shall be attested by Magistrate/Sub-Judge/ Notary Public)

I,.....(Name of the bidder authorized representative of the bidder) son/daughter ofresident of (full address), aforesaid solemnly affirm and state as under :

1. I hereby certify that all the information furnished with the bid submitted in response to notice inviting bid number 153398/CREDA/SPV IRRIGATION PUMP/2024-25 Dated: 26.02.2024 issued by Chhattisgarh State Renewable Energy Development Agency (CREDA) (authority inviting bids) for SOLAR IRRIGATION PUMP Scheme(name and identification of work) are true and correct.
2. I hereby certify that I have been authorized by.....(Company name) to sign on their behalf, the bid mentioned in sr.no.1 above.*
3. Information furnished in the bidding documents is correct in all respects to the best of my knowledge and belief.
4. The near relations as per clause 30(A), in CREDA, are not in employment of the firm/company. (Note:-By the term near relatives is meant Wife, Husband, Parents and Son, Brother, Sister, Brother-in-law, Father-in-law, Mother-in-law etc.) (if working mention the name/names)
.....
.....
5. The name of near relative (if any) as per Clause 30(B) who retired/removed within the last two years. (If None, clearly State None)
.....
.....
6. No near relative is working as Financial Accountant in the CREDA. (if working mention the name)
.....
.....
7. No person is working in the company in any capacity, who are near relatives to any Officer in Chhattisgarh State Renewable Energy Development Agency (CREDA) (If working mention the name)
.....
.....

- 8. Our company/firm/ or otherwise is not under the clarification of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any public undertaking, autonomous body, authority by whatever name called under the Central or the State Government. as mention in clause 1(F) of tender document.
- 9. I hereby authorize the CREDA Officials to get all the documents verified from appropriate sources (s).

Deponent

Place :

Date :

* Not applicable if the bidder is an individual and is signing the bid on his own behalf.

Verification

I..... S/o... do here by affirm that contents stated in Para 1 to 09 above and contents submitted in technical & financial bid are true to the best or my knowledge and believe and are based on my/our record.

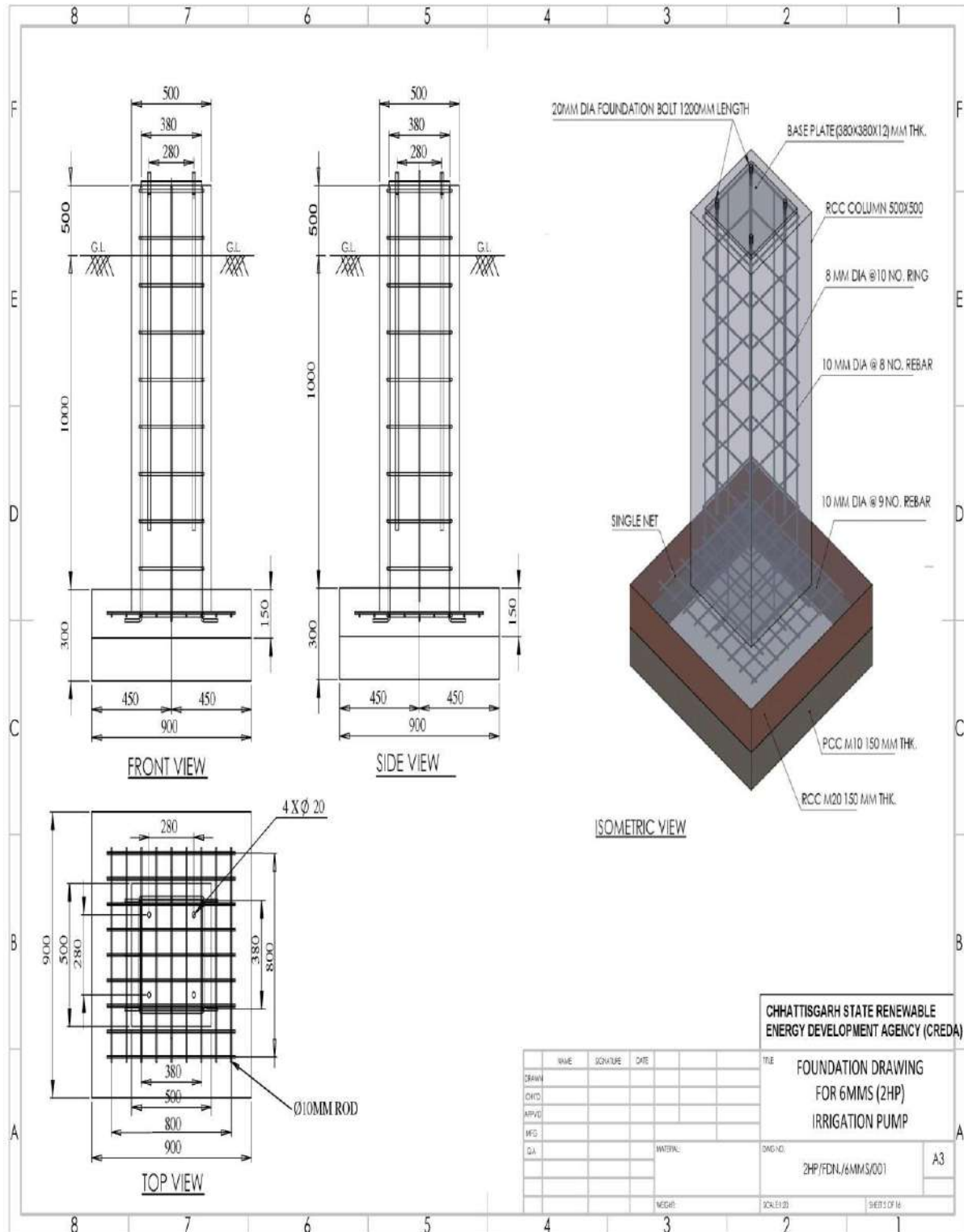
Verified that this date of at (Place).....

Deponent

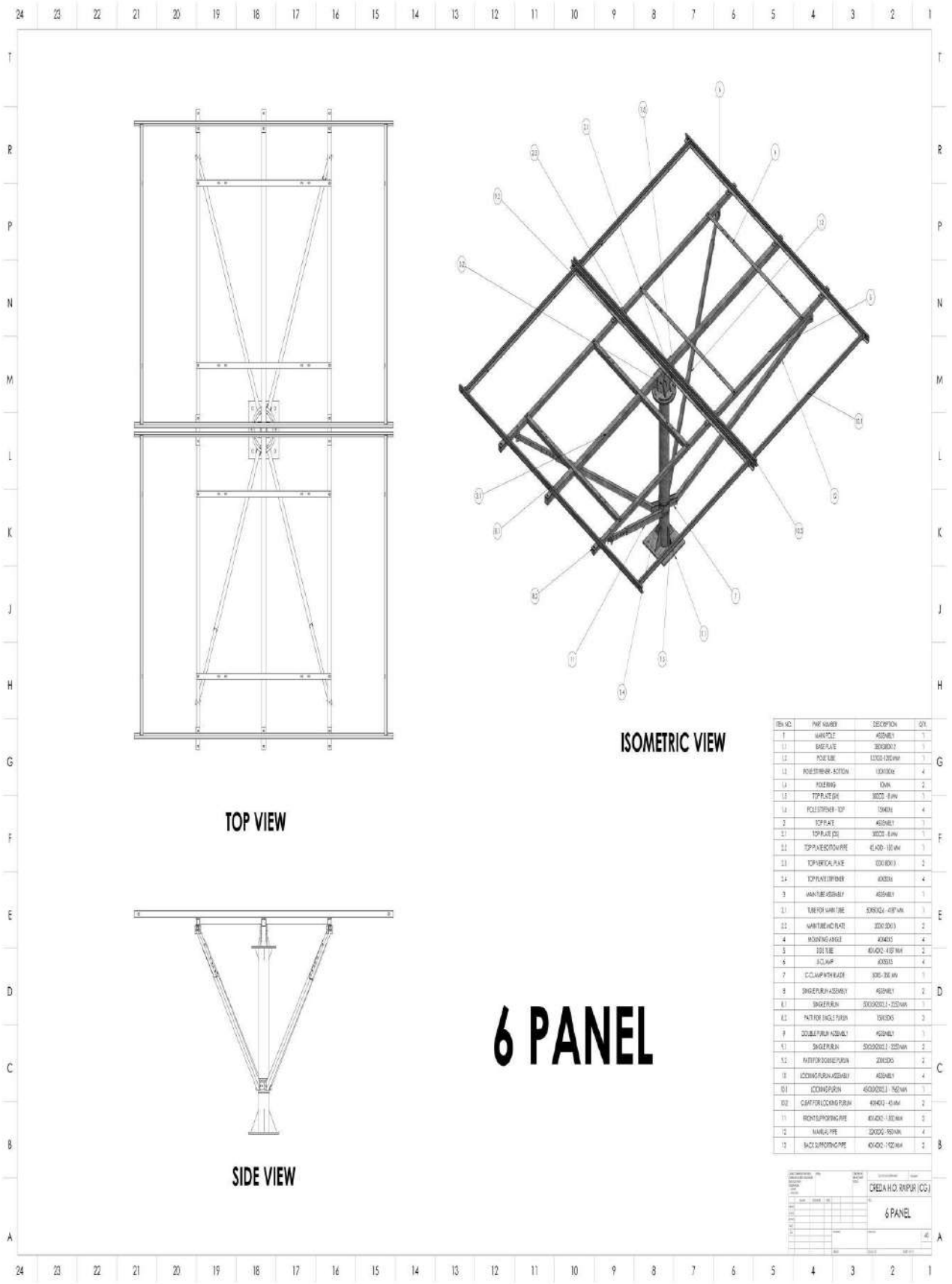
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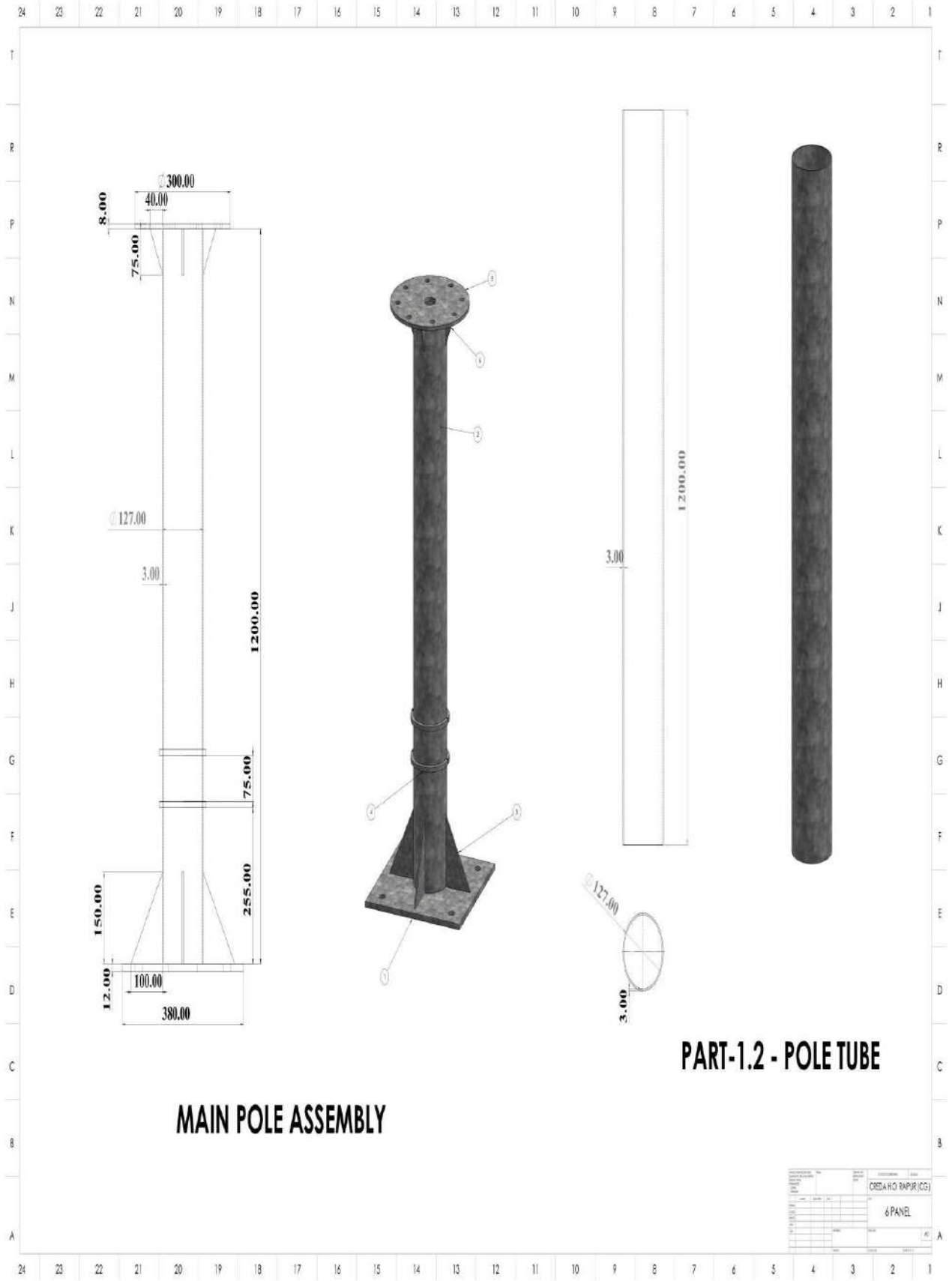
Complete Drawing of Module Mounting Structure & Civil Works

Foundation & MMS Drawings of 02 HP (06 NOs. Module of min 320 Wp)



A-2





CREDA HQ PAPER (CG)
8 PANEL

A-5

24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

T T

R R

P P

N N

M M

L L

K K

J J

H H

G G

F F

E E

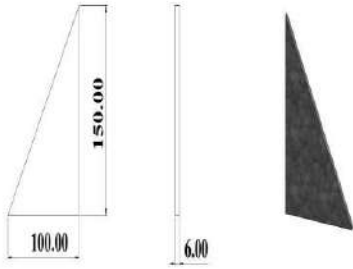
D D

C C

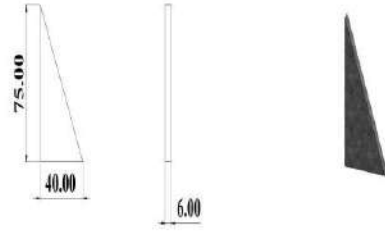
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A A

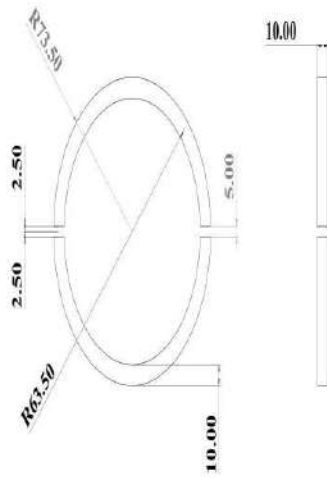
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PART-1.3 - STIFFENER-BOTTOM



PART-1.6 - STIFFENER-TOP

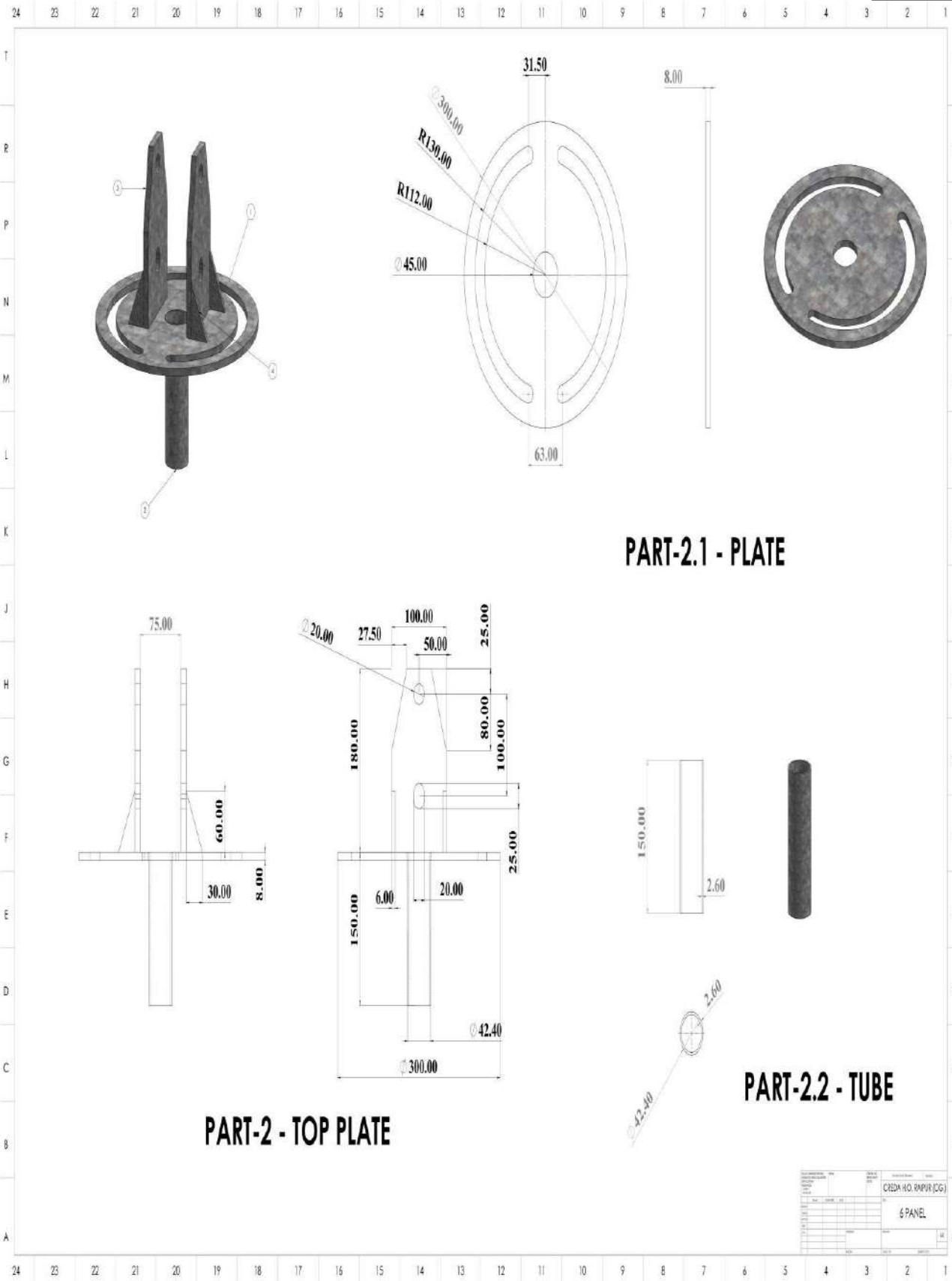


PART-1.4 - POLE RING



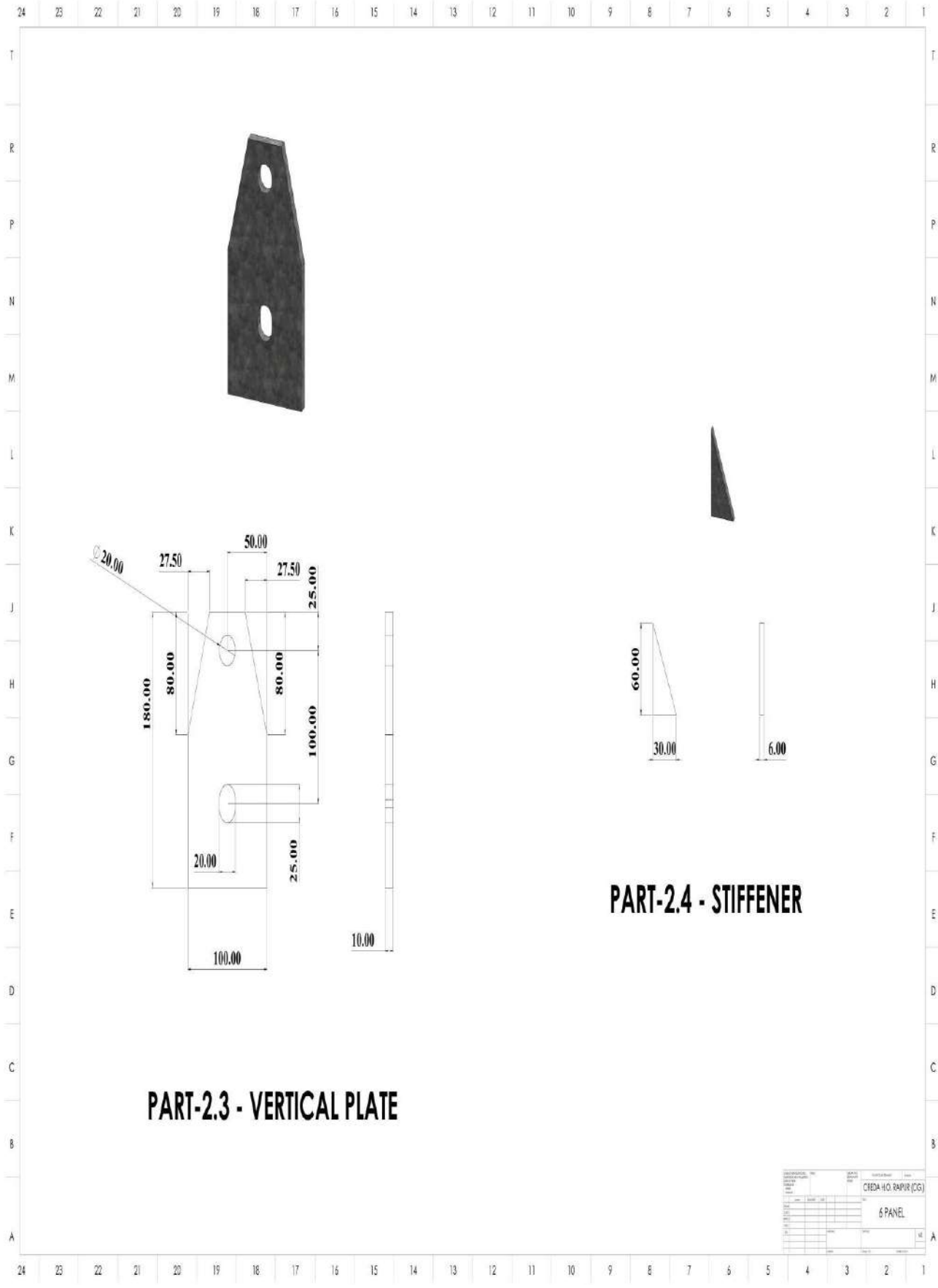
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DATE	2024-08-25	DRAWN BY	CG
CHECKED BY		DATE	
CREDA HO. RAJUR (CG)			
6 PANEL			
NO.	REV.	DATE	BY

A-6

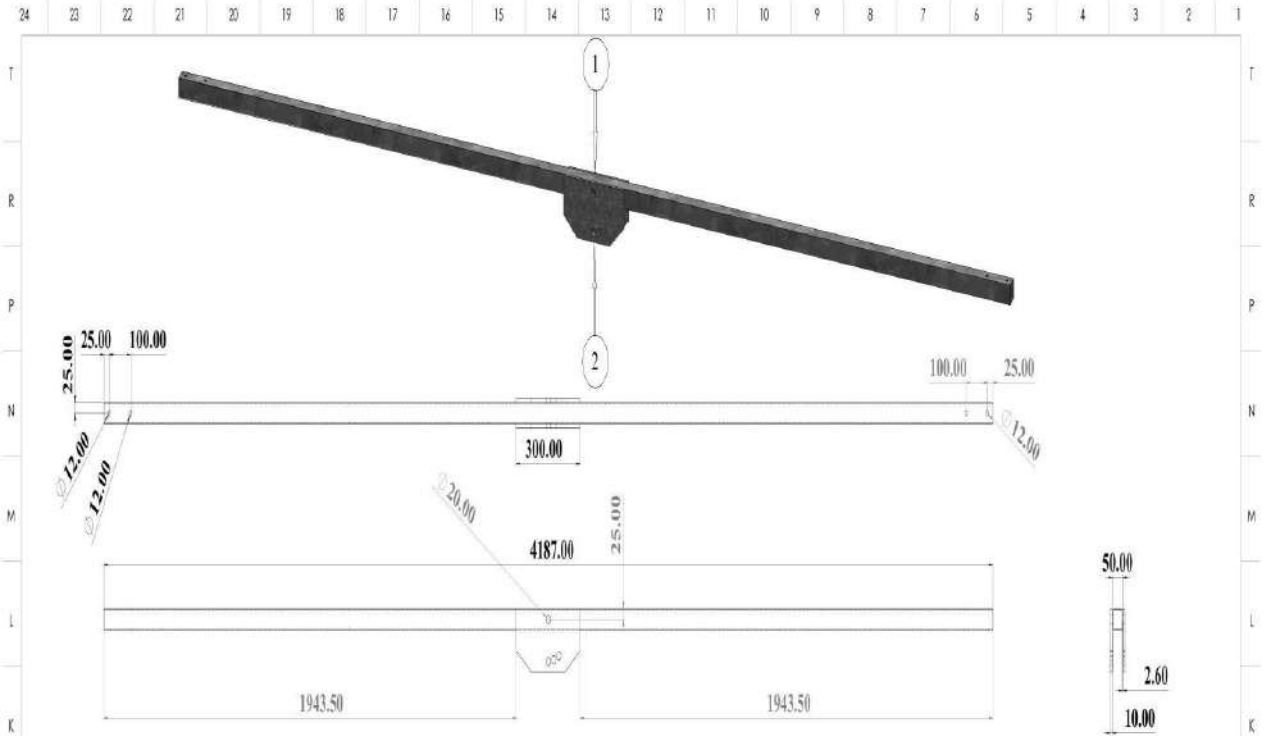


Project Name	CREDA HO. RANPUR (CG)
Panel No.	6 PANEL
Scale	1:1
Drawn By	
Checked By	
Date	

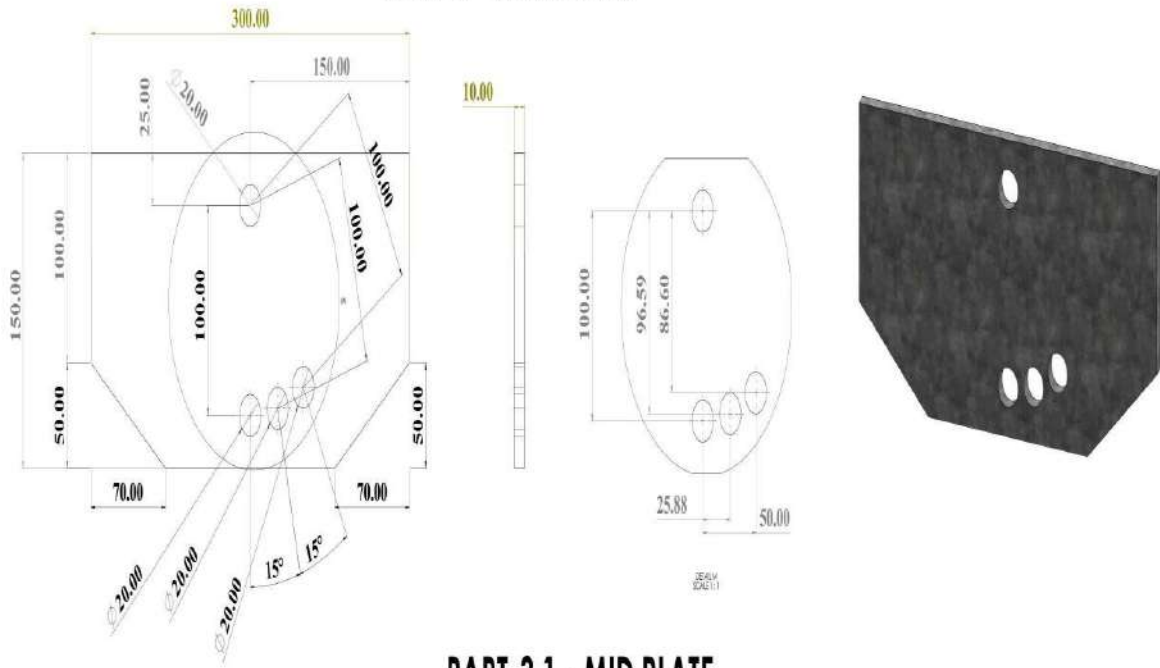
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NO.	REVISION	DATE	BY	CHECKED
CREDA-HO RAPIR (CG)				
6 PANEL				



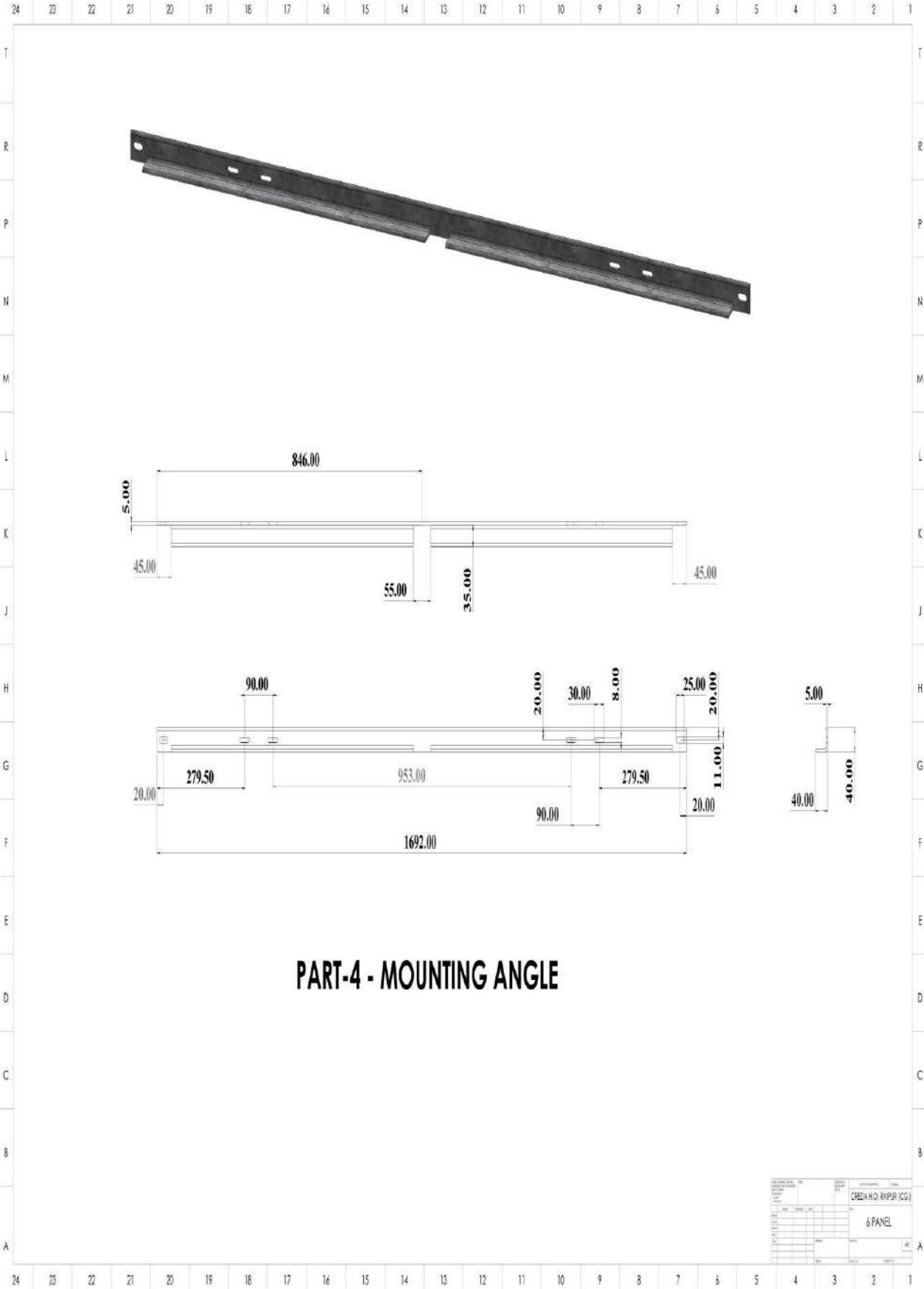
PART-3 - MAIN TUBE



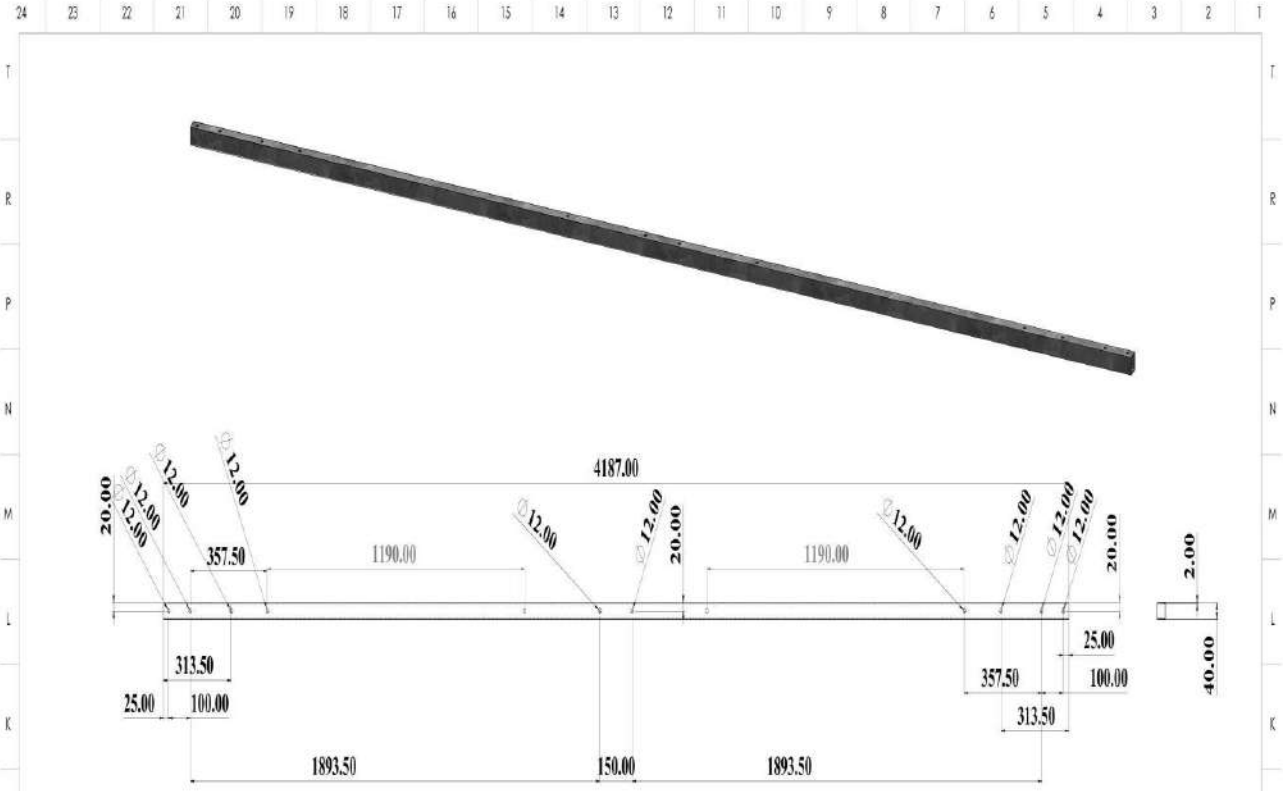
PART-3.1 - MID PLATE

NO.	REVISION	DATE	BY	CHECKED	APPROVED
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6 PANEL					

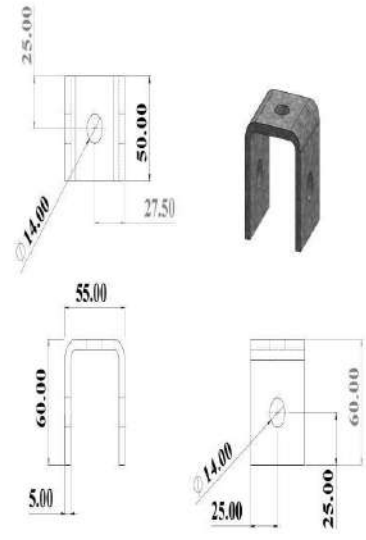
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A-10



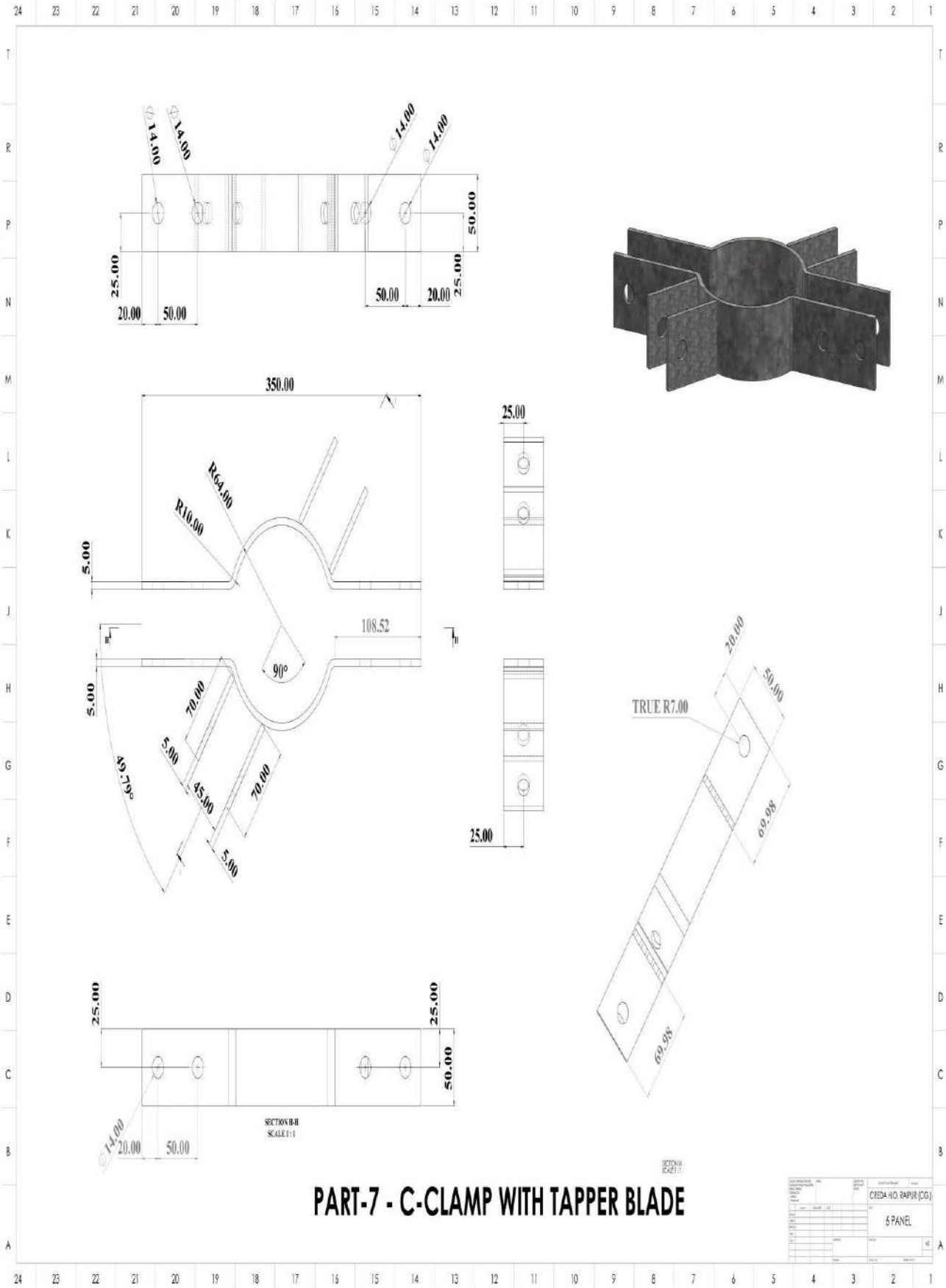
PART-5 - SIDE TUBE



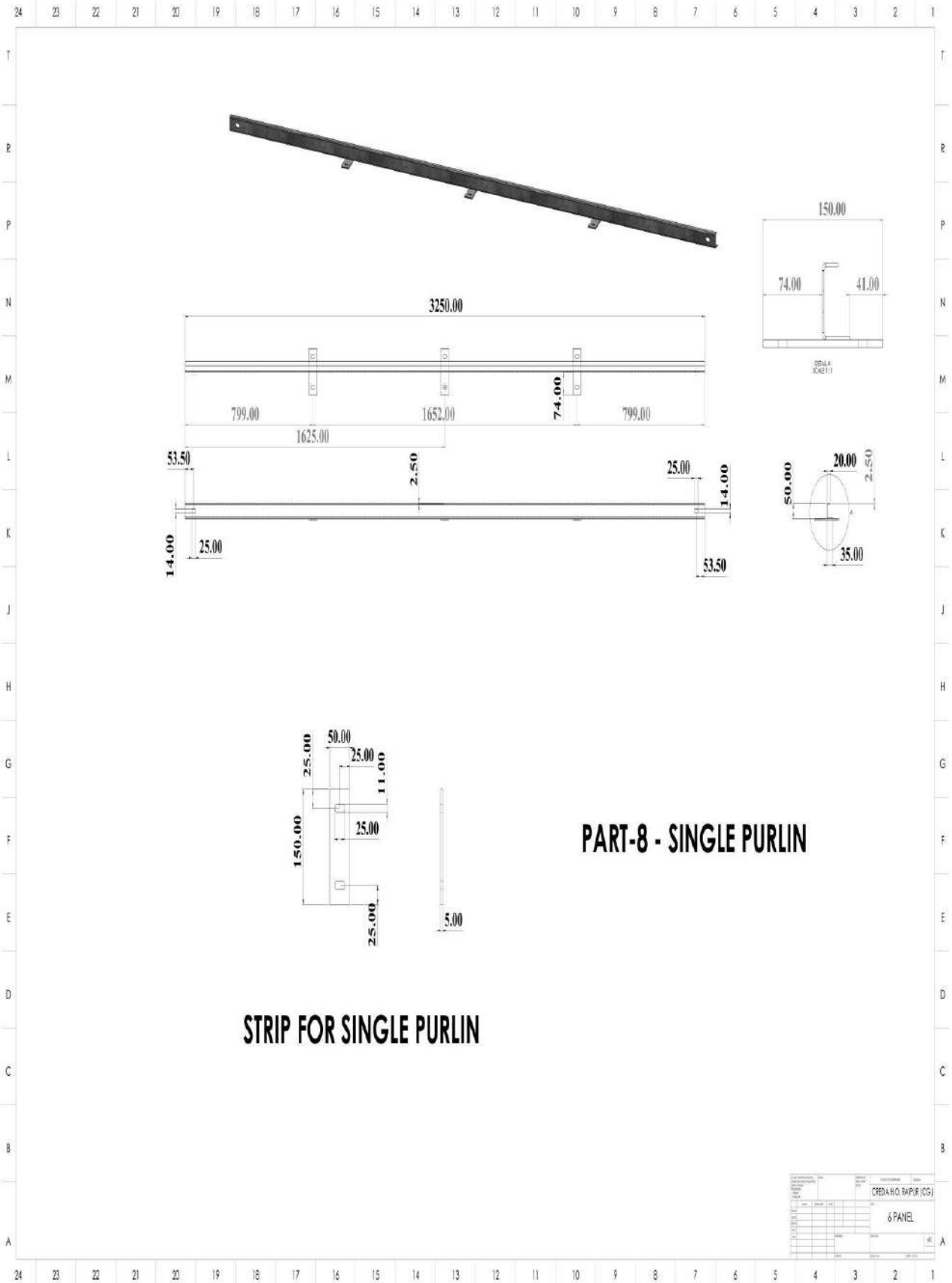
PART-6 - U-CLAMP

NO.	DESCRIPTION	QTY	UNIT	AMOUNT
	CREDA-HO-RAMPV (CG)			
	6 PANEL			

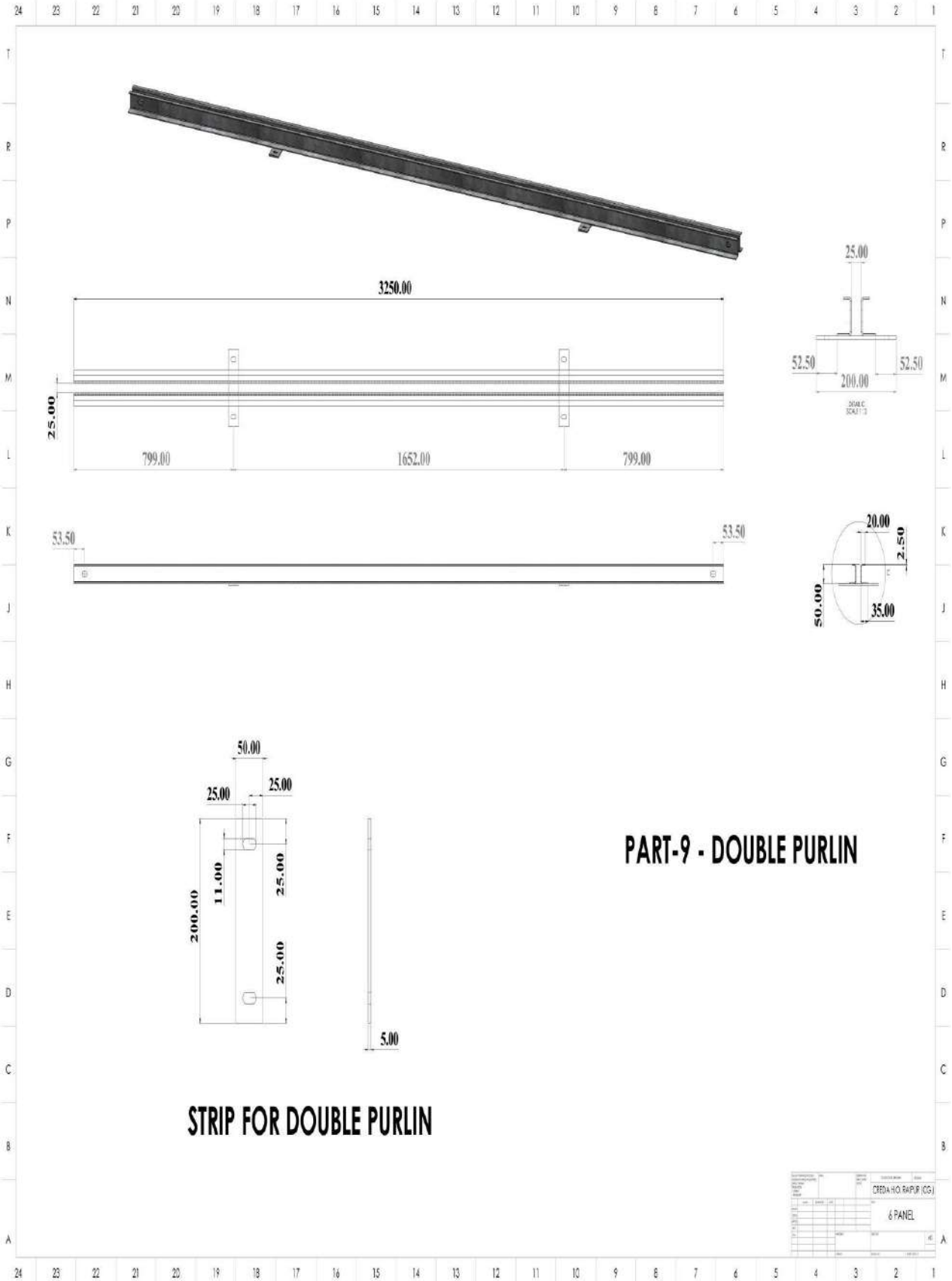
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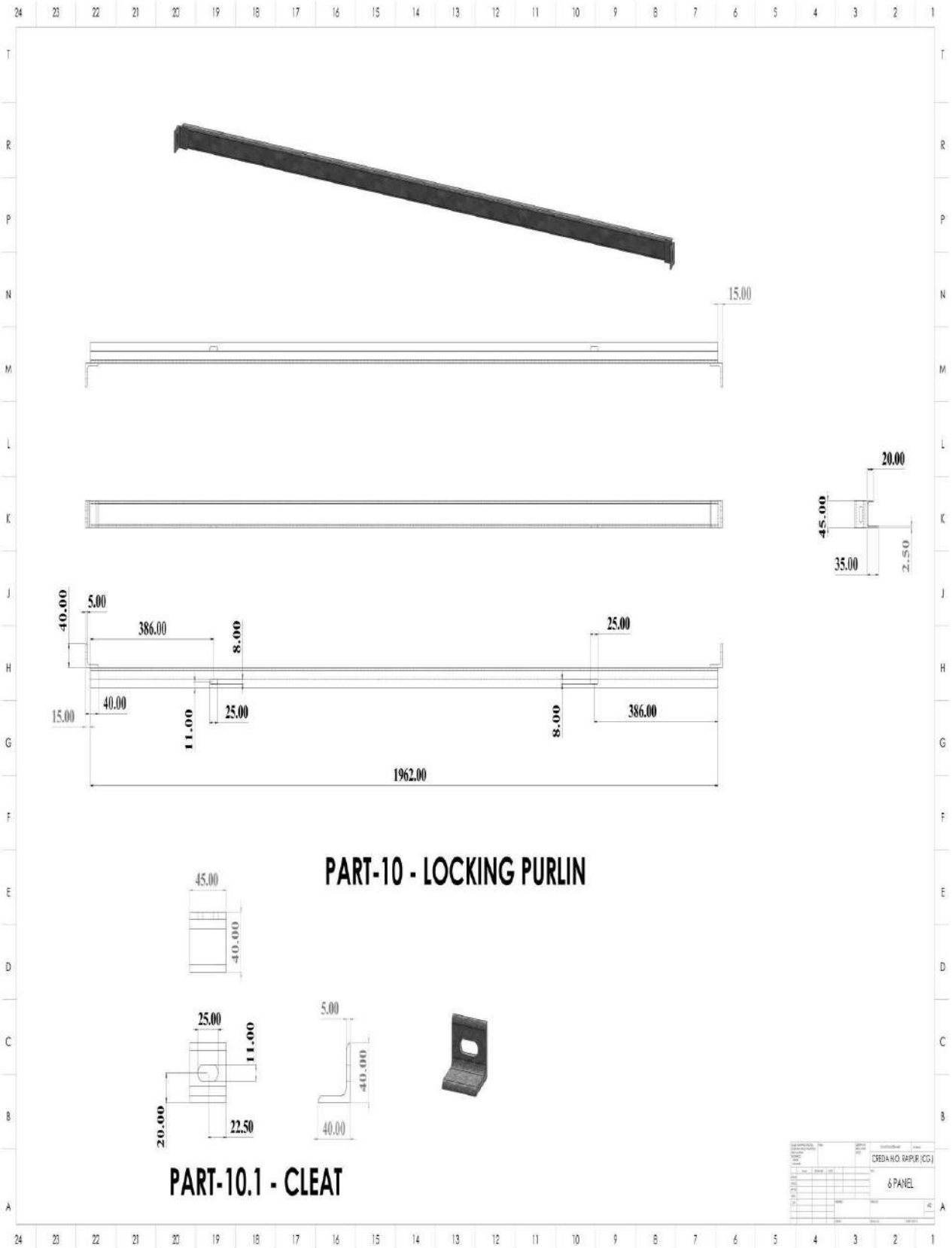


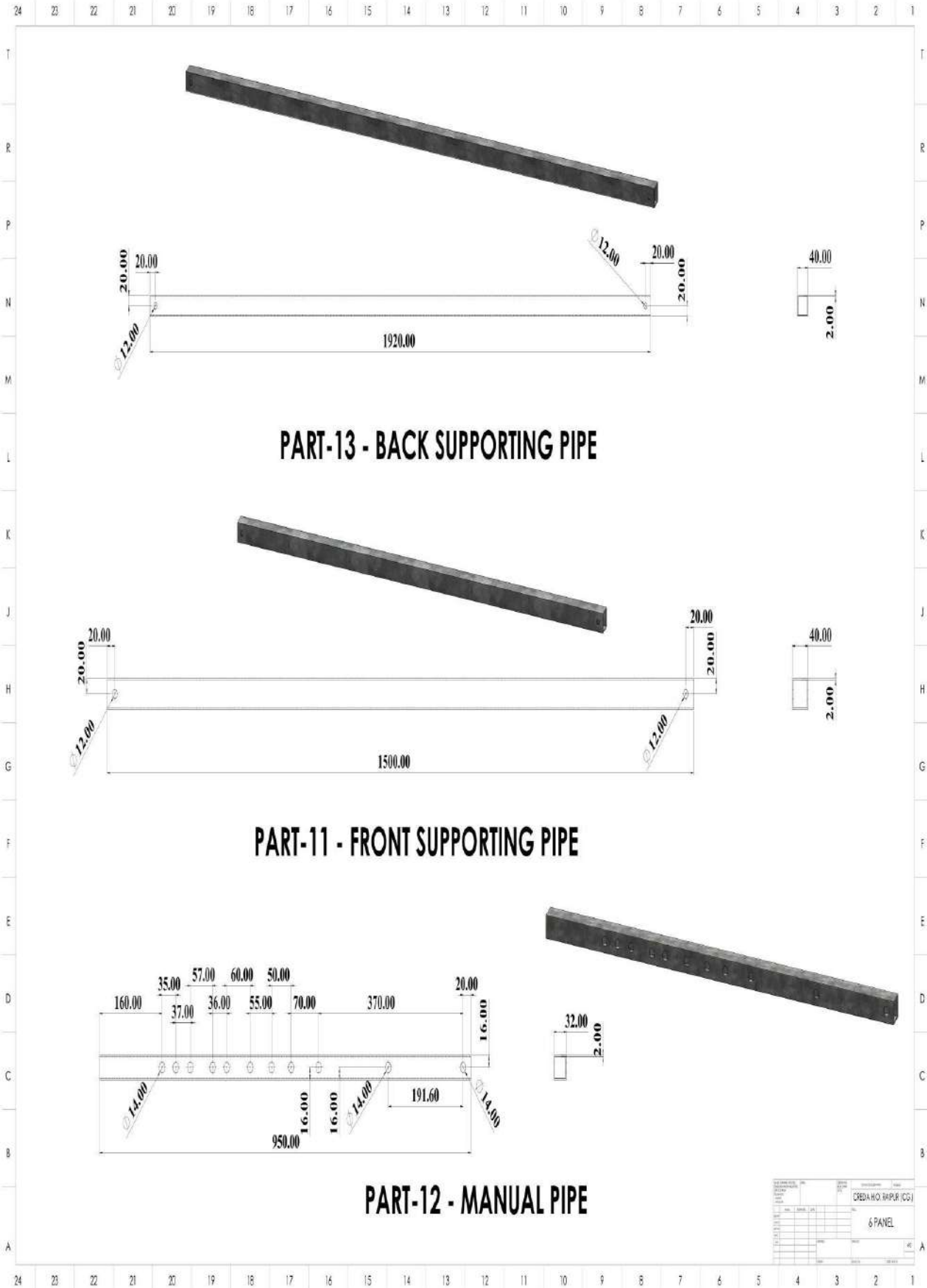
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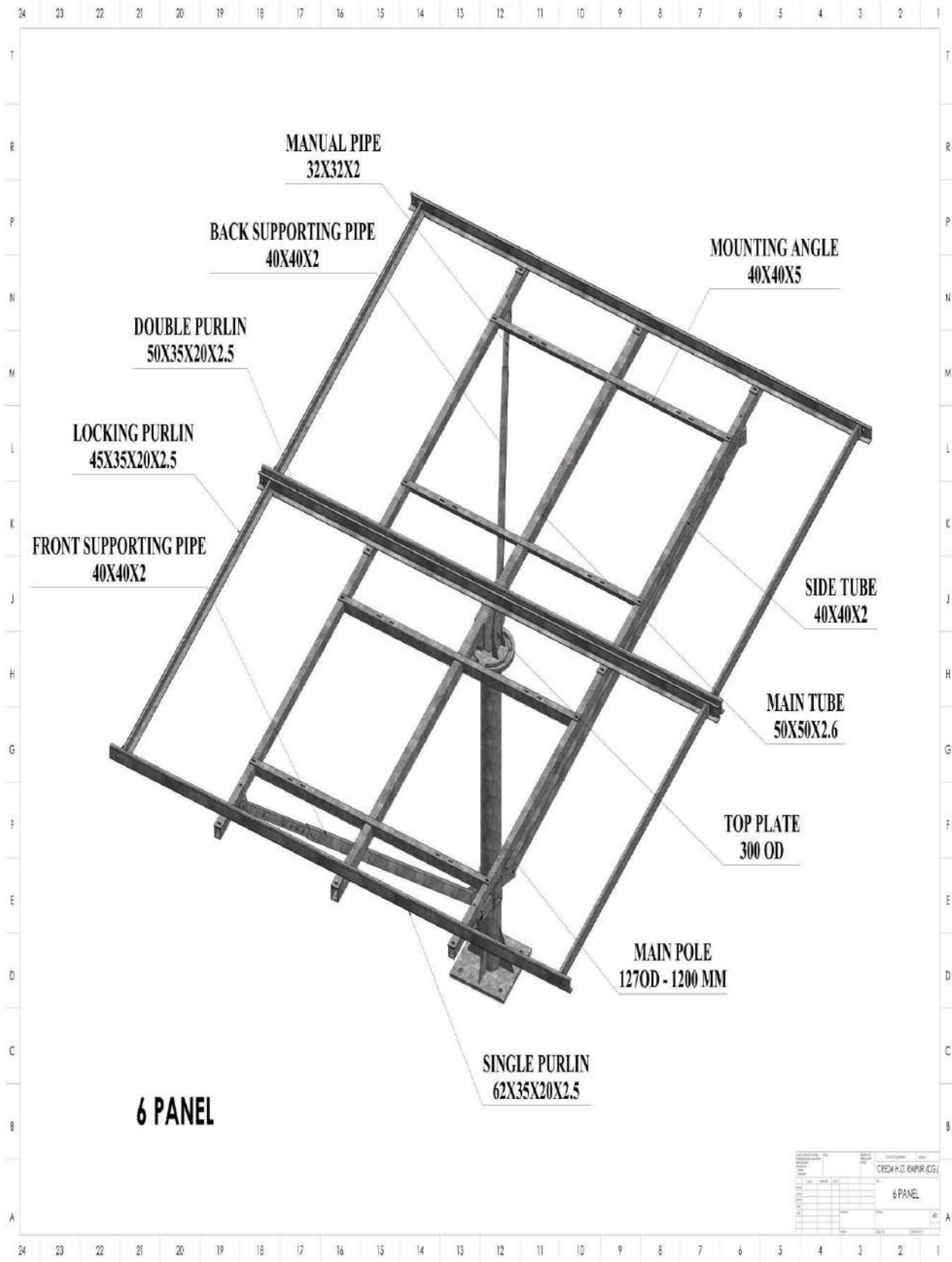


A-13

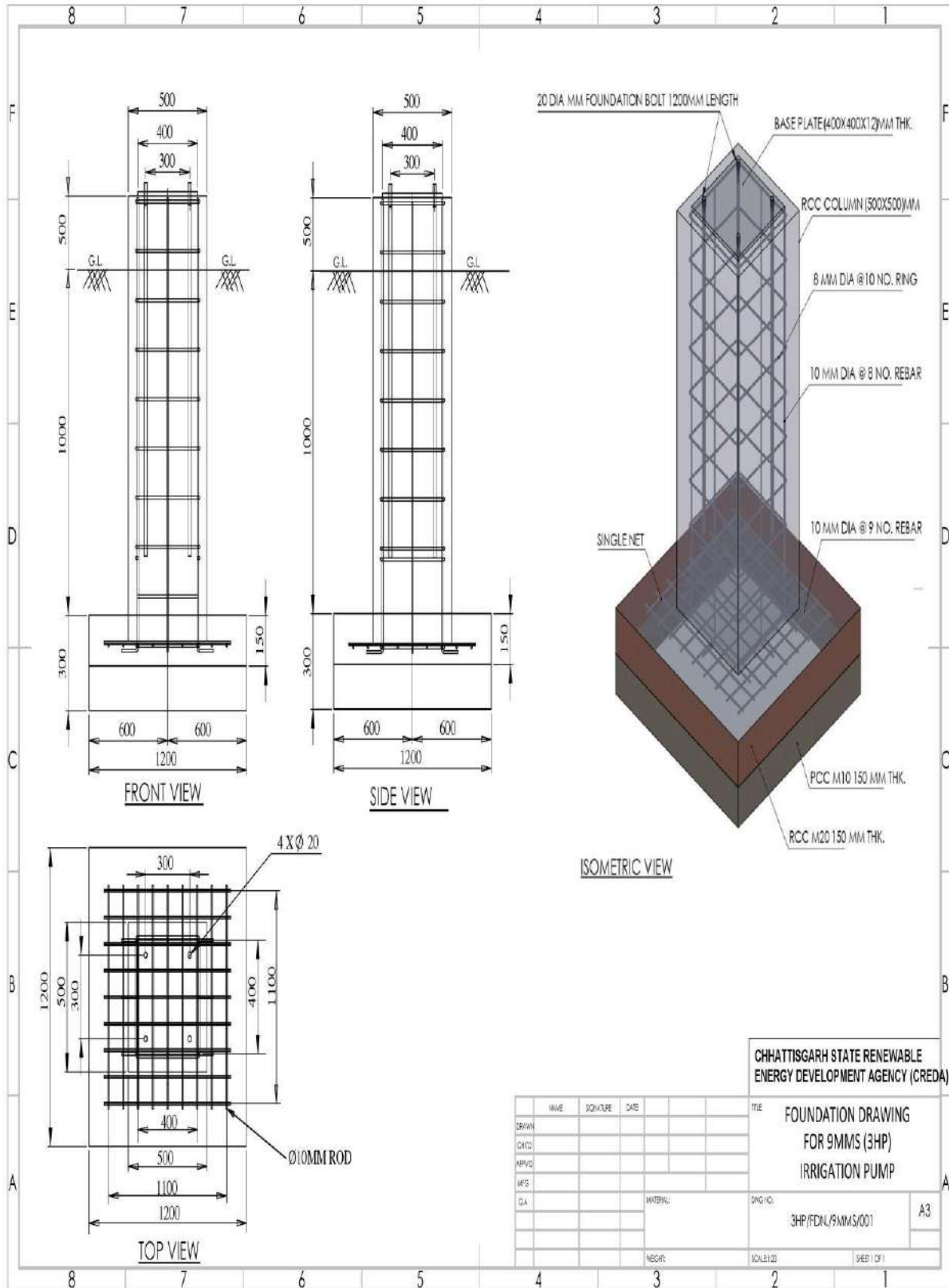


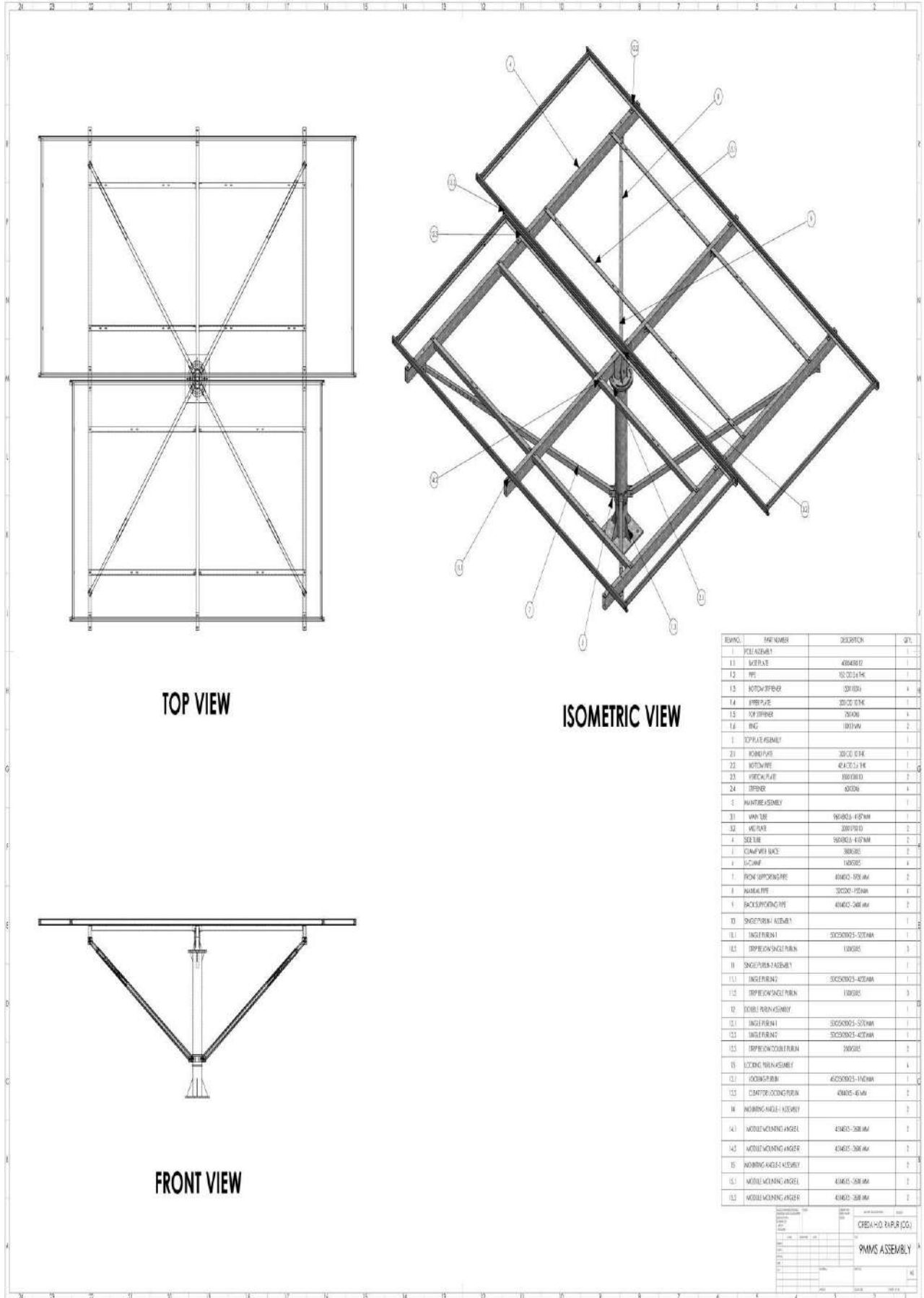


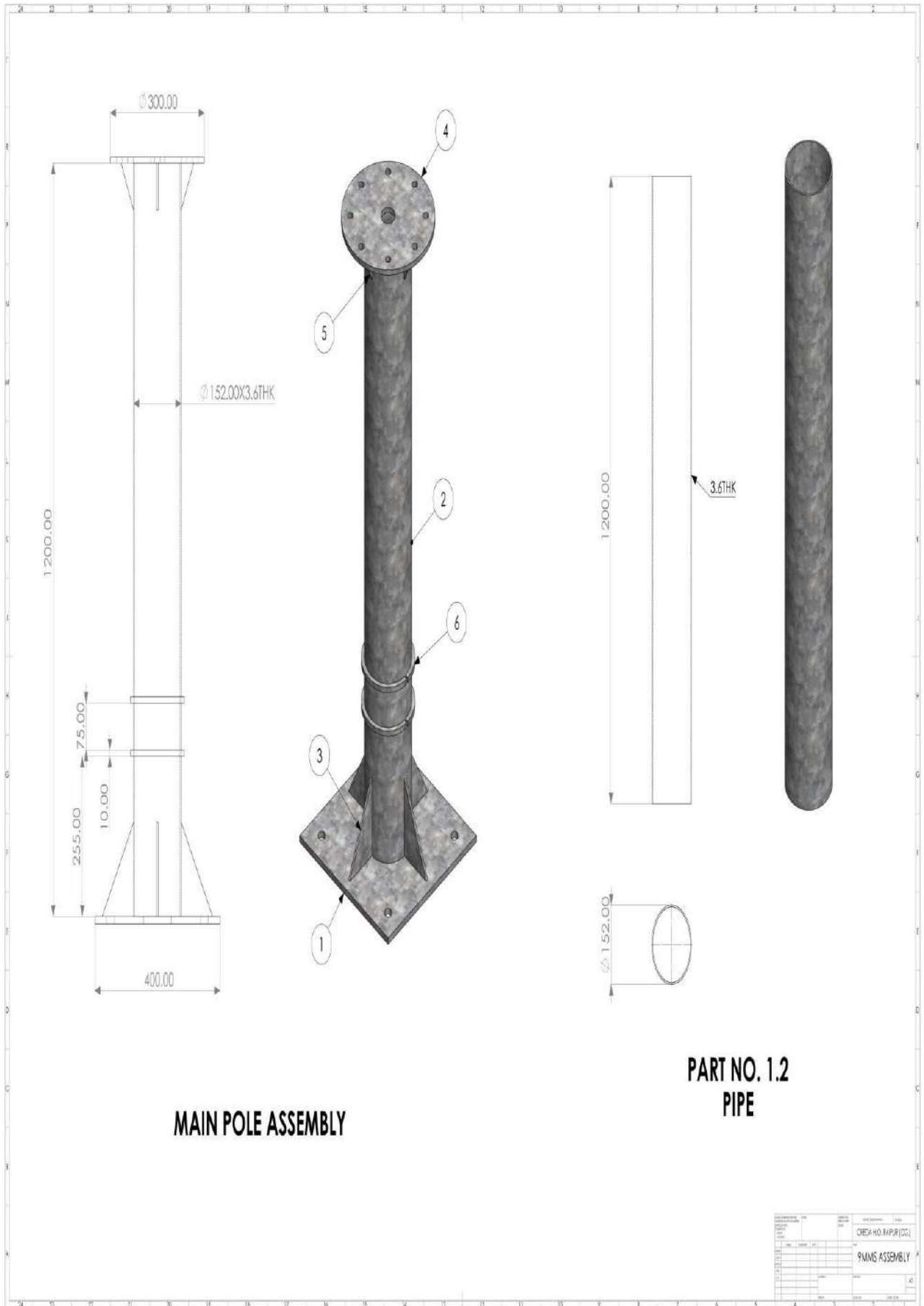


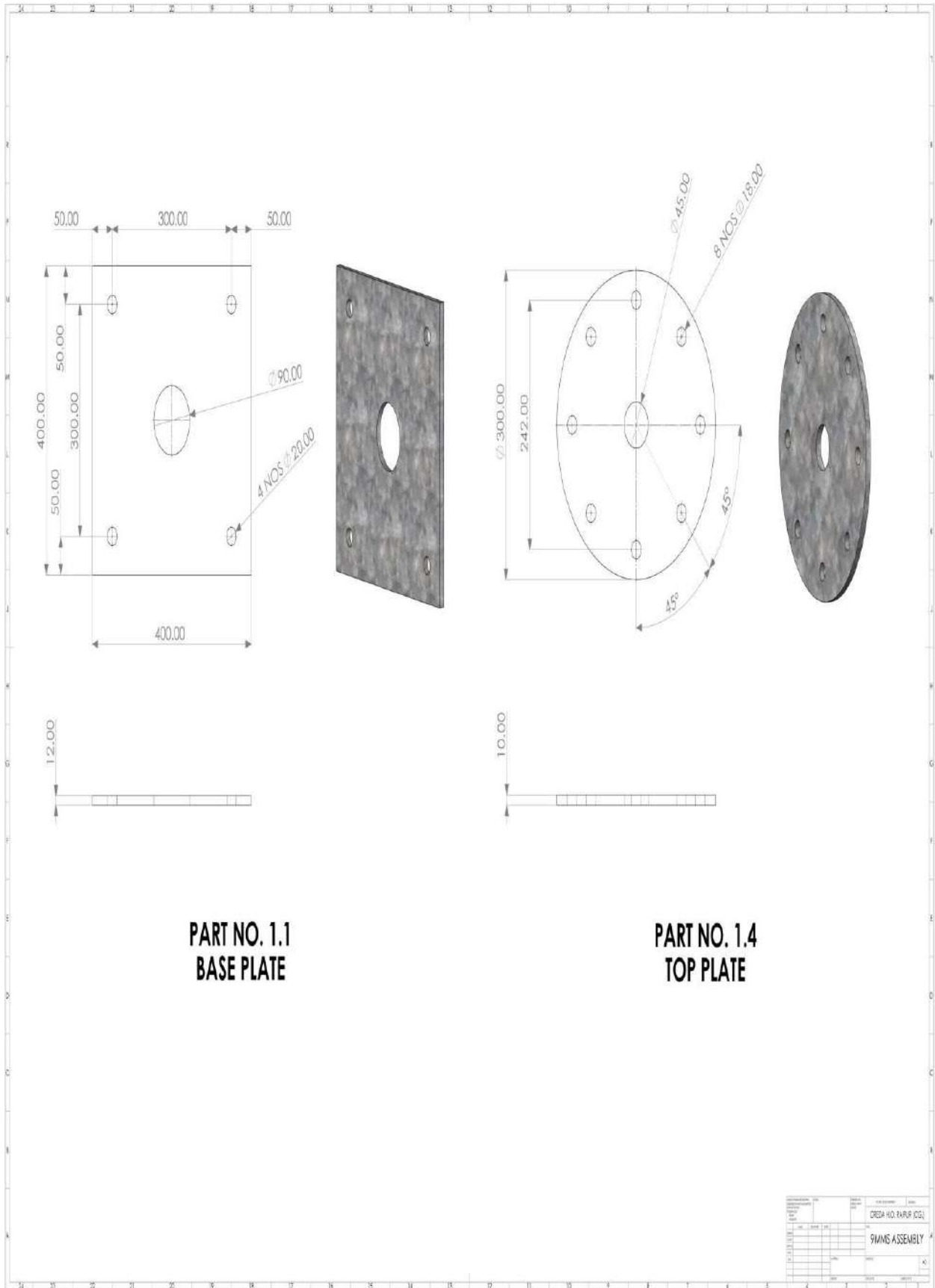


Foundation & MMS Drawings of 03 HP (09 NOs. Module of min 320 Wp)





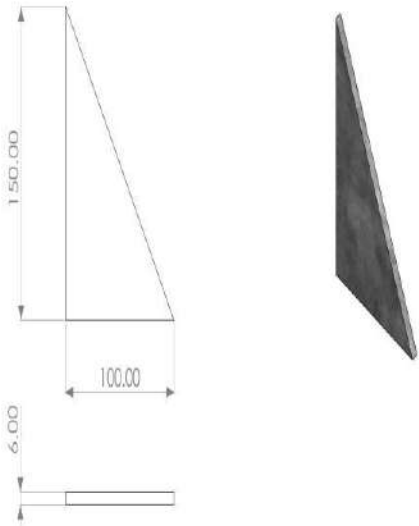




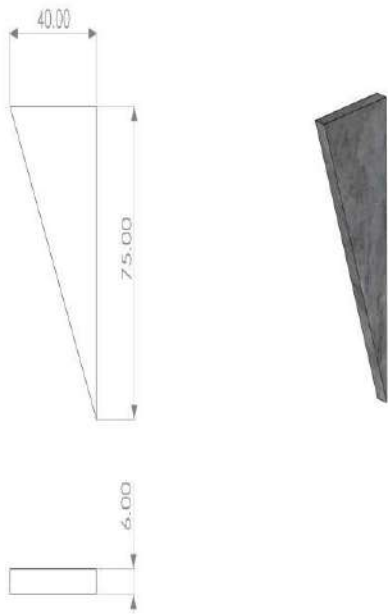
**PART NO. 1.1
BASE PLATE**

**PART NO. 1.4
TOP PLATE**

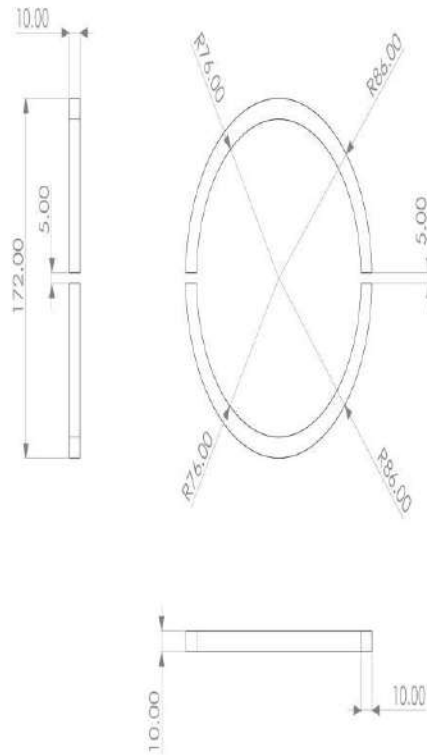
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Client	9MMS ASSEMBLY
Scale	
Sheet No.	
Total Sheets	
Revision	
Drawn By	
Checked By	
Approved By	



**PART NO. 1.3
BOTTOM STIFFENER**

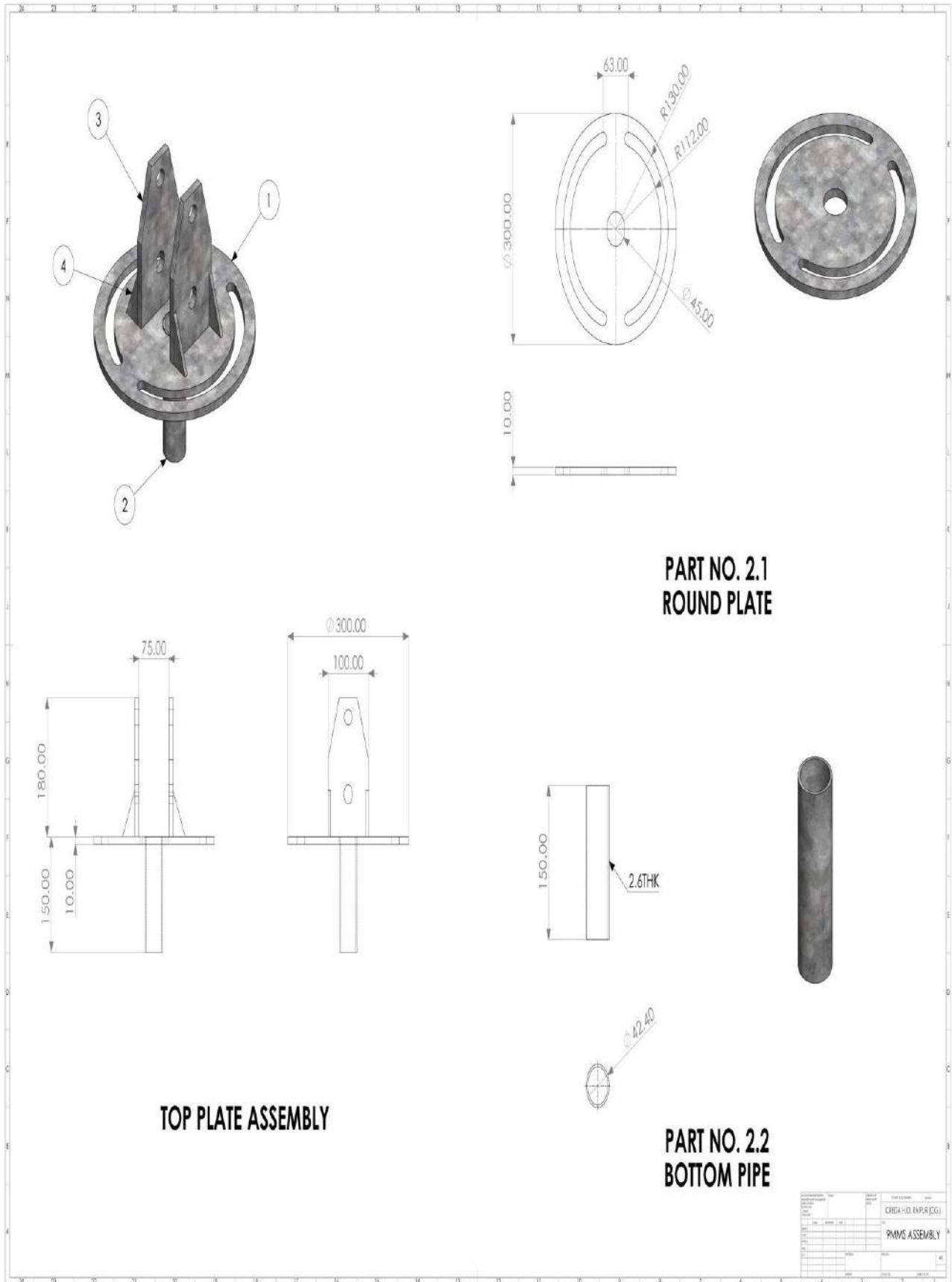


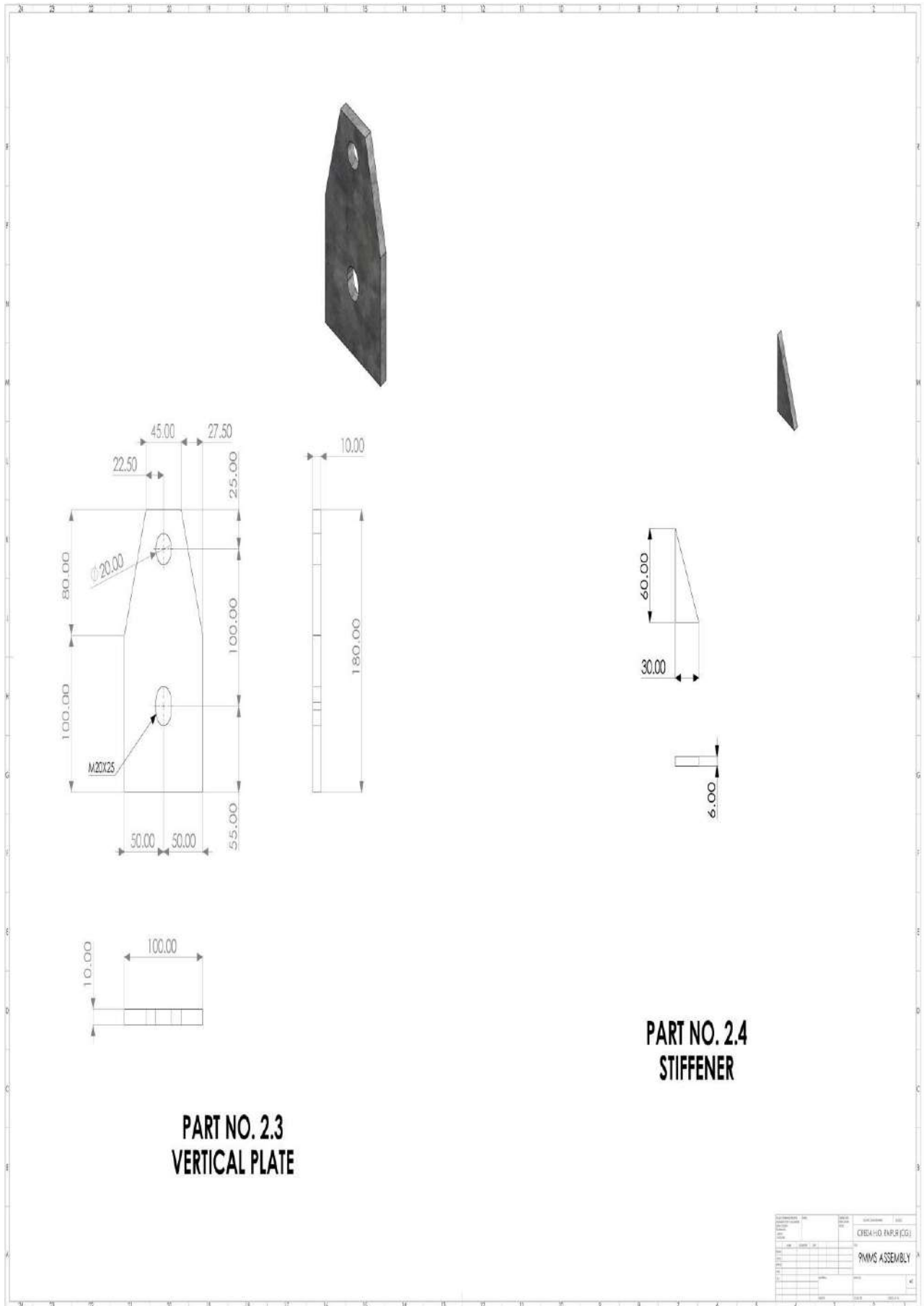
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TOP STIFFENER**



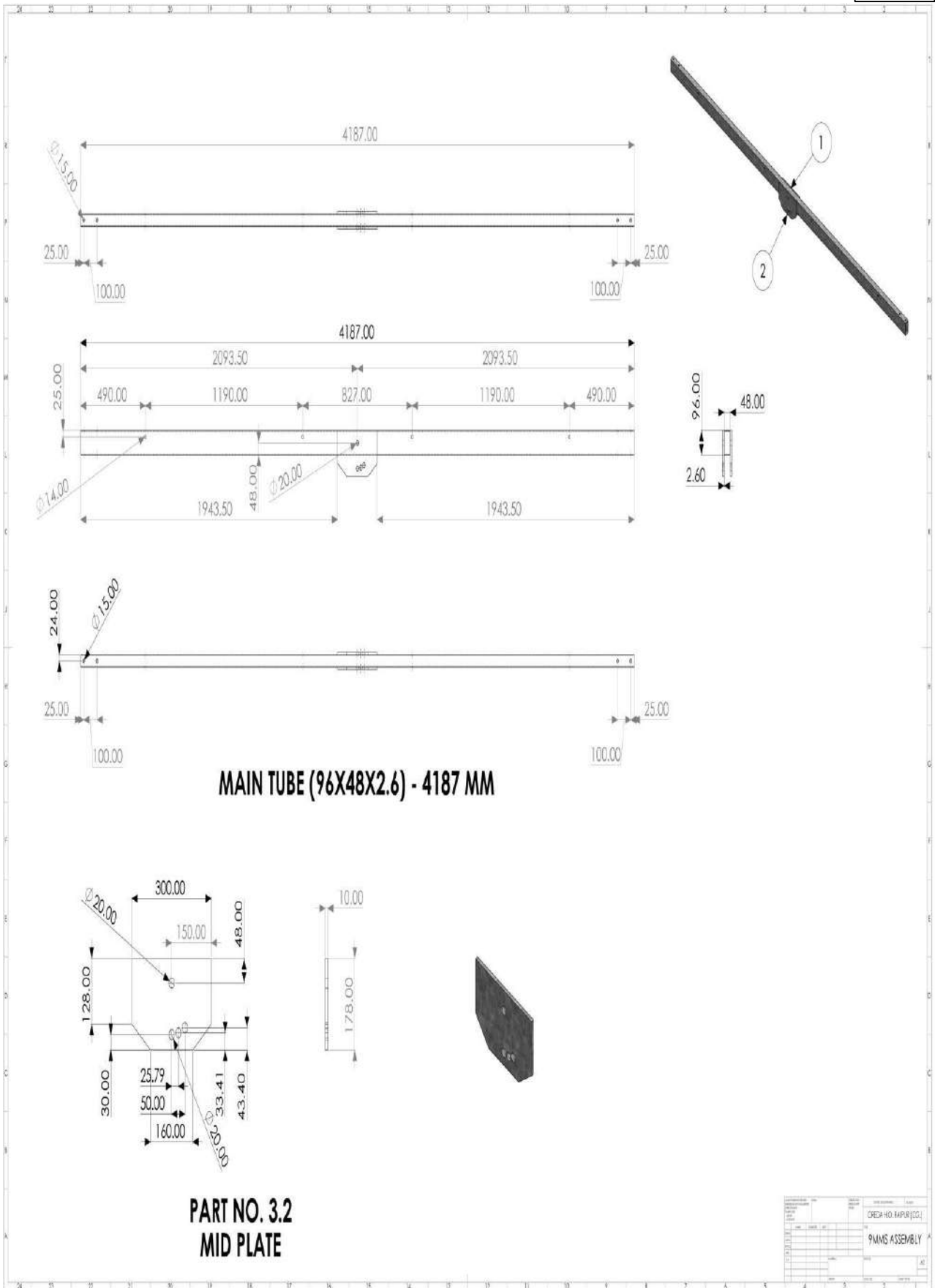
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RING**

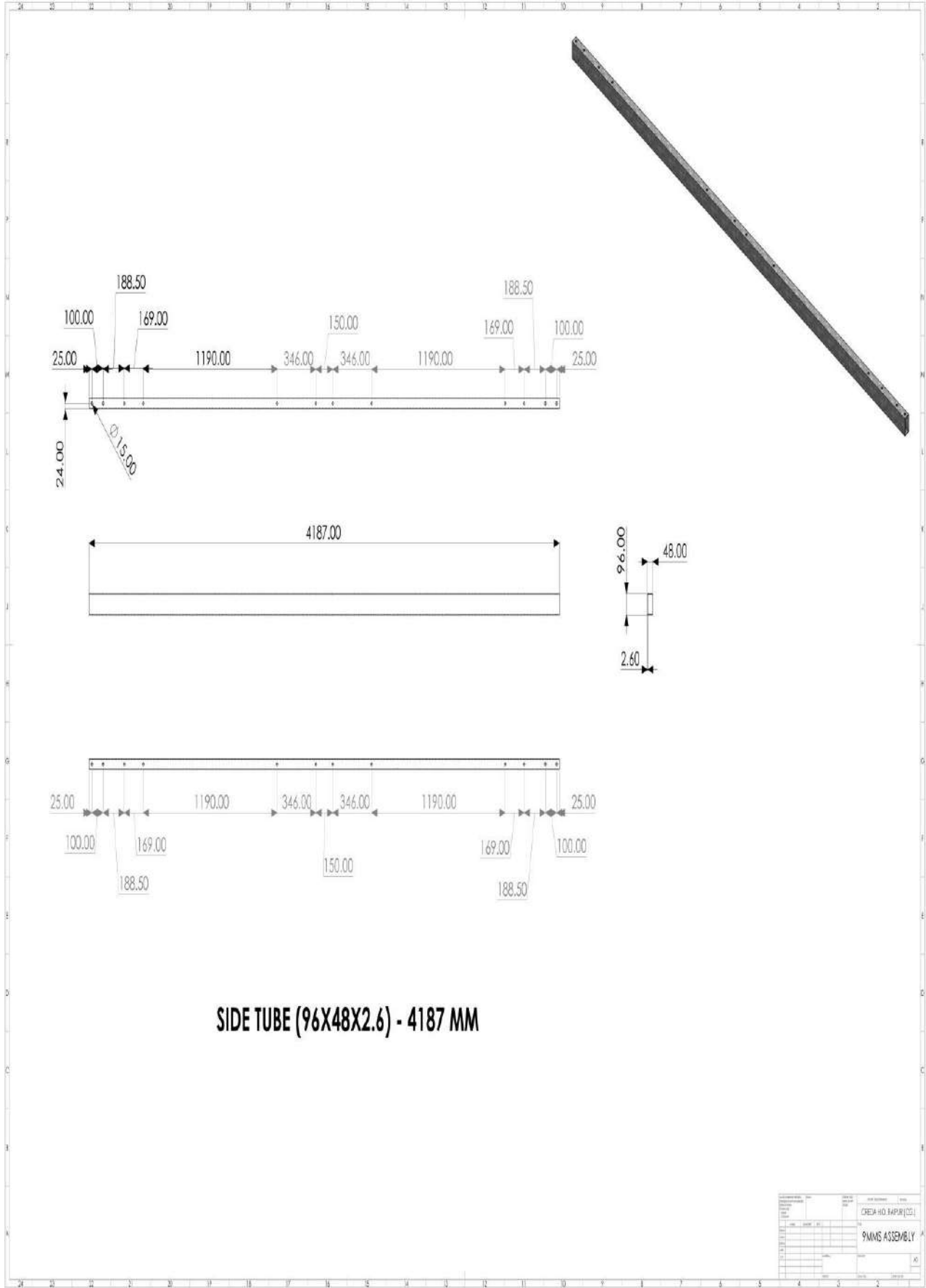
DATE	ISSUED	BY	CHKD	APPD
CREDA-INDIA (P) LTD.				
PUMPS ASSEMBLY				
SCALE: 1:1				

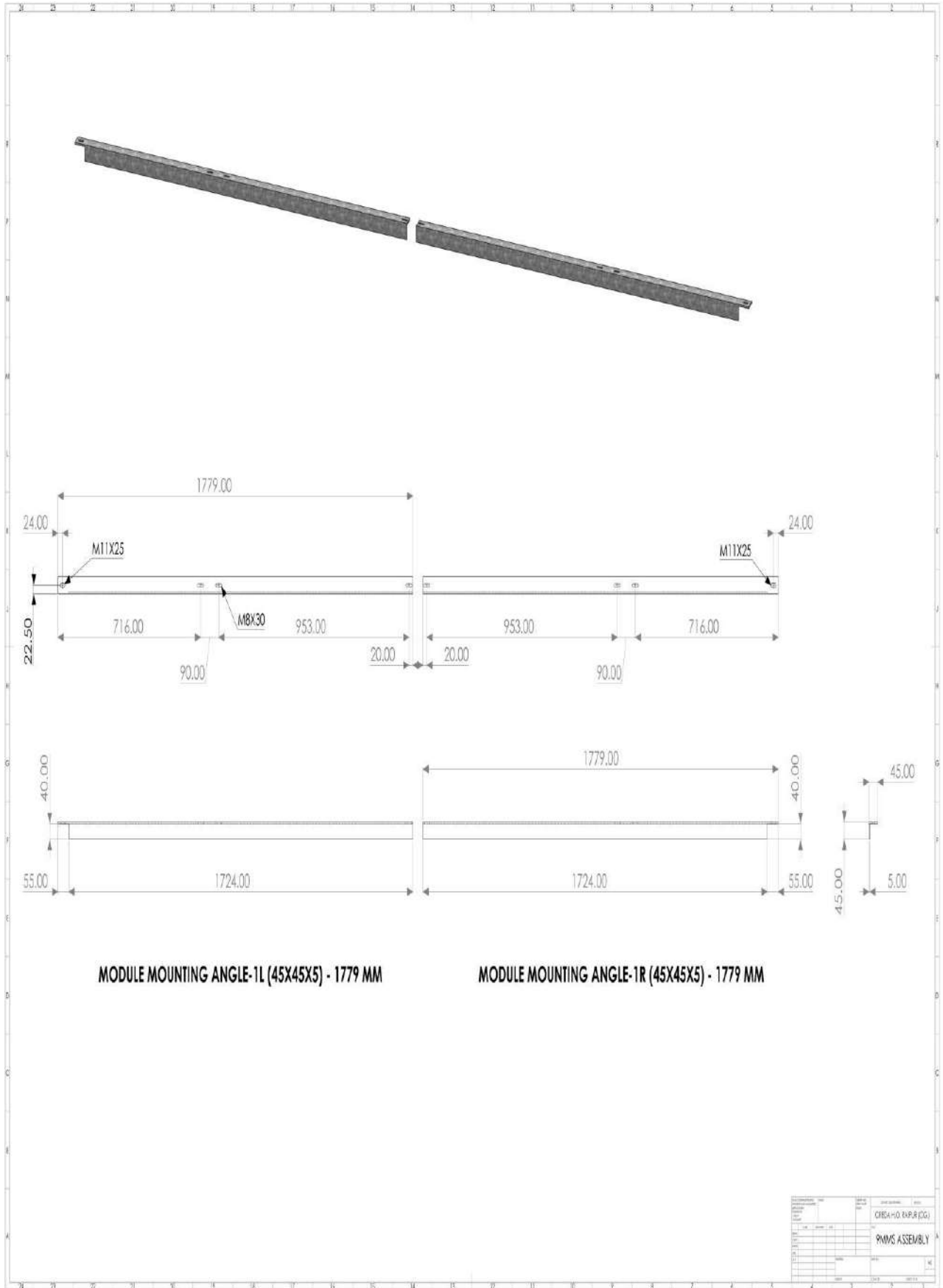


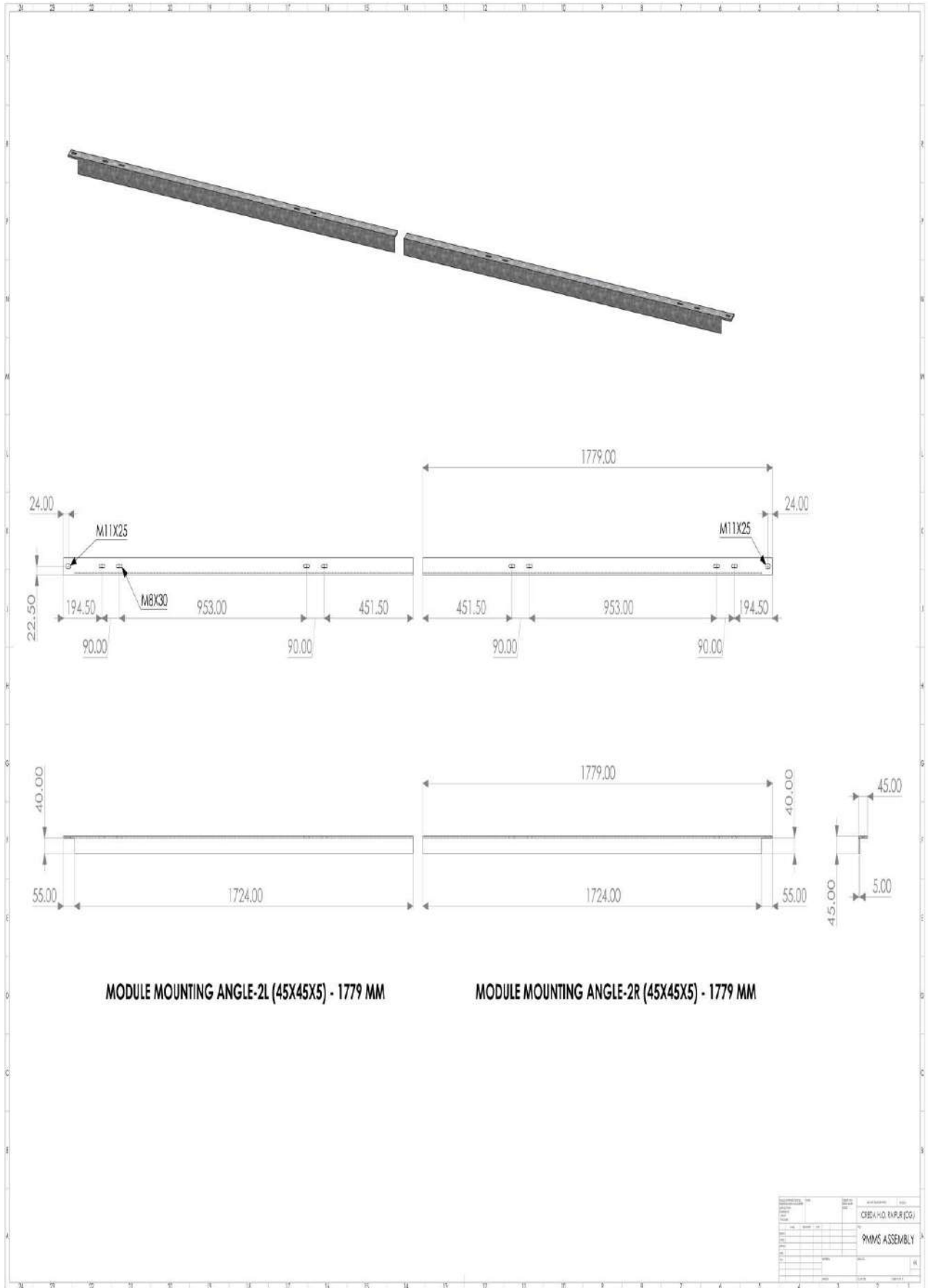


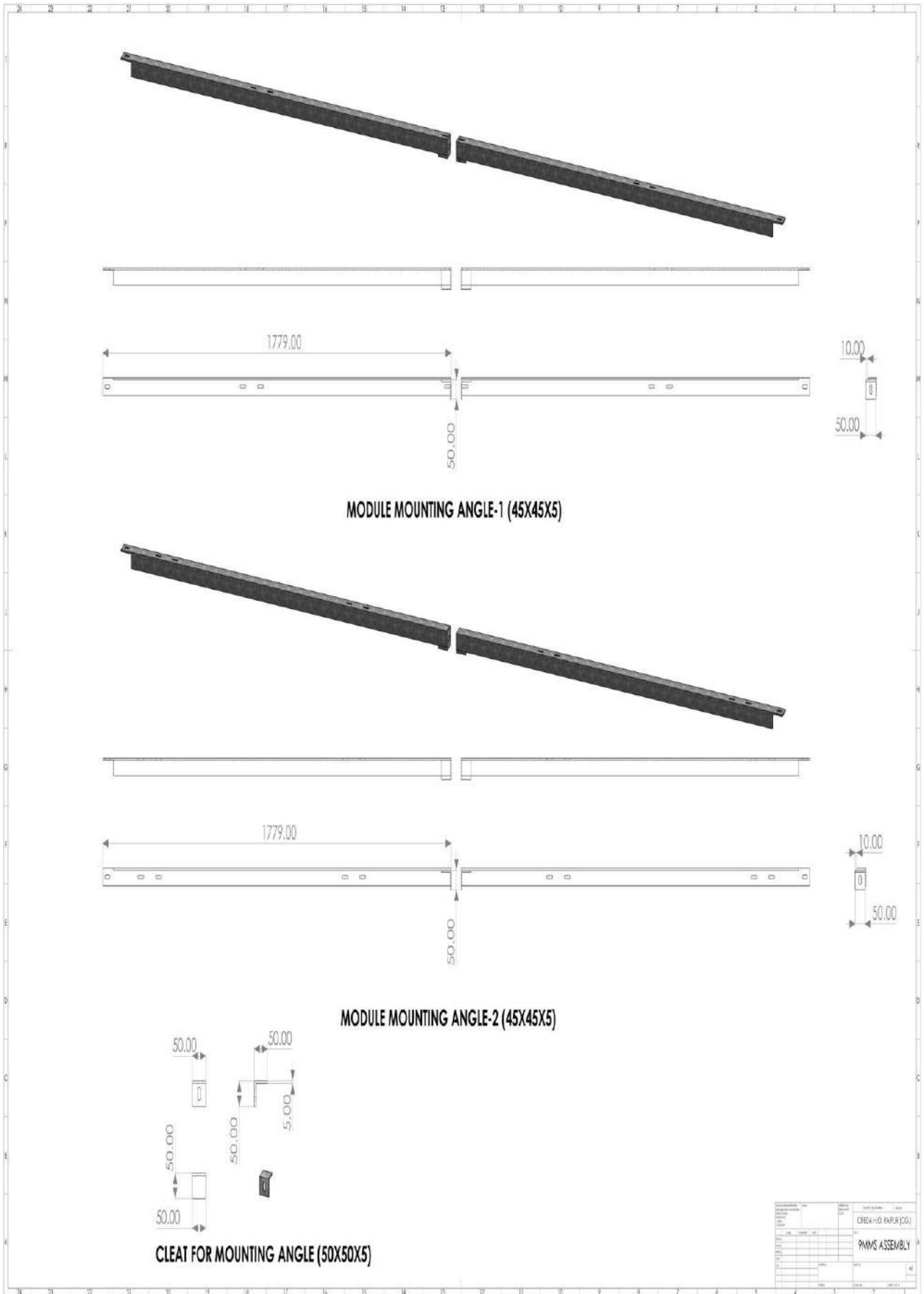
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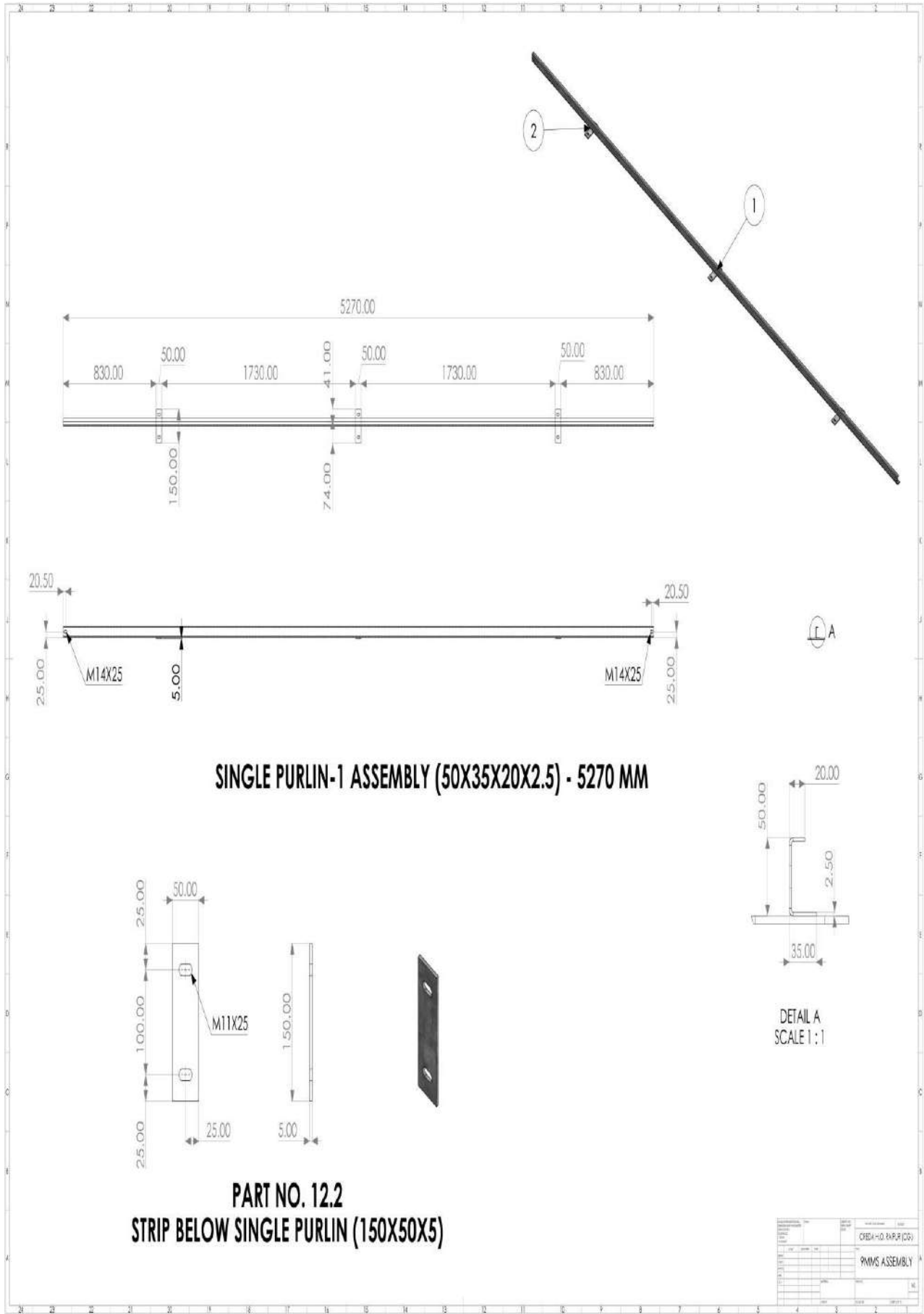




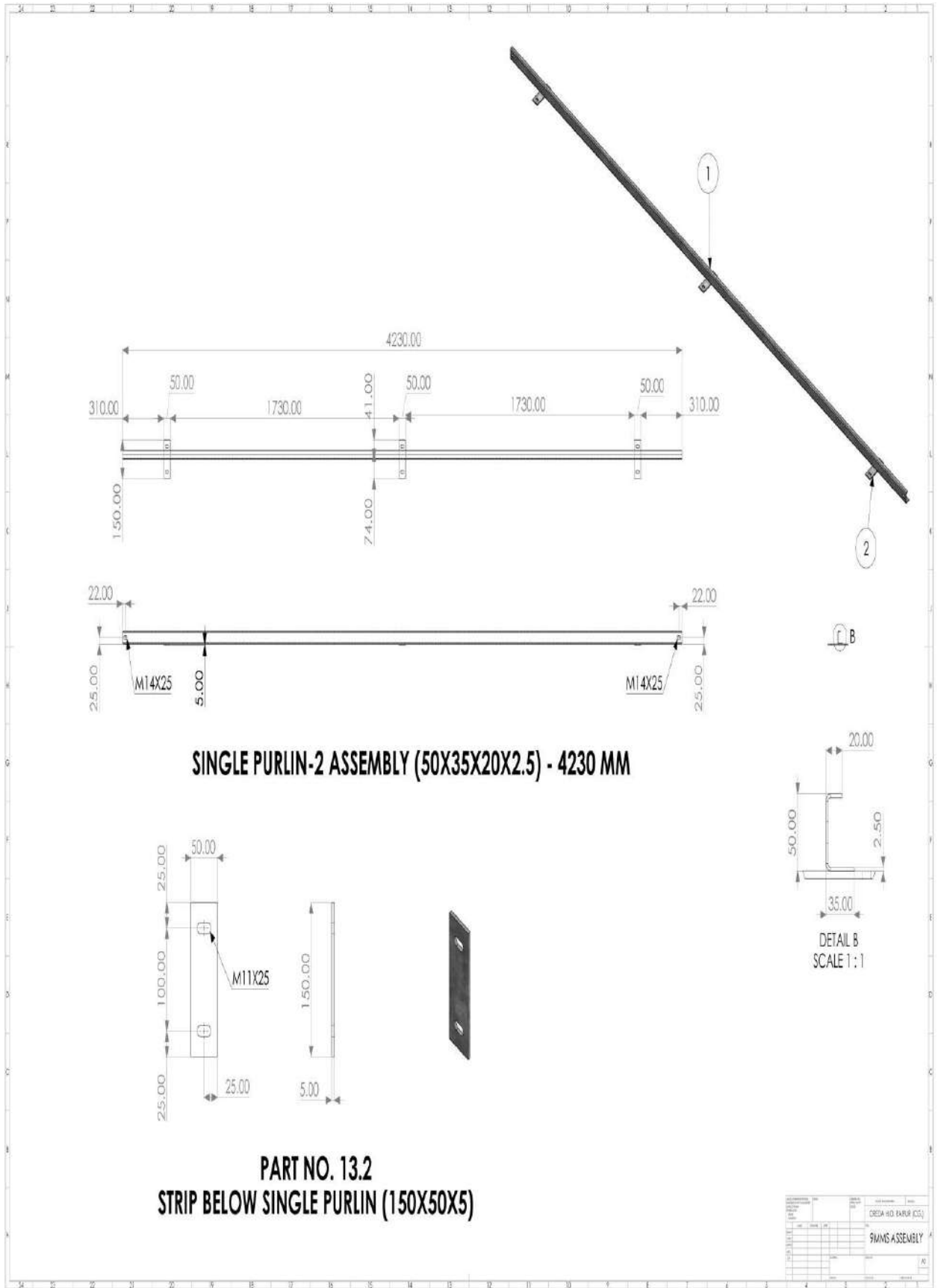


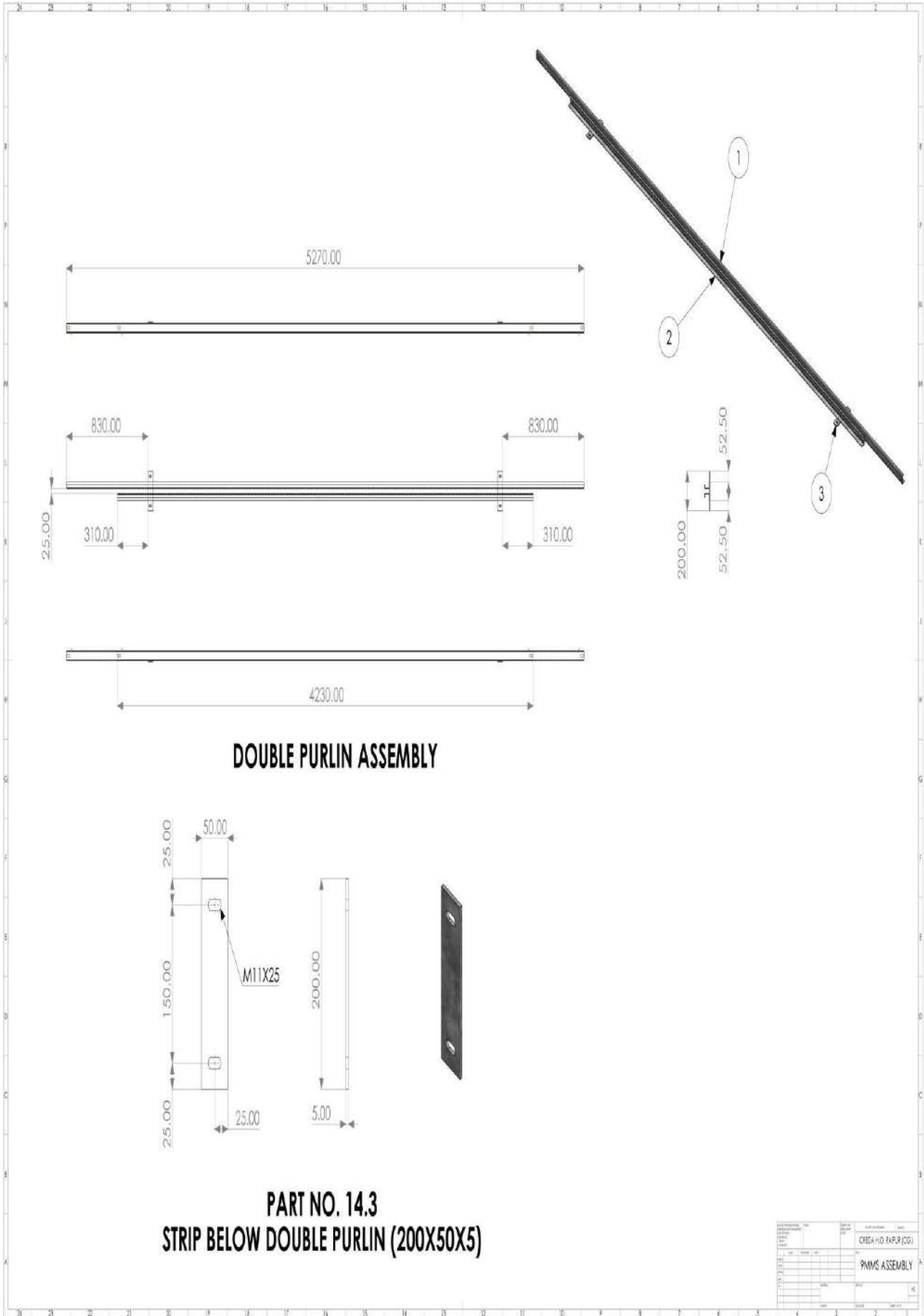
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Project No.	
Scale	
Sheet No.	
Sheet Title	PMMS ASSEMBLY
Author	
Checked	
Date	

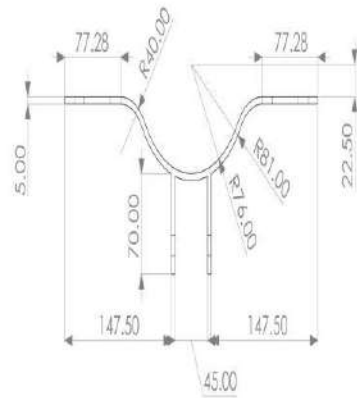
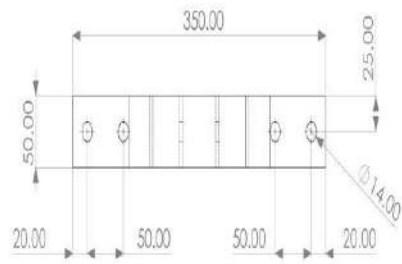
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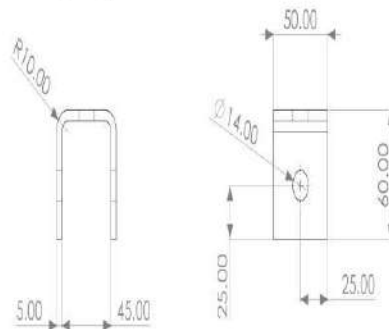
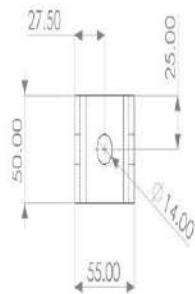
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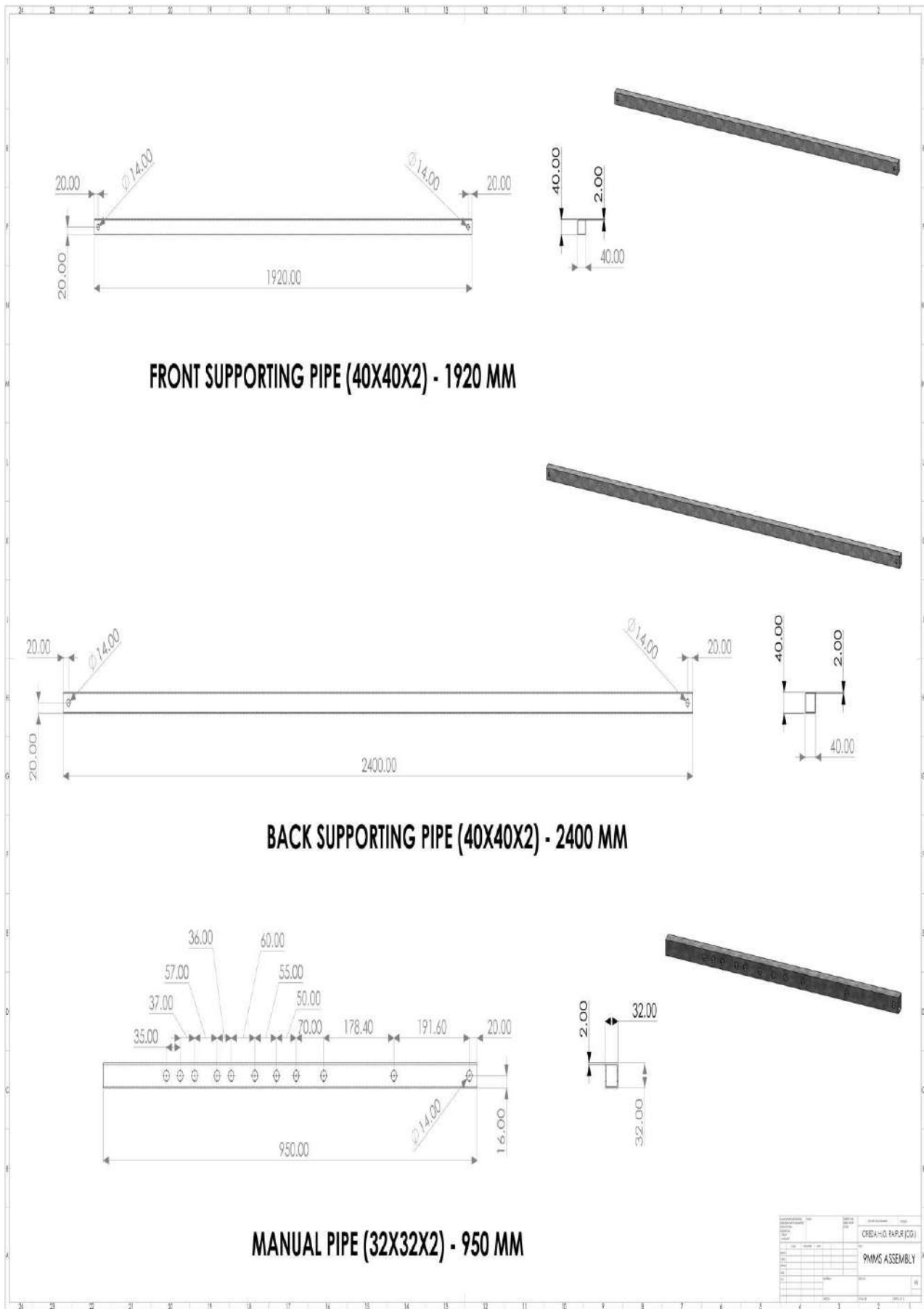


CLAMP WITH BLADE (380X50X5)



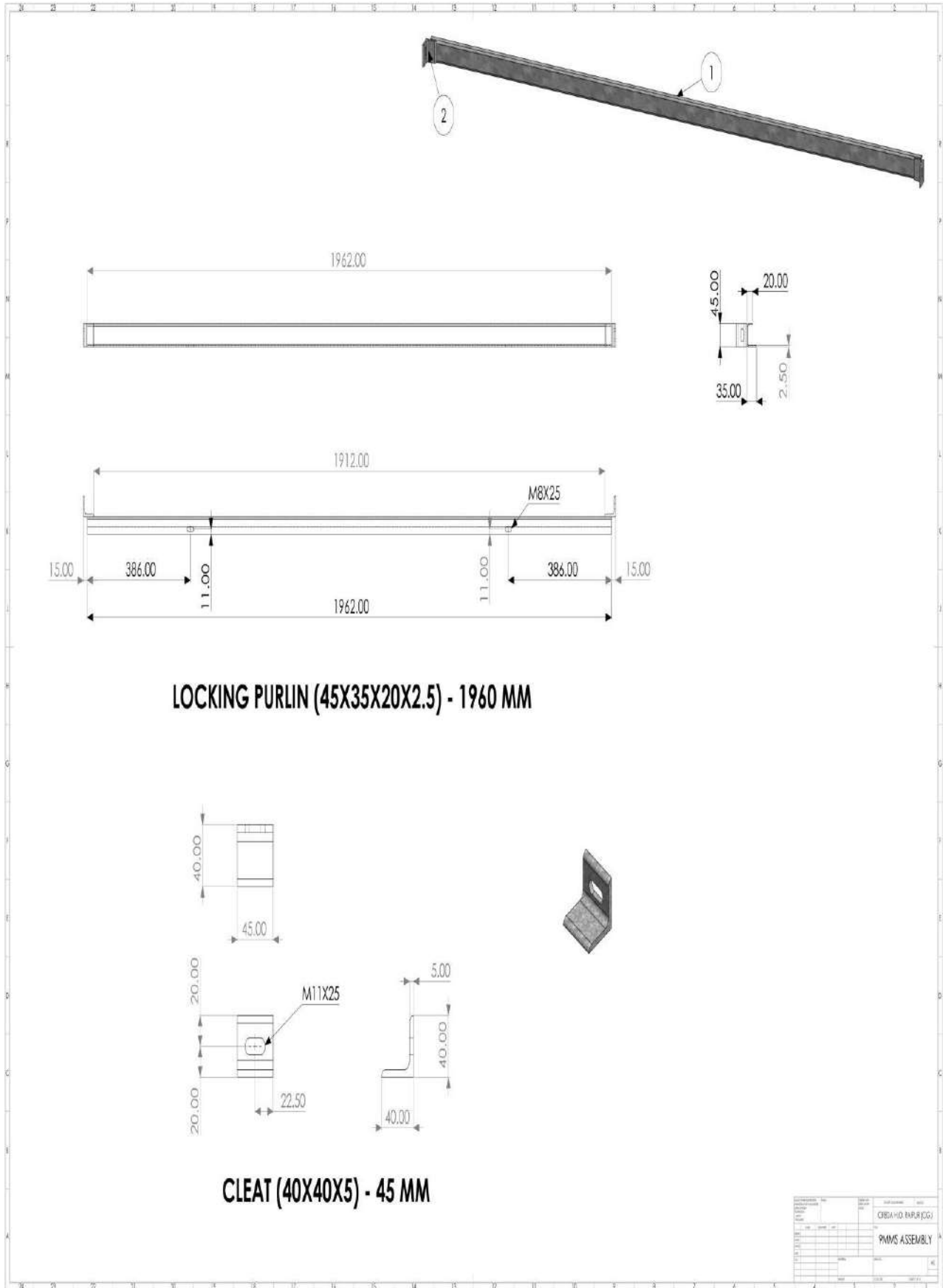
U-CLAMP (160X50X5)

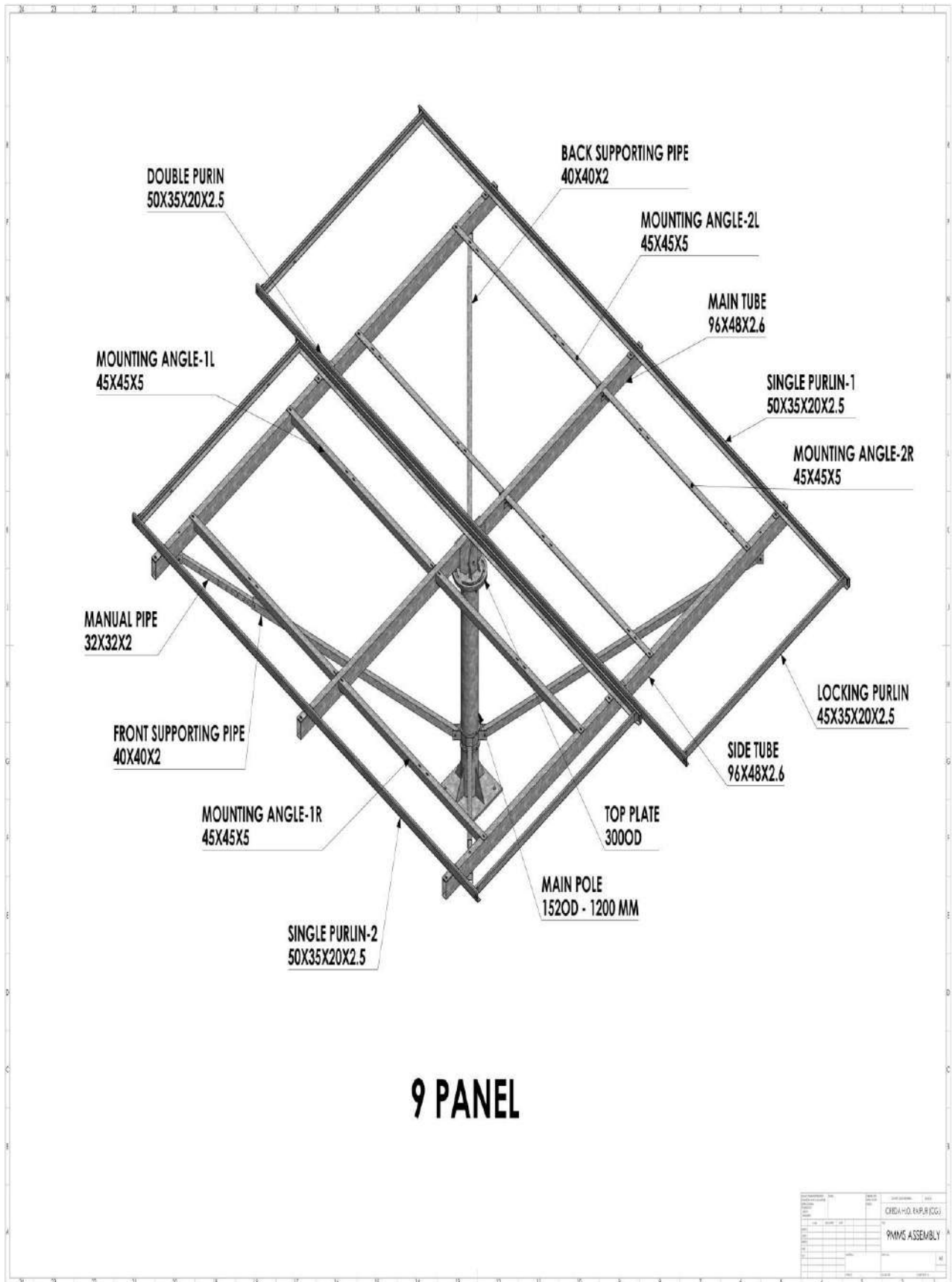
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Client	
Contract No.	
Scale	
Sheet No.	9MMS ASSEMBLY
Date	
Drawn by	
Checked by	
Approved by	



Project Name	CREDA-HO PAPER (CO)
Project No.	PMMS ASSEMBLY
Scale	AS SHOWN
Drawn By	
Checked By	
Date	2024.11.11

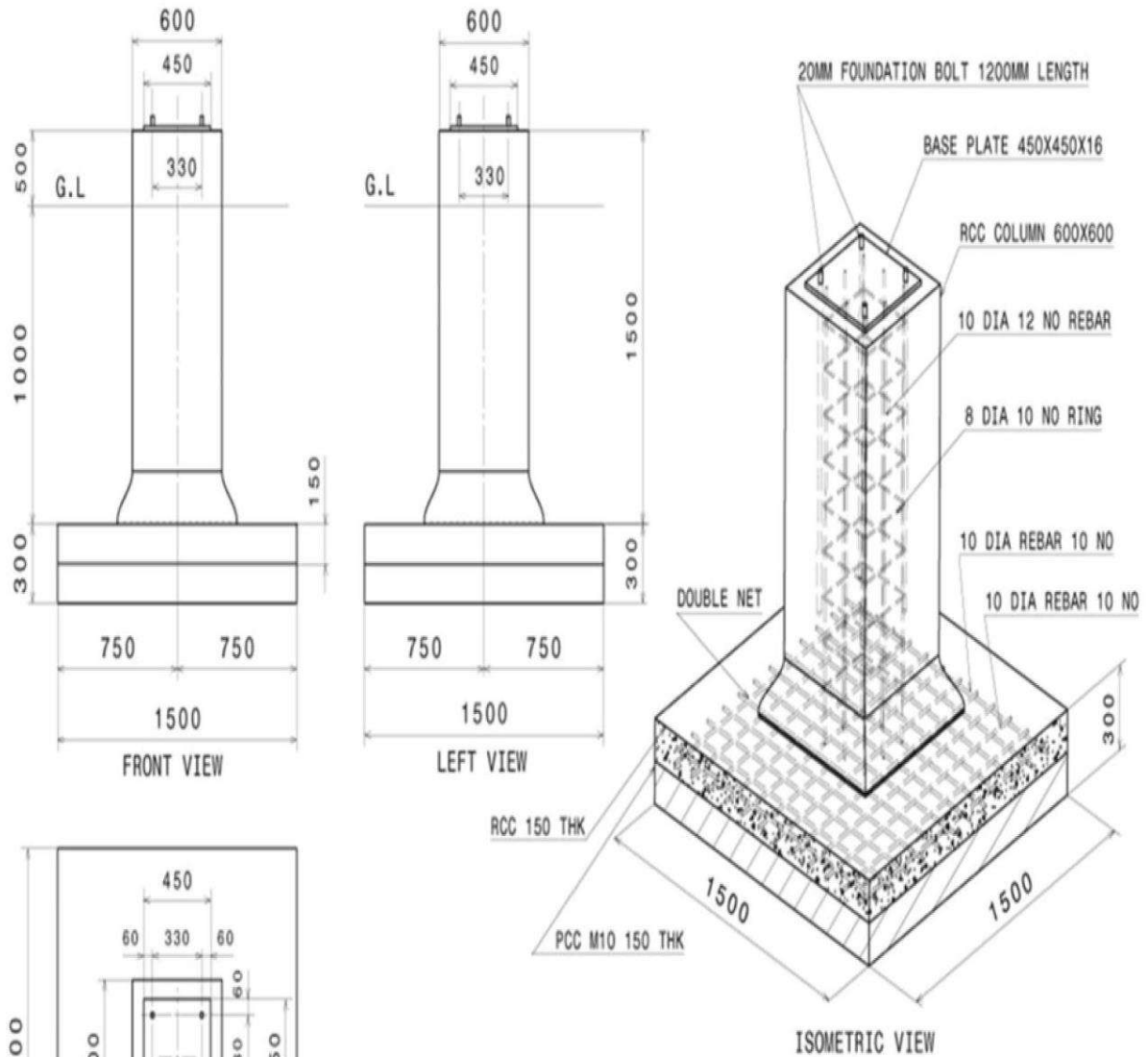
A-34





Foundation & MMS Drawings of 05 HP (09 NOS. Module of min 535 Wp)

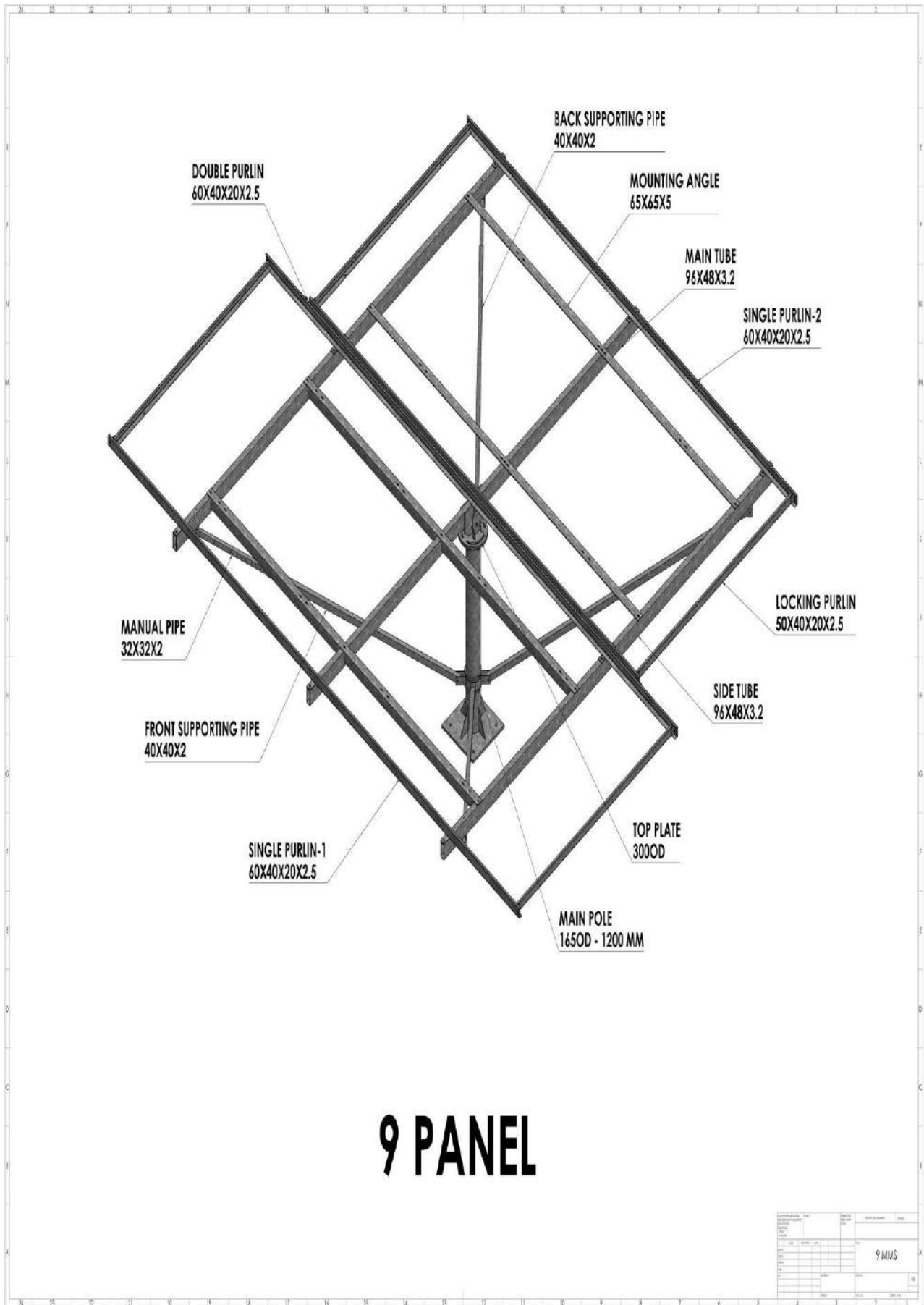
FOUNDATION DRAWING FOR 09 NOS. MMS OF 535Wp & ABOVE



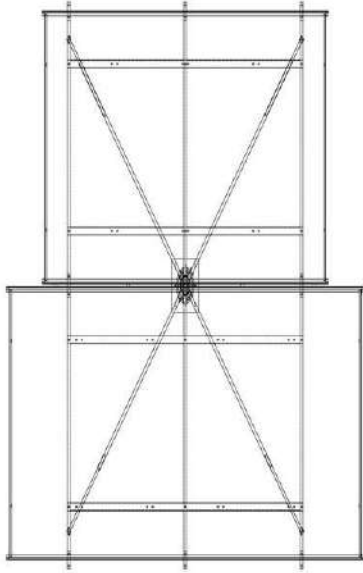
* G.L - GROUND LEVEL

ALL DIMENSIONS IN MM

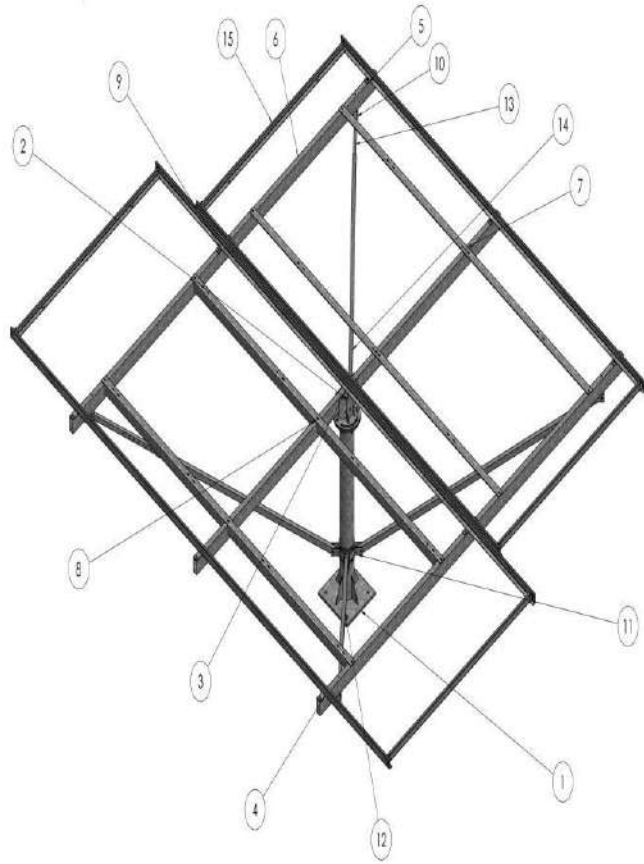
This drawing is our property. It can't be reproduced or communicated without our written agreement.		CHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY (CREDA)	
PROJECT:		FOUNDATION DRAWING FOR PANEL AGRICULTURE	
Drawn By	SCALE:-NTS	TITLE :	
Checked By	projection	Org. No.	SHEET No. 1 of 1
Designed By		MCP-AG-8	REV - AS-CR-01



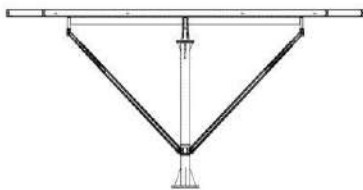
A-38



TOP VIEW



ISOMETRIC VIEW

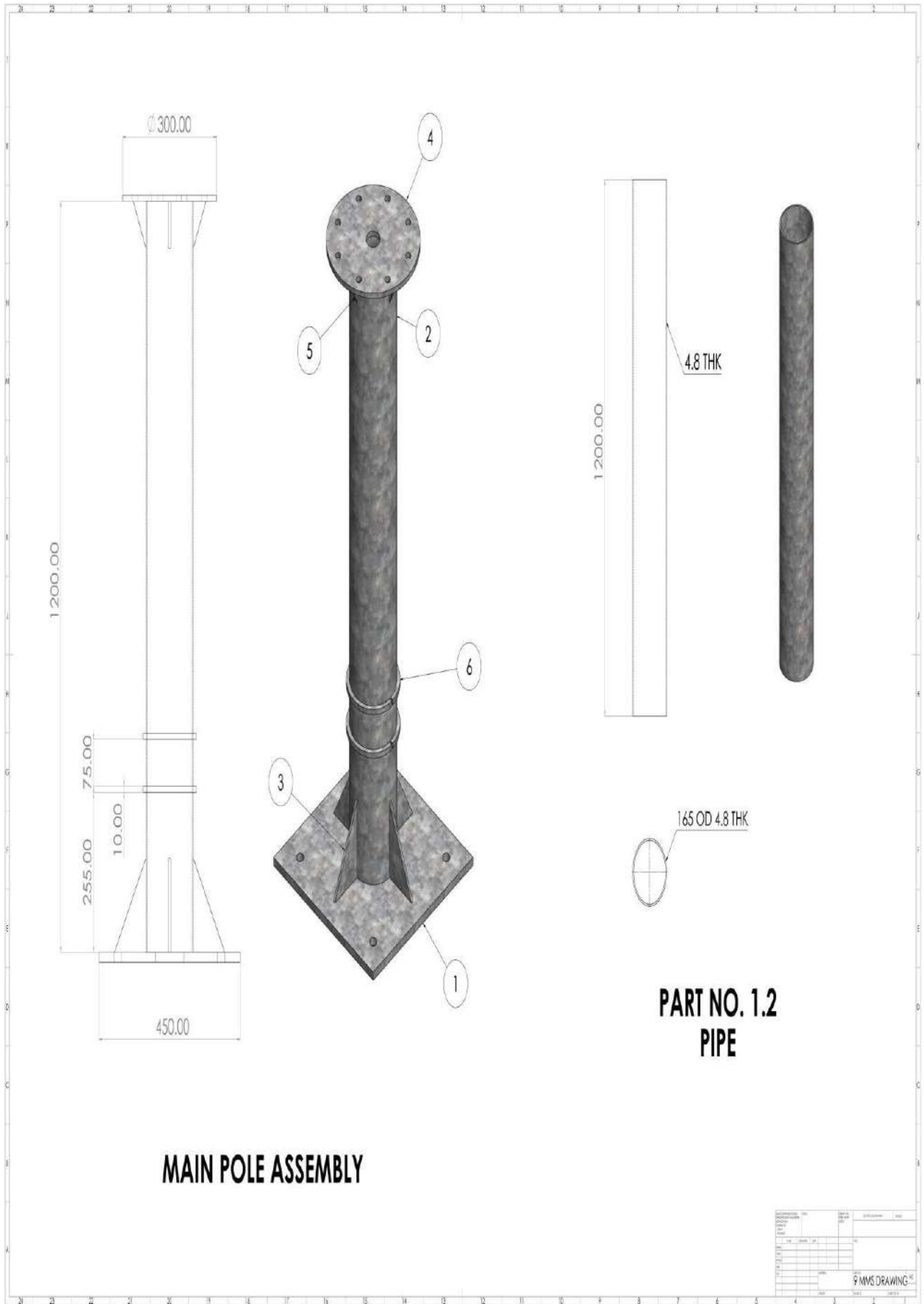


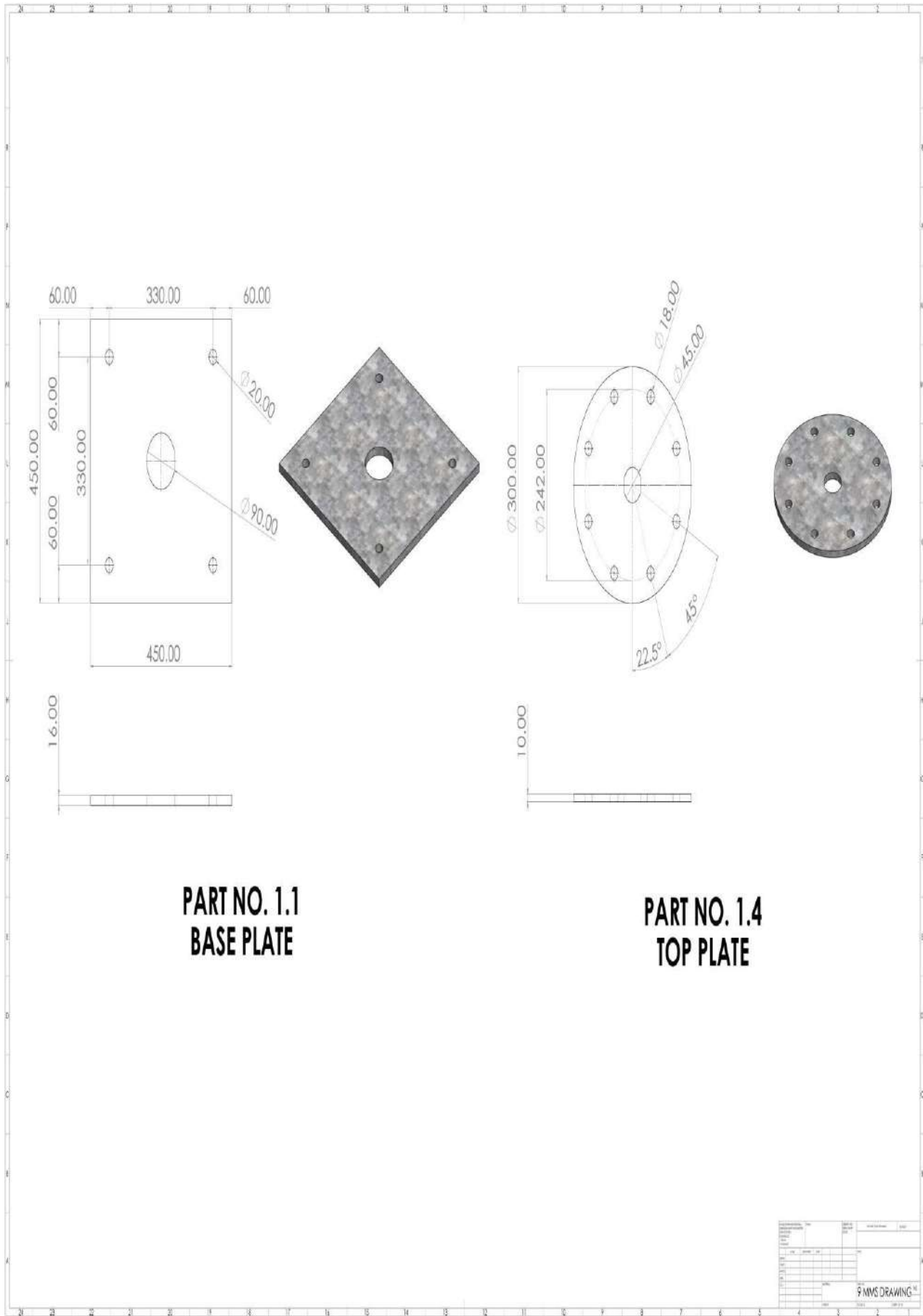
FRONT VIEW

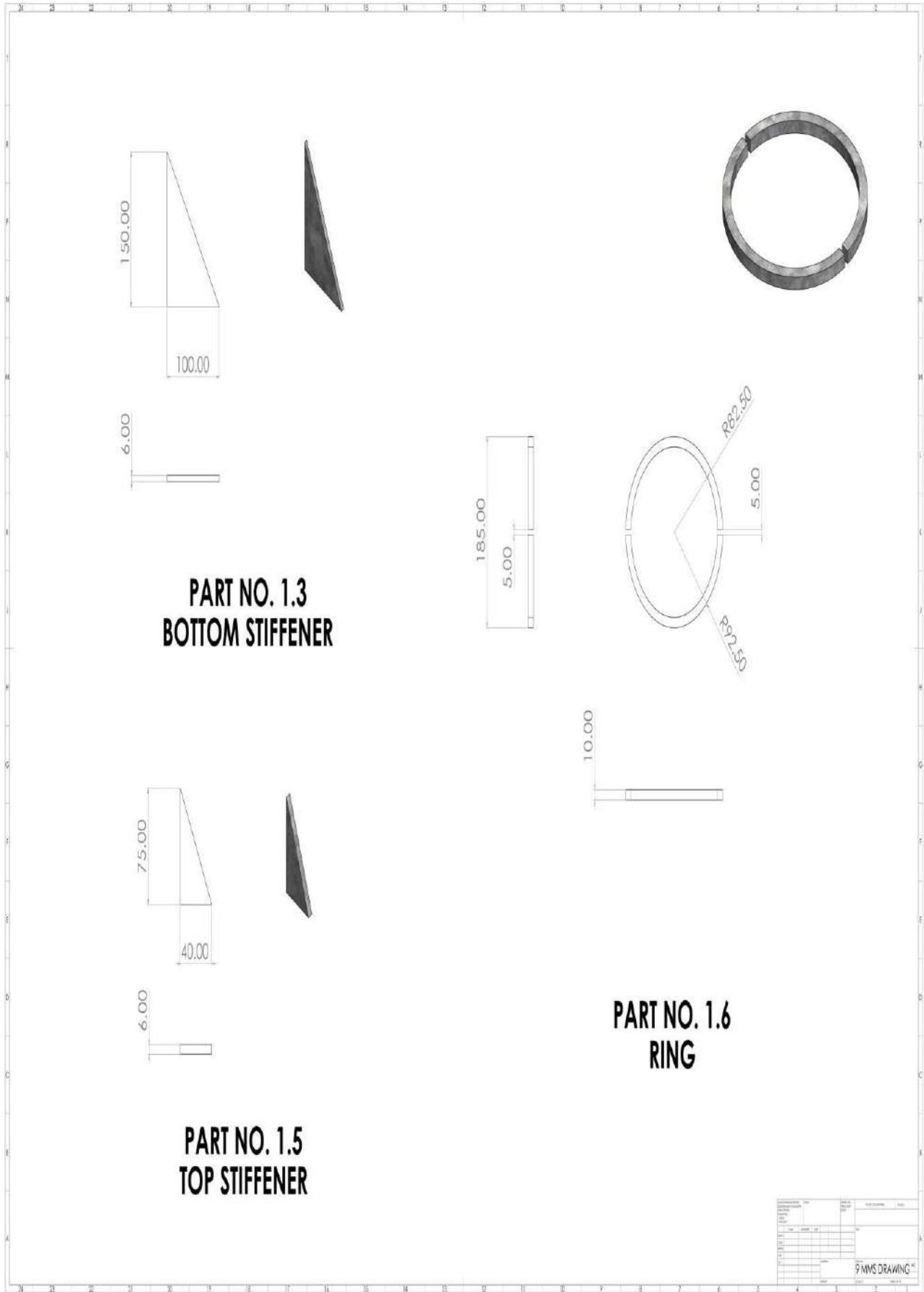
9 MMS

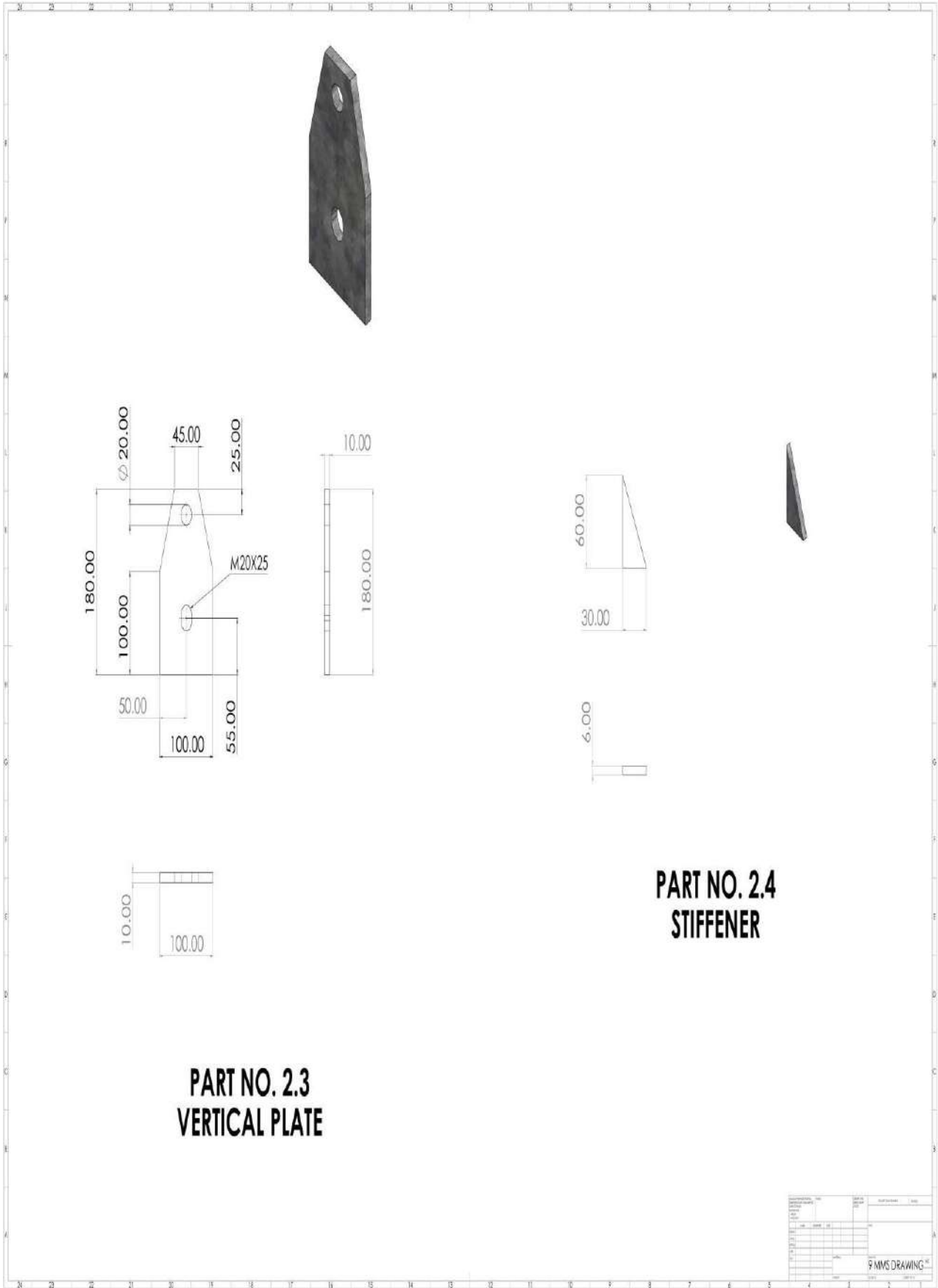
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1	POST ASSEMBLY	ASSEMBLY	1
	BASE PLATE	ASSEMBLY	1
	PIPE	100004514	1
	WOOD SHEET	1501004	4
	UPPER PLATE	300 00 0106	1
	TOP SPRING	70400	4
	RING	6001004	2
2	TOP PLATE ASSEMBLY		1
	WOOD PLATE	300 00 0106	1
	WOOD PIPE	45 1 0121 016	1
	WOOD PLATE	1000000	2
	SPRING	40000	4
3	MAIN PIPE ASSEMBLY		1
	PIPE PLATE	60400 1 100 004	1
	WELDED	5001200	2
4	SACCI PUMP 1 ASSEMBLY		1
	SACCI PUMP 1	AS00000 1 00000	1
	TOP PLATE	100000	4
5	SACCI PUMP 2 ASSEMBLY		1
	SACCI PUMP 2	AS00000 1 00000	1
	TOP PLATE	100000	4
6	SOFT PIPE	60400 1 100 004	2
7	MOUSE MOUNTING WEDGE	10000 1 00000	2
8	MOUSE MOUNTING WEDGE	10000 1 00000	2
9	SCREW PUMP ASSEMBLY		1
	SACCI PUMP 2	AS00000 1 00000	1
	SACCI PUMP 1	AS00000 1 00000	1
	TOP PLATE	100000	4
	TOP PLATE	100000	4
10	CLAMP	100000	4
11	CLAMP WITH BLADE	500 1 00000	1
12	PLATE SUPPORTING PIPE	10000 1 00000	2
13	BARIAL PIPE	20000 1 00000	4
14	BACK SUPPORTING PIPE	10000 1 00000	2
15	WOOD PLATE ASSEMBLY		4
	WOOD PLATE	100000 1 00000	1
	WOOD PLATE	10000 1 00000	2

9 MMS	
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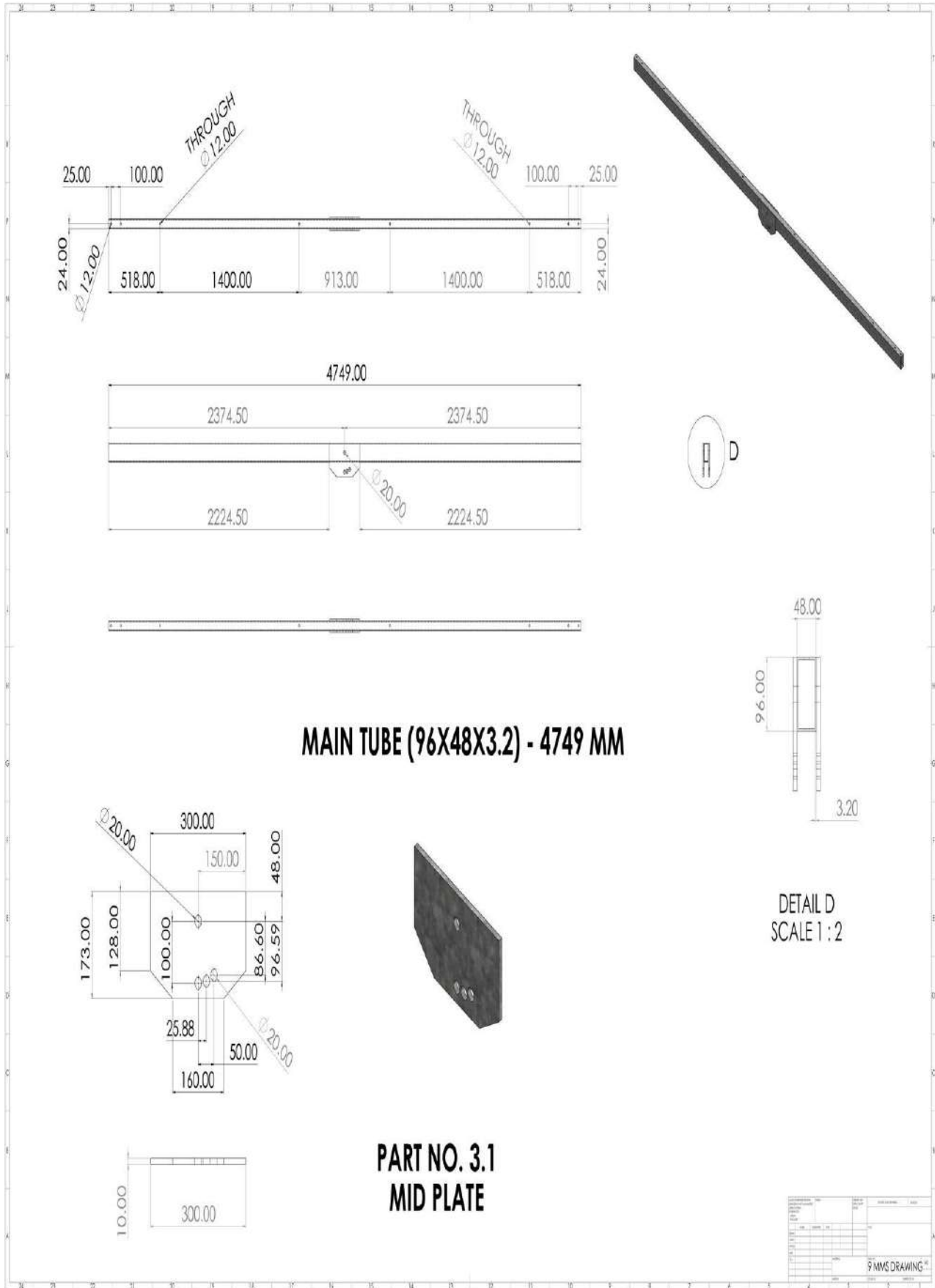




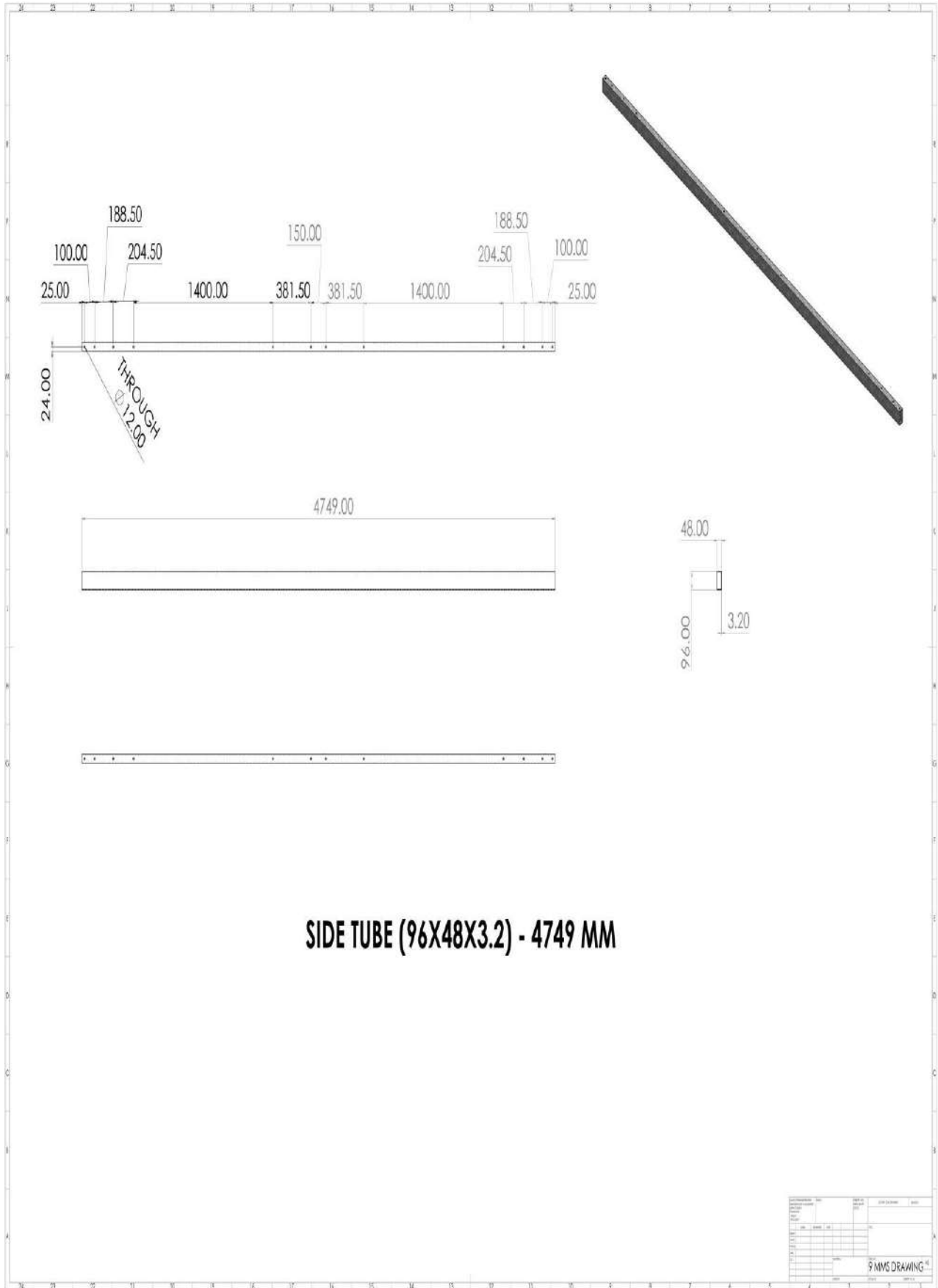




A-44



A-45

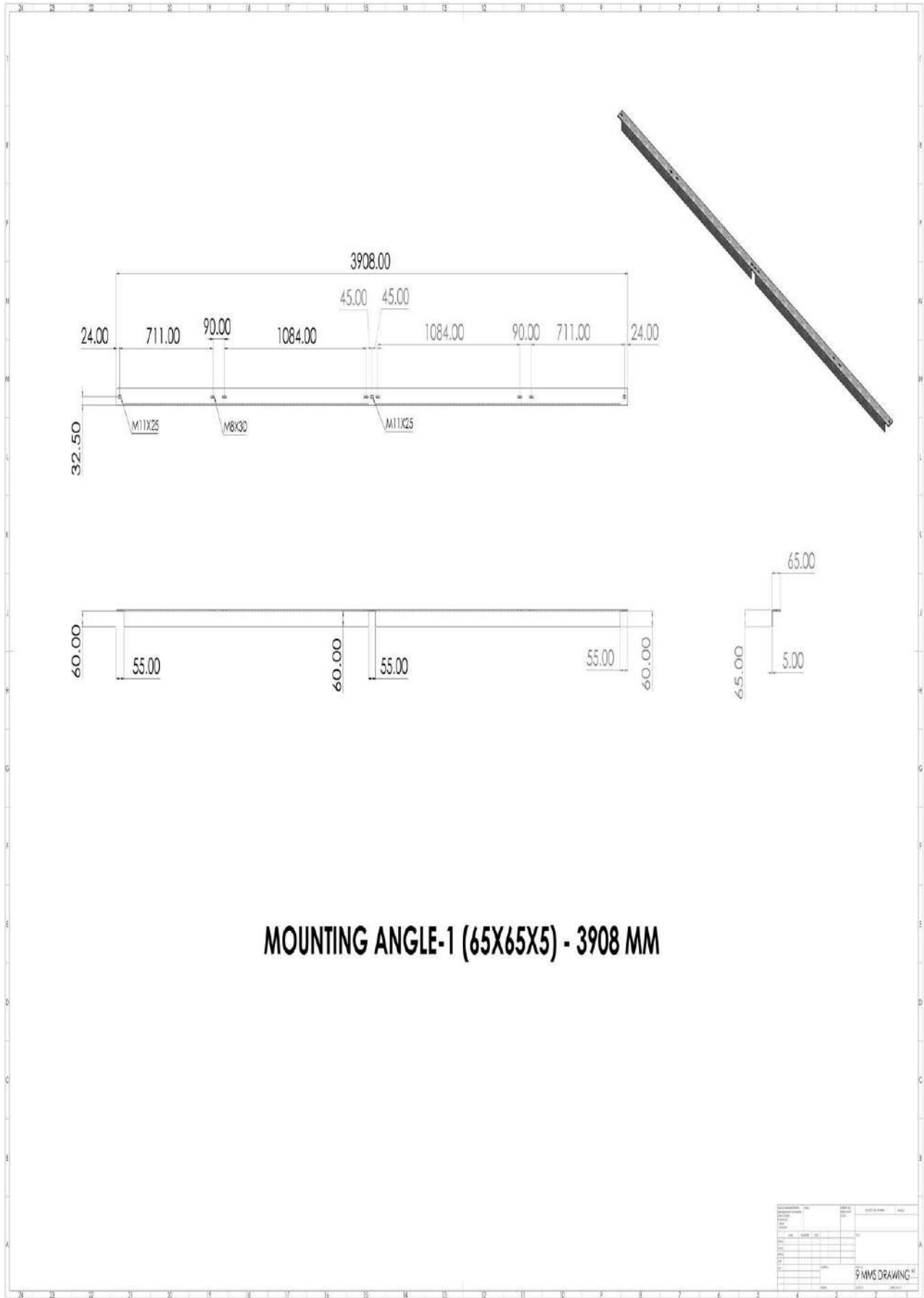


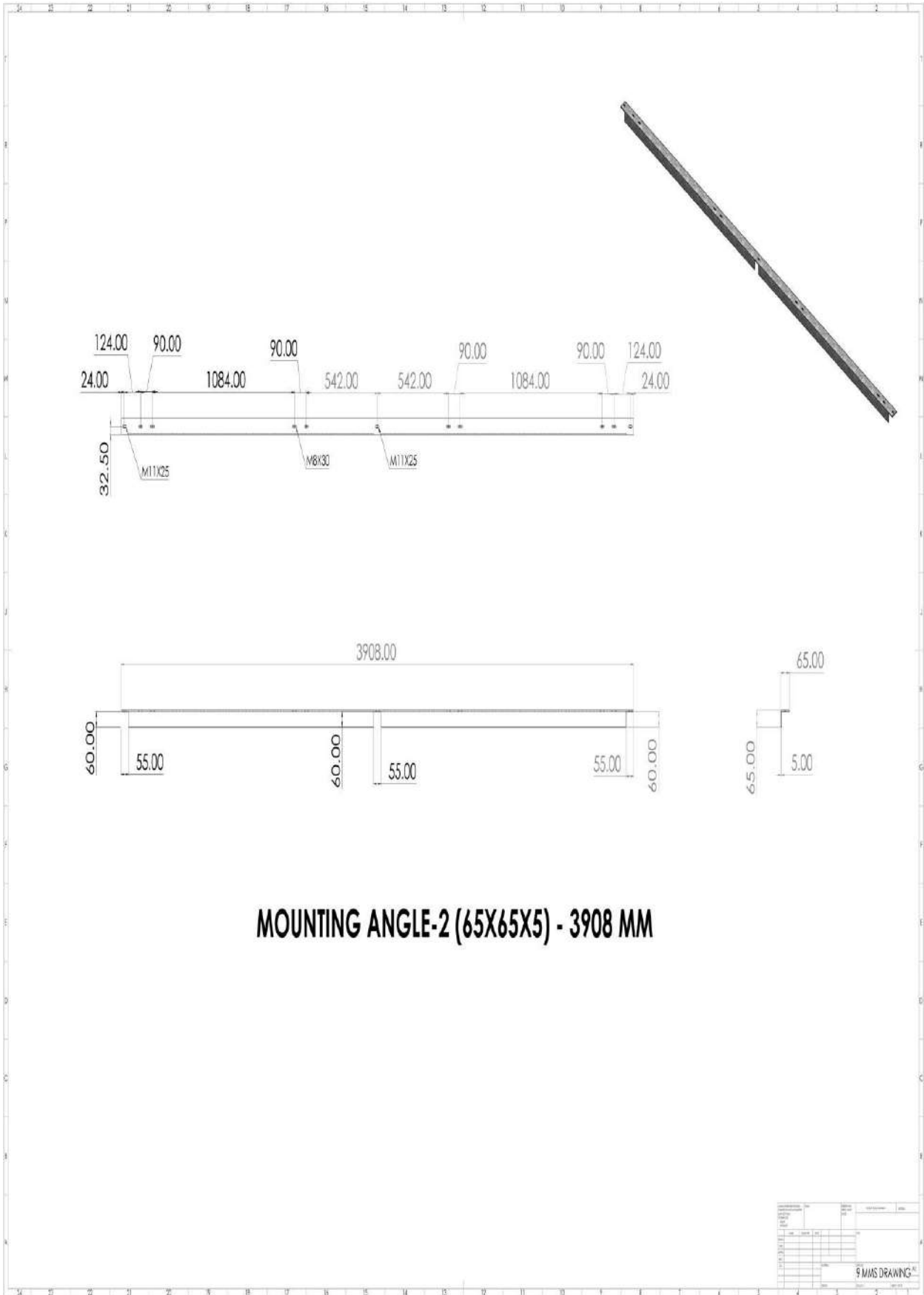
SIDE TUBE (96X48X3.2) - 4749 MM

NO.	REVISION	DATE	BY	CHKD.	APPD.

9 MMS DRAWING

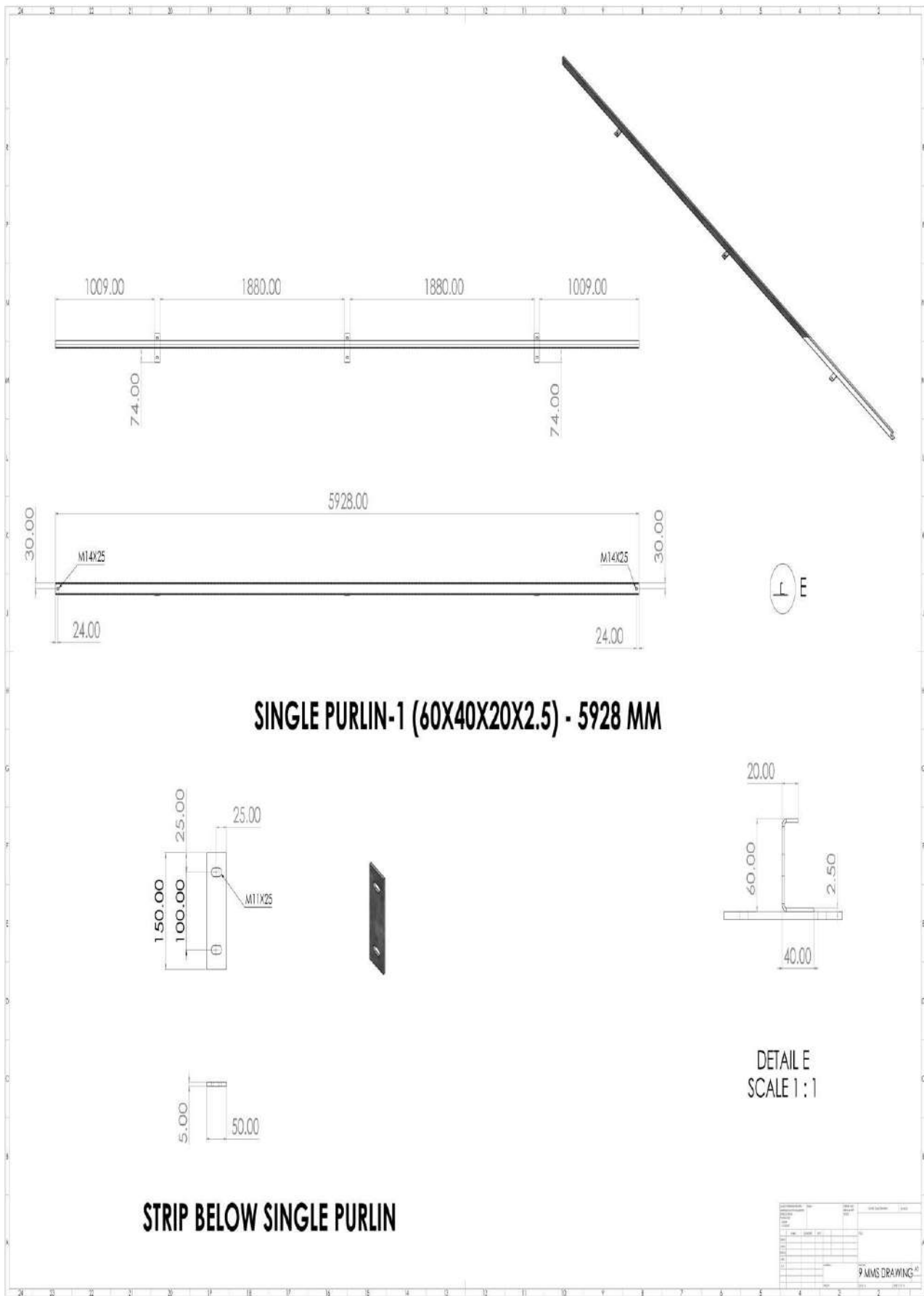
A-46



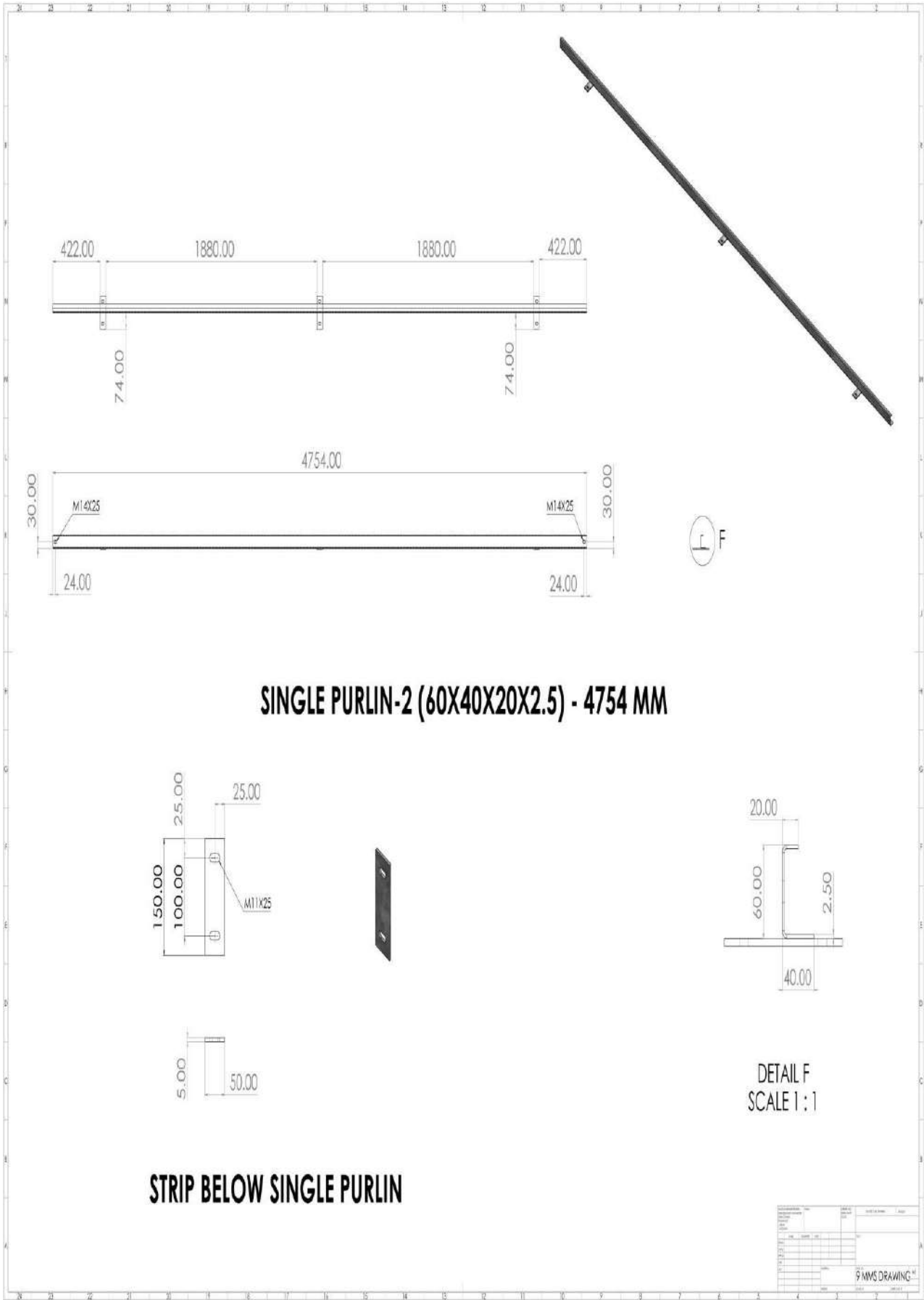


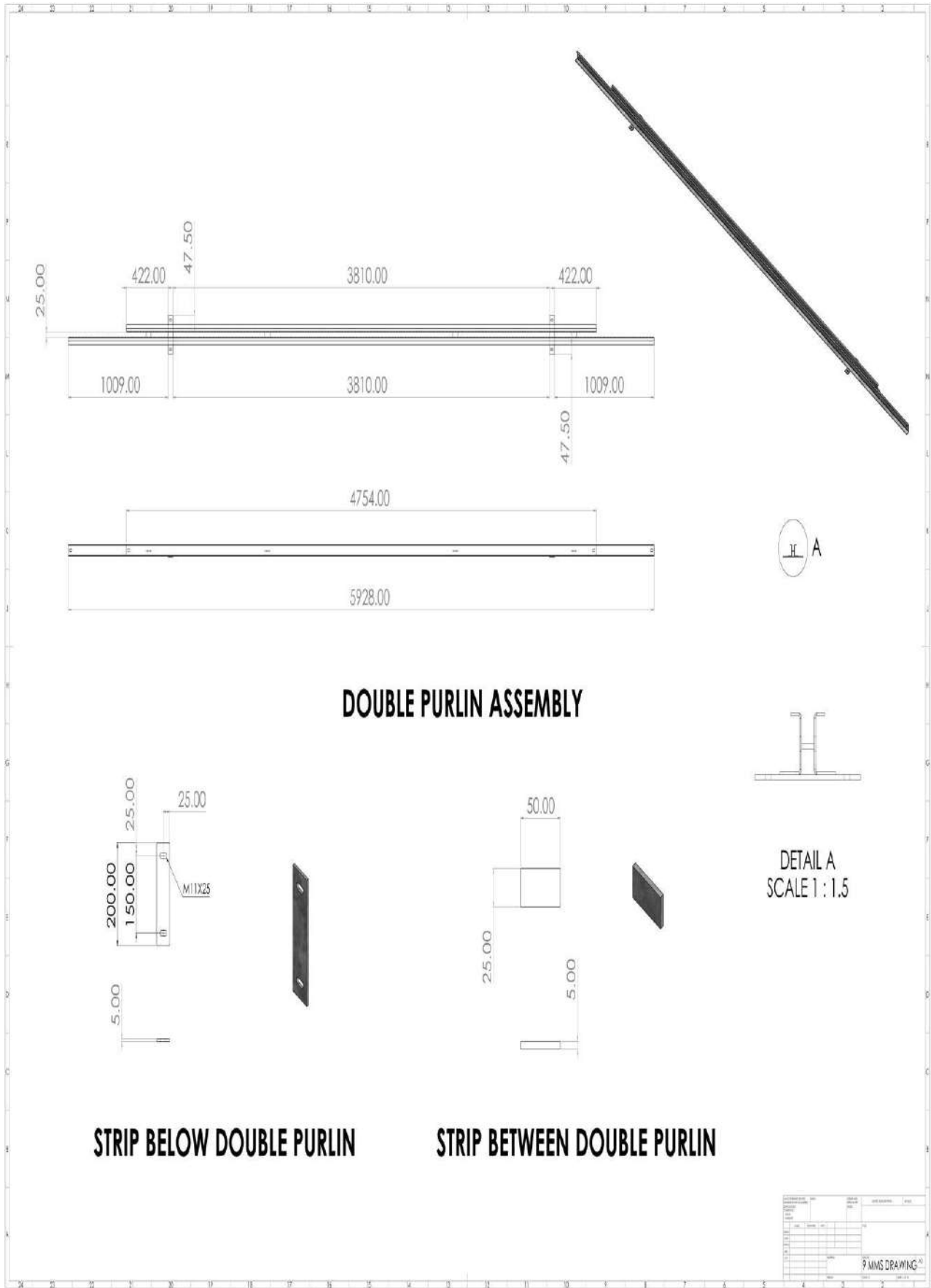
MOUNTING ANGLE-2 (65X65X5) - 3908 MM

A-48

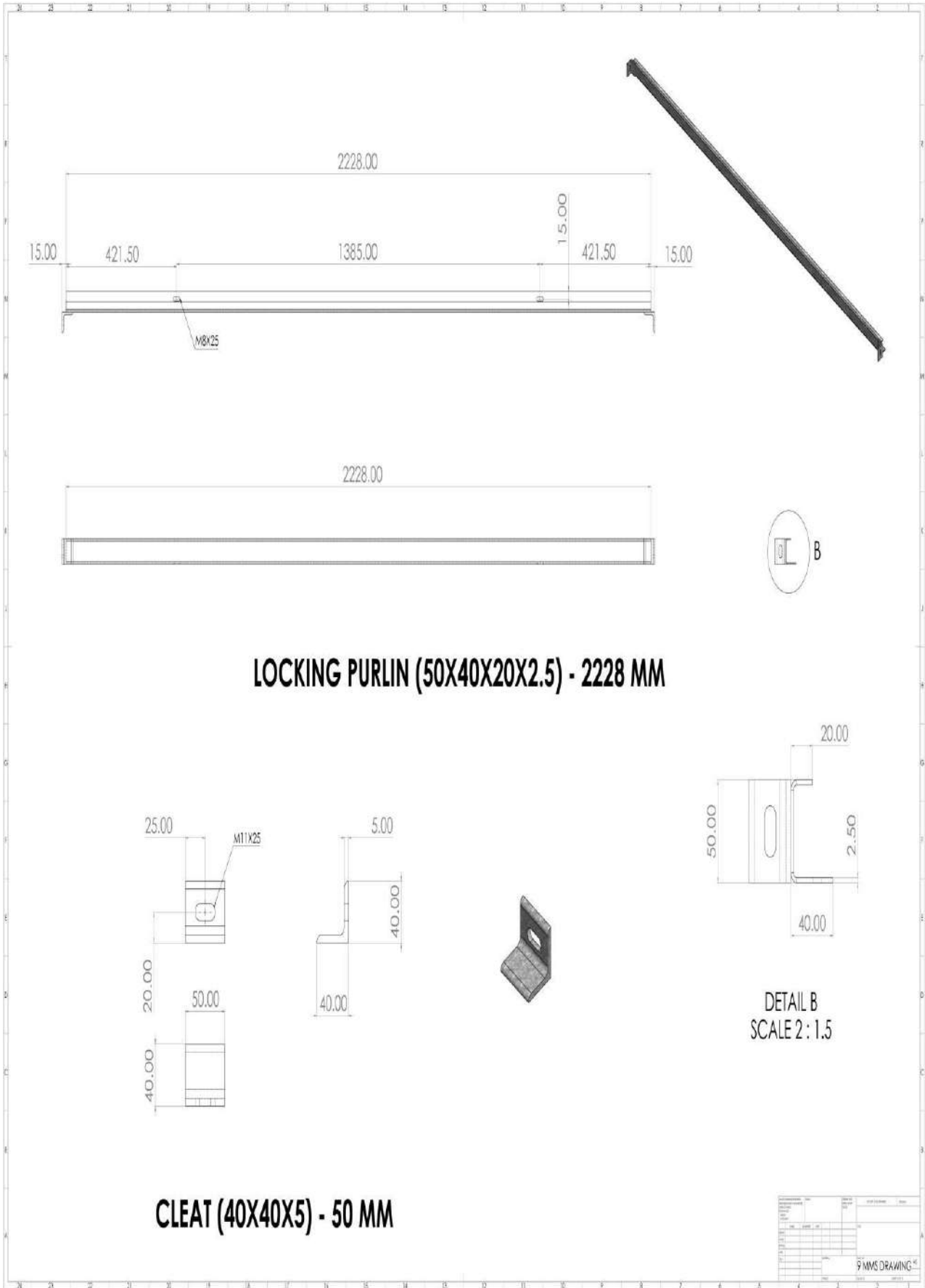


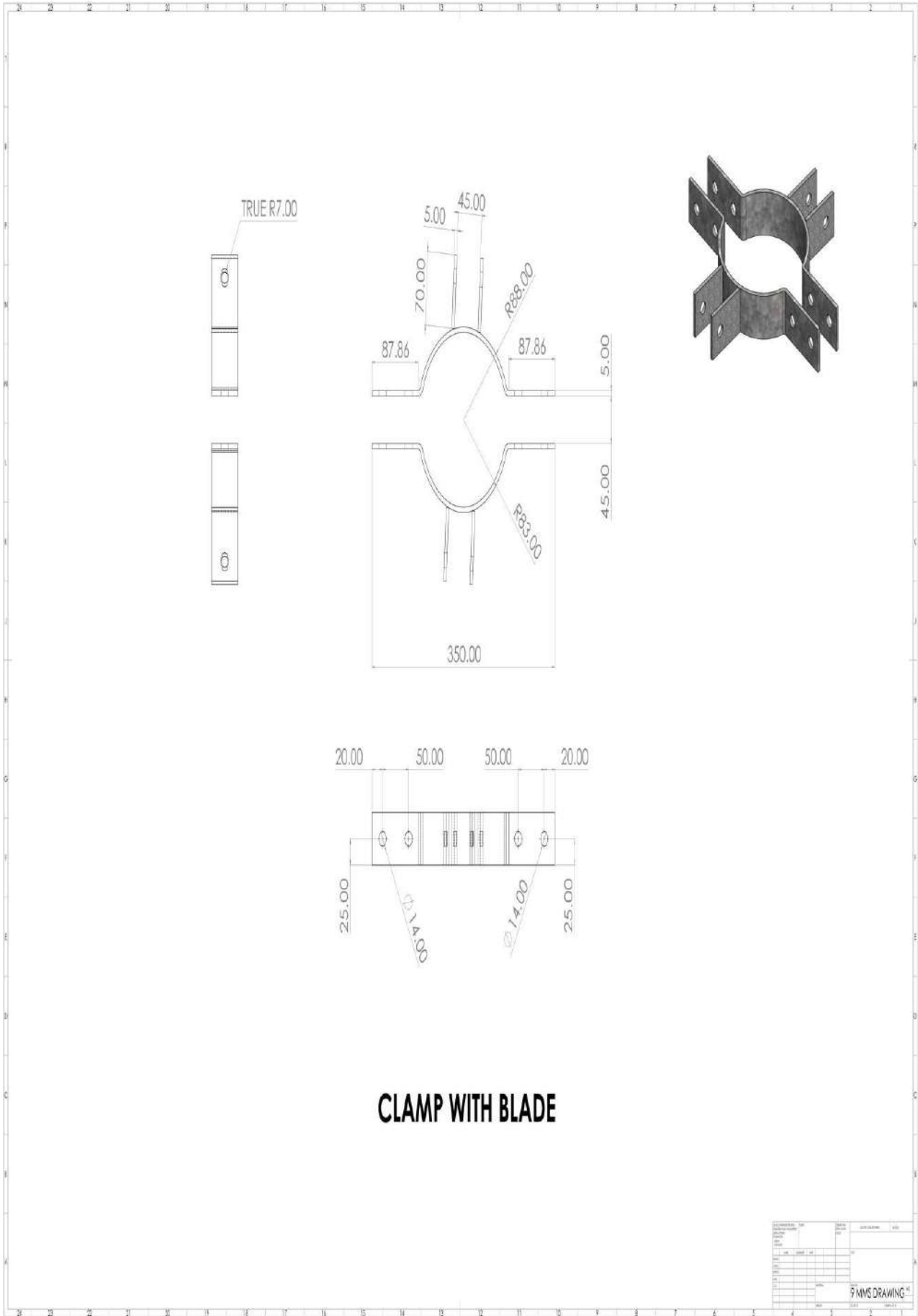
A-49





A-51

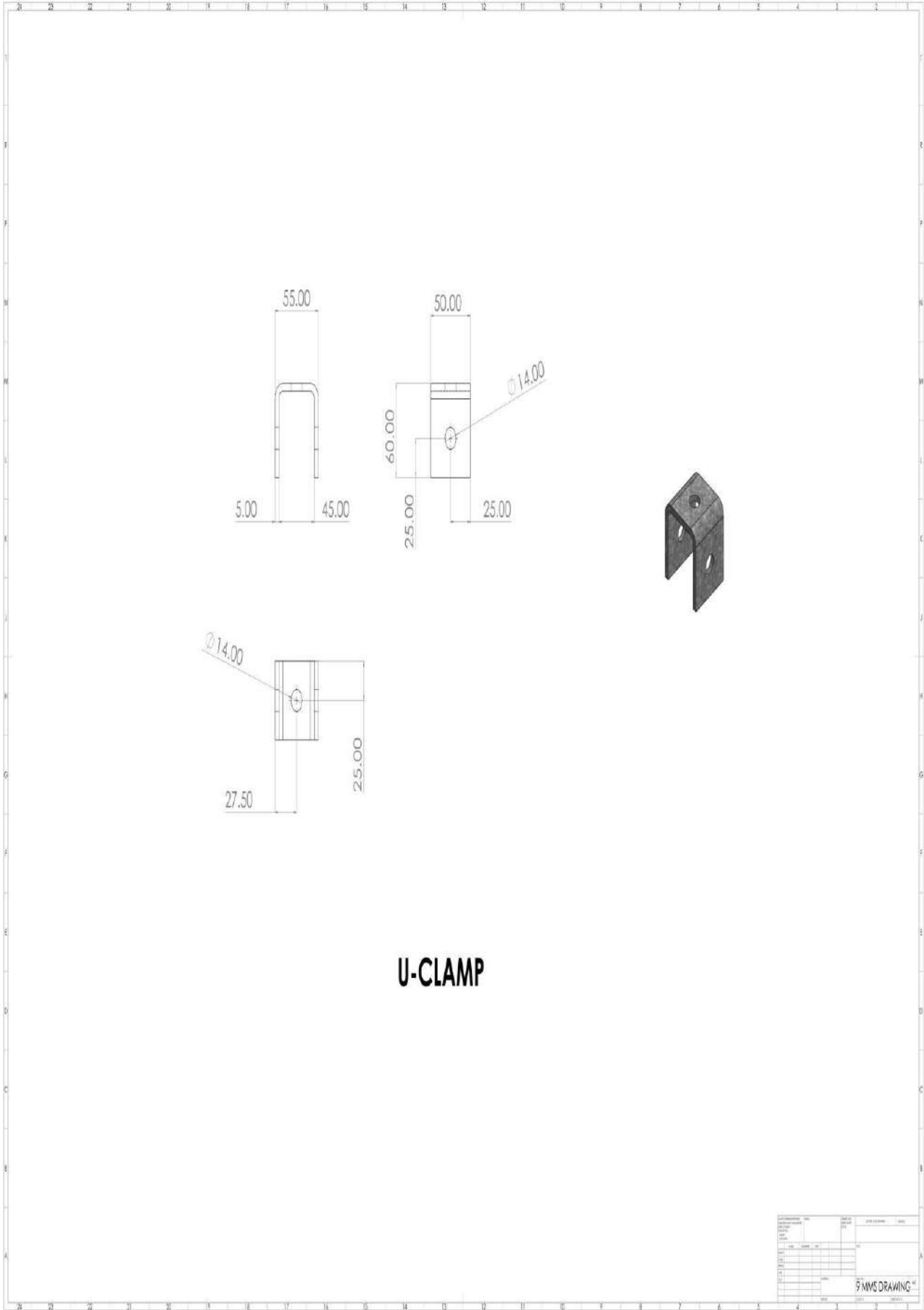




CLAMP WITH BLADE

Project Name	153398/CREDA/SPV IRRIGATION PUMPS
Sheet No.	A-52
Scale	1:1
Author	
Checked	
Approved	
Date	
9 MMS DRAWING	

A-54



U-CLAMP

DRAFT AGREEMENT

CONTRACT AGREEMENT BETWEEN Superintending Engineer Chhattisgarh State Renewable Energy Development Agency (CREDA) Raipur AND M/s..... Represented byTHIS CONTRACT AGREEMENT against Tender NIT No. 153398/CREDA/SPV IRRIGATION PUMPS/2024-25 Dated: 26.02.2024 (also referred to as "Service Contract") is made on theday of 2024.

BETWEEN

(1) Superintending Engineer Chhattisgarh State Renewable Energy Development Agency (CREDA) Raipur a society incorporated under the laws Society Registration Act 1973 , (1973 , Sr. No. 44) (with amendment from time to time) and having its Registered Office at VIP Road Near Energy Education Park, Village- Fundhar, Raipur and (hereinafter called "The Employer" and also referred to as "CREDA")

And

(2)Represented bya company incorporated under the laws of Companies Act 1956/2013/ Partnership firm/ Proprietorship firm/Consortium (as applicable, with amendment from time to time) and having its Principal place of business at.....and Registered Office at..... hereinafter called "The Contractor" and also referred to as "....."

Whereas the contractor has offered to enter into contract with the said CREDA for the Supply of Solar Irrigation pumps and for installation, commissioning and comprehensive operation & maintenance of Solar Pumps with 5 Year Warranty for the capacities of 2Hp to 5Hp.

Vide Tender No. 153398/CREDA/ SPV Irrigation pumps/2024-25 Dated: 26.02.2024 on the terms and conditions herein contained and the rates approved by the CREDA (Letter No. dated.....annexed here to) have been duly accepted and where as the necessary security deposit shall be furnished in accordance with the provisions of the tender document and whereas no interest will be claimed on the security deposits.

Now these presents witness and it is hereby agreed and declared by and between parties to these presents as follows-

1. The Contractor shall, during the period of this contract, that is to say from toor completion thereof, until this Contract shall be determined by such notice as is hereinafter mentioned, safely carryout, by means of labours employed at his own expenses and by means of tools, implements and equipment etc. to be supplied by him to his labour at his own expenses, for installation of "**Solar Pumps**" as described in tender documents. (Annexed to the agreement).
2. The NIT (Notice Inviting Tender), Corrigendum to NIT, Notices, Bid documents (Qualifying, Technical and Financial), approved rates annexed hereto and such other additional particulars, undertaking, instructions, general conditions of contract, Scope of work, Technical specifications of Solar Irrigation Pumping Systems and Annexure therein, engineering documents, detailed specifications of BOS & drawings, so far they relate to the Tender No. 153398/CREDA/ SPV Irrigation pumps/2024-25 Dated: 26.02.2024 and corresponding corrigendums / amendments if any, as may be found requisite to be given during execution of the work shall be deemed and taken to be an integral part of the contract and shall also be deemed to be included in the expression "The Agreement or "The Contract "wherever herein used.
3. The contractor shall also supply the requisite number of workmen with means & materials as well as tools, appliances, machines, implements, vehicles for

transportation, cartage etc. required for the proper execution of work within the time prescribed in the work orders and /or as per the tender conditions.

4. The Engineer in Charge or his authorized representative (s) shall be entitled at all reasonable times to inspect and supervise and test during installation and commissioning. Such inspection will not relieve the eligible SI from their obligations under this contract.
5. Material can be inspected before dispatch or in transit by the authorized representatives of CREDA at the factory at the cost of the eligible SI, if desired by CREDA. CREDA reserves right to inspect the material at Godowns/Temporary Stores before dispatch and also at works sites.
6. CREDA shall deduct TDS for Income Tax, applicable cess on Civil Work etc. under various acts and deposited with the appropriate authority. Costs and taxes before execution of agreement with CREDA so as to ensure tax deposition as per Government Rules accordingly.

7. **ELIGIBLE SYSTEM INTEGRATOR'S LIABILITY IN CASE OF DEFAULT -**

CREDA may by written notice of default to the eligible SI, terminate the contract in circumstances detailed hereunder -

- a. If in the opinion of the CREDA, the eligible SI fails to complete the work within the time specified in the sanction order or within the period for which extension has been granted by CREDA to the eligible SI.
- b. If in the opinion of CREDA, the eligible SI fails to comply with any of the provisions of this contract.
- c. In the event of CREDA terminating the contract in whole or in part as provided in paragraph (a) above, CREDA reserves the right to engage another eligible SI or agency upon such terms and in such a manner as it may deem appropriate and the eligible SI shall be liable to CREDA for any additional costs due to the cost inflation in delayed period or any losses caused to CREDA as may be required for the completion of erection of the SPV Irrigation Pumps and or for penalty as defined under this tender document until such reasonable time as may be required for the final completion of the work.
- d. In the event CREDA does not terminate the contract as provided in paragraph (a) the eligible SI shall continue performance of the contract, in which case he shall be liable to CREDA for penalty for delay as set out in this tender document until the work is completed.

8. **FORCE MAJEURE -**

The eligible SI shall not be liable for any penalty for delay or for failure to perform the contract for reasons of FORCE MAJEURE such as of God, acts of public, enemy, LWE problems, acts of government, cyclone, fires, floods, epidemics/pandemics, quarantine restrictions, lockdown, strikes, freight embargoes provided that if SI shall submit delay notice with appropriate cause of delay to the CREDA in writing within **15 days** of force majeure. CREDA shall verify the facts and may grant such extension as facts justify. Delay in supply of any accessories of Solar Pumps etc. by the related vendors, to whom the bidder has placed order, shall also not be treated as force majeure.

9. **REJECTION OF WORKS -**

In the event of any of the material supplied/work done by the eligible SI is found defective in material or workman ship or otherwise not in conformity with the requirements of this contract specifications, CREDA shall either reject the material and/or work and advise the eligible SI to rectify the same. CREDA may impose penalty

for such rejection up to the 200% cost of the entire system. Habitual/repeated offenders shall be black listed/debarred to participate in the any Tender/ Activity of CREDA till further orders. The eligible SI on receipt of such notices shall rectify or replace the defective material and rectify the work free of cost. If the eligible SI fails to do so CREDA may -

- a. At its option replace or rectify such defective materials and/or work and recover the extra cost so involved from the eligible SI plus **15%** service charges of the cost of such rectification, from the eligible SI and/ or terminate the contract for balance work/ supplies with enforcement of penalty as stated above.
- b. Defective materials/workmanship will not be accepted under any conditions and shall be rejected outright without compensation. The eligible SI shall be liable for any loss/damage sustained by CREDA due to defective work **with enforcement of penalty as stated above.**

10. EXTENSION OF THE TIME -

If the completion of installation is delayed due to any reason beyond the control of the eligible SI, the eligible SI shall without delay give notice to the CREDA in writing of his claim for an extension of time. CREDA on receipt of such notice may or may not agree to extend the contract/delivery date of the Solar System as may be reasonable but without prejudice to other terms and conditions of the contract.

Chief Executive Officer, CREDA has full right for unconditional time extension.

11. PENALTY FOR DELAY IN COMPLETION OF CONTRACT-

- a. If the eligible SI fails to complete the assigned work within the schedule time specified in the Work Order or any extension granted there to, CREDA will recover from the SI as penalty of upto two percent (2%) per month of the system price excluding GST for every delayed system. For this purpose, the date of taking over shall be reckoned as the date of completion. The total penalty shall not exceed 10% (Ten percent) of the cost in 05 months. The eligible SI shall not be liable for any penalty for delay or for failure to perform the contract for reasons of FORCE MAJEURE.
- b. Review of the progress of installation of SPV Irrigation pump allocated to SIs shall be done time to time by CREDA and if the progress of installation is found unsatisfactory, the allocation of entire remaining uninstalled pumps or their part of can be re-allocated to other SI as per discretion of CREDA.
- c. In case of not completion of work by System Integrator after maximum penalty period i.e. 05 month from last date of completion. The work shall be allocated to other System Integrator as describe in above point 15 b.

In this case the escalated cost of the system shall be recovered from S.D. and/or EMD in all project of SI failing compliance of allocated work within stipulated and extended time for completion of work.

12. PENALTY DUE FROM THE ELIGIBLE SI -

All costs of damages and delays for which the eligible SI is liable to the CREDA will be deducted from any money due to the eligible SI including the security deposit of any project under CREDA.

13. RESPONSIBILITY OF ELIGIBLE SI -

Notwithstanding anything mentioned in the specifications of subsequent approval or acceptance of the SPV Irrigation Pump by CREDA, if any, the ultimate responsibility for satisfactory performance of the entrusted work shall rest with the eligible SI. If in any case the eligible SI does not complete the work as per the sanction orders issued to them then CREDA may take over the task & complete the project at the risk and cost of eligible SI.

14. RESPONSIBILITY TO RECTIFY THE LOSS AND DAMAGE -

If any loss or damage occurs to the work or any part thereof or materials/plant/equipment's for incorporation therein the period for which the eligible SI is responsible for the cause thereof or from any cause whatsoever, the eligible SI shall at his own cost rectify/replace such loss or damage, so that the permanent work confirms in every respect with the provision of the contract to the satisfaction of the Engineer. The eligible SI shall also be liable for any loss or damage to the work/equipment's occasioned by him in course of any operation carried out to him during performing the contract.

Care should necessarily be taken to make the SPV irrigation pumps operational, once the reporting of the fault/non-operational status is done, within **07 days**. If the SPV irrigation pump is not made operational within **15 days**, the rectification/replacement (keeping the same configuration in consideration) will be done by CREDA at the risk and cost of system integrator, after rectification / replacement the warranty clause will remain compliable as per tender conditions and if the system integrator fails to rectify the faulty system within 30 days then this may lead to blacklisting and debarment of SI from all the activities of CREDA for 03 Years.

15. RESPONSIBILITY TOWARDS THE WORKMAN OR OUTSIDERS -

- a. The eligible SI shall have to take insurance coverage from any authorized Insurance Company against Workmen compensation due under Workmen Compensation Act and submit copy of the insurance document before issuance of Sanction order.
- b. The eligible SI shall ensure all safety measures during execution and repairs of the work. CREDA, will, in no case be responsible for any accident fatal or non-fatal, caused to any workman or outsider in course of transport or execution or repairs of work.
- c. All the expenditure including treatment or compensation will be entirely borne by the eligible SIs. The eligible SI shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations.
- d. SI shall have to submit JCCs within **20 days** after Installation and Commissioning of SPV Irrigation Pumps in District Office of CREDA.

16. Contractor shall provide 05 year warranty in installed solar pump from the date of commissioning as per the terms & conditions prescribed in the Tender No. 153398/CREDA/ SPV Irrigation pumps/2024-25 Dated: 26.02.2024.

17. DECLARATION OF CONFLICT OF INTEREST -

- a. Any regular employee working or worked on basis of contract or through placement agency cannot work directly or indirectly in any scheme of CREDA. If such a person is found working with any SI then, such SI shall be blacklisted for three years.
- b. The bidder shall not be permitted to Bid for the work if the section of HO CREDA (responsible for implementation of work) in which his near relative is posted. Furthermore, the successful bidder shall not be given work in the district in which his near relative is posted. The bidder shall also intimate the names of his near relatives working in CREDA. Bidder shall also intimate the name of persons who are working with him in any capacity and who are near relatives to any employee in CREDA. Any breach of this condition by SI would render himself liable to be blacklisted for three years and removed from approved list of SIs in CREDA.

Note:- By the term near relatives are meant Wife, Husband, Parents and son, Brother, Sister, Brother-in-law, Father-in-law, and Mother-in-law etc.

- c. Bidder must produce an affidavit (Annexure – IV) stating the names of retired/removed employee of CREDA (if any) in his employment who retired /removed within last two years, if in case there is no such person in his employment, his affidavit should clearly state this fact. This affidavit is mandatory, if it is not produced along with the bid, the bid shall be rejected.
- 18. The contractor shall arrange insurance coverage for the materials and SPV Irrigation Pumps at his/beneficiary’s custody for the work under execution and successful commissioning and subsequent handover to the beneficiary. The contractor shall take up insurance or such other measures for the manpower so as to cover the claim for damage arising under workmen's compensation Act and other applicable State/ Central laws. CREDA shall not bear any responsibility on this account.
- 19. Contractor shall arrange for insurance coverage for SPV irrigation pumps and module during CMC period i.e. for 05 year from the date of installation. Insurance should cover for damage and theft. In case of such incidence, SI must replace the lost/damaged part within 7 days.
- 20. The contractor shall ensure the Comprehensive Operation and Maintenance activities/ Work as per Clause 13- H of Section-II (Page no. 22) of the Tender Document for the period of 5 years from the date of Commissioning.
- 21. The contractor shall abide by the terms and conditions, rules, guidelines, construction practices, safety precautions etc. stipulated in the tender document including any correspondence between the contractor and the CREDA having bearing on execution of work and payments of work to be done under the contract.
- 22. The contractor shall be responsible to follow all the laws including Workmen Compensation Act and all other laws in force & shall be responsible for all the obligations towards labour including EPF, ESI, etc.
- 23. All the taxes deductible at source as per Acts in vogue shall be recovered by CREDA and deposited with the appropriate authorities.
- 24. Contractor agrees to abide by any decision/instruction passed by the appropriate authority under Anti-profiteering rules notified by the state/central government under GST act.
- 25. Any dispute arising out of the contract shall be subject to and resolved as per the decision of C.E.O., CREDA.

“I/we hereby state that we have provided information of our near relatives as stated in the affidavit attached at “Annexure- IV”.

"Herewith everything and anything contained in Tender document no. 153398 /CREDA/ SPV Irrigation pumps/2024-25 Dated: 26.02.2024 and corresponding corrigendums/ amendments if any, is part of this agreement which has been dully signed by both bidder and authorised signatory of CREDA".

In witness whereof the parties present today has hereby entered into agreement.

**Signed & sealed on behalf of the above
Named contractor**

Signed on behalf of CREDA
Name :.....
Designation: **Superintending Engineer**

Witness:

1. Name:-.....

2. Name:-.....

Address:-.....

Address:-.....

.....

.....

Indicative Technical Specifications of Shallow Well (Surface) Solar Pumping Systems with D.C. Motor Pump Set with Brushes or Brushless D.C. (B.L.D.C.).

Description	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII
PV array (Wp)	1800	2700	2700	4800	4800	4800
Motor Pump-set capacity (HP)	2	3	3	5	5	5
Shut Off Dynamic Head (meters)	12	12	25	12	25	45
Water output * (Liters per day)	198000 (from a total head of 10 meters)	297000 (from a total head of 10 meters)	148500 (from a total head of 20 meters)	528000 (from a total head of 10 meters)	264000 (from a total head of 20 meters)	182400 (from a total head of 30 meters)

* Water output figures are on a clear sunny day with three times tracking of SPV panel, under the "Average Daily Solar Radiation" condition of 7.15 kWh/ sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes -

1. Suction head, if applicable, maximum 7meters.
2. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause 4 (i.e. Performance Requirements) specified earlier.
3. If submersible pumps are used in lieu of surface pumps, the water output must match that of the surface pumps as specified in this table.

ANNEXURE – VII (CONTD.)

Indicative Technical Specifications of Solar Deep well (submersible) Pumping Systems with D.C. Motor Pump Set with Brushes or Brushless D.C. (B.L.D.C.)

Description	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array (Wp)	1800	3000	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	2	3	3	3	5	5	5
Shut Off Dynamic Head (meters)	45	45	70	100	70	100	150
Water output * (Liters per day)	68400 (from a total head of 30 meters)	114000 (from a total head of 30 meters)	69000 (from a total head of 50 meters)	45000 (from a total head of 70 meters)	110400 (from a total head of 50 meters)	72000 (from a total head of 70 meters)	50400 (from a total head of 100 meters)

* Water output figures are on a clear sunny day with three times tracking of SPV panel, under the “Average Daily Solar Radiation” condition of 7.15 kWh/ sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes -

1. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause 4 (i.e. Performance Requirements) specified earlier.
2. If surface pumps are used in lieu of submersible pumps, the water output must match that of the submersible pumps as specified in this table.

Indicative Technical Specifications of Shallow Well (Surface) Solar Pumping Systems with A.C. Induction Motor Pump Set

Description	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII
PV array (Wp)	1800	2700	2700	4800	4800	4800
Motor Pump-set capacity (HP)	2	3	3	5	5	5
Shut Off Dynamic Head (meters)	12	12	25	12	25	45
Water output * (Liters per day)	178200 (from a total head of 10 meters)	267300 (from a total head of 10 meters)	132300 (from a total head of 20 meters)	475200 (from a total head of 10 meters)	235200 (from a total head of 20 meters)	168000 (from a total head of 30 meters)

* Water output figures are on a clear sunny day with three times tracking of SPV panel, under the "Average Daily Solar Radiation" condition of 7.15 kWh/ sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes -

1. Suction head, if applicable, maximum 7meters.
2. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause 4. (i.e. Performance Requirements) specified earlier.
3. If submersible pumps are used in lieu of surface pumps, the water output must match that of the surface pumps as specified in this table.

ANNEXURE - VIII (CONTD.)

Indicative Technical Specifications of Solar Deep well (submersible) Pumping Systems with A.C. Induction Motor Pump Set

Description	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array (Wp)	1800	3000	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	2	3	3	3	5	5	5
Shut Off Dynamic Head (meters)	45	45	70	100	70	100	150
Water output * (Liters per day)	63000 (from a total head of 30 meters)	105000 (from a total head of 30 meters)	63000 (from a total head of 50 meters)	42000 (from a total head of 70 meters)	100800 (from a total head of 50 meters)	67200 (from a total head of 70 meters)	43200 (from a total head of 100 meters)

* Water output figures are on a clear sunny day with three times tracking of SPV panel, under the "Average Daily Solar Radiation" condition of 7.15 kWh/ sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes -

1. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause 4 (i.e. Performance Requirements) specified earlier.
2. If surface pumps are used in lieu of submersible pumps, the water output must match that of the submersible pumps as specified in this table.

Ref. Bid Document No.:_____.

DECLARATION FOR USING SAME MAKE OF EQUIPMENTS AS PER THE TEST CERTIFICATE

From:
M/s_____

Sub: Declaration for using same make of equipment's as per the test certificate

We are agreeing to accept that the same make of solar panels, pumps, VFD/controller for which the test report is to be submitted under this Bid to CREDA, is as per Guidelines and Procedures mentioned in the bid and will be supplied by us. We declare to procure the components mentioned above only from the Vendors registered with CREDA.

In case if some different make of solar panels, pumps, VFD/ controller will be supplied during the implementation or CMC period, we will submit the test report for that particular make component(s).We also agree that such test reports shall be issued by the National Institute of Solar Energy and any other lab accredited by NABL for testing of SPV irrigation pumping system as per MNRE specifications and testing procedure.

Name of Authorized Signatory

**Signature of suppliers
(With stamp)**

STANDARDS OF SPV IRRIGATION PUMPING SYSTEMS

S. No.	Component	Standard as suggested by MNRE or equivalent National or International/ Standards.	Description
1	PV Module- Design	IEC 61215-1:2016	Terrestrial Photovoltaic (PV)modules- Design qualification and type approval- Part 1 : Test requirements
		IEC 61215-1-1:2016	Terrestrial Photovoltaic (PV) modules- Design qualification and type approval- Part 1-1 : Special requirements for testing of crystalline silicon photovoltaic (PV) modules
		IEC 61215-1-2:2016	Terrestrial Photovoltaic (PV) modules- Design qualification and type approval- Part 2: Test procedures
2	Module Testing	IEC 61701: 2011	Salt mist corrosion testing of photovoltaic (PV) modules, wherever applicable
3	PV Module Safety	IEC 61730-1:2016	Photovoltaic (PV) module safety qualification- Part 1: Requirements for construction
		IEC 61730-2:2016	Photovoltaic (PV) module safety qualification- Part 1: Requirements for testing
		UL 1703/ UL 61730	PV module safety standards
4	Junction Box/ Fuses/Cut-Offs	IEC 62790: 2014	Junction boxes for Photovoltaic modules – Safety requirements and tests
		UL 2579	UL 2579: Low Voltage Fuses- Fuses for Photovoltaic systems, wherever required
5	Connectors	UL 4248-18	Fuse Holders- Part 18: Photovoltaic Systems
		IEC 62852: 2014	Connectors for DC-application in photovoltaic Systems- Safety requirement test
6	Controllers	UL 6703	Connectors for use in Photovoltaic Systems
		IEC 61683:1999	Photovoltaic Systems- Power Conditions- Procedure for measuring efficiency
		IEC 60068-2-1: 2007	Environmental testing- Part 2-1: Tests- Test A : Cold
		IEC 60068-2-2: 2007	Environmental testing- Part 2-1: Tests- Test B : Dry heat
		IEC 60068-2-14: 2009	Environmental testing- Part 2-14, Test- Test-N: Change of temperature
		IEC 60068-2-30: 2005	Environmental testing-Part 2:30 Tests -Db: Damp heat, cyclic (12 h+ 12 h cycle)
7	Wires, Cable and Cords	UL 1581	Reference Standard for Electrical Wire, Cables and Flexible Cords
		UL 4703	Photovoltaic Wire

Note :

- All pump systems mentioned under this tender should qualify the bench mark performance specified at specification for Solar Photo Voltaic Water Pumping Systems (Total water and Litre/Watt peak/Day requirement).
- Test Reports for which consent issued, should also include above standards.

DETAILED SPECIFICATIONS OF BOS

Sl.No.	Components	Specification
1	Surface/Submersible cables	For 2HP & 3HP 2.5/4 sq.mm., for 5HP 4 sq.mm. 3 core flat ISI mark copper cable. Sine wave filter should be used as and when required.
2	Cable for Panel	Wiring with MC4 connector 6/4 sq.mm. copper flexible universal DC cable with MC4 connector.
3	HDPE pipe for Submersible	Pump set- ISI 100% virgin with minimum PE100, DN63, PN8 as per IS 4984 of 1995 as suggested by MNRE for 2HP & 3HP and PN10 for 5HP Pump set.
4	Suction and delivery pipe for surface pump	IS 15265 as suggested by MNRE PVC pipes hoses for suction line for agriculture.
5	Rope wire/ Garware safety Rope or other standard make	Stainless steel/GI/Nylon 8mm for 2 HP & 3HP, 10mm for 5HP rope wire standard make Garware/standard make safety rope of suitable size can also be used.
6	Earthing Kit-1 and lighting arrestor	Chemical earthing as per IS 3043/IEC 60364-5-54/62561-2 as suggested by MNRE. LA 14 ft. GI pipe with 30mm GI strip or 10 mm GI wire. (do not use aluminium wire/strip).
7	Earthing Kit-2	Chemical earthing with tested compound IEC 6235-3 as suggested by MNRE.
8	SS theft proof Nut Bolt	SS304 anti theft Nut bolt with washer
9	Other Nut bolt and washer	suitable Stainless Steel SS 304 grade or Hot dipped galvanized 8.8 grade
10	Conduit pipe/ black drip pipe	2mm thick PVC conduit pipe ISI make or black drip pipe made up of linear-low-density polyethylene for covering panel wiring.
11	Cable Tie	UV protected cable tie of standard make.
12	Foot Valve, Coupler	ISI/standard make PVC foot valve and standard make clamp.
13	Bend and Union	ISI B Class
14	Clamp, Bore cap	Bore cap & clamp must be of good quality and standard make.
15	Instruction manual	DO & Don'ts, O&M instruction after Installation with SI, DO and CREDA toll free number etc.
16	Sticker	As per CREDA design.

Note:

- Selection of Pump should be as per bore testing and for maximum discharge. Pump also supports minor irrigation system minimum drip irrigation system positively.
- HDPE pipe and cables should be as per depth of bore/requirement of site but **it shall be minimum 50 metres for 02 HP Pumps, minimum 70 meters for 03 HP pumps and minimum 100 metres for 05 HP Pumps.**

CERTIFICATE OF MONTHLY INSPECTION, REPAIR & MAINTENANCE

SAUR SUJLA PHASE

DISTRICT-

(FOR THE MONTH:..... - 2024)

Certificate No.:.....

This is to certify that M/s has extended preventive/ routine maintenance and breakdown/ corrective maintenance services at the beneficiary's place detailed as per the enclosure. Preventive/ routine maintenance and breakdown/ corrective maintenance work during the 2024 to.....2024 has been done properly to ensure functionality of the systems as specified in agreement and tender.

This is also certified that total..... Systems out of the.....installed systems are working satisfactorily..... Nos. pumps are not working in which..... nos pumps are permanently not working due to Pump Theft, Cable Theft, Bore Collapse, Pump Jam etc. and nos pumps are temporary not working due to minor issues.

Project	Total Nos. of Pump Installed	.....2024 Working System	Not Working		Not Working Reason										Actual Nos. of Not Working Pumps	Percentage of Not Working Pumps		
			..... 2024	..... 2024	Pump Theft	Controller Theft	Module Theft	Module Broken	Cable Theft	Bore Collapse	Bore Dry	Pump Jam in Bore	Other	Total				
Total																		

The beneficiary wise record of preventive/ routine maintenance and breakdown/ corrective maintenance work carried out by the system integrator along with soft copy of systems photographs will be kept with system integrator.

Enclosed :- Beneficiary wise list of all functional pumps.

Date:/.. /2024

Place:-

Signature
District Incharge
CREDA District Office

Signature:-

Name: -

Designation:-

Seal of System Integrator:-

Contact No.:-