



Chhattisgarh State Renewable Energy Development Agency (CREDA)

(Dept. of Energy, Govt. of Chhattisgarh)

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TENDER DOCUMENT No. 105235/CREDA/SPV IRRIGATION PUMPS/2022-23 Dated: 27-07-2022

E-TENDER FOR STANDARDISATION OF RATES FOR SURVEY, DESIGN, SUPPLY, INSTALLATION & COMMISSIONING OF SOLAR PHOTO VOLTAIC IRRIGATION PUMPS OF CAPACITIES 03 & 05 HP AC & DC SURFACE & SUBMERSIBLE (UNDER PM-KUSUM, COMPONENT- B/SSY) WITH FIVE YEARS ON SITE WARRANTEE, CMC & INSURANCE ANYWHERE IN THE STATE OF CHHATTISGARH

Particulars	From Date & Time	To Date & Time	Place
Date of issue of notice inviting bid	27.07.2022 05:00 PM	-----	-----
Period of availability of bidding document at website	27.07.2022 05:00 PM	17.08.2022 05:00 PM	http://www.creda.co.in/tenders
Submission of pre bid queries in writing	27.07.2022 10:00 AM	01.08.2022 05:00 PM	At H.O. CREDA, RE-V, Section or by E-mail : credatendercell@gmail.com
Display of Sample & Submission of MAF	05.08.2022 10:00 AM	05.08.2022 05:00 PM	At CREDA H.O. Raipur
Submission of Online Bid (Technical + e-Price Bid) and Submission of Documents in hard copy	27.07.2022 05:00 PM	17.08.2022 05:00 PM	https://eproc.cgstate.gov.in
Opening of Technical Bid	18.08.2022 10:00 AM	-----	At CREDA H.O., Conference Hall, Raipur. (https://eproc.cgstate.gov.in)
Evaluation of technical bid and Declaration of Eligible bidder (Bidders who are technically & financially qualified)	23.08.2022 10:00 AM	-----	At Vikas Bhawan, PMGSY, Conference Hall, Civil lines, Raipur
Opening of e- Price Bid	25.08.2022 12:00 PM	-----	At Vikas Bhawan, PMGSY, Conference Hall, Civil lines, Raipur

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. 20,00,000.00 (in words Rupees Twenty Lakh Only) for Individual & Consortium bidders & Rs. 5,00,000 (in words Rupees Five Lakh Only) for New Entrepreneur & Start-Up bidders to be deposited in CREDA's account via Demand Draft/ Pay Order or RTGS / NEFT.

Document can also be downloaded from our website ww.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, supply, installation and commissioning of Solar Photovoltaic Irrigation pumps (under PM-KUSUM, COMPONENT-B/SSY) with five years CMC, onsite warrantee & Insurance for anywhere in the State of Chhattisgarh from registered company with manufacturing facility in India and System integrators for SPV Module/Pump set/Controller with 3 years track record in SPV pumping systems, as per following details -

S.No.	Item Description	Approximate Quantity	Cost of Tender Document	EMD	Essentials
1.	SPV Pumps 3 HP (AC/DC Submersible/ Surface)	15,000	Rs 25,000.00 +18% GST = Rs.29,500.00	Rs.20,00,000.00	As per clause no.1a to 1g of Eligibility Criteria (Page no. 08 & 09)
2.	SPV Pumps 5 HP (AC/DC Submersible/Surface)	10,000			
TOTAL		25,000	29,500.00	20,00,000.00	----

The quantity of pumps mentioned in above table may vary as per actual site conditions & demand. The total number of pumps may alter as per discretion of CREDA.

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	27.07.2022 05:00 PM	-----	-----
Period of availability of bidding document at website	27.07.2022 05:00 PM	17.08.2022 05:00 PM	http://www.creda.co.in/tenders
Submission of pre bid queries in writing	27.07.2022 10:00 AM	01.08.2022 05:00 PM	At H.O. CREDA, RE-V, Section or by E-mail : credatendercell@gmail.com
Display of Sample & Submission of MAF	05.08.2022 10:00 AM	05.08.2022 05:00 PM	At CREDA H.O. Raipur
Submission of Online Bid (Technical + e-Price Bid) and Submission of Documents in hard copy	27.07.2022 05:00 PM	17.08.2022 05:00 PM	https://eproc.cgstate.gov.in
Opening of Technical Bid	18.08.2022 10:00 AM	-----	At CREDA H.O., Conference Hall, Raipur. (https://eproc.cgstate.gov.in)
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Opening of e- Price Bid	25.08.2022 12:00 PM	-----	At Vikas Bhawan, PMGSY, Conference Hall, Civil lines, Raipur

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 duly signed hard copy at CE (Tender Cell). 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, they are only for record keeping by 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.

**Chief 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 on not being a debarred from Government contract or a blacklisted company.		
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 with CREDA and Affidavit (Annexure V) (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	Consent for valid Original Test Reports of SPV Pumping system & MAF from the owner of test report in the name of Bidder.		
10		Original Net Worth Certificate duly signed by Chartered Accountant as on 31st March 2021.		
11		Original certificate for last three financial year's turnover i.e. 2018-19, 2019-20 & 2020-21/2021-22 of works done in SPV Projects.		
12		Original ITRs for last three Financial Years i.e. 2018-19, 2019-20 & 2020-21/2021-22 of the Bidder.		
13		Completion and Performance Certificates of Installation and Commissioning of SPV Pumps by the Bidder in Govt. Scheme of any State or Market mode scheme of CREDA in last 3 financial years i.e. 2019-20, 2020-21, 2021-22 & till 30.06.2022. (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 – X)		

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. Twenty Lakhs for Individual & Consortium Bidder/ Rs. Five 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 **500 Nos.** and that of other state should have minimum direct experience of supply and installation of **1000 Nos.** of SPV Pumps under a Govt. Scheme of any state or Market Mode Scheme of CREDA for the last 3 financial years i.e. 2019-20, 2020-21, 2021-22 & till 30.06.2022. 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 pumping system should in successful operation as on date. (Experience in terms of works done for other private / non Govt. companies/ firms etc. shall not be considered). **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.**

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 of **Rs. 01 Crore as on 31st March 2021 (which is defined as "Net value of the Assets minus (-) Net value of liabilities")**. They shall have to submit a **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 last three consecutive financial years i.e. 2018-19, 2019-20 & 2020-21/2021-22 in SPV Projects. 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 Test Report in his 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 08 categories of pump i.e. 03 & 05HP, AC & DC, Surface & submersible. (As per MNRE office memorandum No. 32/645/2017-SPV Division Dated 13 November 2020). Such owner of the Test Reports 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.

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 shall 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 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) registered in India and must be in existence for at least 3 (three) years as on publication of this tender. Both the partners should have at least 3(three) years' experience in the field of installation of solar pumping systems.
- b. A consortium of maximum two (02) members is allowed in this bid including one as lead bidder.
- c. One of the partners of the consortium shall act as Lead member. Both the members of the Consortium shall mandatorily have installation experience of SPV pumping system such as Irrigation pumps and Drinking Water pumps.
- 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 1000 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 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. Both the partners of consortium shall mandatorily have minimum 3 (three) years installation experience of SPV Pumping System such as Irrigation pumps and drinking water pumps.
- 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 form 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-V** 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 AND NEW ENTREPRENEUR -

- a. CREDA may consider awarding work of installation up to maximum **50 pumps** on **L-1** price to Start-up & New Entrepreneur.
- b. **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 it 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.
- c. The eligibility criteria as per 1a. to 1d. shall be relaxed for Start-Up and New Entrepreneur bidders. The eligibility criteria applicable to Start-Up and New

Entrepreneur bidders shall be as follows:-

- i. Registration certificate as System Integrator in CREDA on or before the date of submission of Bid.
- ii. Start-Up and New Entrepreneur bidders should have minimum direct experience of Supply and installation of **25 nos SPV Irrigation pumps**.
- iii. Start-Up and New Entrepreneur bidders must have either Test Report in his 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 08 categories of pump i.e. 03 & 05HP, AC & DC, Surface & submersible as per clause 1e.
- iv. Start-Up certificate of concerned ministry, Govt. of India.
- v. Certificate for Turnover and Original certificate of positive Net-worth duly signed by Chartered Accountant for at least one financial year i.e. 2020-21/2021-22. Turnover in this category of bidders should not exceed Rs.2 **Crore** in SPV Projects. ITR and Audited balance sheet of respective year must be submitted.
- d. EMD of **Rs. 5 Lakhs** in the form of Demand Draft/Pay Order or RTGS/NEFT.
- e. **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.**

4. **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 17-08-2022. Bids submitted after scheduled time and date shall not be considered.

5. **EMD -**

- a. Earnest Money Deposit of Rs. Twenty Lakhs for individual & Consortium Bidders/ Rs. Five 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. 8500/CREDA/SPV IRRIGATION PUMPS/2022-23 Date: 27.07.2022, 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 successful completion of allocated work.

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 17-08-2022 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 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 along with GST Clearance certificate 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.
- 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 27.07.2022, 05:00 PM onwards till 17.08.2022, 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. – 35 of Section-II), shall be offered allocated quantity of pumps (as described in this tender document, Clause no.-36 of 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 & New Entrepreneur will also be required to submit the Additional performance security (APS).

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 -**

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 18 months 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 2022-23 & 2023-24 and shall be valid till 31-03-2024. 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 pumping system even after the issuance of sanction order as per the site conditions and demand.

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. **105235/SPV IRRIGATION PUMPS /2022-23 Dated 27.07.2022.**
- 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 Owner (Manufacturer/Bidder) of the Test Report provides any false/fake information or documents, then they shall be debarred/ blacklisted for 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 to credatendercell@gmail.com on or before 05:00 PM 01.08.2022. 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 Test Report in his 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 08 categories of pump i.e. 03 & 05HP, AC & DC, Surface & submersible. (As per MNRE office memorandum No. 32/645/2017-SPV Division Dated 13 November 2020). Such owner of the 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 PUMPING SYSTEMS WITH INSTALLATION, COMMISSIONING AND TESTING OF SOLAR PUMP SET -

- a. The Price must be quoted for each category (includes all models) of solar pumping system with Supply, installation, commissioning and testing, MMS, Lightening arrester, 02-nos earthing, 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. Casing pipe and cables should be as per depth of bore/requirement of site i.e. it may be more than 50 metres and 70 metres for 03 & 05 HP Pumps respectively.
- c. Any change in GST shall be applicable during the period of contract.
- d. **Payment of GST according to GST prevailing rate applicable at the time of opening of bid or else the date of installation of solar pumping systems, whichever is less, shall be applicable in addition to the base price.**
- e. In this regard if there is any change in the composition ratio of goods and services by any Authority/ Courts, same shall be applicable.
- f. **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 -

This deduction is the one percent of cost of installation only and it is mandatory to deposit to concerned department as per state govt. notification. So while quoting the financial bid, keep this in mind.

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. Costs and taxes before execution of agreement with CREDA so as to ensure tax deposition as per Government Rules accordingly.

29. JURISDICTION OF THE COURT -

Any dispute arising out of the contract shall be subject to the jurisdiction of 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. **CREDA** shall mean the Chhattisgarh State Renewable Energy Development Agency represented through the Chief Engineer.
- b. **Work** shall mean any work entrusted to the bidder as mentioned in the scope of work and sanction order.
- c. 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 Pump.
- d. "**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.
- e. "**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,
- f. "**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.
- g. **Bidder of Chhattisgarh State: 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.**

2. PROOF OF MANUFACTURER -

Those bidders who are also manufacturers of an important component of SPV Pump such as SPV Modules, Surface or Submersible Pump, VFD or Structures of SPV 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 Market Mode 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 here-in-after called the **SI** (System Integrator).
 - i. The eligible SI shall conduct a detailed survey of site and submit application of beneficiary 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. Engineer-in-Charge of District Office of CREDA shall examine these applications. After his satisfaction will decide the type of pump like AC / DC and Submersible or Surface type. 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 Pump.
 - v. HO CREDA will be final authority to decide the type of pump and set of combination of pump.
 - vi. 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 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 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.

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 MNRE 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 Pumps shall be completed within the time schedule prescribed in the Sanction order. **The SI must complete 30% of work allocated till 31.01.2023 and balance 70% till 30.06.2023 from the date of LOI, including rainy season, provided that there**

is no force majeure.

- 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 or any losses caused to CREDA as may be required for the completion of erection of the SPV 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.

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 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**.

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/MNRE 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. WARRANTEE 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 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 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 Pumps operational, once the reporting of the fault/non-operational status is done, within a week. If the SPV Pumps is not made operational within **7 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. No claim in this regard will be entertained.
- 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 Pumps installed by them or it is essential to keep spares at least 2% of installed pumps. SI shall have to give a toll free number to register complaints.
- h. Comprehensive Maintenance Contract (CMC)-
Comprehensive Maintenance Contract shall have two distinct components as described below -**
- 1. Preventive / Routine Maintenance:** This shall be done by the contractor at least once in every three month and shall include activities such as cleaning and checking the health of the SPV Pump, cleaning of module surface, tightening of all electrical connections, changing of tilt angle of module mounting structure, and any other activity that may be required for proper functioning of the SPV Pump as a whole.
 - 2. Breakdown / Corrective maintenance:** Whenever a complaint is lodged by the user/CREDA, the bidder shall attend to the same within a reasonable period of time (not exceeding 07 days from the date of complaint) and rectify the defects, period. Replacement of the defective component/ spares if required as and when such requirement would arise. The replacement work shall be carried out within the specified time limit i.e. maximum 7 days for minor replacement/repair and 15 days for major replacement/repair. It is mandatory that the contractor shall submit a certificate, about the rectification/replacement work done, from the concerning beneficiary(s) to the DO, failing which it will be assumed that the contractor has not performed its duties. Major and minor replacement/repair shall be defined by CREDA separately.
For carrying out the maintenance service during CMC effectively, the System Integrator shall establish one local service center at suitable place (preferable at the same district).
 - 3. Facilities at the local Service Center:** The bidder shall maintain the following facilities at the Local Service Centre for ensuring highest level of services to the end user:
 - a. Adequate trained manpower specifically trained by the bidder for carrying out the service activities.
 - b. Sufficient spare parts, to extend services at the beneficiary's place / site(s).
 - 4.** The System Integrator shall submit certificates of maintenance / quarterly visits in the enclosed format (Annexure- IV) to respective DOs on quarterly basis, along with the service reports.
 - 5.** If the bidder fails to repair the systems against the complaints of breakdown /Corrective maintenance to ensure 100% working status during CMC period in stipulated period i.e. maximum 30 days. Repair / replacement work will be done by CREDA from their SD or any other due payments available with CREDA.
 - 6.** A detailed methodology stating the plan to undertake the work of Maintenance Contract, proposed network of service centers and deployment of skilled manpower should also be submitted at the time of Contract.

14. TERMS OF PAYMENT -

The following terms of payment shall apply for the tender -

- a. **95%** of the cost as per the sanction order after satisfactory supply, installation, commissioning & performance test of the SPV Pumps at site with proper handing over.
- b. Balance **5%** of the cost 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 5% (Five Per cent) of the cost. 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.

16. SECURITY DEPOSIT (SD) -

- a. 5% of the cost 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 Pumping system at his/ beneficiary's custody for the work under execution and 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 arrange for insurance coverage for complete SPV 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 should cover for damage and theft. In case of such incidence, SI must replace the lost/damaged part within **7 days** from the date of intimation, failing which 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. No claim in this regard will be entertained.

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 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 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.

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 sanction orders issued as per this contract or any part thereof without the prior approval of CREDA.
- b.** If eligible bidder transfer/assigned/sublet (as per the sublet policy of CREDA) in any part of work allocated to him without prior permission from CREDA in writing to any third party shall be liable to be debarred/black listed from any Tender/Activity of CREDA till further orders.

23. SUBLETS -

- a.** The eligible bidder may sublet / sub contract part of the work with approval of CREDA in writing up to 25% of the allocated work. It is expressly agreed that original bidder shall be responsible and liable for all his obligations under this agreement notwithstanding anything contained in the agreements with his sub contractor and no default under any such agreement shall exempt the original bidder from his obligation or all liabilities here under.
- b.** The eligible bidder must sublet the work to a party which fulfils the minimum Technical and financial criteria to carry out the proposed quantum of work.
- c.** The original bidder shall not be allowed to sub contract the work assigned to him to more than one sub contractor.
- d.** After approval of the proposal of the sub contract CREDA shall issue a permission letter for the same. CREDA reserves the right to accept or reject such sublet proposal.
- e.** The original bidder should satisfy himself before recommending CREDA whether the

sub contractor so proposed is fit for the work, process, experience, qualifications, man power and component necessary for the job proposed be entrusted to him.

- f. Whatever warranty mentioned in the Tender document shall be honoured by the original bidder. Original Bidder shall be held responsible for any defect / non functionality of any work / system or any components.
- g. CREDA will not ask to sub contractor for any rectification / replacement of work / system or any component. All liabilities regarding warranty shall be on part of original bidder.
- h. The original bidder shall be responsible of submission of JCCs to concerned district officers of CREDA with his and sub contractor signatures and seal on every document comprising JCCs. The seal of sub contractor should clearly the name of sub contractor with phrase "on behalf of original bidder". All liabilities like warranty, insurance, specification, compliance of bid conditions and government rules and regulations etc., shall be on the part of original bidder.
- i. CREDA will pay to the original bidder after successful commissioning of the system.
- j. The original bidder shall have to pay within 15 days of receipt of payment from CREDA. CREDA may pay directly to the sub contractor on-behalf of original contractor after receipt of written consent / recommendation for payment from original bidder.
- k. If original bidder fails to pay any amount to sub contractor within 45 days then on receipt of information from sub contractor CREDA shall have right to deduct the same from bill or any due amount of original bidders and pay the same to sub contractor.
- l. The allocated work to sub contractor shall be part of the experience of sub contractor.

24. 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.

25. SETTLEMENT OF DISPUTES THROUGH ARBITRATION -

- a. 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.
- b. Any dispute or difference including those considered as such by only of the parties arising out of or in connection with the contract shall be to the extent possible be settled amicably between the parties. If amicable settlement cannot be reached then all disputed issues shall be settled by arbitration at Chhattisgarh.

26. 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.

27. 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.

28. 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 Chief Engineer, CREDA Raipur in the same manner.

29. SECURITY -

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.

30. 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.

31. 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 or through sublet 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 - V) 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.

32. CAPACITY ASSESMENT OF THE BIDDER -

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

- | | | | |
|-----------|---|-------|----------|
| a. | No. of 3HP & above capacity SPV Pumps installed in year
2019-20, 2020-21 & 2021-22 till 30.06.2022 | ----- | a |
| b. | No. of less than 3HP capacity SPV pumps installed in year
2019-20, 2020-21 & 2021-22 till 30.06.2022 | ----- | b |

Assessed maximum capacity for installation of pumps in this bid—{**a+ (b/2)**}

For installation carried out in Chhattisgarh the above determined assessed capacity shall be further doubled.

33. 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 Pumps in financial years i.e. 2019-20, 2020-21, 2021-22 & till 30.06.2022. 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 Pumps financial years i.e. 2019-20,

2020-21, 2021-22 & till 30.06.2022. 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 Pumps financial years i.e. 2019-20, 2020-21, 2021-22 & till 30.06.2022. 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 Pumps financial years i.e. 2019-20, 2020-21,2021-22 & till 30.06.2022. in the state of Chhattisgarh only.
- b. Offers of only those parties, who satisfied above Clause 33 (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.

34. **EVALUATION 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.

35. **EFFECTIVE PRICE -**

Effective price shall be calculated as per following formula for decide the order of offered rates for allocation as per Clause 32.

Effective price =

$$\frac{(\text{Unit price of 03HP AC Surface X W1})+(\text{Unit price of 03HP DC Surface X W2})+(\text{Unit price of 03HP AC Submersible X W3})+(\text{Unit price of 03HP DC Submersible X W4}) + (\text{Unit price of 05HP AC Surface X W5})+(\text{Unit price of 05HP DC Surface X W6})+(\text{Unit price of 05HP AC Submersible X W7})+(\text{Unit price of 05HP DC Submersible X W8})}{W1+W2+W3+W4+W5+W6+W7+W8}$$

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

$$W1= 2.29, W2= 2.29, W3= 2.41, W4= 2.44, W5= 3.09, W6= 3.38, W7= 3.10, W8= 3.41$$

Where Weightage W1, W2..... = Benchmark Cost 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.

36. **ALLOCATION OF TARGETS AND AREA OF WORK**

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

L-1	750 or assessed capacity which-ever is less.
L-2 to L-3	500 or assessed capacity which-ever is less.
L-4 to L-5	400 or assessed capacity which-ever is less.
L-6 & Others	Balance un-allocated quantity shall be allocated to the balance bidders being considered for allocation of target in ratio of their assessed capacity or maximum 300, whichever is less in first allocation.

- 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. In first allocation only 12,500 pumps will be allocated as per above formula including L-1 to L-5. Rest of the allocation will be distributed as per the performance of eligible bidders in the past.
- c. Allocation can be further extended as per discretion of CREDA, in interest of expeditious work completion.
- d. CREDA reserves all rights for allocation of works anywhere in Chhattisgarh.
- e. 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.

37. **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 and 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 any time.

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

(Name, Signature & Seal of the SI)

SECTION - 3

SCOPE OF WORK

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

1. Survey of Sites, designing, supply, installation & commissioning of SPV Pumps of various capacities as per design and specifications approved by CREDA& MNRE 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.
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 and yield report where the SPV 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. Sanction order shall be issued only after receipt of satisfactory reports suitable for system installation. 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.
 - b. Collection of Beneficiary Share and Processing Fee (Fixed by Government)
 - c. Submission of Application Form in CREDA in prescribed manner along with necessary documents and processing fee.
 - d. Detailed planning of time bound smooth execution of project.
 - e. Design, supply, installation & commissioning of SPV Pumps of required capacities and type as per design and specifications approved by CREDA& MNRE, on turnkey basis.
 - f. Performance Guarantee Test: Successful performance guarantee test to demonstrate the rated capacity of SPV Pump as per CREDA's norms shall have to be conducted by SI in presence of representatives of CREDA, if required.
 - g. Providing User Manuals and Warrantee Cards to beneficiaries.
 - h. 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.
 - i. SI shall have to submit JCCs within **120 days** of Installation and Commissioning of SPV Pumps in District Office of CREDA.
 - j. Unconditional onsite warrantee for manufacturing defects for Five years faultless operation, assure inventory for maintenance.
 - k. SI/Supplier has to provide quarterly monitoring report of actual ground conditions for every installation.
 - l. Providing Prompt Service Facilities to customers/beneficiaries.
 - m. Risk liability of all personnel associated with implementation and realization of the project.
 - n. 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.
 - o. The eligible SI shall maintain sufficient inventory of the spares 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.
 - p. 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.

- q.** 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 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) Water 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 Water Pumping System set uses the irradiance 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 Water 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 water pumping system should be operated with a PV array minimum capacity in the range of **2700 Watts peak to 4800 Watts peak**, measured under Standard Test Conditions (STC). 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 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 water pumping systems shall have certificate as per IS14286/IEC 61215 specifications 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 for safety qualification testing and shall be compliant to Domestic Component Requirement (DCR) as per MNRE.
- iv** The minimum module efficiency should be minimum 15 percent and fill factor shall be more than 70 percent.
- v** Modules must qualify to IEC TS 62804-1:2015 for the detection of potential-induced e-gradation - 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
- 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 +10 percent.
- 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, I_m , V_m 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- PUMPSET

- i.** Solar pump must be indigenously built and made in India.
- ii.** The SPV water 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 3 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 3 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.

e. MODULE MOUNTING STRUCTURE (MMS) -

- i. MMS as per drawings (**which is given as Annexure "VI"-A₁ to A₅₂**) 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**). Each MMS should be grouted on pedestals & Foundation as per drawings. Each module should be fastener by four theft proof nut built. Module Mounting Structure including foundation bolt, other nut & bolt, steel nut & bolts, washer, theft proof nut & bolts, clamps for holding controller etc. for 06 nos & 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 (with washers) should also be used for better theft proofing along with "C" Channel MMS.
- iii. To enhance the performance of SPV water 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 SS 304 or 8.8 grade. Modules should be locked with antitheft bolts of SS 304 Grade. Foundation should be as per drawing attached.

f. SPVCONTROLLER

- 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. Lightening arrestor.

- v. A good reliable DC Circuit Breaker as per IS/IEC 60947-2 suitable for switching DC power ON and OFF shall be provided in the SPV Controller.
- vi. All cables used shall be as per IS694. 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.
- 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. EARTHINGARRANGEMENT

- i Earthing of the motor shall be done as per IS 9283 in accordance with the relevant provisions of IS 3043. 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 arrester shall be provided with every SPV Water Pumping System.

h. USE OF INDIGENOUSCOMPONENTS

It will be mandatory to use indigenously manufactured solar modules. The motor-pump-set, controller and balance of system should also be manufactured indigenously.

i. PERFORMANCEREQUIREMENTS

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 12 meter.
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 25 meter.
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 45 meter.
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 70 meter.
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 100 meter.
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 150 meter.

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 Water Pumping Systems are given in the Annexure VIII.

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

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 Water Pumping Systems are given in the Annexure IX.

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 Water Pumping Systems shall be done as per procedure specified by the MNRE.

5. GUARANTEE OF PERFORMANCE -

- a. The SPV Water Pumping Systems shall be guaranteed for their performance of the nominal volume rate of flow 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 Water 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 (Wp)

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)**
 - ii. D.P. Test (Pin Hole / Crack) **(IS822)**
- b. For ascertaining hot dip galvanizing of fabricated structure following should be referred -
 - i. Min coating required should be as per IS4759.
 - ii. Testing of galvanized material.
 1. Preece Test (CuSO₄ Dip Test) **(IS2633)**
 2. Mass of Zinc **(IS 6745)**
 3. Adhesion Test **(IS2629)**

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. 105235/CREDA/SPV IRRIGATION PUMPS/2022-23 Dated : 27.07.2022)

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

Sl. No.	Item Code	Particulars	UOM (Unit of Measurement)	Rates of Solar Pumping System with Solar Module, Solar Pump, Controller, M.M Structure, L.A, Earthing-02 Nos., Rope wire, Cable, PVC Pipes and other required BOS and with five years warrantee, System insurance, CMC, Civil work, installation, commissioning and testing Excluding GST (in multiples of 100)
1.	3 HP DC Surface Pump	335 Wp x 9 nos Modules 3 HP DC (Surface Pump)	LS	
2.	3 HP AC Surface Pump	335 Wp x 9 nos Modules, 3 HP AC (Surface Pump)	LS	
3.	3 HP DC Submersible Pump	335 Wp x 9 nos Modules, 3 HP DC (Submersible Pump)	LS	
4.	3 HP AC Submersible Pump	335 Wp x 9 nos Modules, 3 HP AC (Submersible Pump)	LS	
5.	5 HP DC Surface Pump	320 Wp x 15 nos / 535 Wp x 9 nos Modules, 5 HP DC (Surface Pump)	LS	
6.	5 HP AC Surface Pump	320 Wp x 15 nos / 535 Wp x 9 nos Modules, 5 HP AC (Surface Pump)	LS	
7.	5 HP DC Submersible Pump	320 Wp x 15 nos / 535 Wp x 9 nos Modules, 5 HP DC (Submersible Pump)	LS	
8.	5 HP AC Submersible Pump	320 Wp x 15 nos / 535 Wp x 9 nos Modules, 5 HP AC (Submersible Pump)	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 – VIII, IX (Page 113-116).
- 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 :

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 Chhattisgarh State: : Yes/No
- 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/ Certificate furnished : Yes/No
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 with CREDA : Yes/No
- b. If yes, whether documentary Evidence is enclosed. : Yes/No
08. Any other information that bidder may like to give in order to highlight his bid : If yes, give details

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 evidence regarding exemption enclosed. : Yes/No
- 02.** Whether the offer is valid for 6 months from the date of opening of commercial/technical bid. : Yes/No
- 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 Rate/amount of rebate/discount : Yes/No
- 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 Specified in the tender : Yes/No
- 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 applicable for part quantities. : Yes/No

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 CE,**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- Photo copy 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 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 Pumps (.....Scheme) against various Sanction of Name of Agency at various locations in.....State, as per following details -

Capacity & Type of SPV 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 2022

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. 105235 dated 27.07.2022** 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 **SOLAR IRRIGATION PUMPS 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. 105235/CREDA/SPV IRRIGATION PUMPS/2022-23 dated: 27.07.2022 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-V** 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	3000 Wp, 3 HP DC SPV Surface Pump	228920/ -
2	3000 Wp, 3 HP AC SPV Surface Pump	228920/-
3	3000 Wp, 3 HP DC SPV Submersible Pump	244440/-
4	3000 Wp, 3 HP AC SPV Submersible Pump	240560/-
5	4800 Wp, 5 HP DC SPV Surface Pump	337560/-
6	4800 Wp, 5 HP AC SPV Surface Pump	309430/-
7	4800 Wp, 5 HP DC SPV Submersible Pump	340470/-
8	4800 Wp, 5 HP AC SPV Submersible Pump	310400/-

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.

CERTIFICATE OF QUARTERLY VISITS

(To be submitted by SI during CMC period)

(From To)

This is to certified that we have extended preventive / routine maintenance and breakdown / corrective maintenance services for the pumping system installed under SPV IRRIGATION PUMP scheme as per beneficiary list attached of District _____ and that the preventive / routine maintenance and breakdown /corrective maintenance work during the period (from _____ to_____) of the year _____ has been done properly to ensure functionality of the systems as specified in the Tender terms & conditions and agreement.

This is also to certify that nos of systems are working satisfactorily out of..... nos of total installed systems. The record of preventive / routine maintenance and breakdown / corrective maintenance work carried out by us is kept in our record at our service station.

Signature, Name, Designation and Seal of System Integrator

Date :

Place :

Signature, Name, Designation and Seal of District In-charge of CREDA

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 105235/CREDA/SPV IRRIGATION PUMP/2022-23 Dated: 27.07.2022 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 31(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 31(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

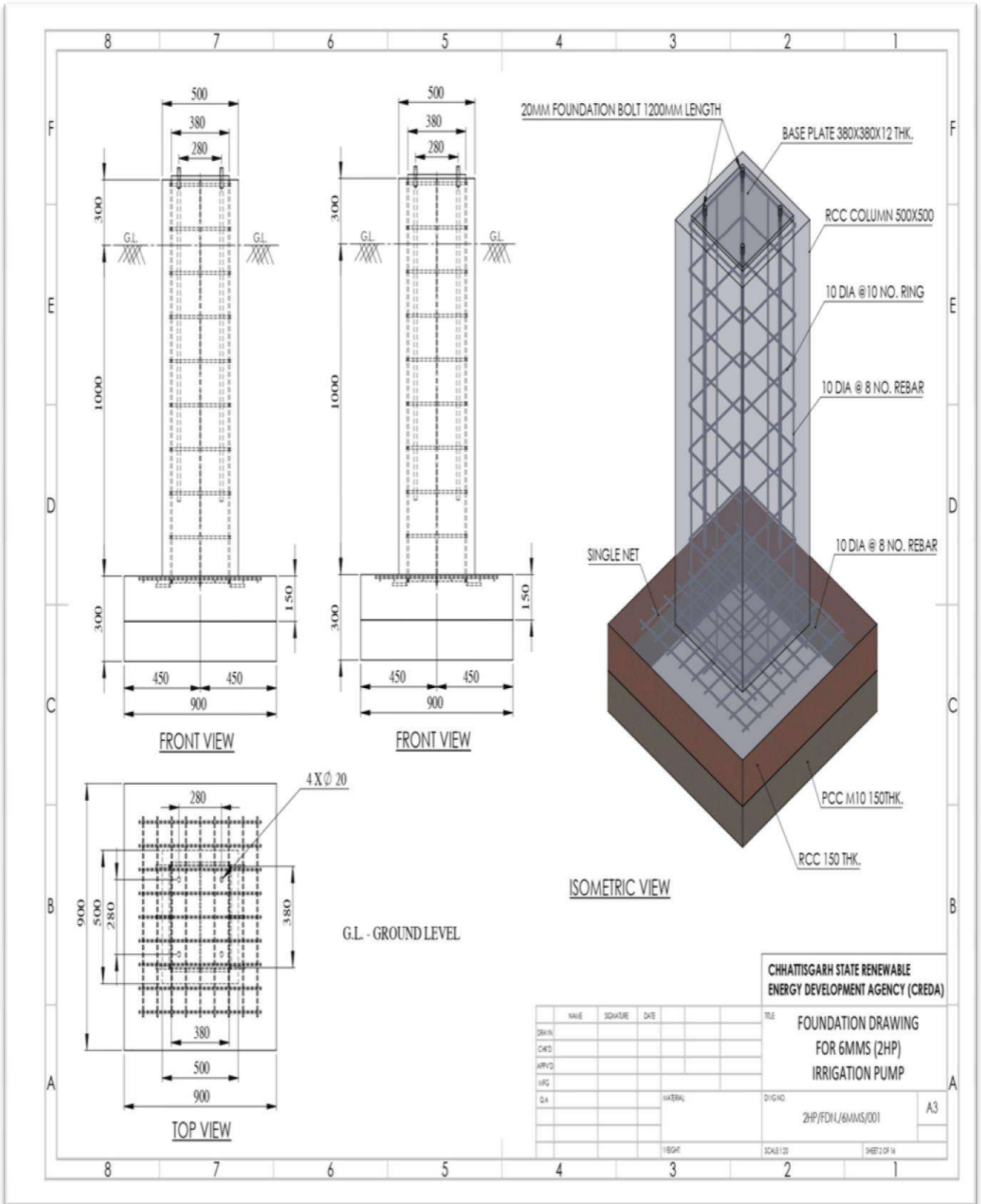
I..... S/o.....do here by affirm that contents stated in Para 1 to 09 above and contents submitted in technical & financial bid are true to the best of my knowledge and believe and are based on my/our record.

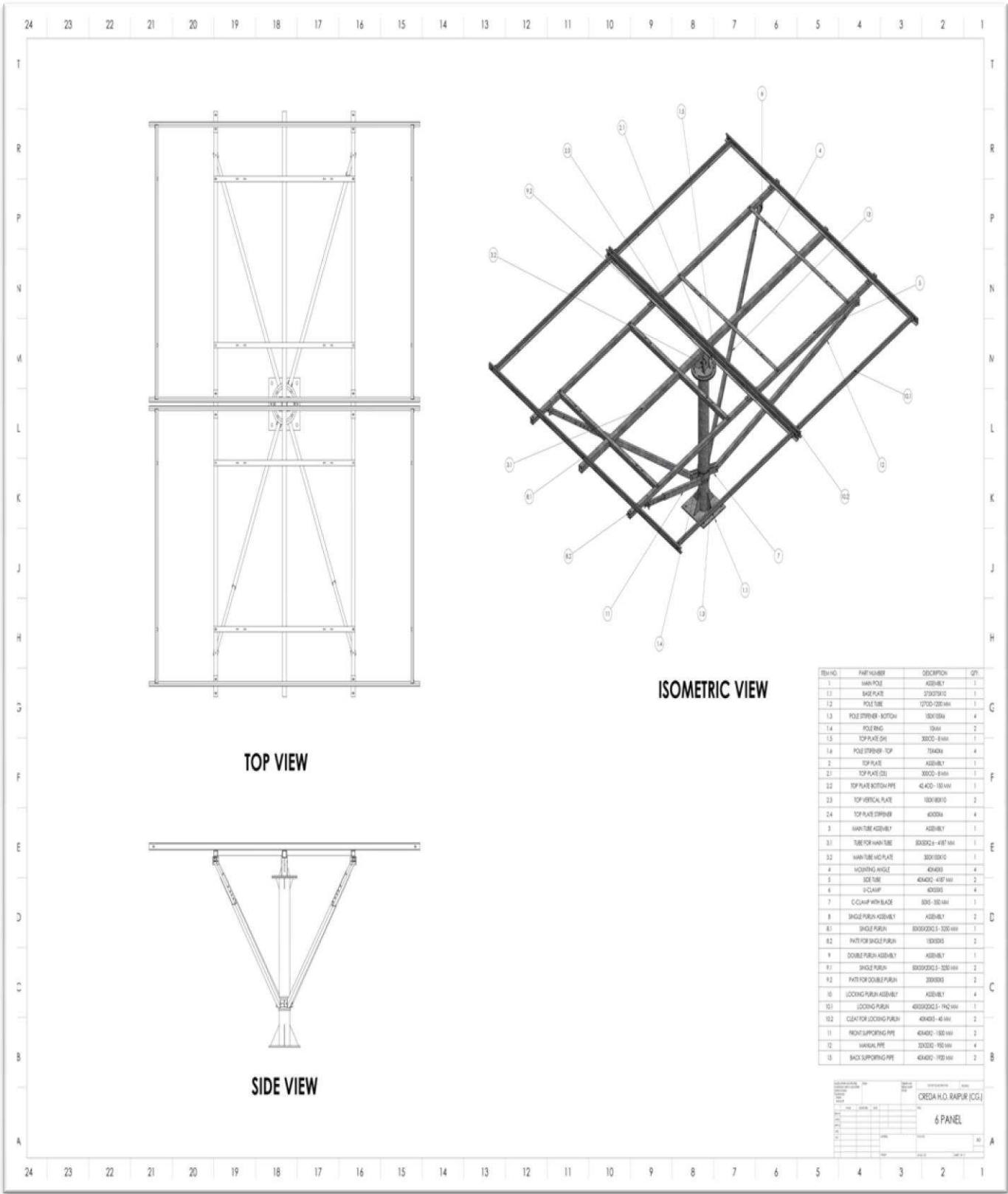
Verified that this date of at (Place).....

Deponent

Complete Drawing of Module Mounting Structure & Civil Works

Drawings of 06 nos. MMS & Foundation for 320 Wp and above





TOP VIEW

SIDE VIEW

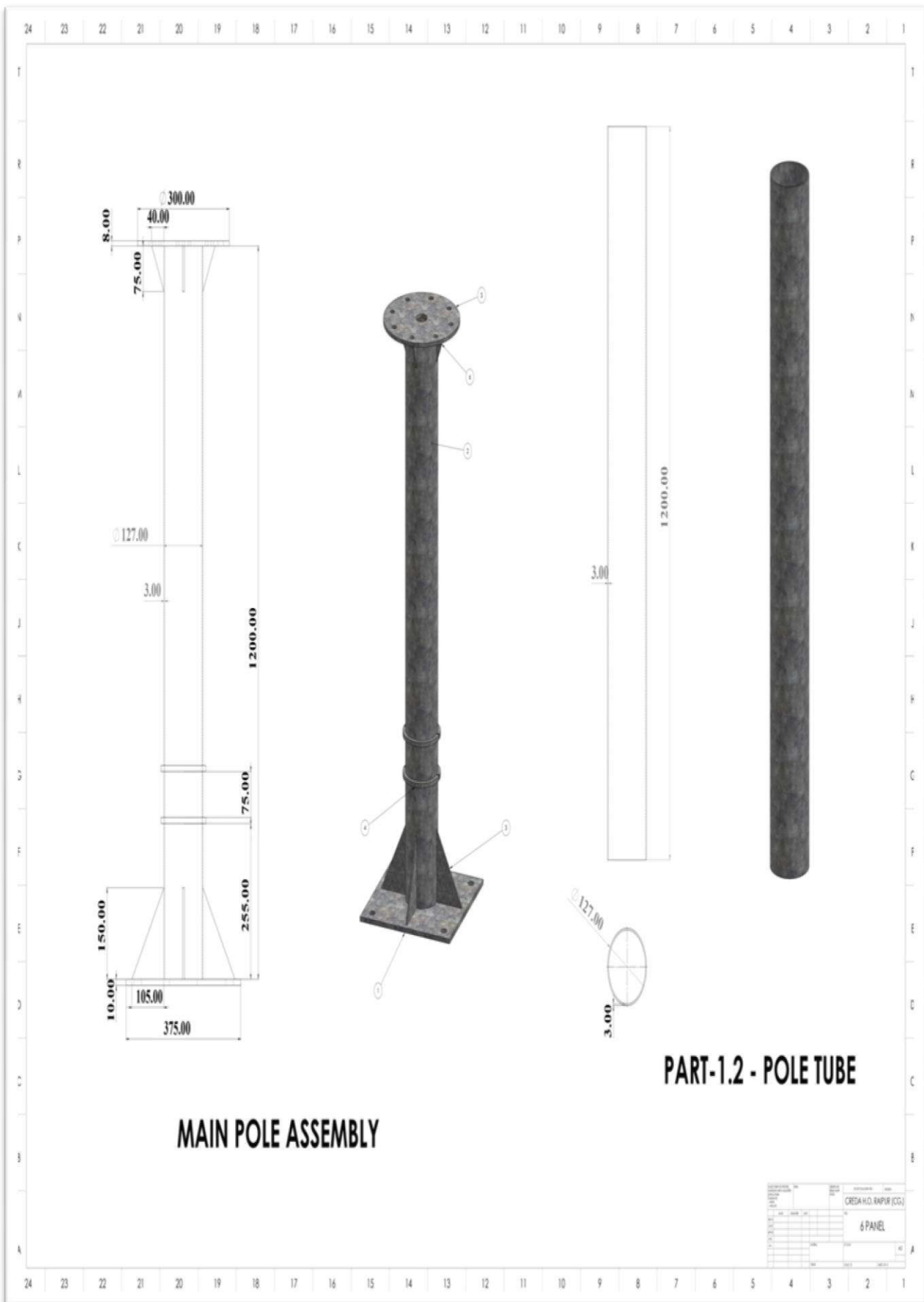
ISOMETRIC VIEW

Sl.No.	PART NUMBER	DESCRIPTION	QTY.
1	MAIN POLE	ASSEMBLY	1
1.1	BASE PLATE	375X375X10	1
1.2	POLE TUBE	127X100-1200MM	1
1.3	POLE STRENER - BOTTOM	150X150MM	4
1.4	POLE RING	150mm	2
1.5	TOP PLATE SH	300X100-8MM	1
1.6	POLE STRENER - TOP	75X40MM	4
2	TOP PLATE	ASSEMBLY	1
2.1	TOP PLATE (SH)	300X100-8MM	1
2.2	TOP PLATE BOTTOM PIPE	4E-400-150MM	1
2.3	TOP VERTICAL PLATE	150X150X10	2
2.4	TOP PLATE STRENER	400X20MM	4
3	MAIN TUBE ASSEMBLY	ASSEMBLY	1
3.1	TUBE FOR MAIN TUBE	80X80Lx-4187MM	1
3.2	MAIN TUBE MID PLATE	300X150X10	1
4	MOUNTING ANGLE	40X40X3	4
5	BOX TUBE	40X40Lx-4187MM	2
6	U-C-LAMP	40X20X3	4
7	C-CLAMP WITH BLADE	80X5-150MM	1
8	SINGLE PURSH ASSEMBLY	ASSEMBLY	2
8.1	SINGLE PURSH	80X80X20Lx-100MM	1
8.2	PART FOR SINGLE PURSH	150X10X3	2
9	DOUBLE PURSH ASSEMBLY	ASSEMBLY	1
9.1	SINGLE PURSH	80X80X20Lx-100MM	2
9.2	PART FOR DOUBLE PURSH	200X10X3	2
10	LOCKING PURSH ASSEMBLY	ASSEMBLY	4
10.1	LOCKING PURSH	400X20X2Lx-190MM	1
10.2	CLAMP FOR LOCKING PURSH	40X40X3-4E-1MM	2
11	RIGHT SUPPORTING PIPE	40X40Lx-150MM	2
12	WALKAL PIPE	20X20Lx-150MM	4
13	BACK SUPPORTING PIPE	40X40Lx-150MM	2

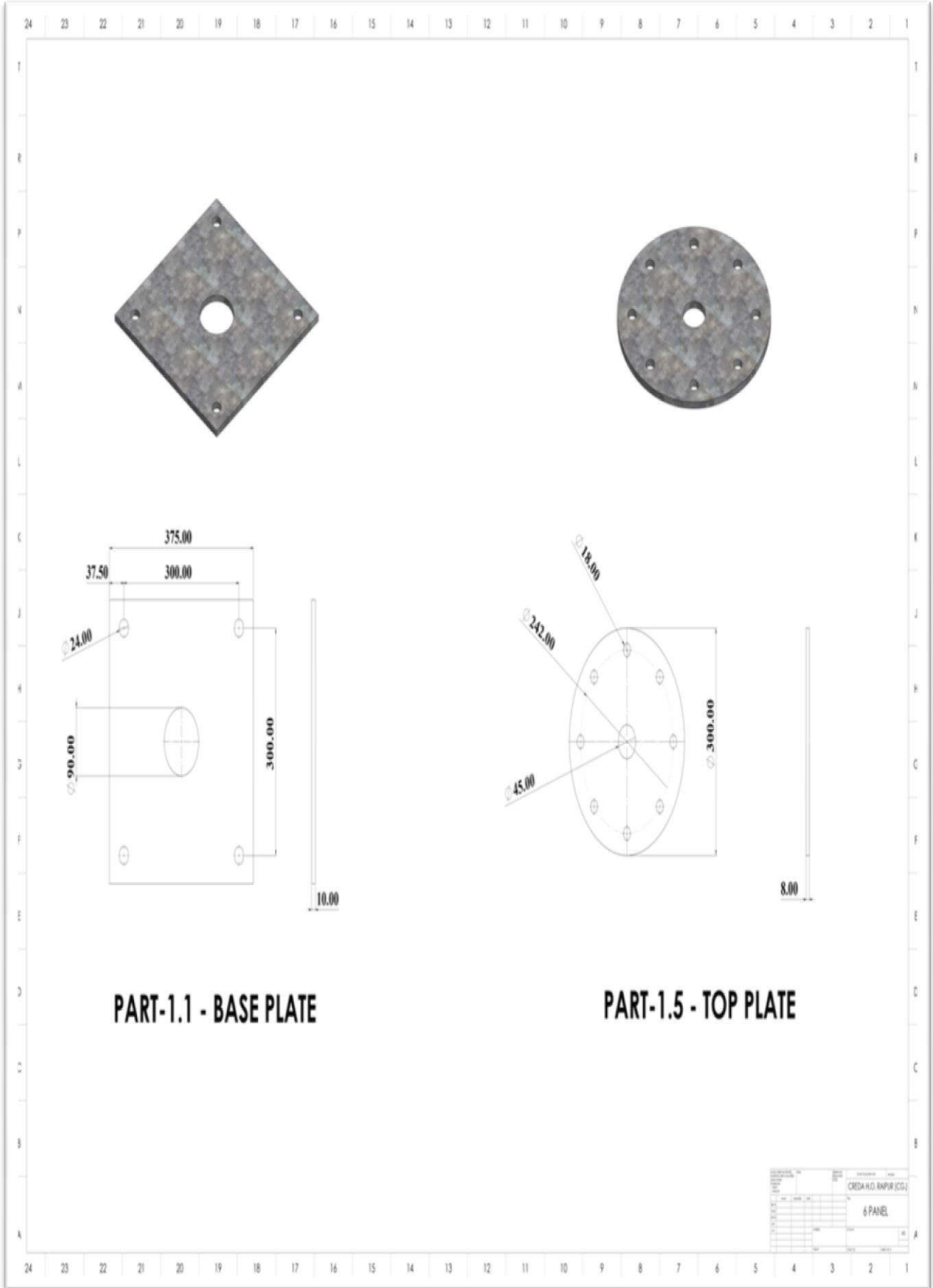
CREDA P.L.O. RAIPUR (CG)

6 PANEL

A-3



A-4

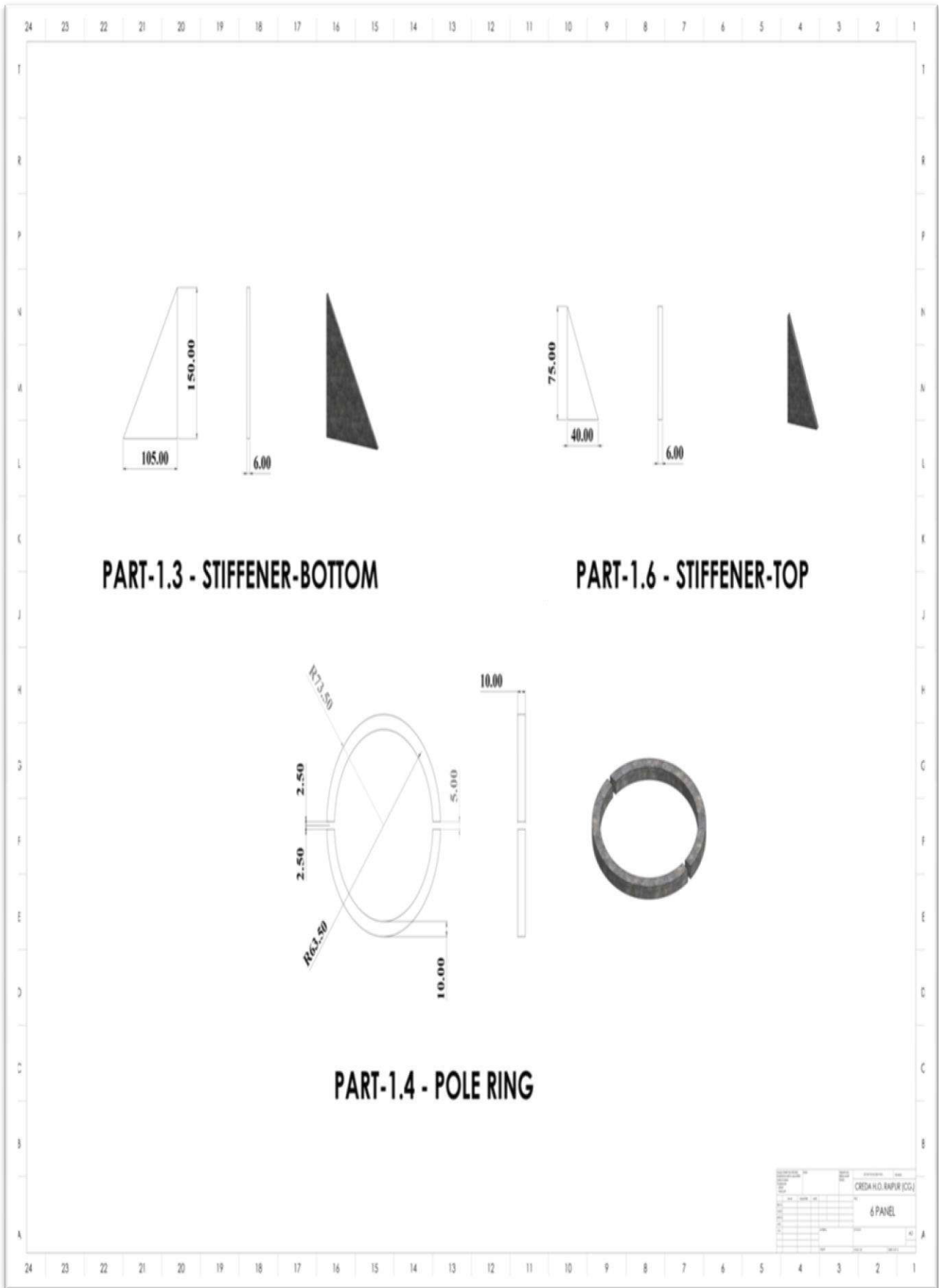


PART-1.1 - BASE PLATE

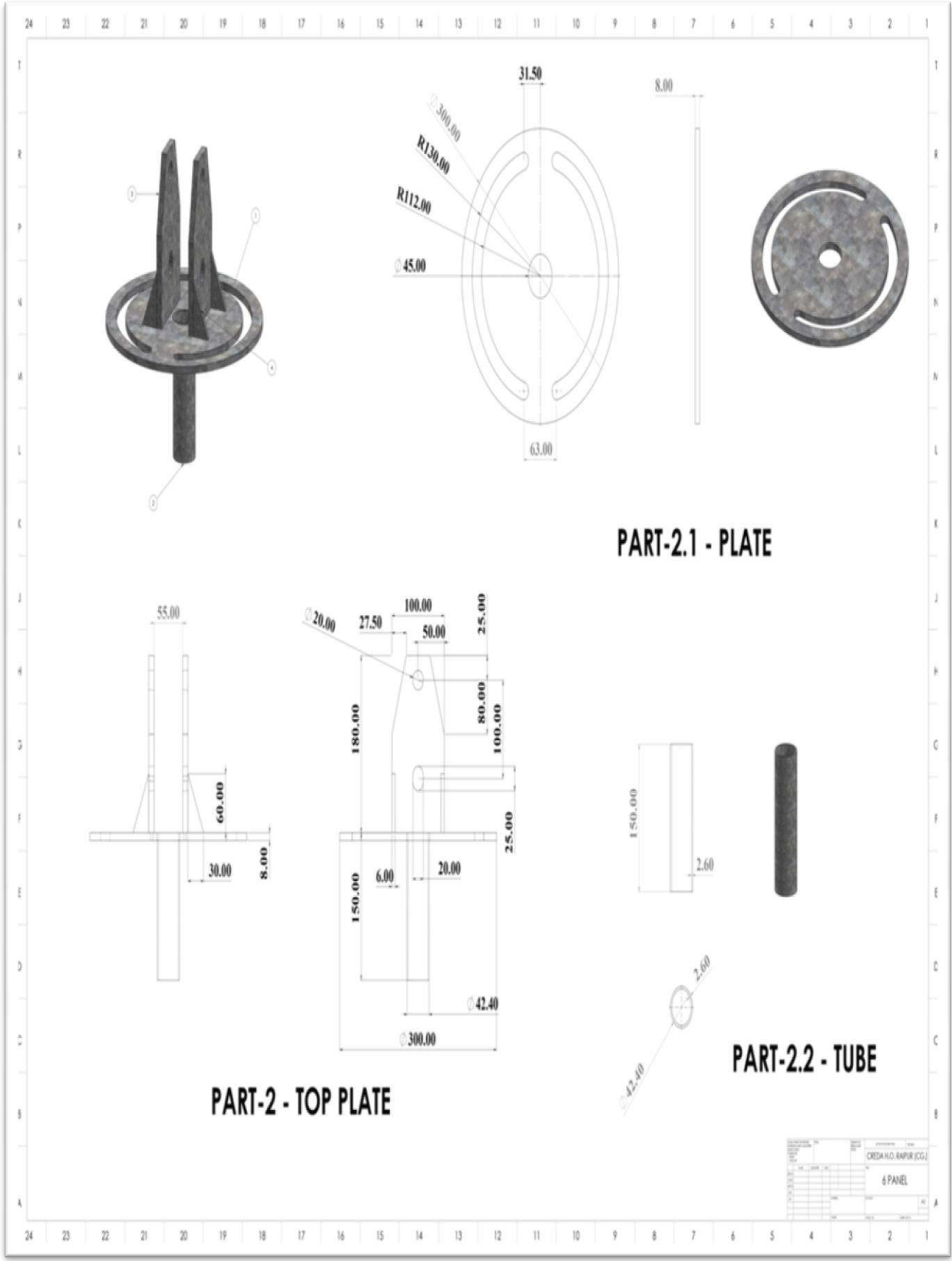
PART-1.5 - TOP PLATE

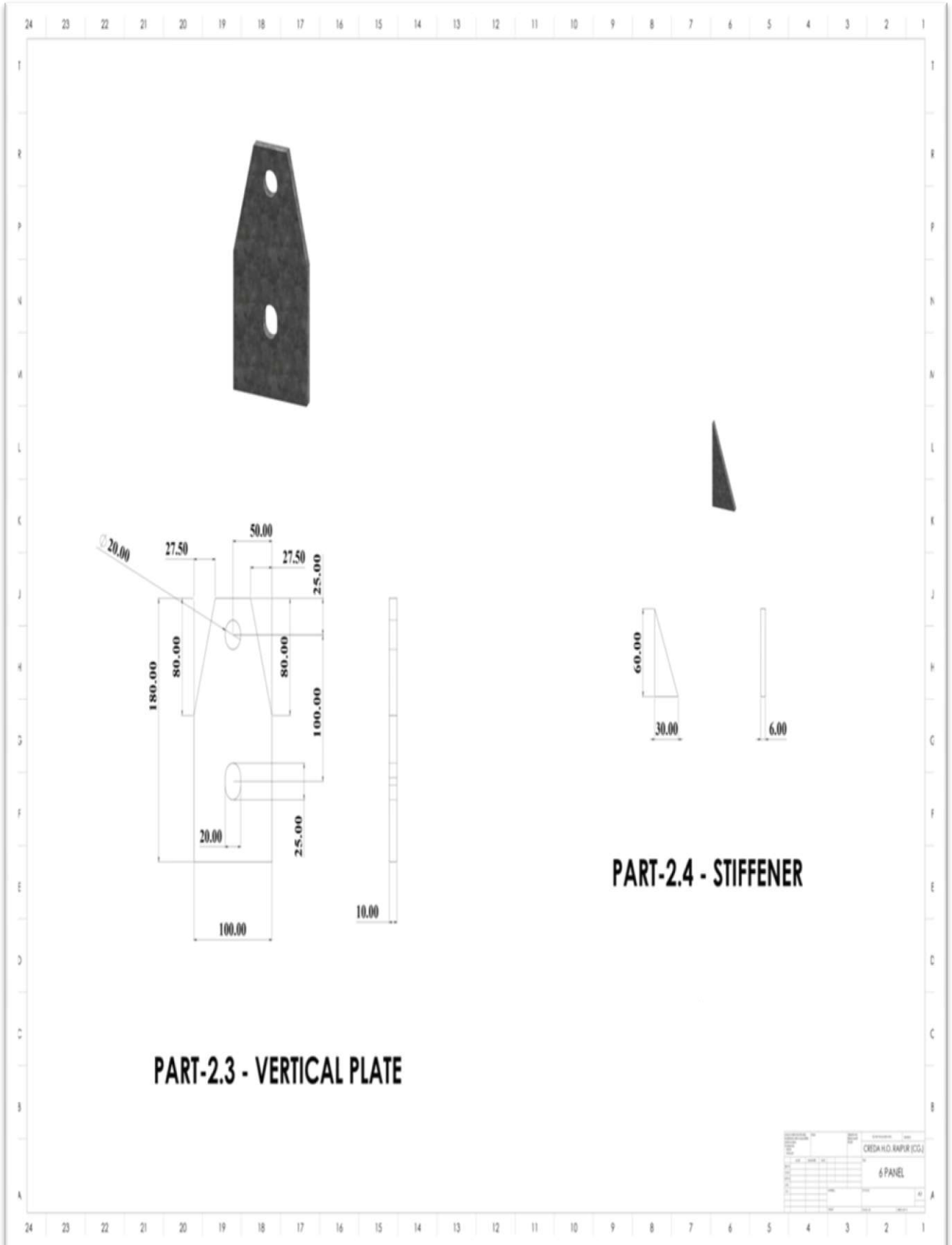
CREDA HO. BAPUR (CG)	
6 PANEL	

A-5

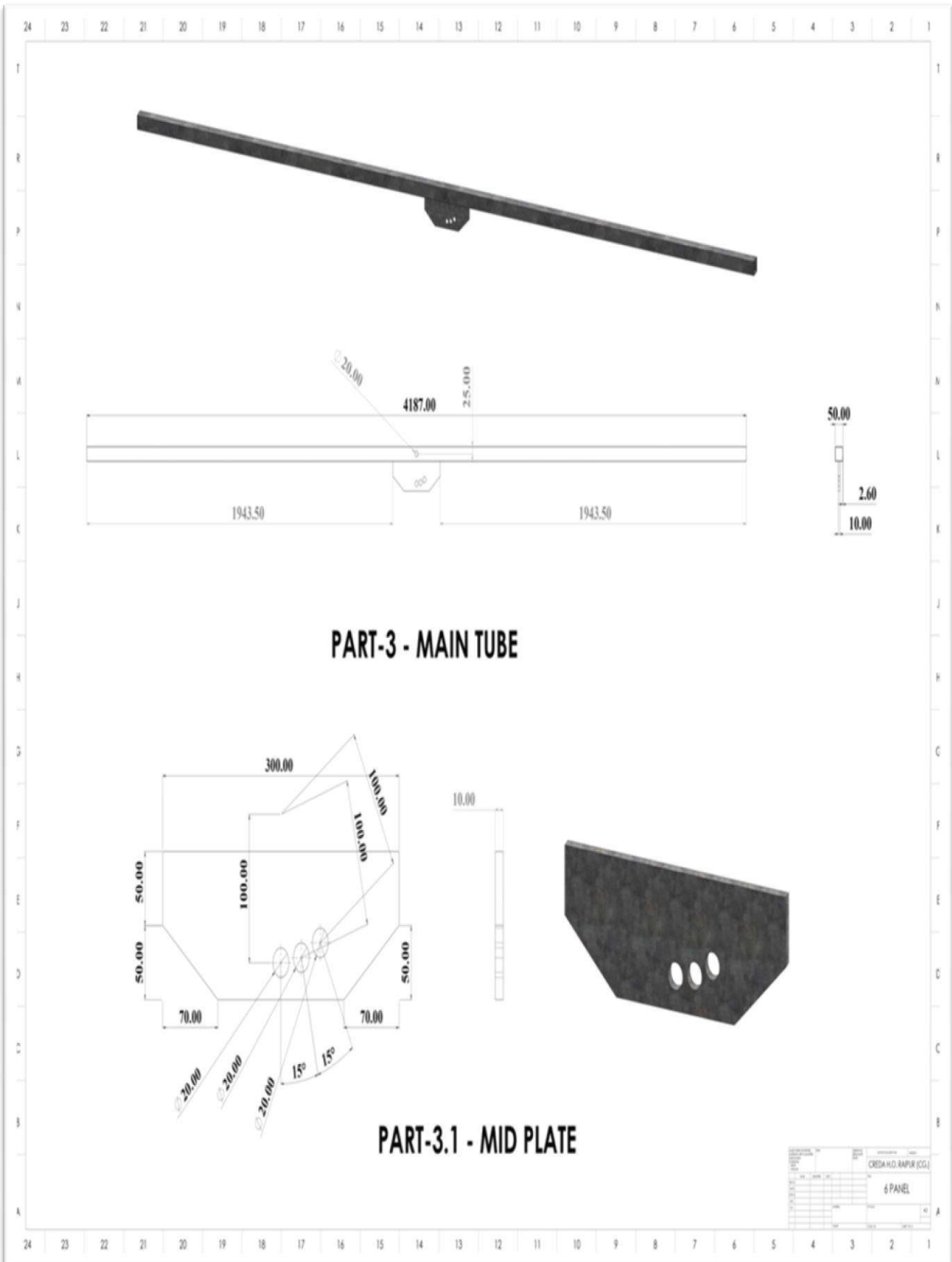


A-6

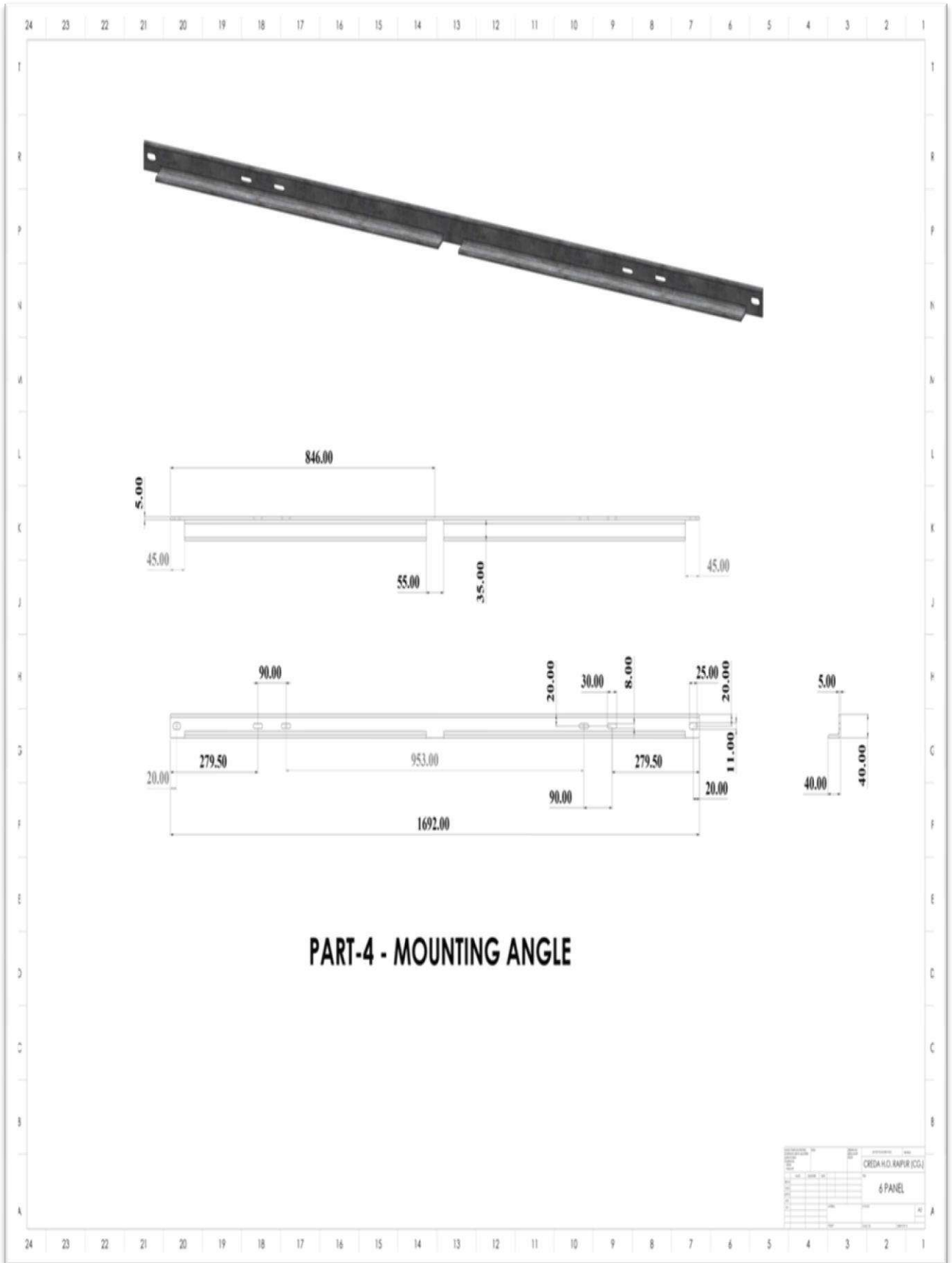


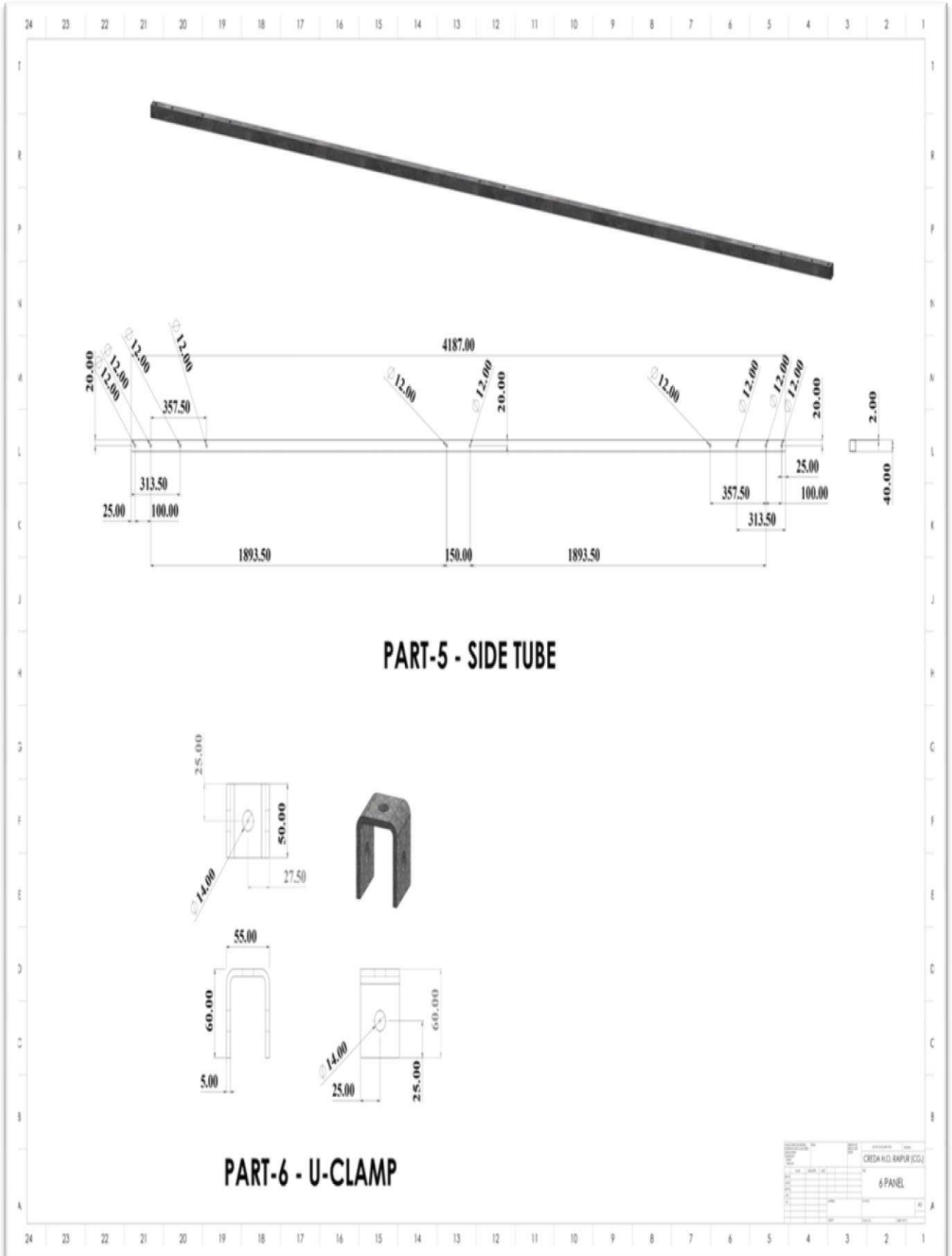


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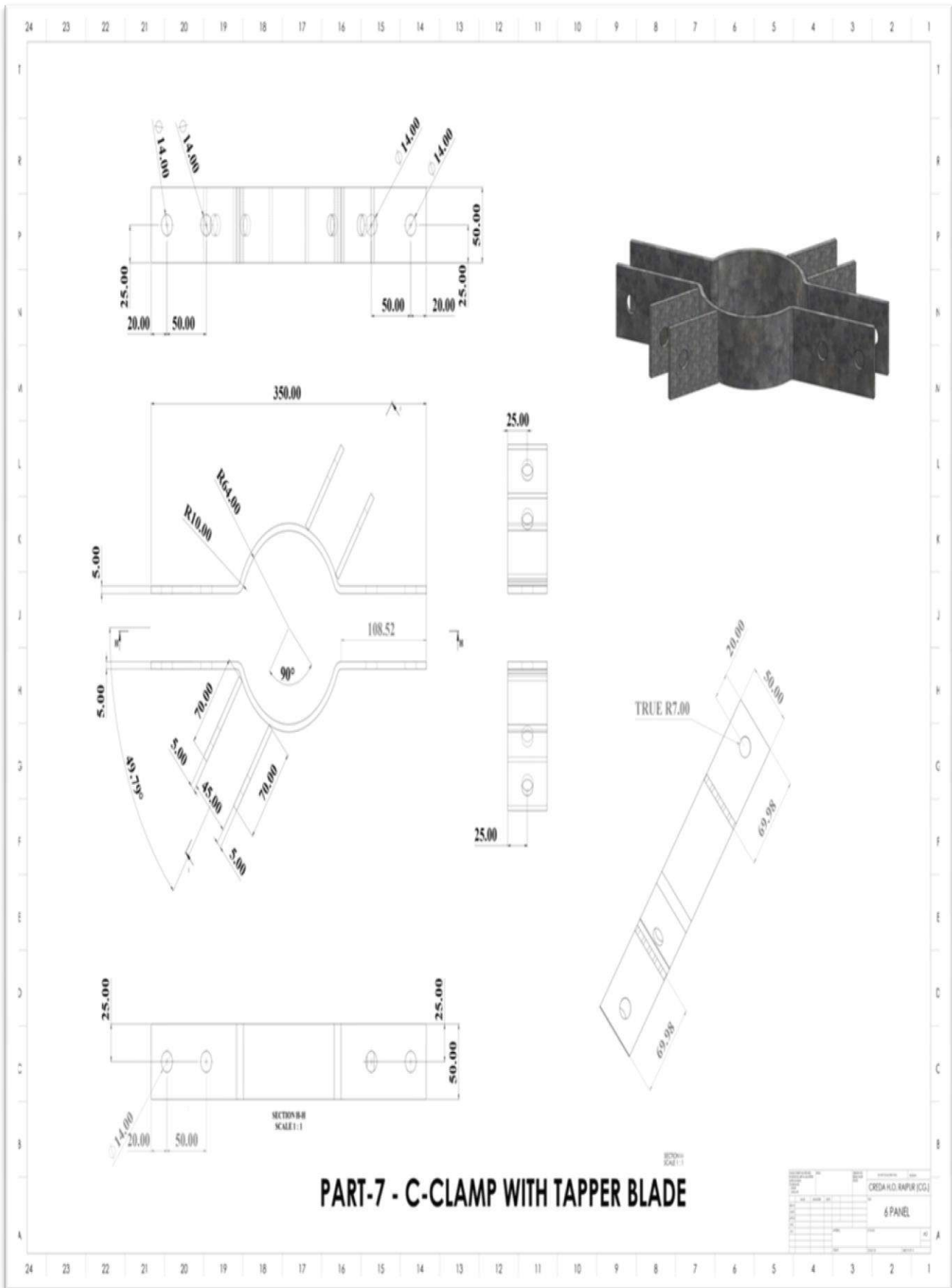


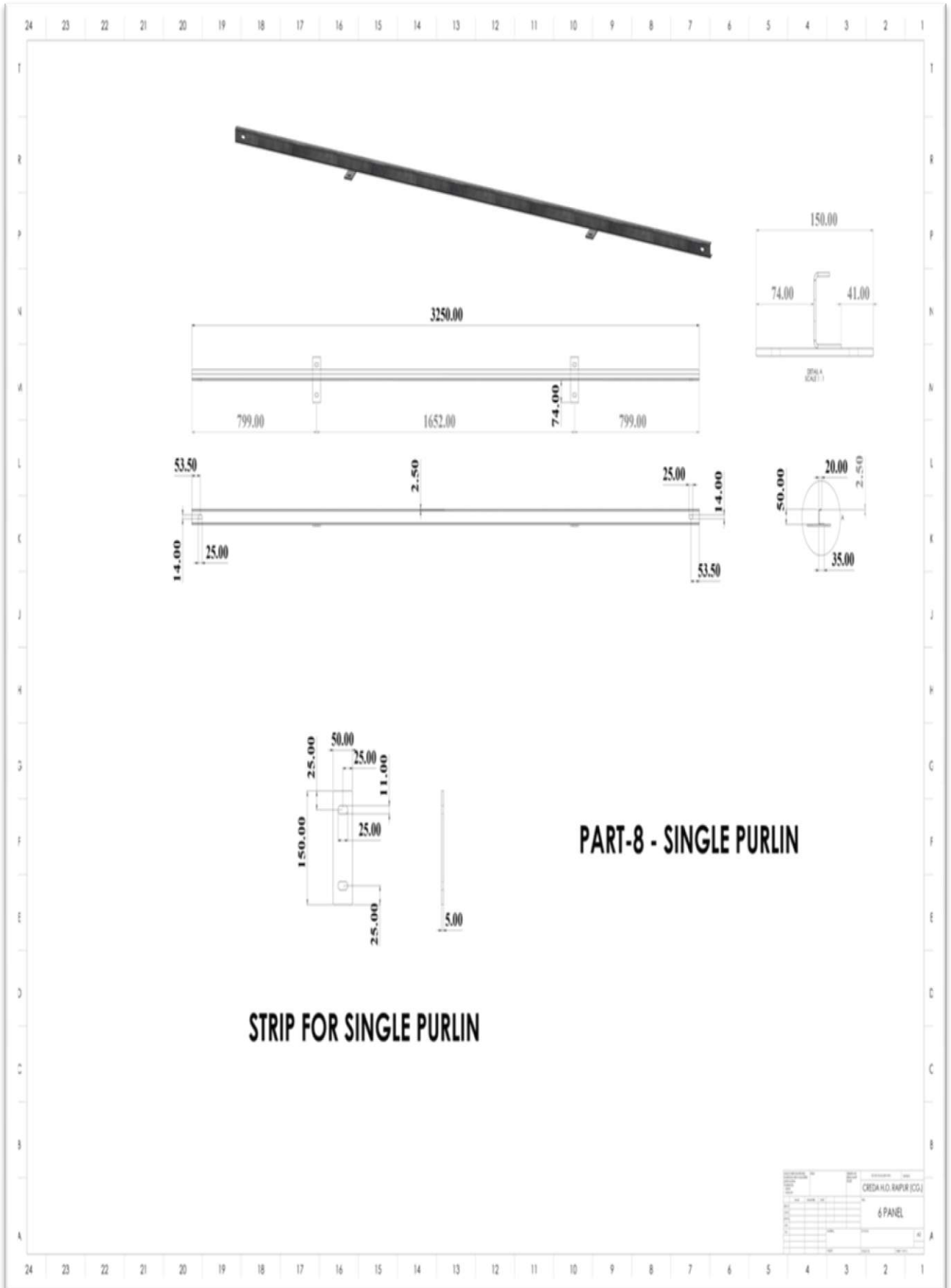
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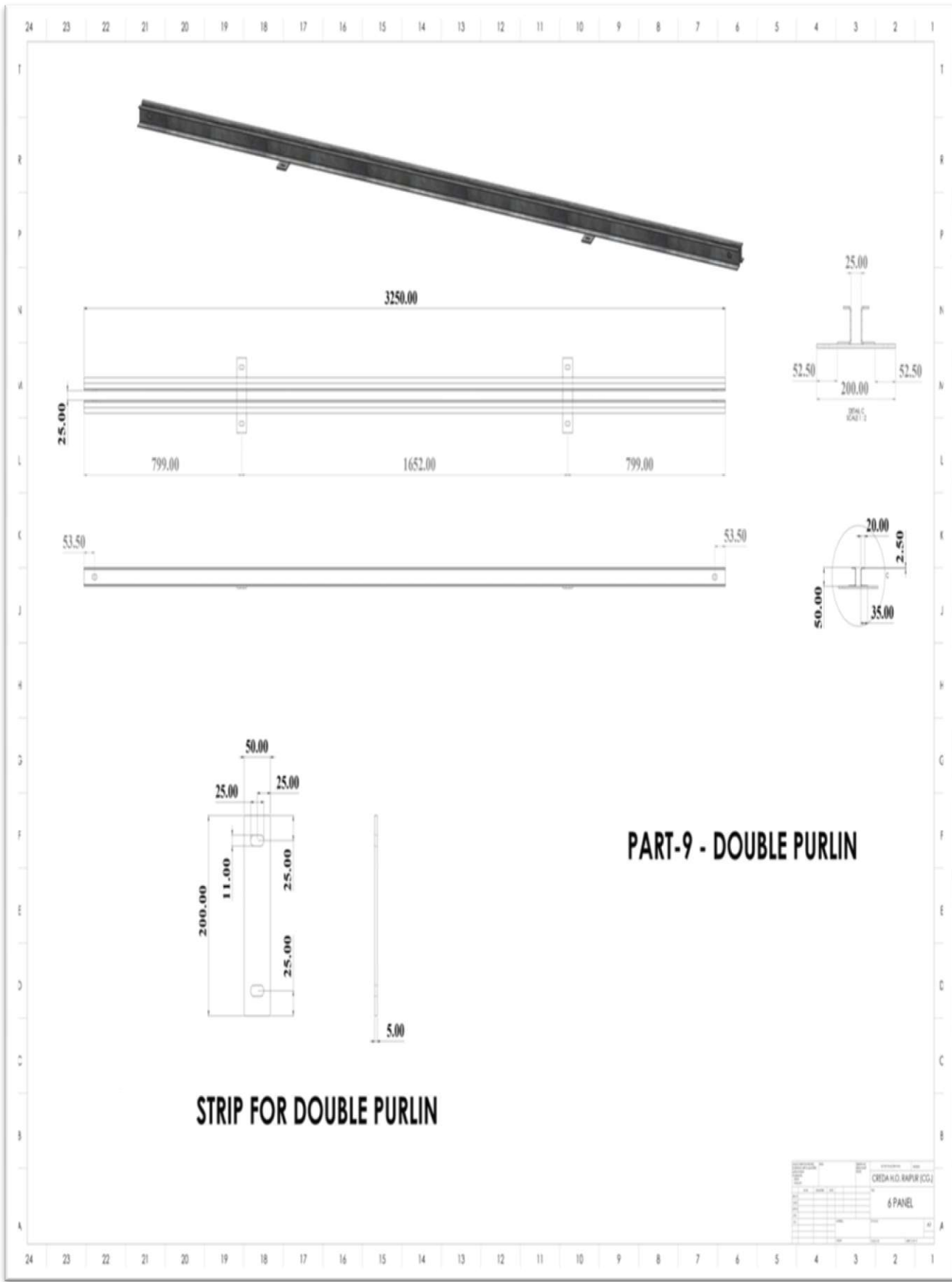


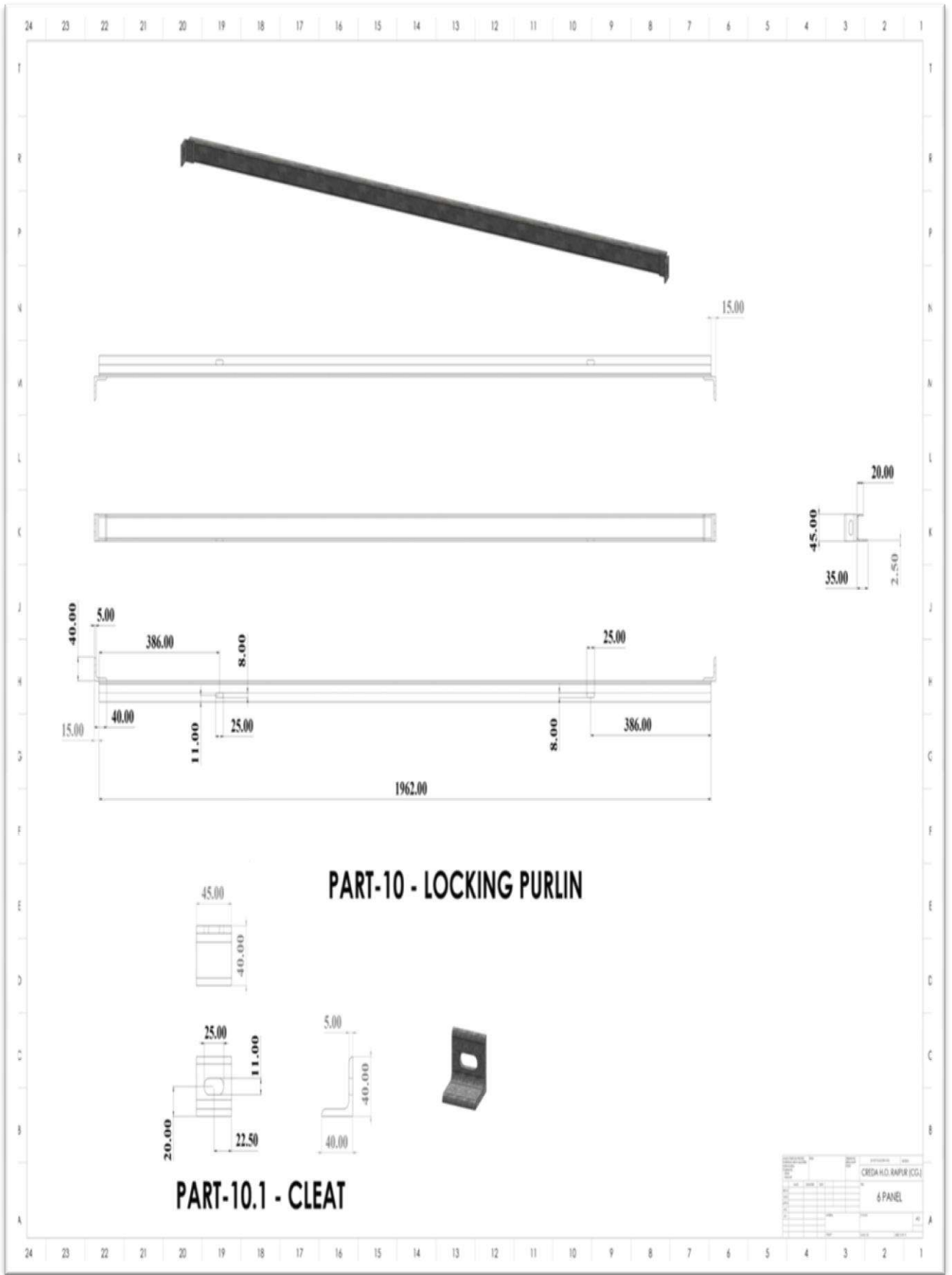
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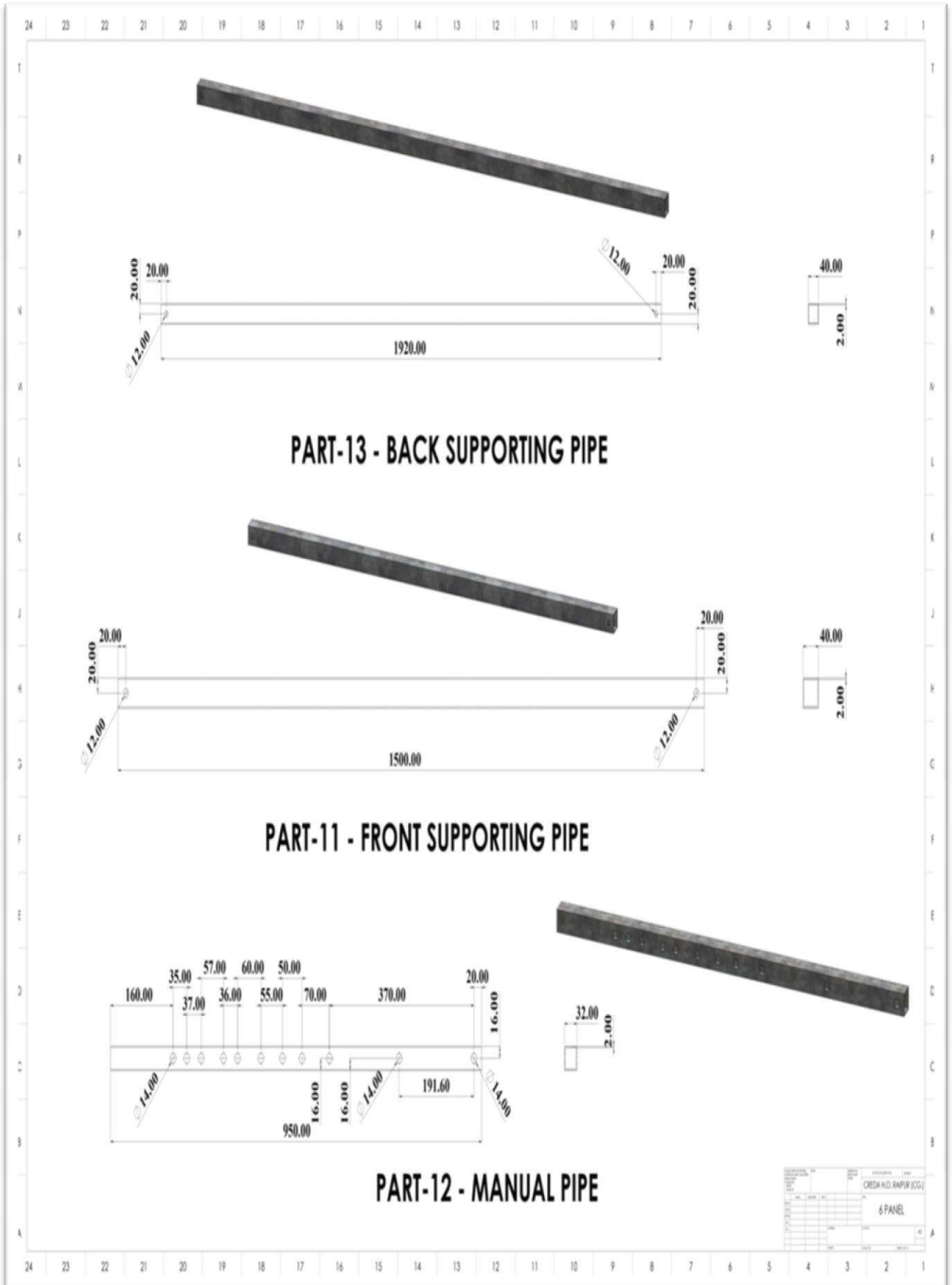


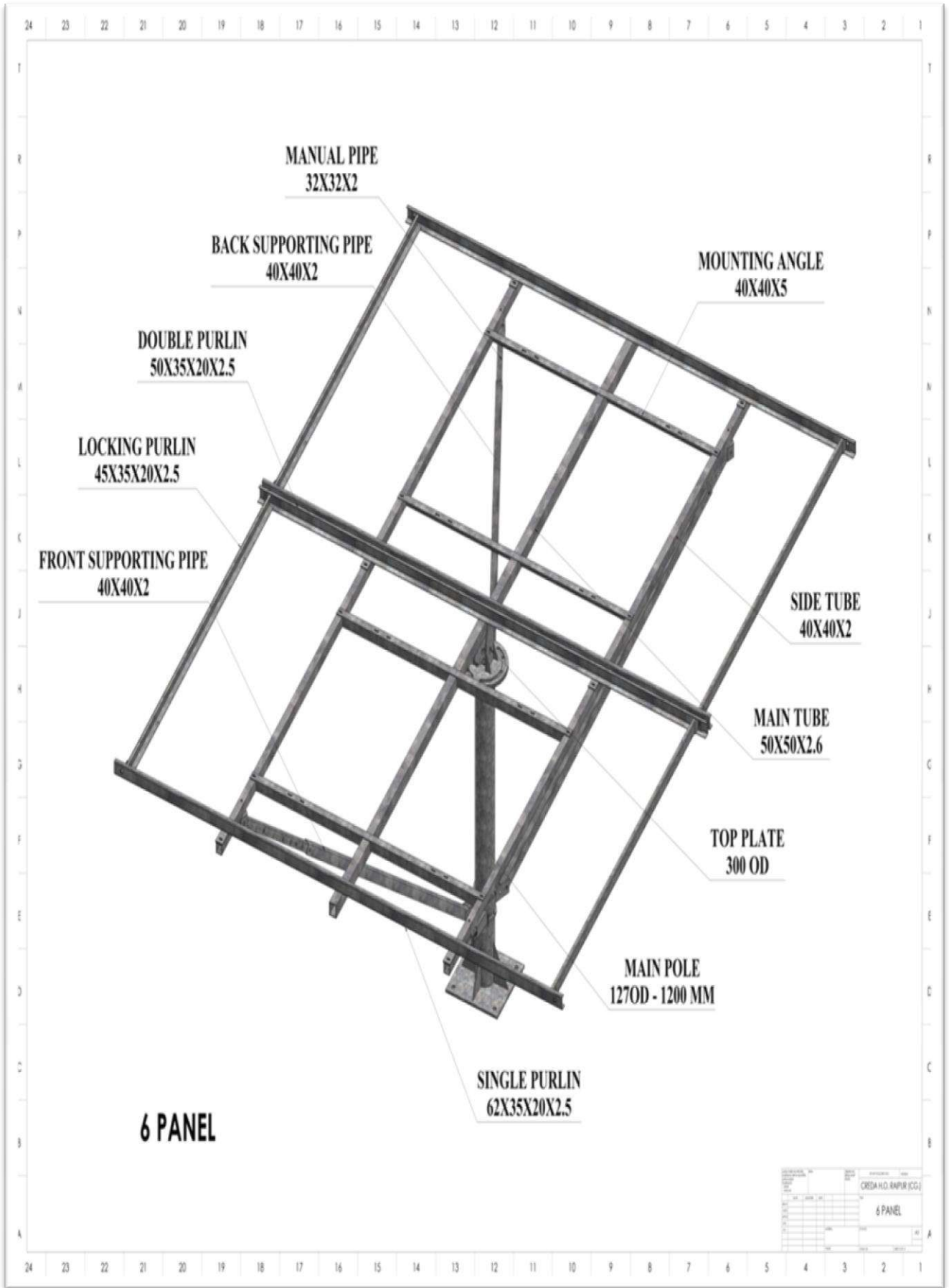


A-13

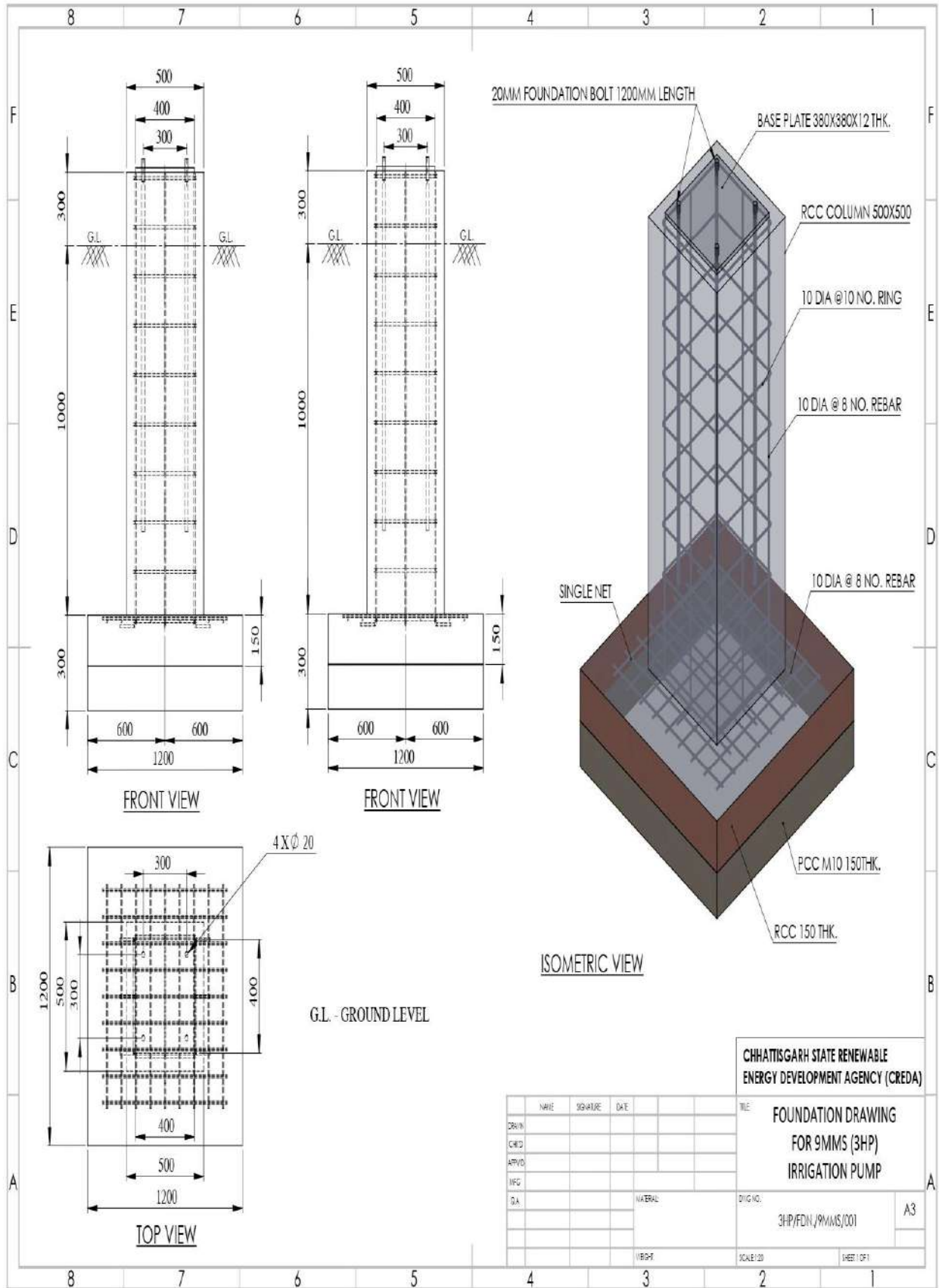


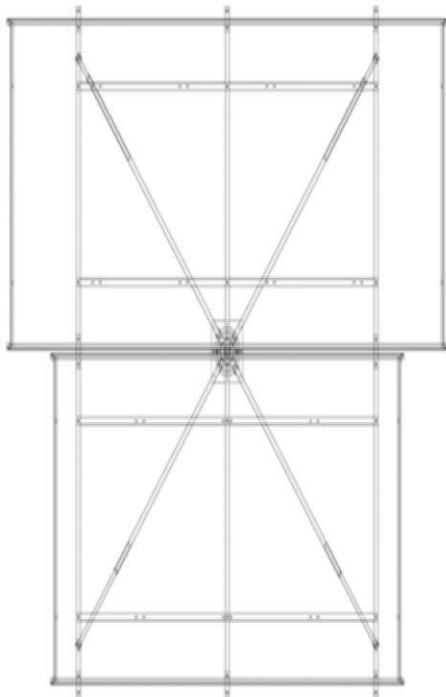




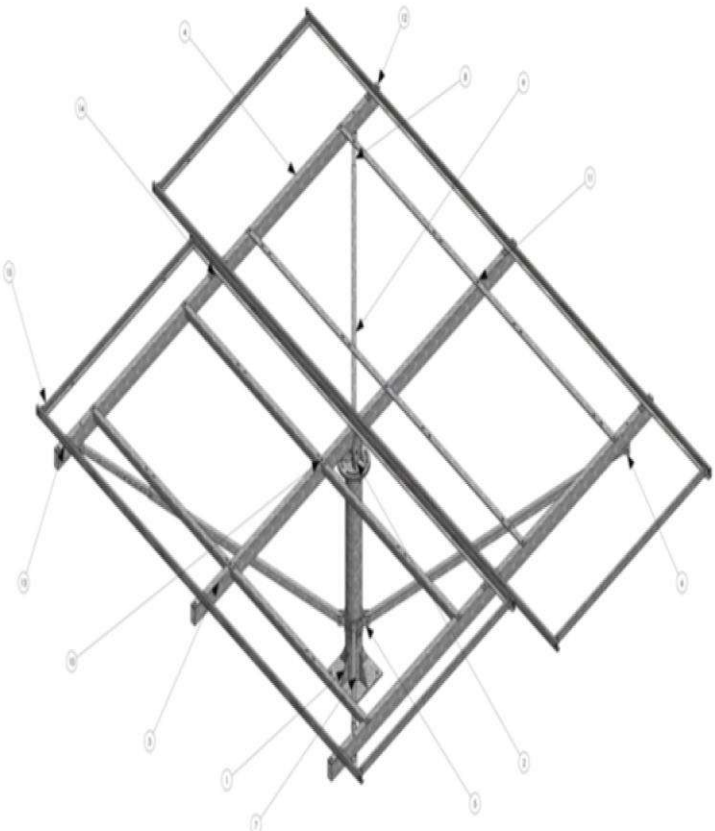


Drawings of 09 nos. MMS & Foundation for 320 Wp & above

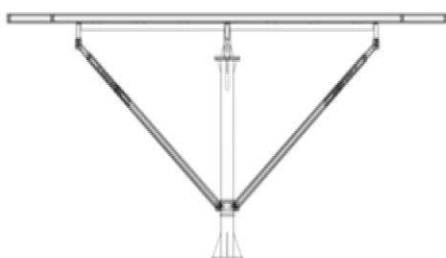




TOP VIEW



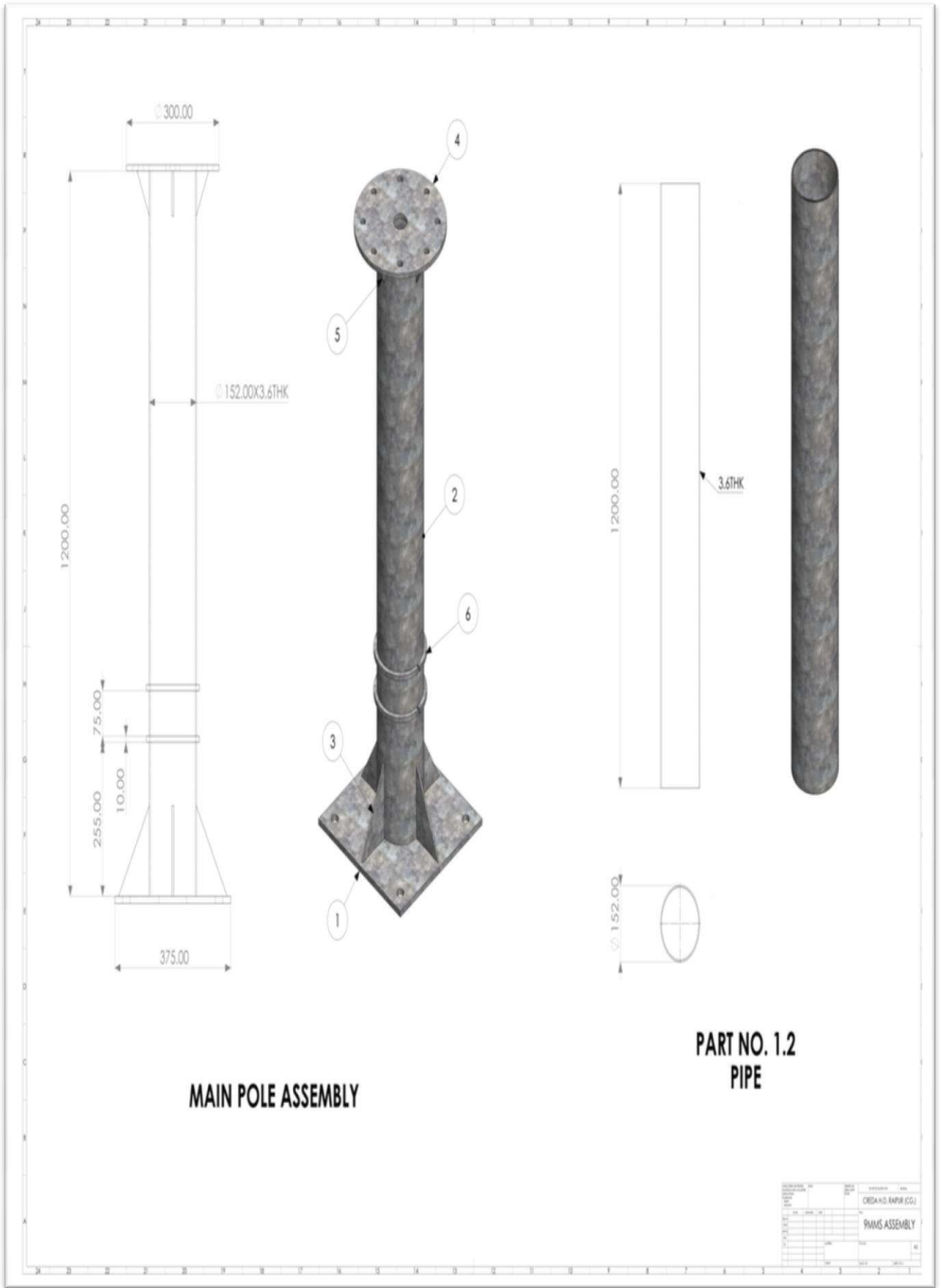
ISOMETRIC VIEW

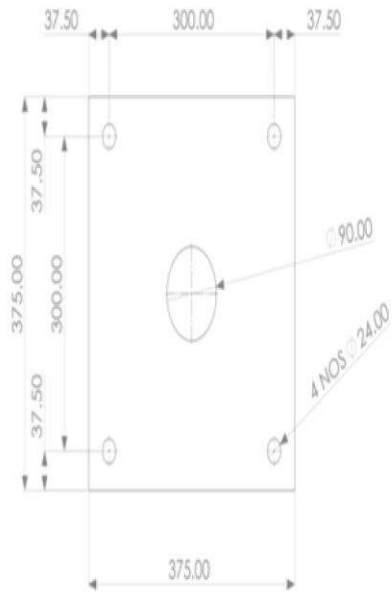


FRONT VIEW

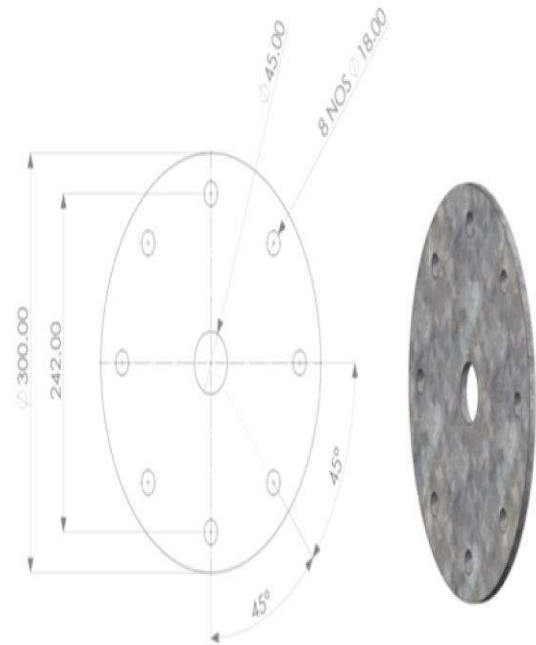
REV. NO.	PART NAME	DESCRIPTION	QTY
1	POU ASSEMBLY		1
	BASE PLATE	3750*310	1
	PIPE	100 CO 1.1/1.6	1
	80*100 SPRING	100*100	4
	UPPER PLATE	80 CO 1.1/1.6	1
	TOP SPRING	70*60	4
	REG	1000	2
2	TOP PLATE ASSEMBLY		1
	80*80 PLATE	80 CO 1.1/1.6	1
	80*100 PIPE	4x CO 1.1/1.6	1
	VERTICAL PLATE	100*100*10	2
	SPRING	70*60	4
3	MAIN TUBE ASSEMBLY		1
	MAIN TUBE	NABCO 437*60	1
	HD PLATE	300*10	1
4	ICE TUBE	NABCO 437*60	2
5	CLAMP WITH FLANGE	300*10	2
6	WCLAMP	100*100	4
7	FRONT SUPPORTING PIPE	40*40-110*60	2
8	ANGULAR PIPE	200*10-100*60	4
9	BACK SUPPORTING PIPE	40*40-240*60	2
10	MIDDLE HOISTING ANGLE	40*40-340*60	2
11	MIDDLE HOISTING ANGLE	40*40-340*60	2
12	SINGLE PUMP ASSEMBLY		1
	SINGLE PUMP	300000011-1271*60	1
	TOP BLOW SINGLE PUMP	100000	2
13	SINGLE PUMP ASSEMBLY		1
	SINGLE PUMP	300000011-1271*60	1
	TOP BLOW SINGLE PUMP	100000	2
14	DOUBLE PUMP ASSEMBLY		1
	SINGLE PUMP	300000011-1271*60	1
	SINGLE PUMP	300000011-1271*60	1
	TOP BLOW DOUBLE PUMP	200000	2
15	LOOKING PUMP ASSEMBLY		4
	LOOKING PUMP	400000011-116*60	1
	CLAMP FOR LOOKING PUMP	40*40-40*60	2

CREDA H.D. PAPER (CO.)
 PUMPS ASSEMBLY



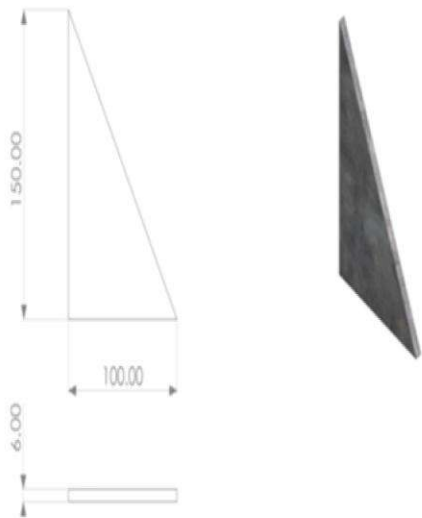


**PART NO. 1.1
BASE PLATE**



**PART NO. 1.4
TOP PLATE**

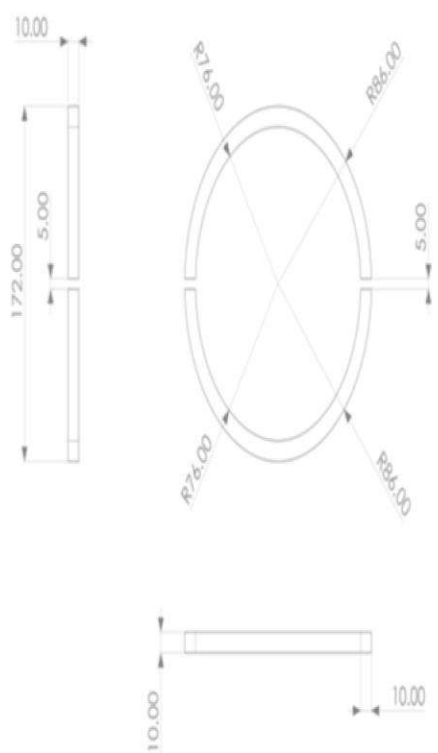
DATE	BY	CHECKED	DATE
CREDA HD KAPUR (CO.)			
PUMPS ASSEMBLY			
NO.	REV.	DATE	BY



**PART NO. 1.3
BOTTOM STIFFENER**



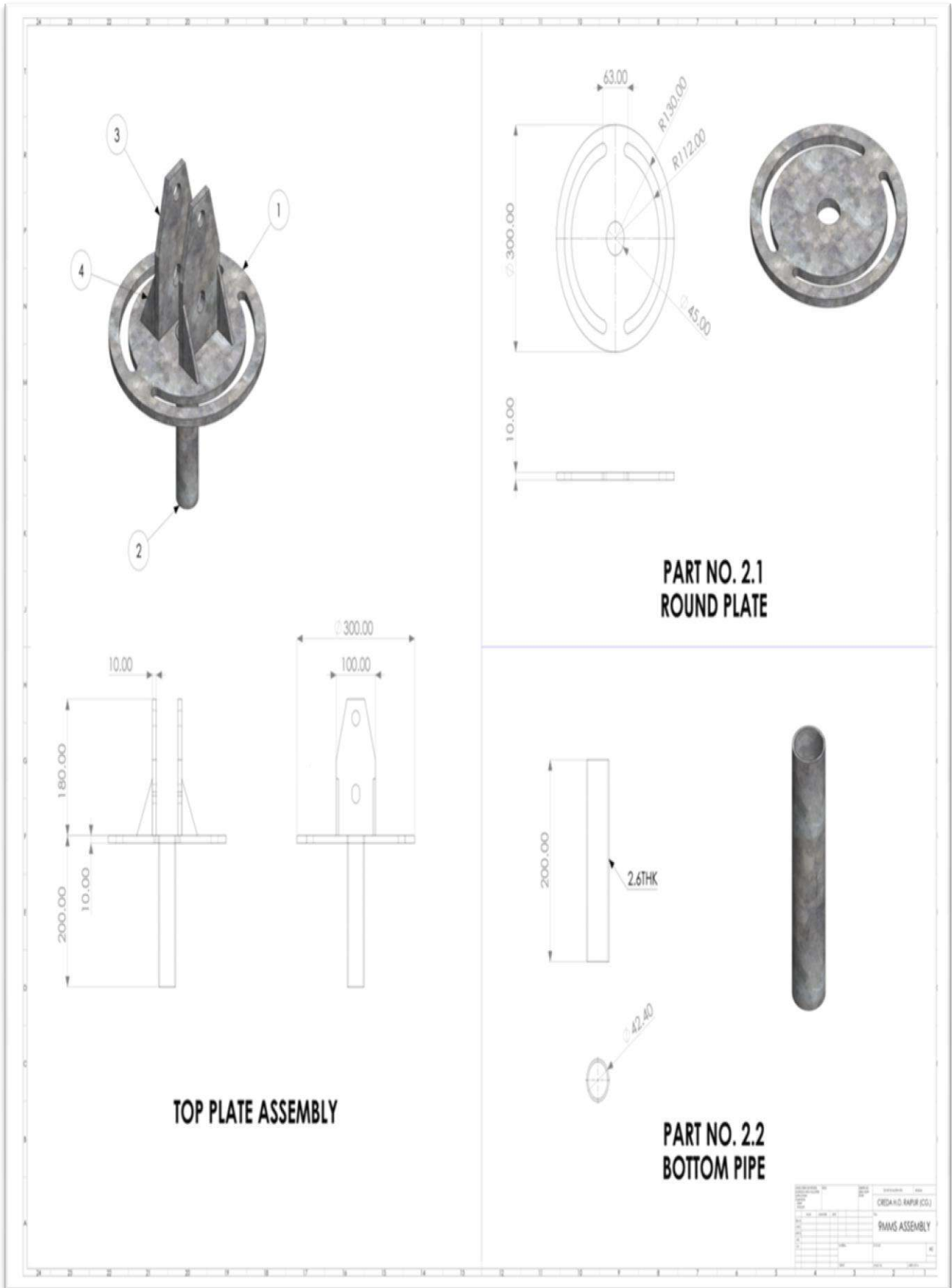
**PART NO. 1.5
TOP STIFFENER**



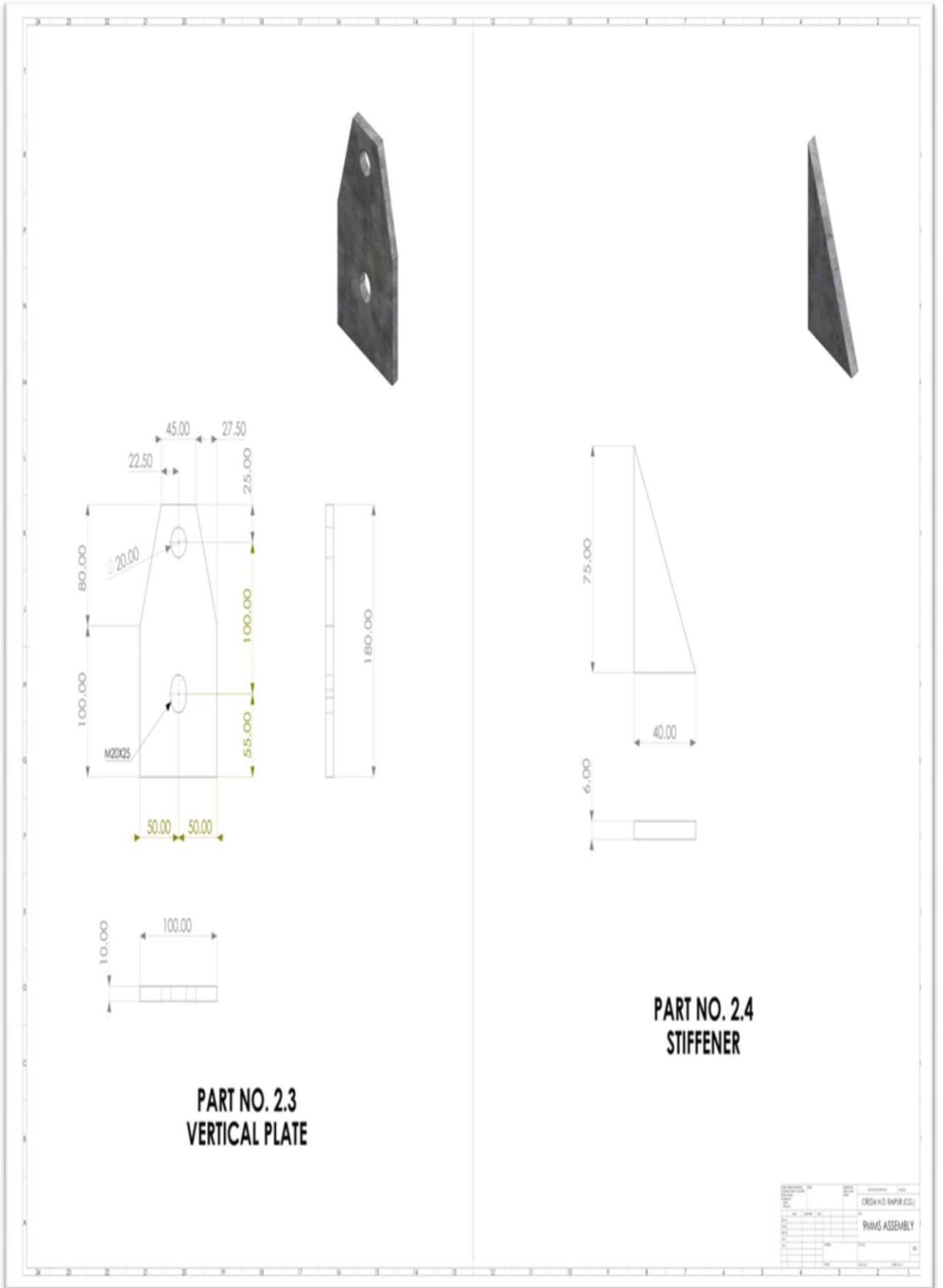
**PART NO. 1.6
RING**

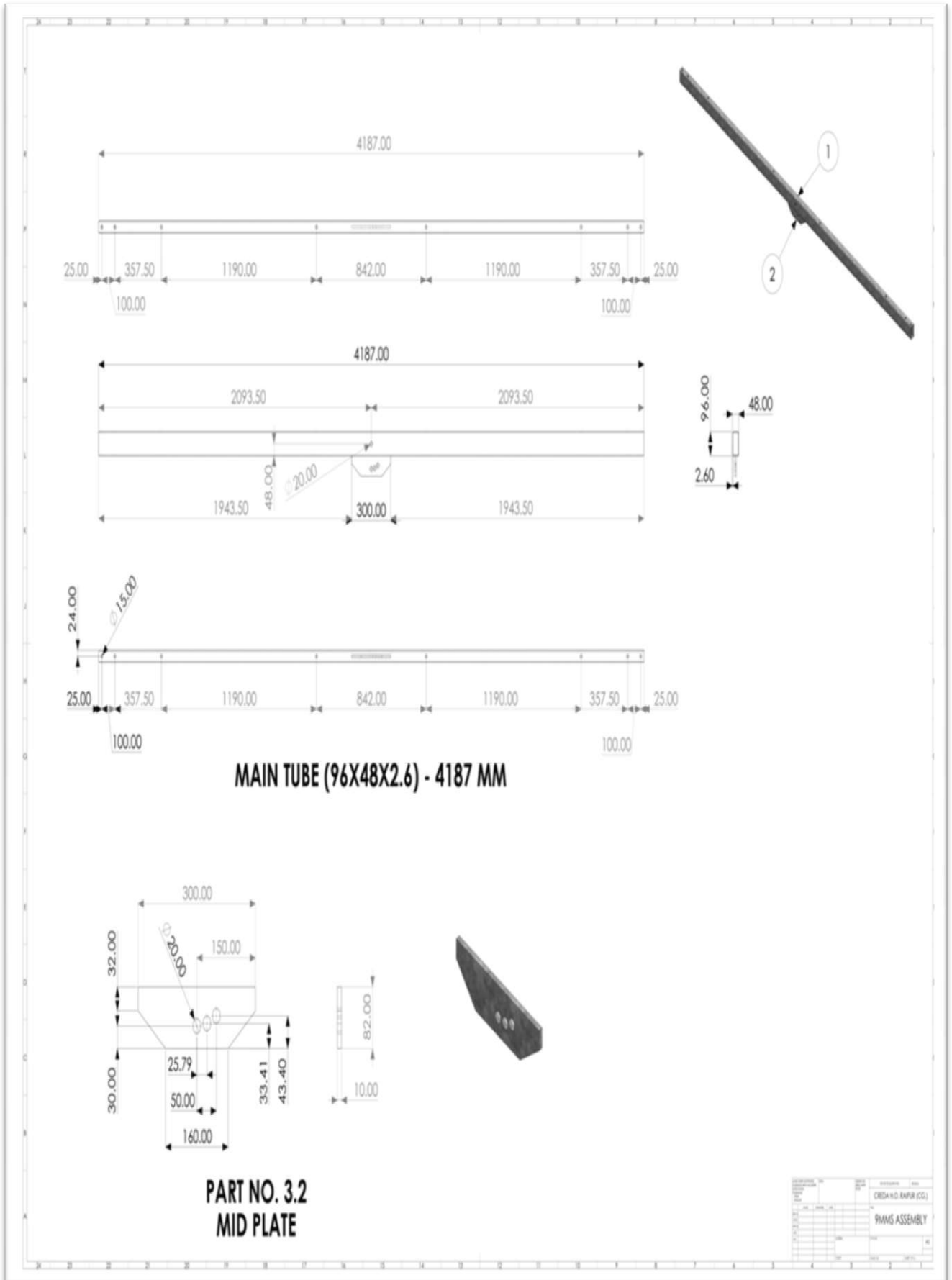
NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	CREDA H.O. BAPUR (CO.)			
2	PUMPS ASSEMBLY			

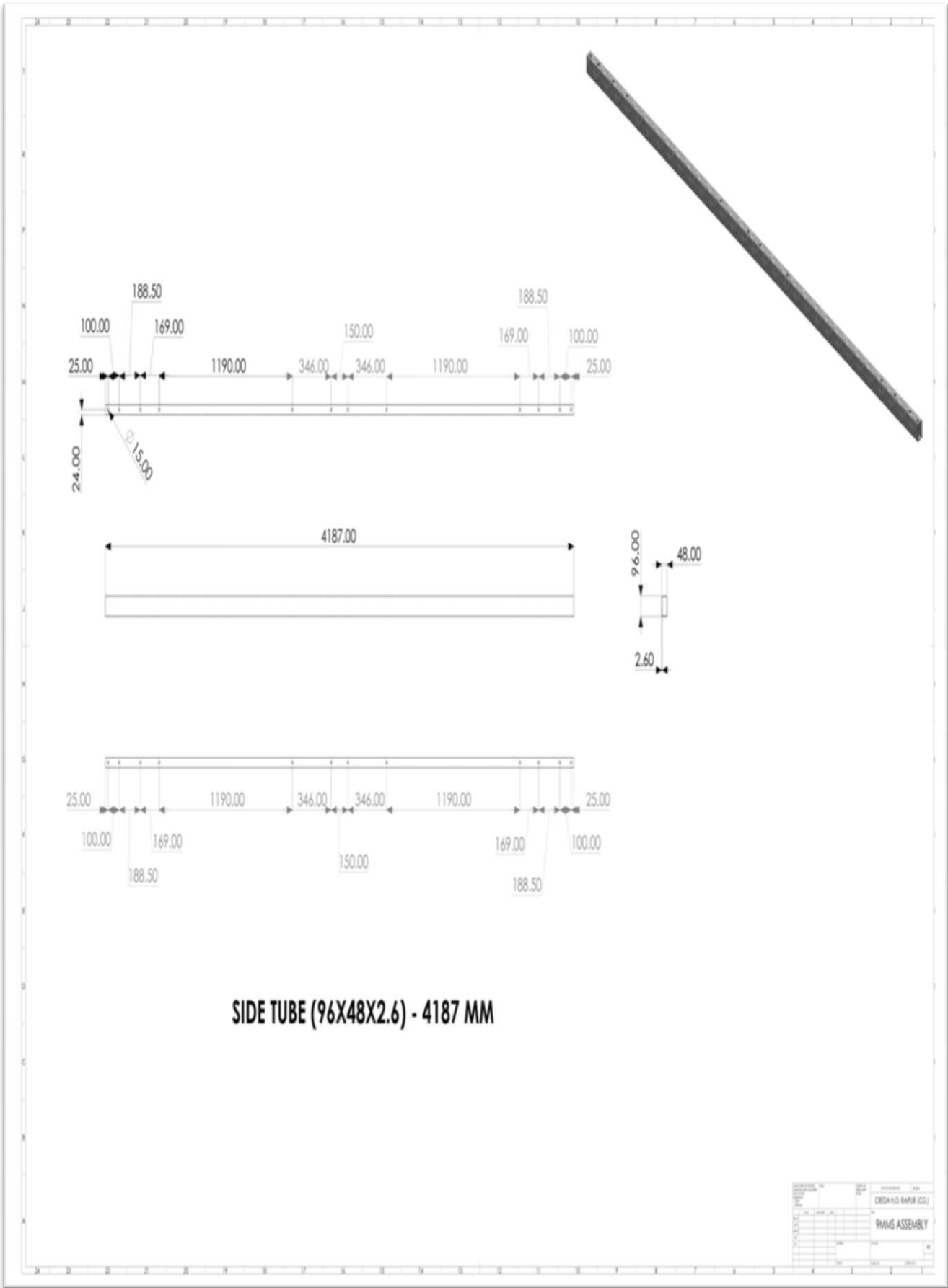
A-22

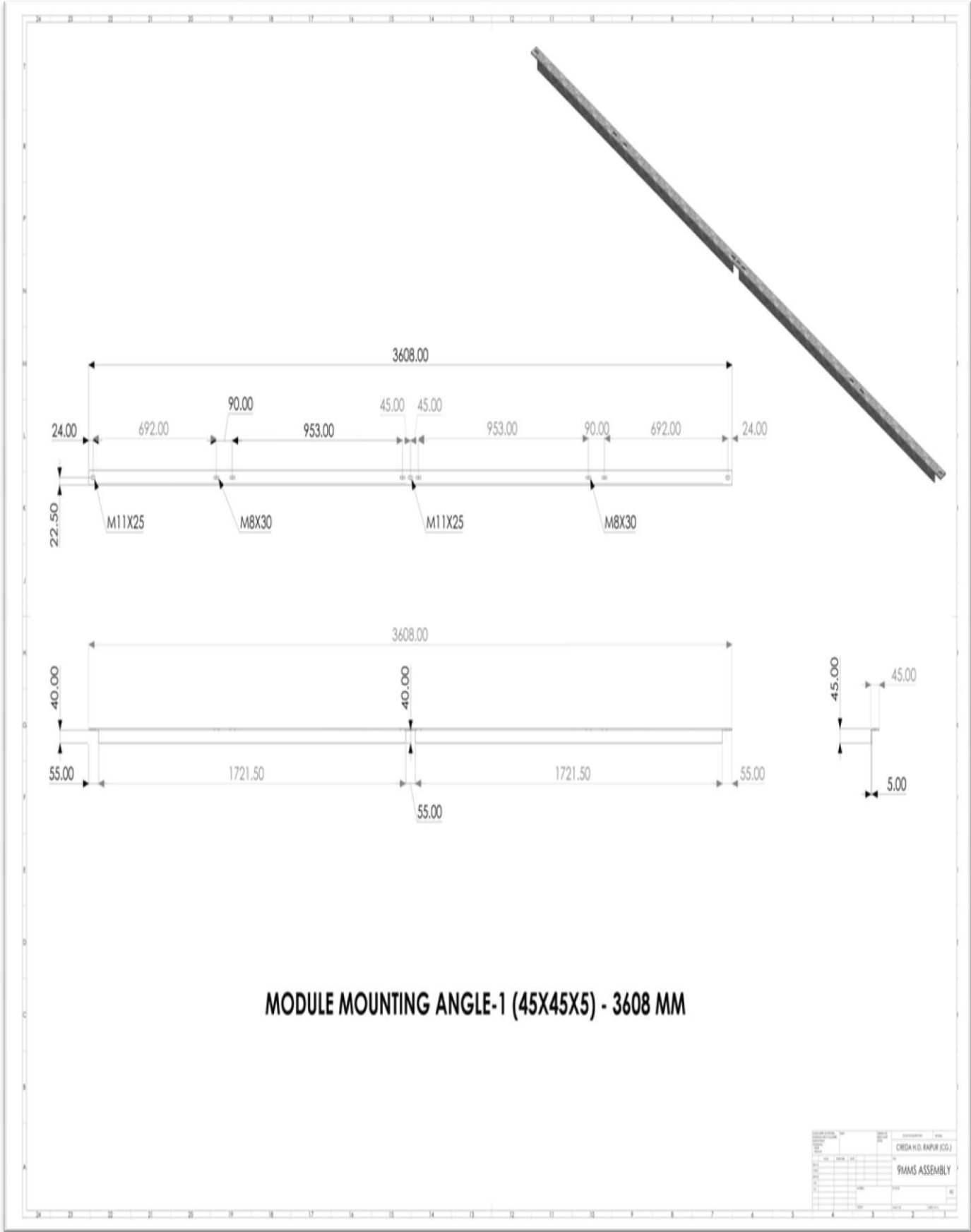


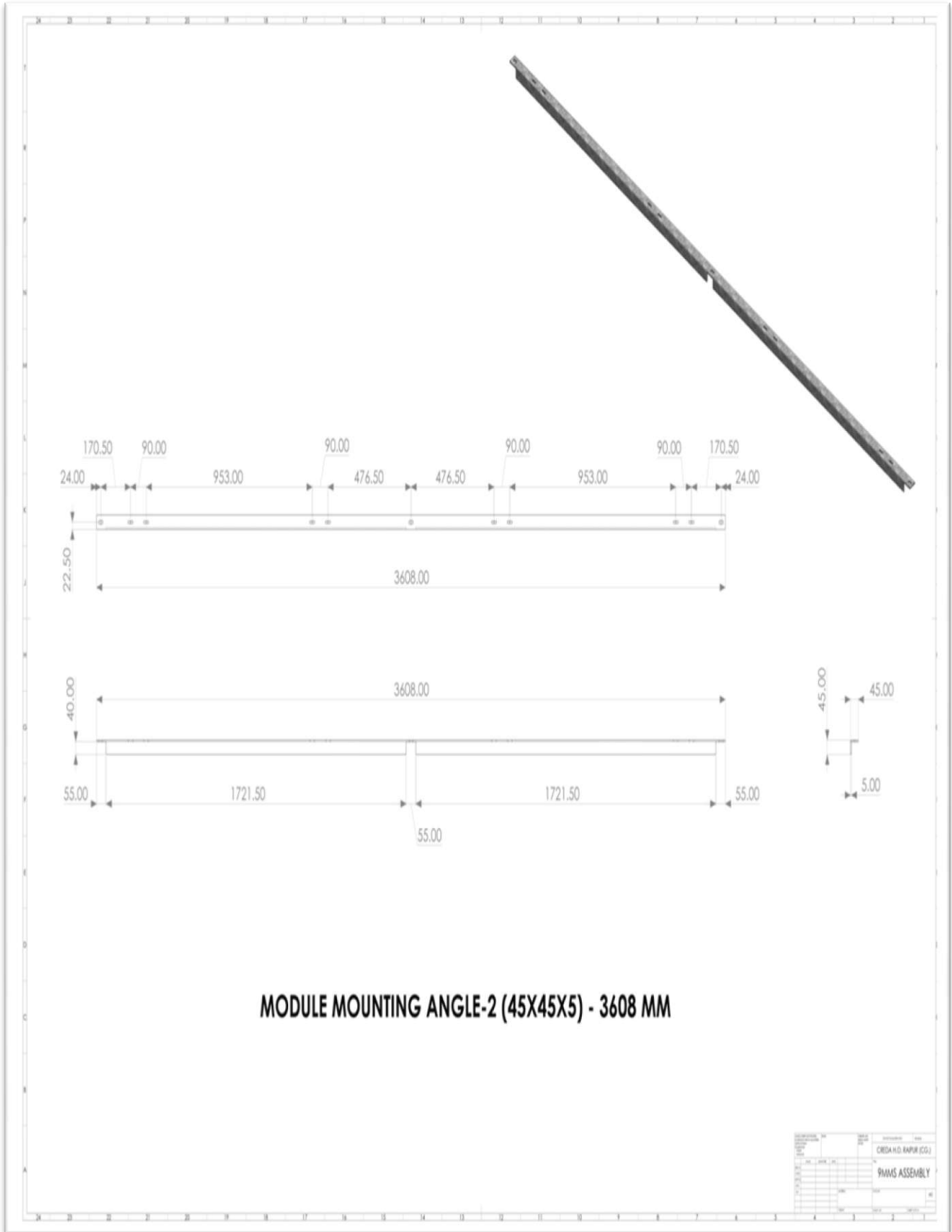
NO.	DESCRIPTION	QTY	UNIT
1	CREDA/NO. RAIR (CG)		
2	RAIR ASSEMBLY		

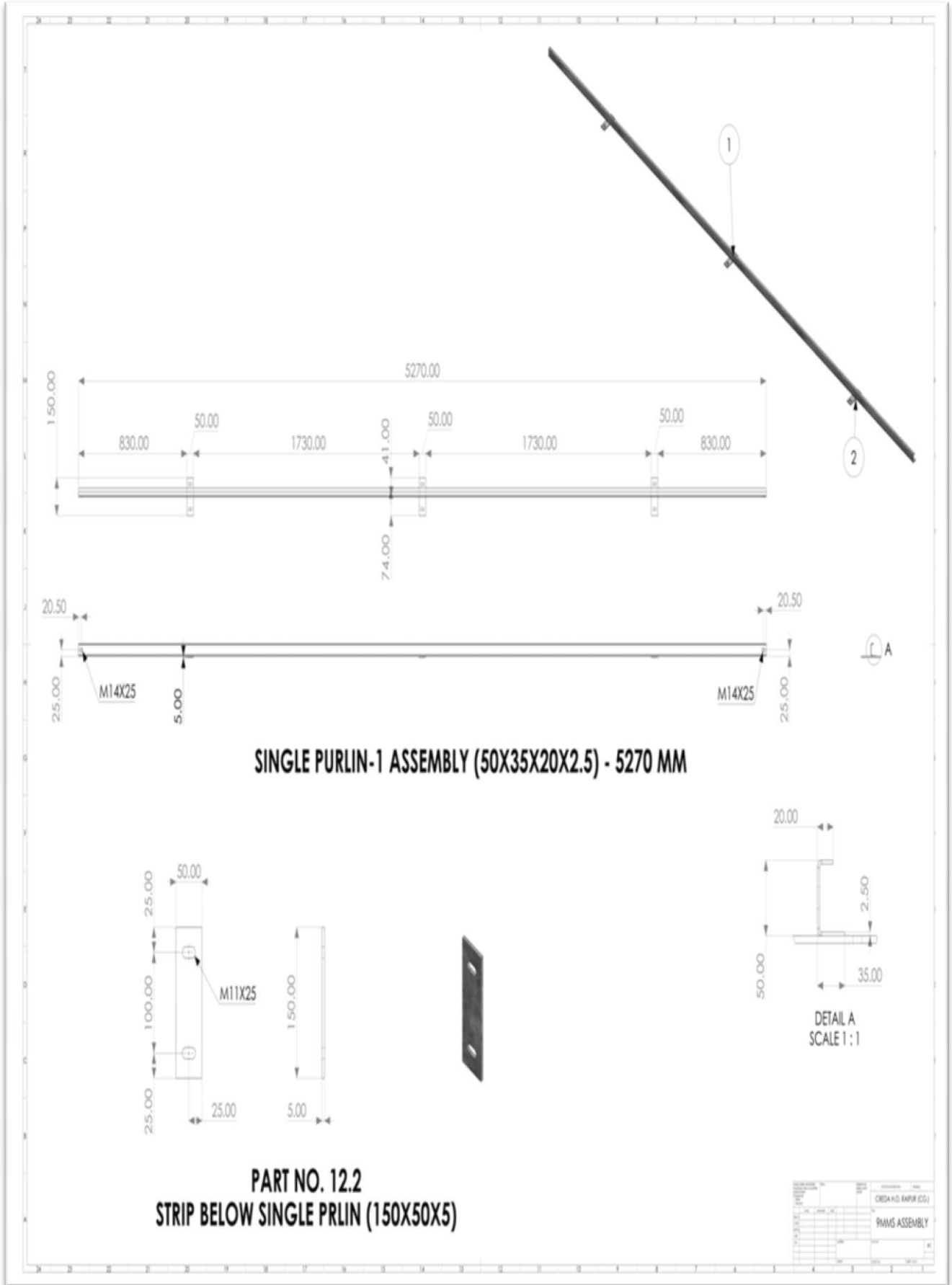


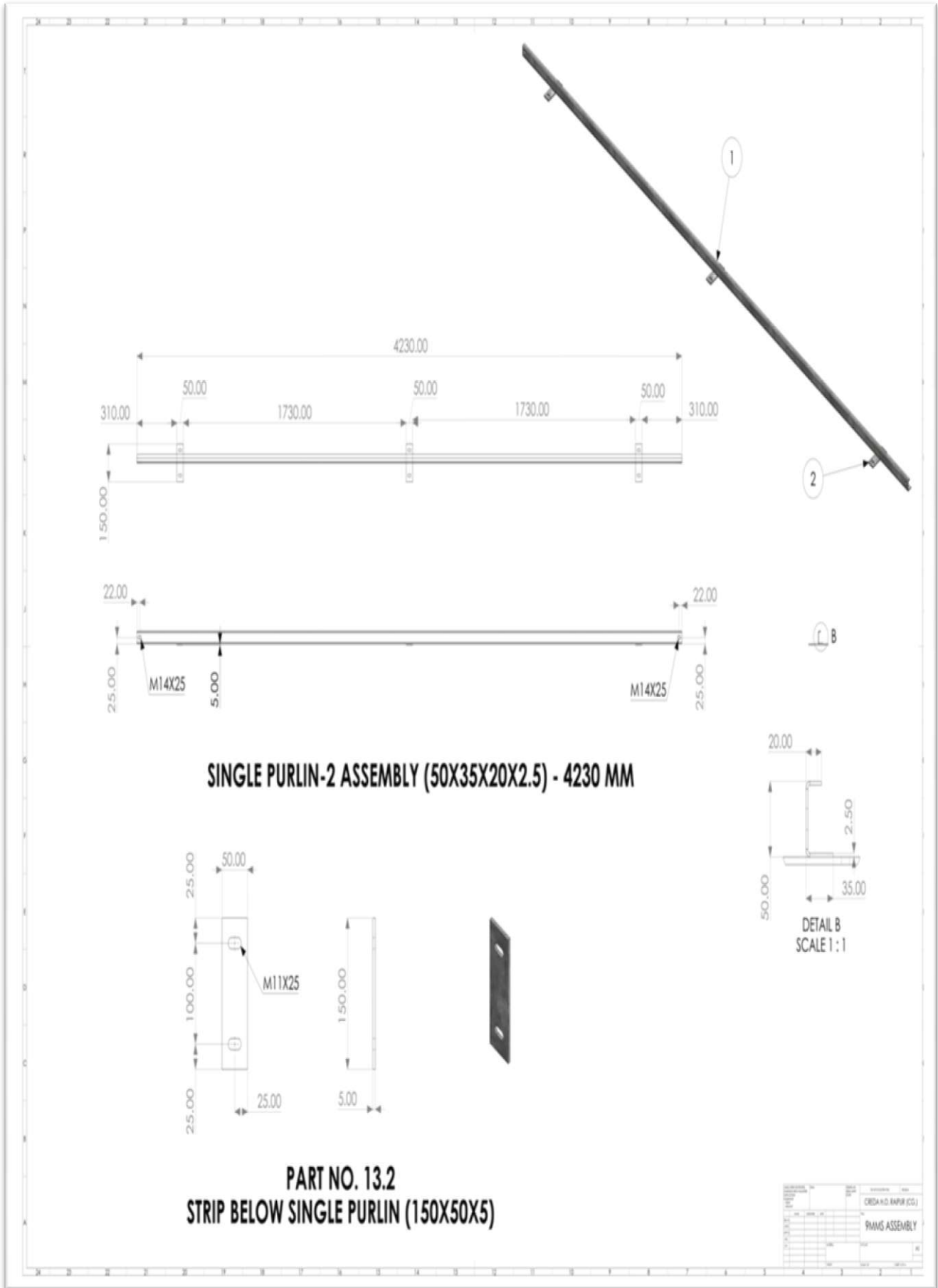


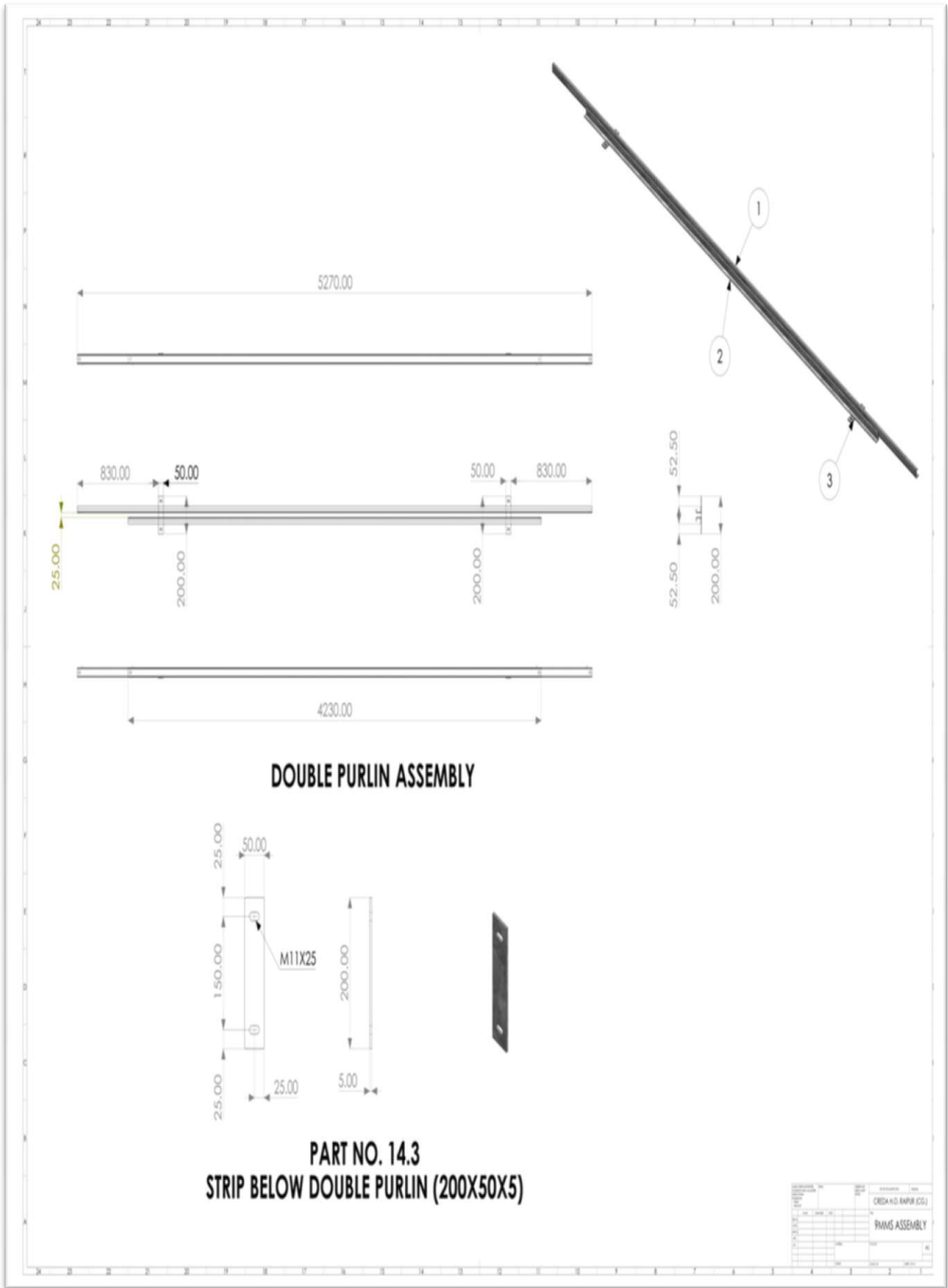


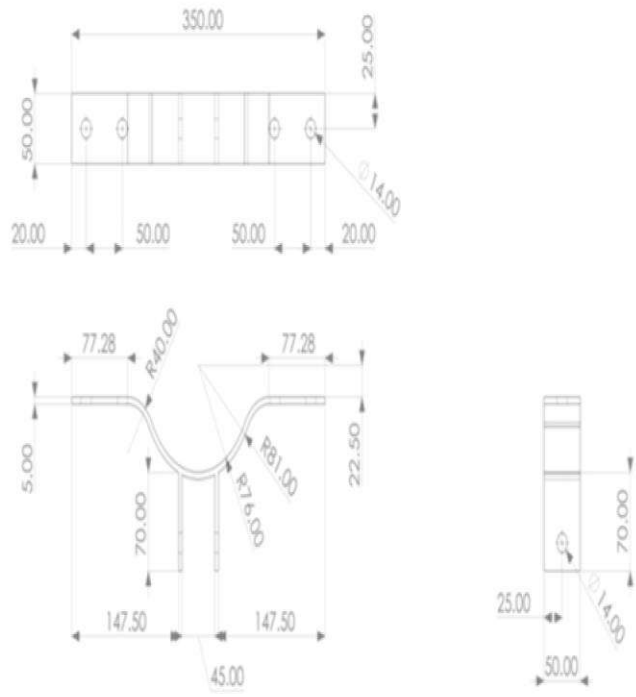




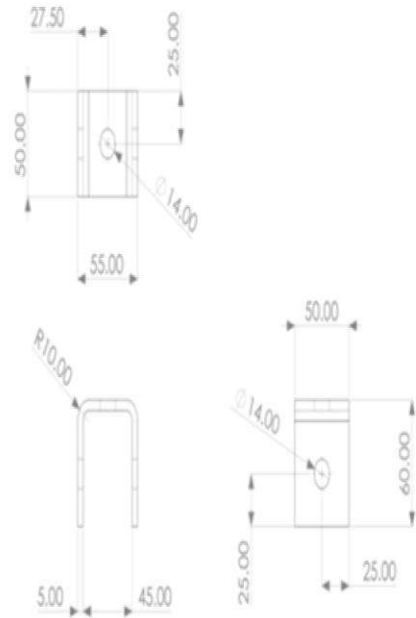






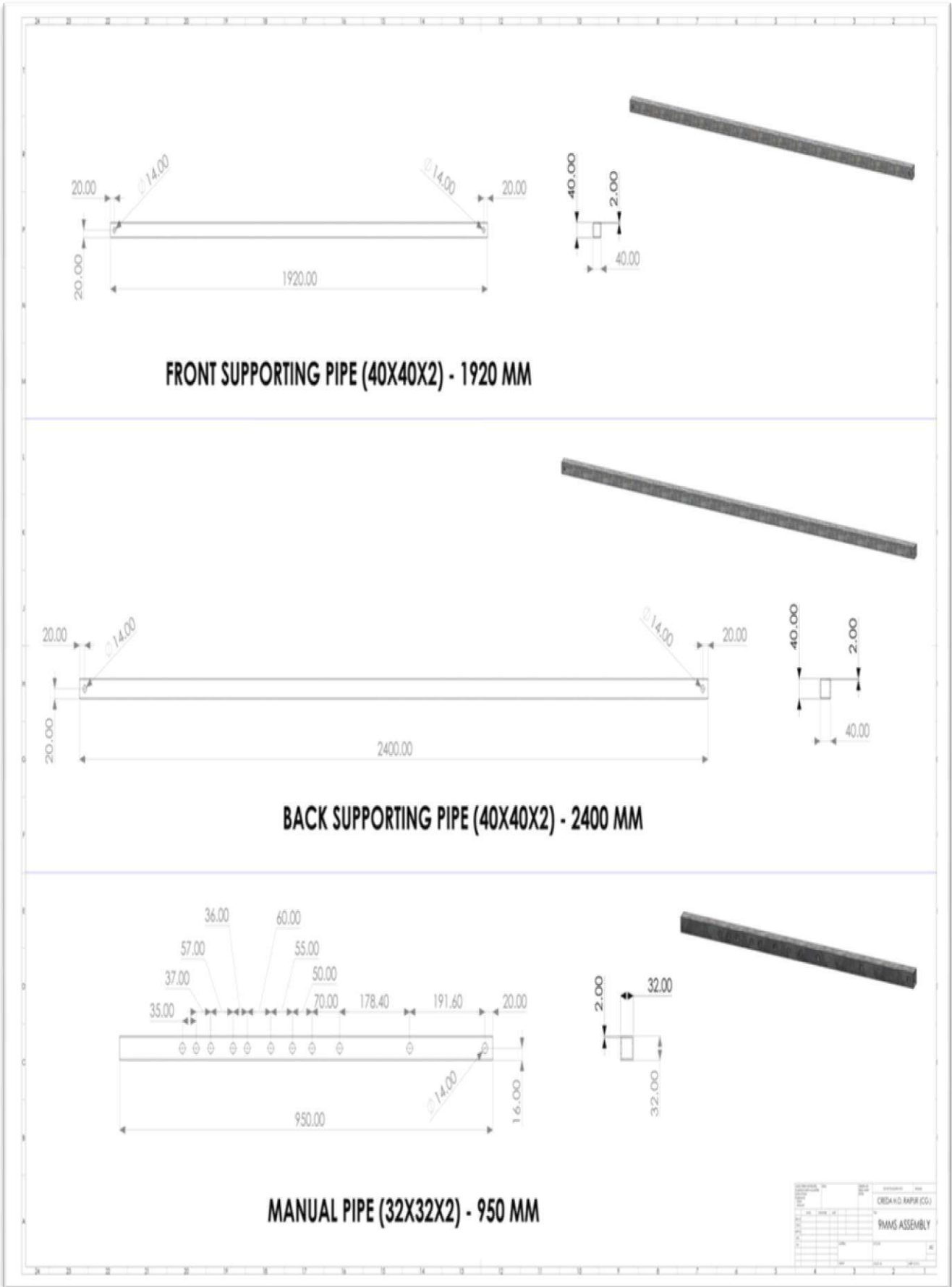


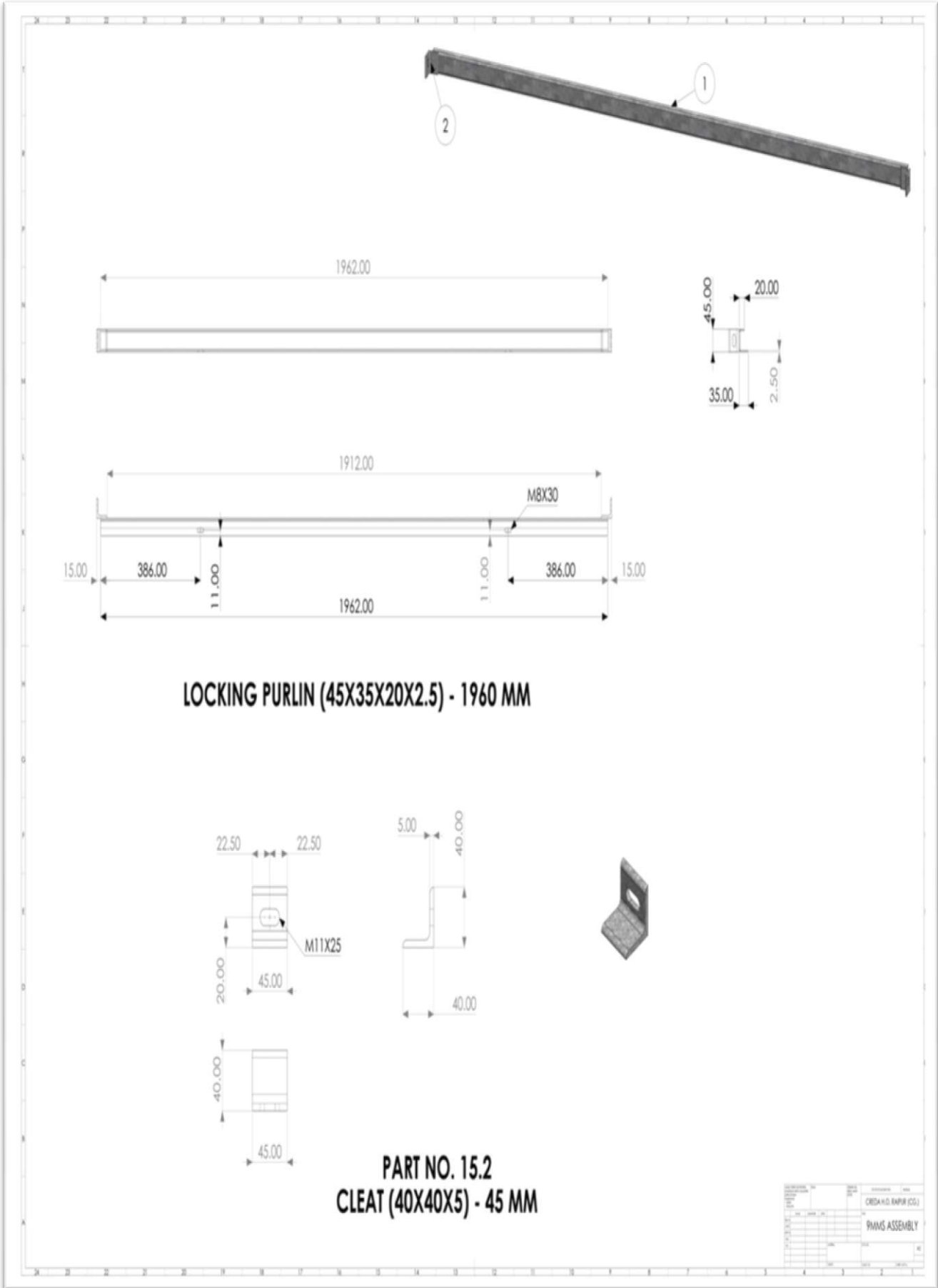
CLAMP WITH BLADE (380X50X5)



U-CLAMP (160X50X5)

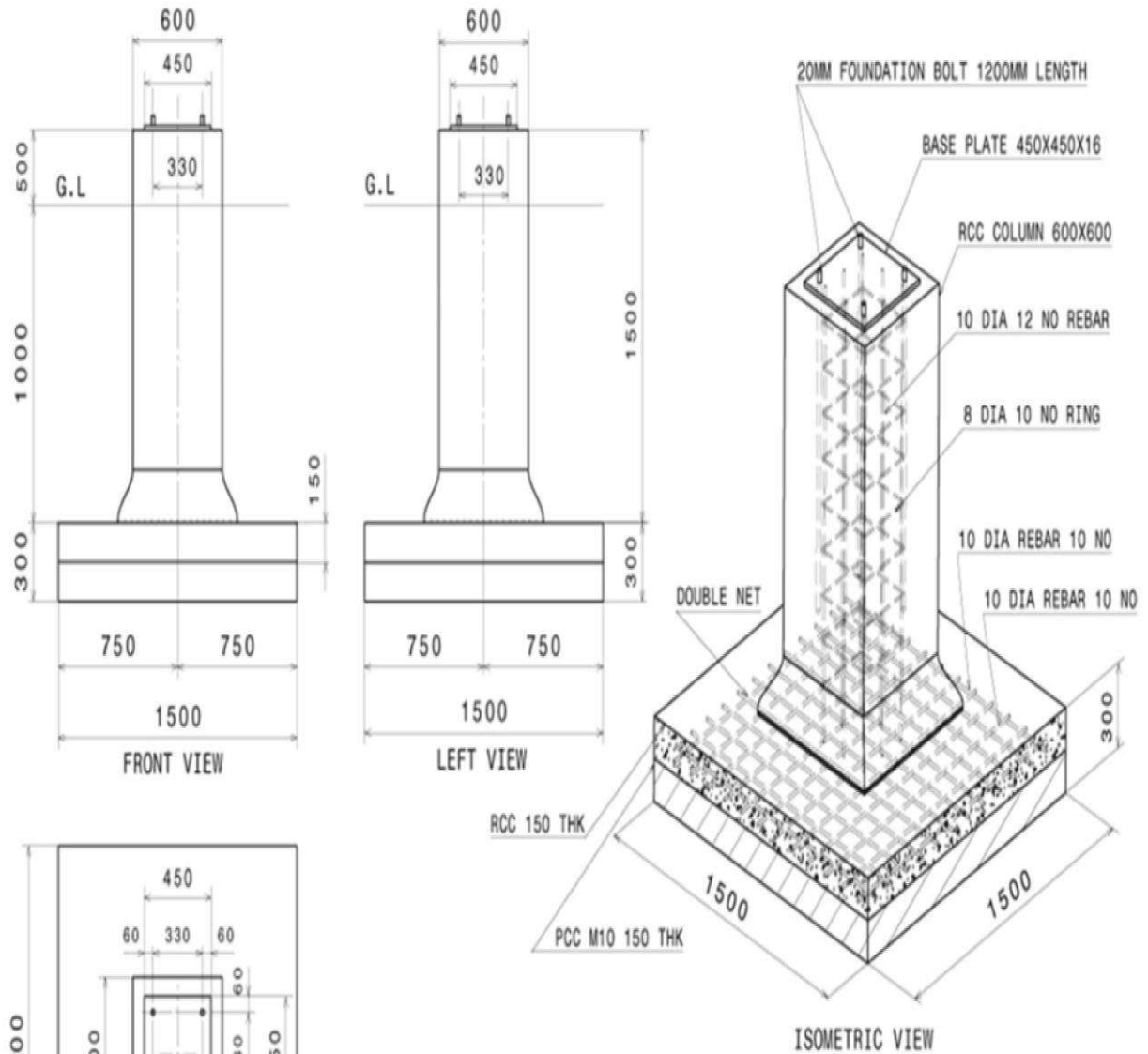
NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
	CREDA NO. RAIR (C2)			
	BMS ASSEMBLY			
Date: _____ Checked: _____ Drawn: _____				





Drawings of 09 nos. MMS & Foundation for 535 Wp & above

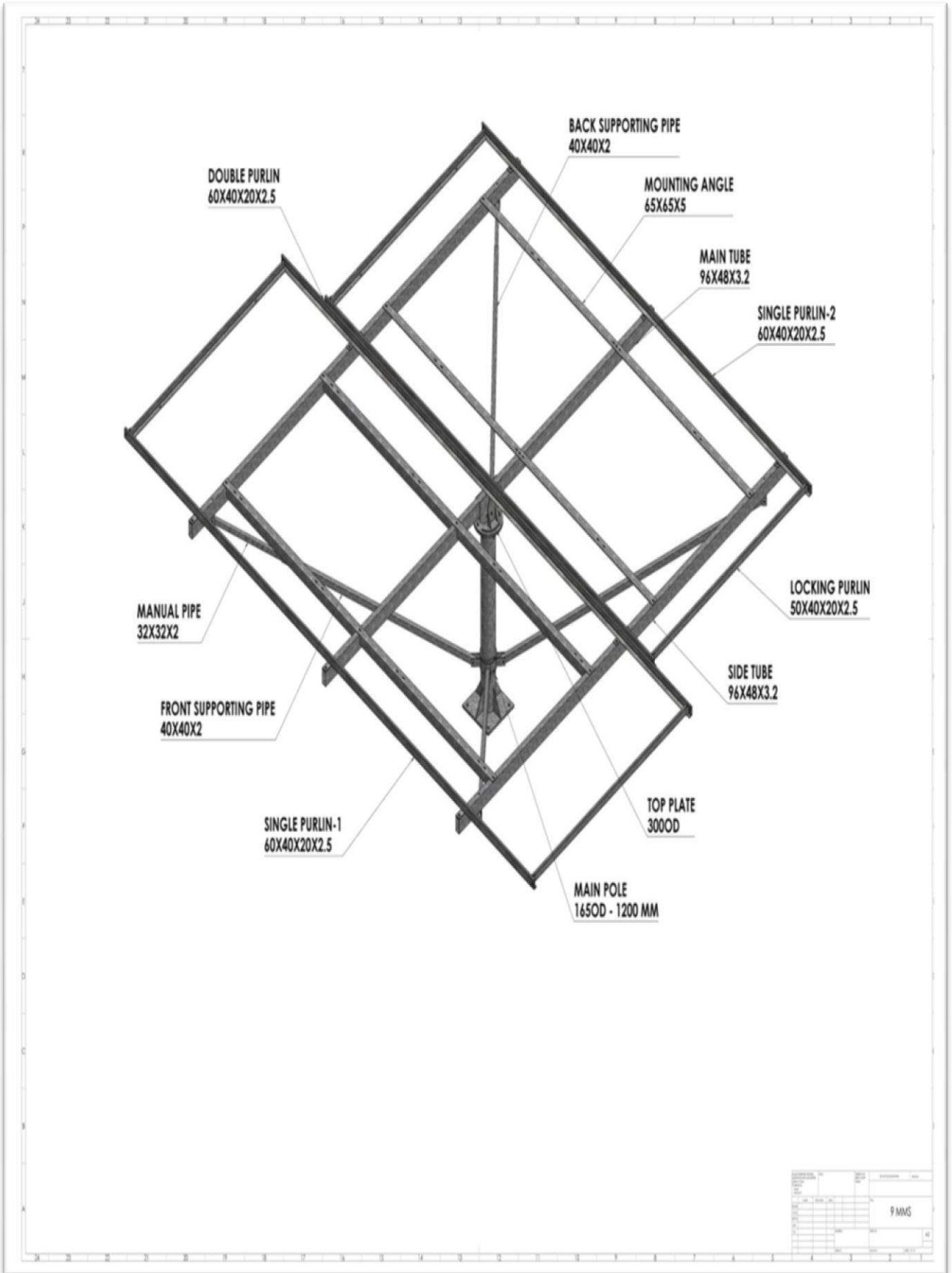
FOUNDATION DRAWING FOR 09 NOS. MMS OF 535Wp & ABOVE

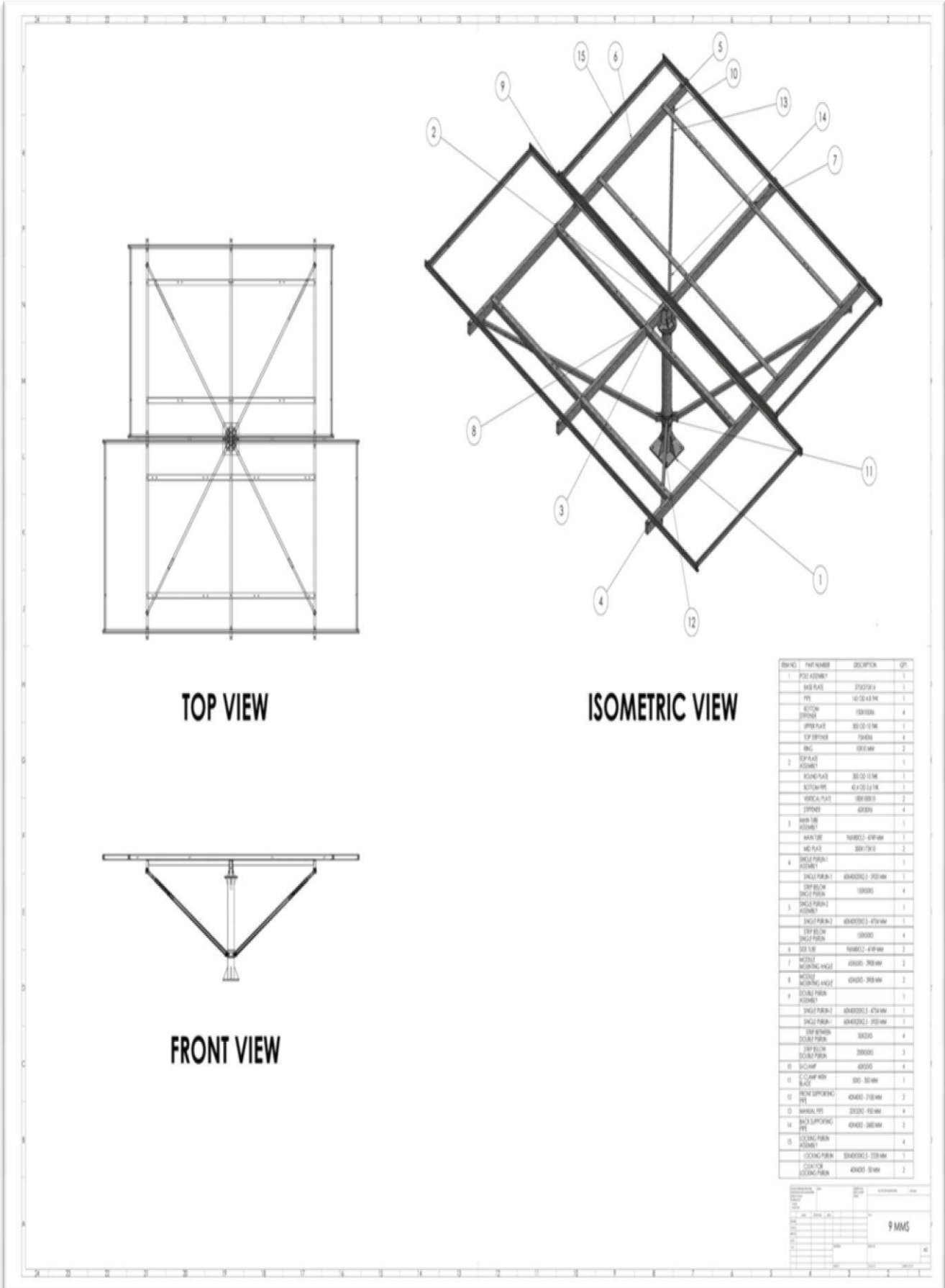


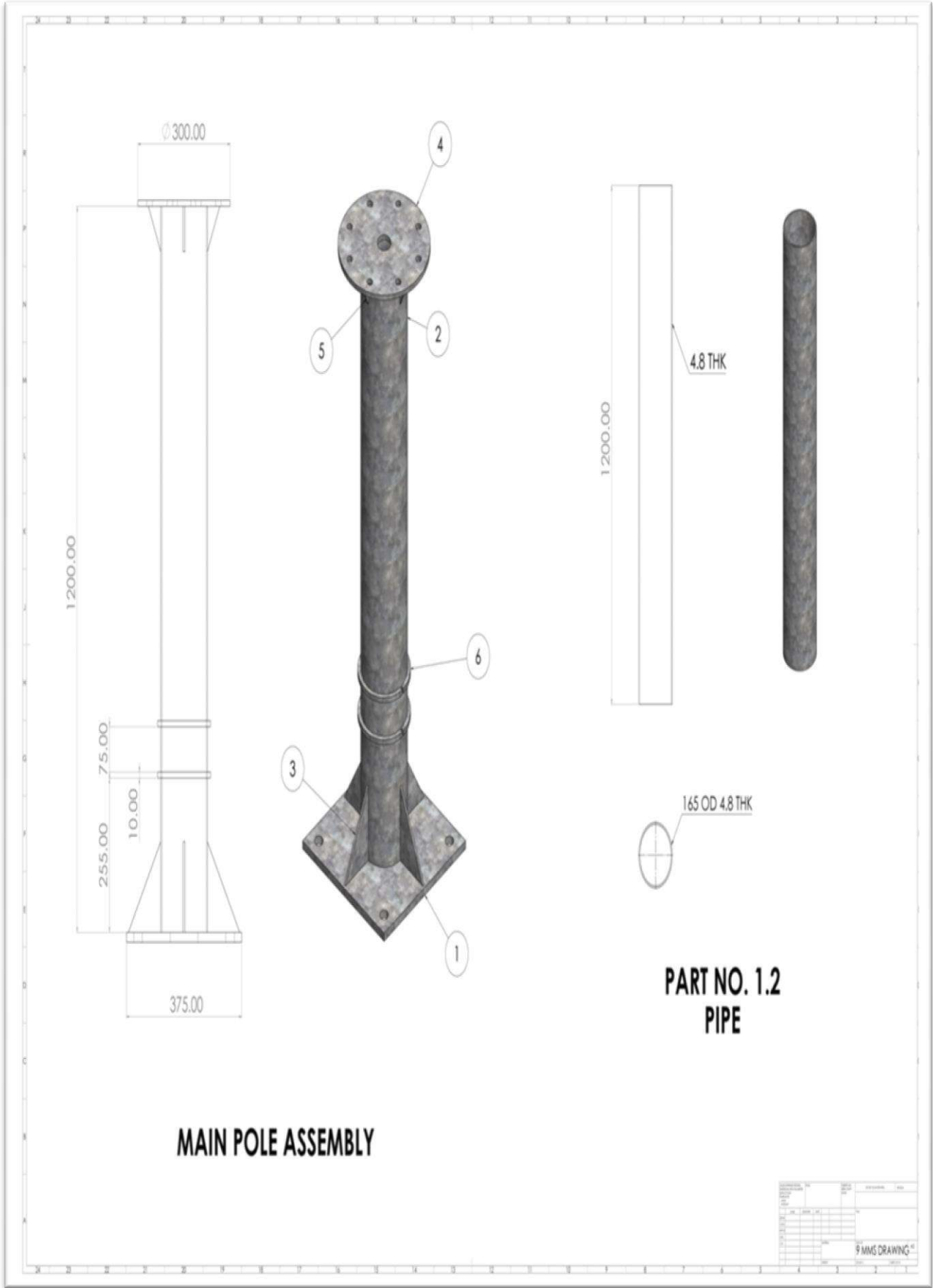
* G.L - GROUND LEVEL

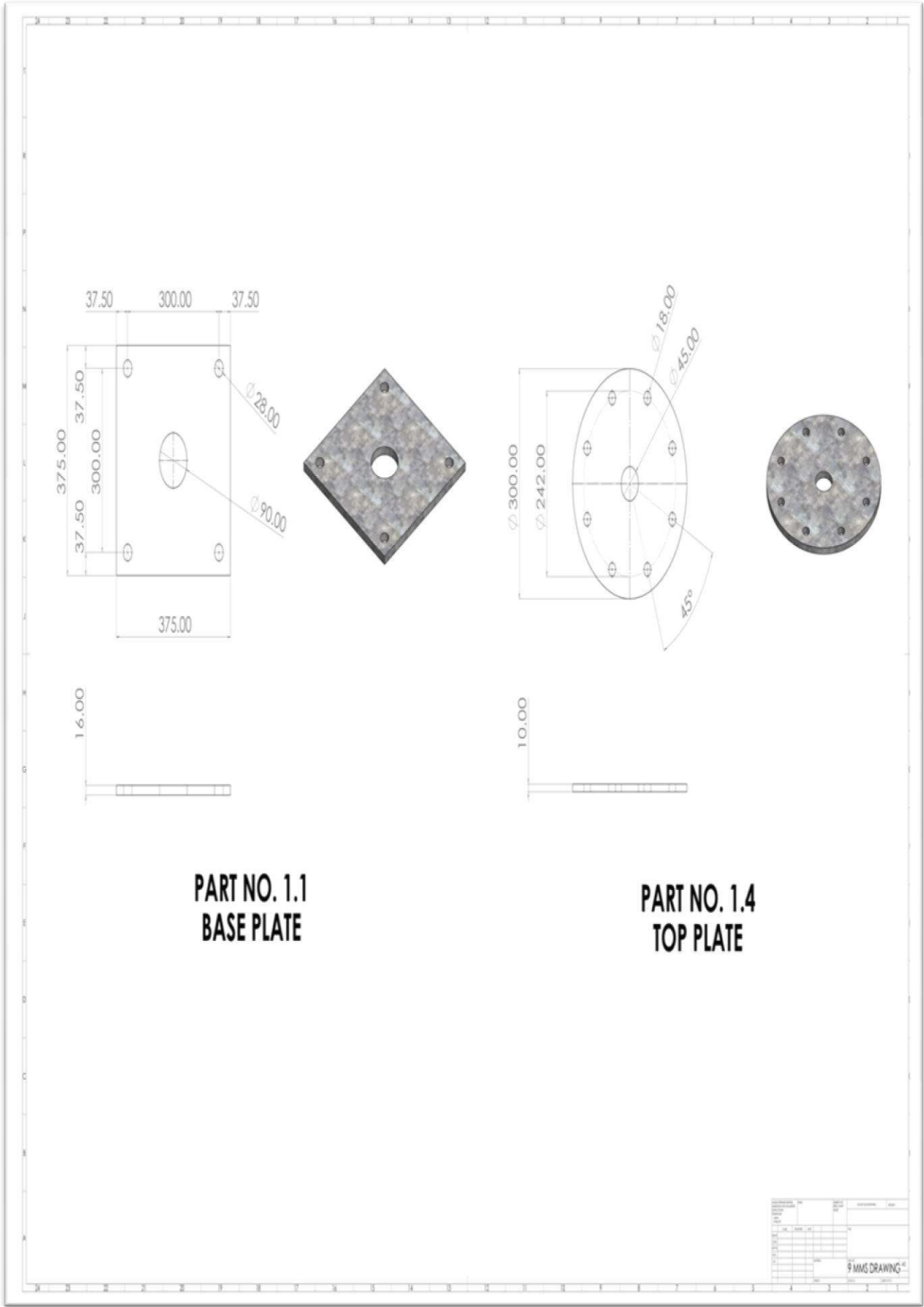
ALL DIMENSIONS IN MM

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-6	REV - AS-CW-01



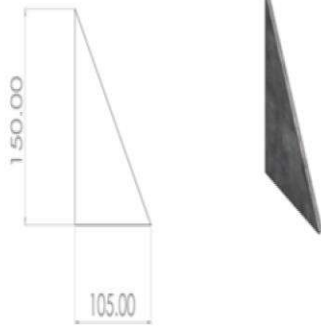




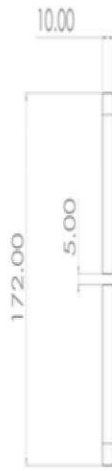


Project No.	105235/CREDA/SPV IRRIGATION PUMPS
Sheet No.	A-38
Scale	9 MMS DRAWING
Author	
Checked	
Approved	

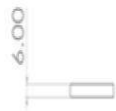
A-39



**PART NO. 1.3
BOTTOM STIFFENER**



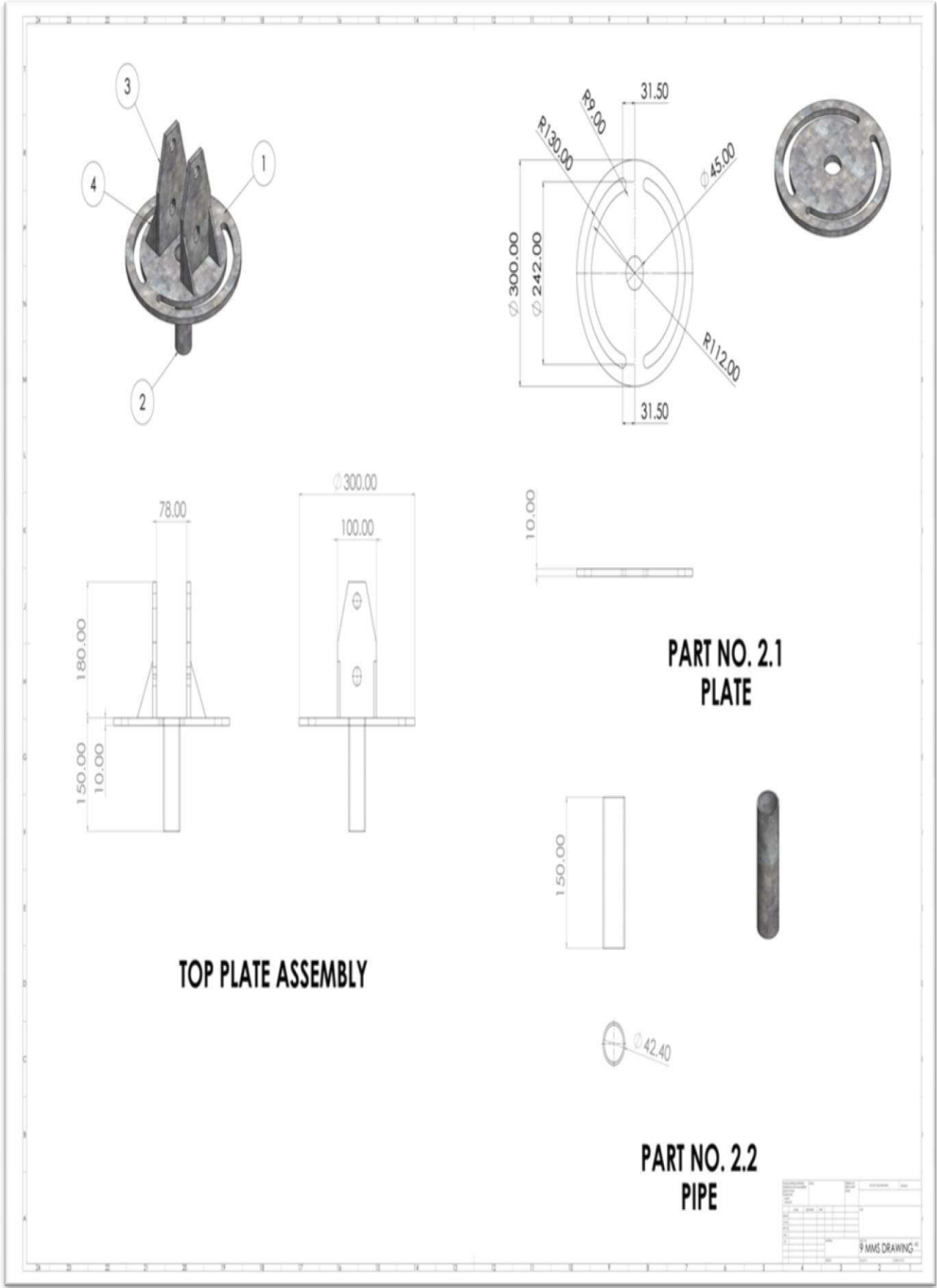
**PART NO. 1.6
RING**



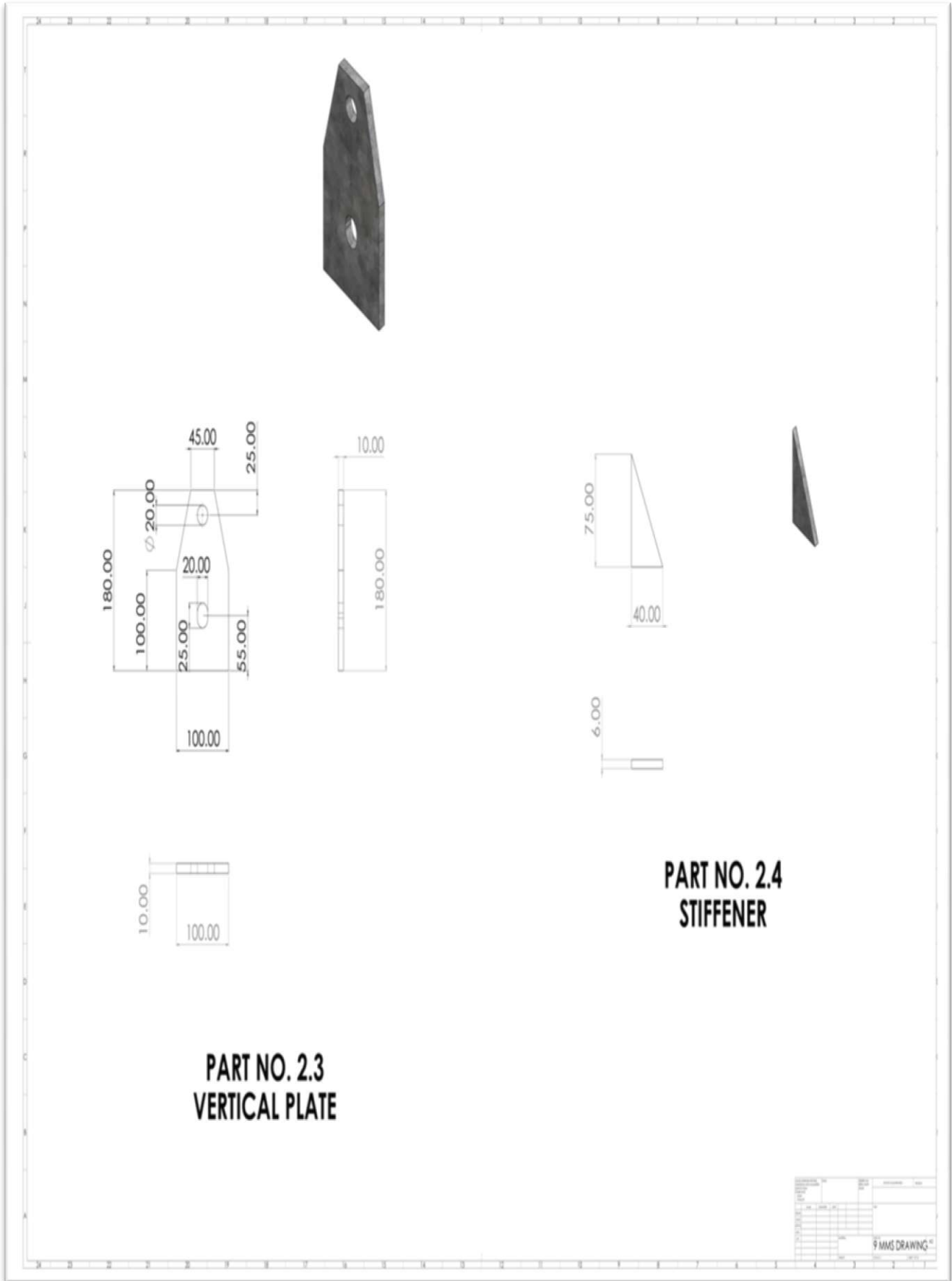
**PART NO. 1.5
TOP STIFFENER**

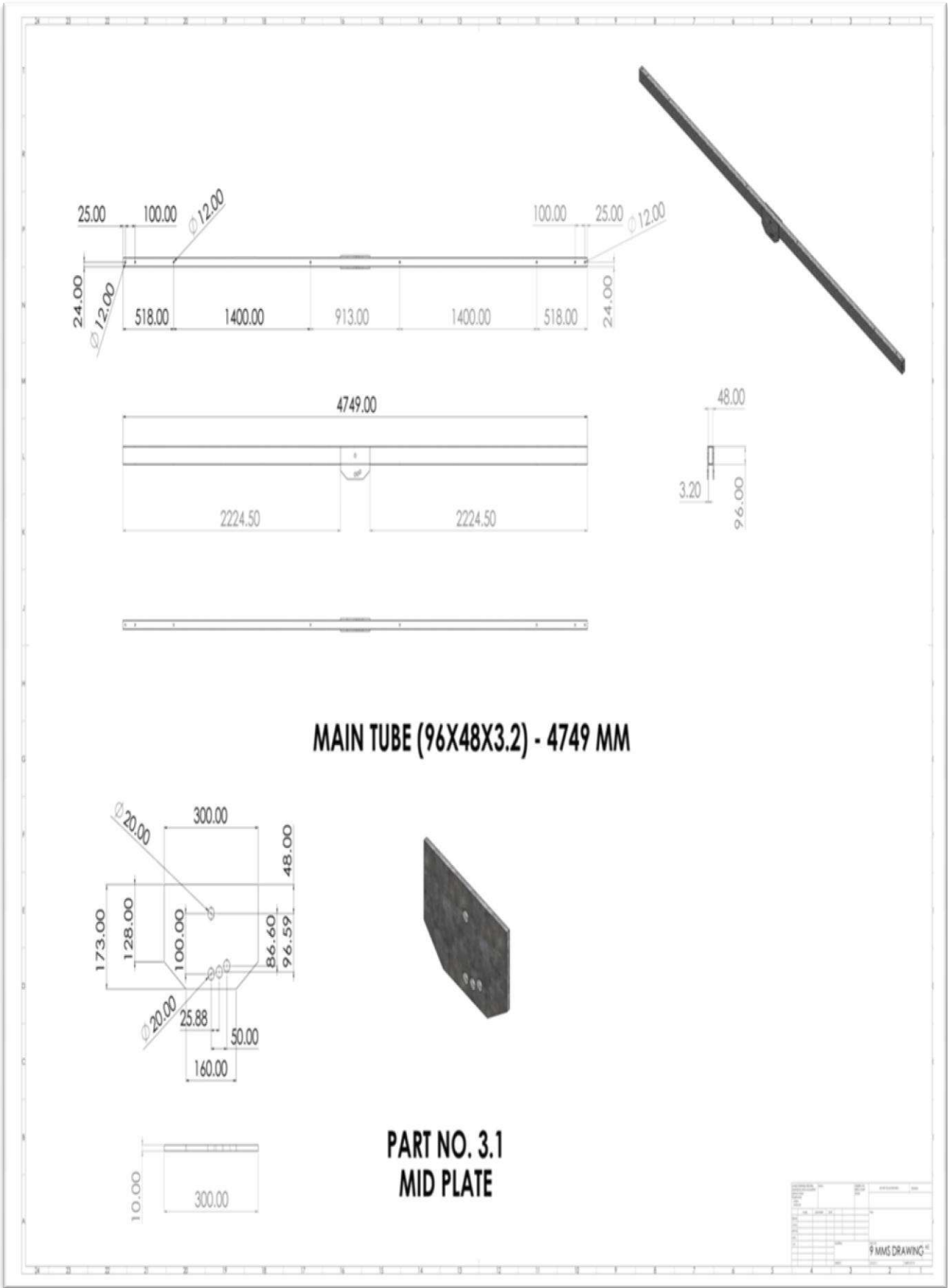
NO.	REV.	DESCRIPTION	DATE

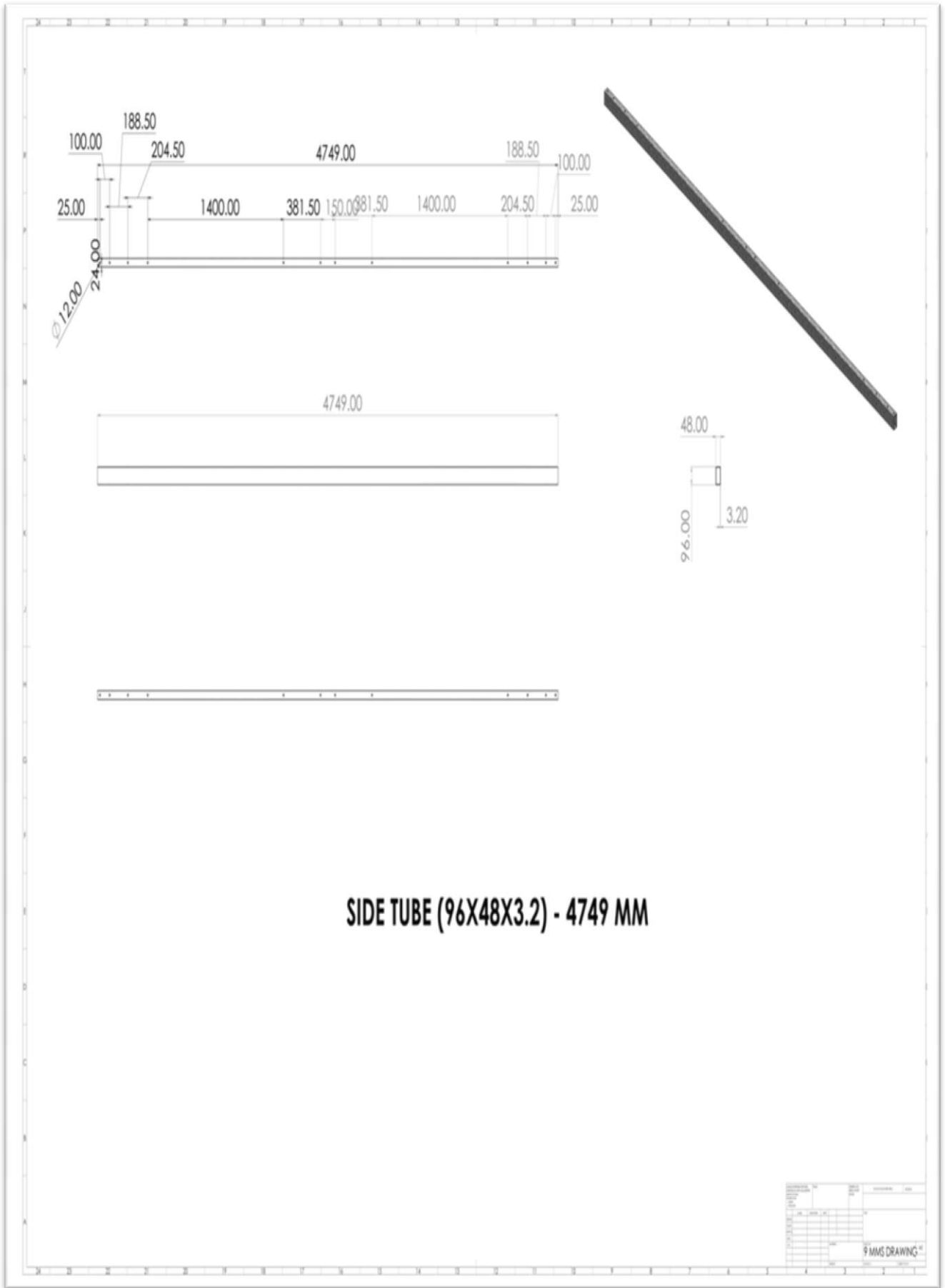
9 MM DRAWING



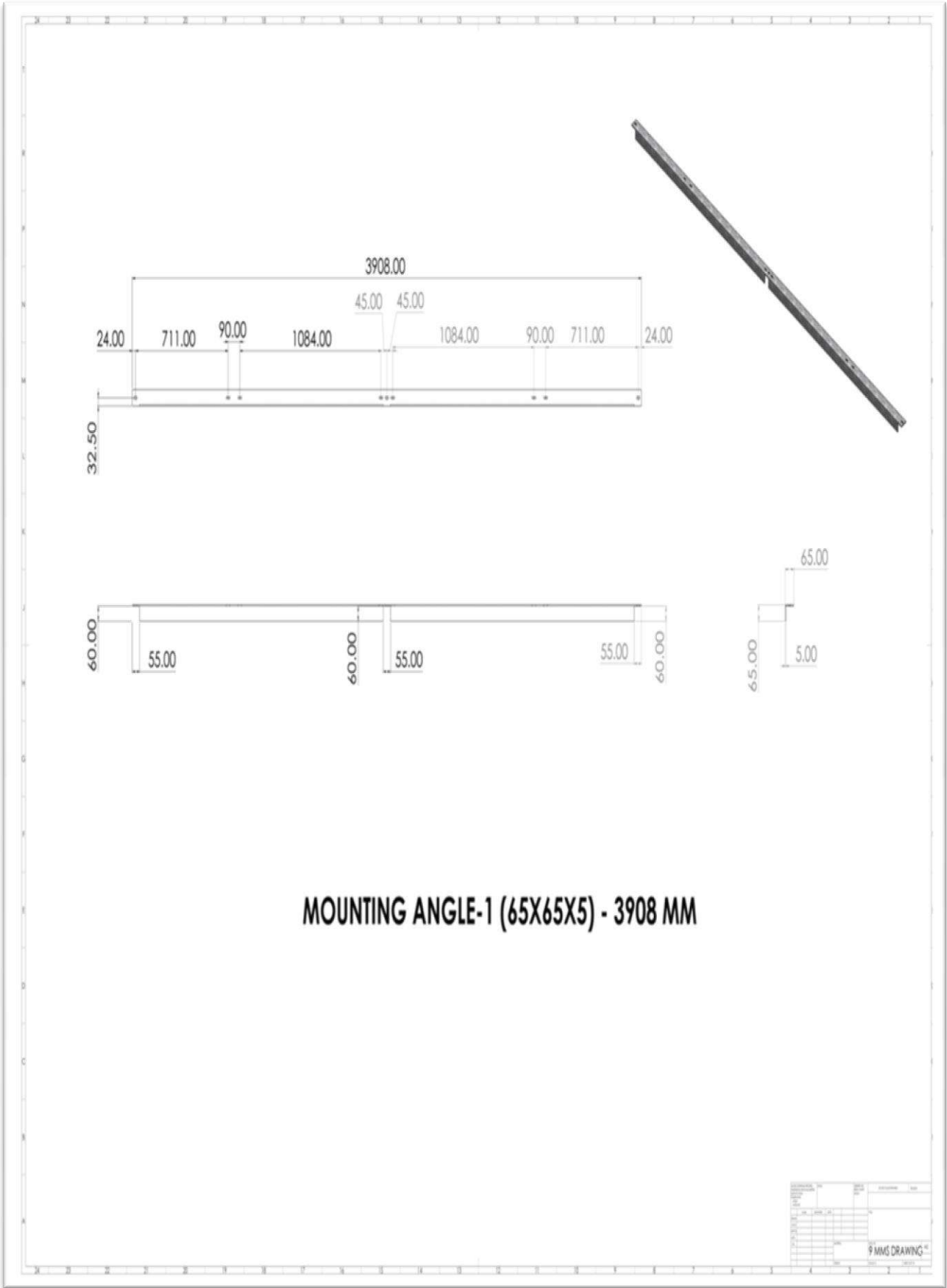
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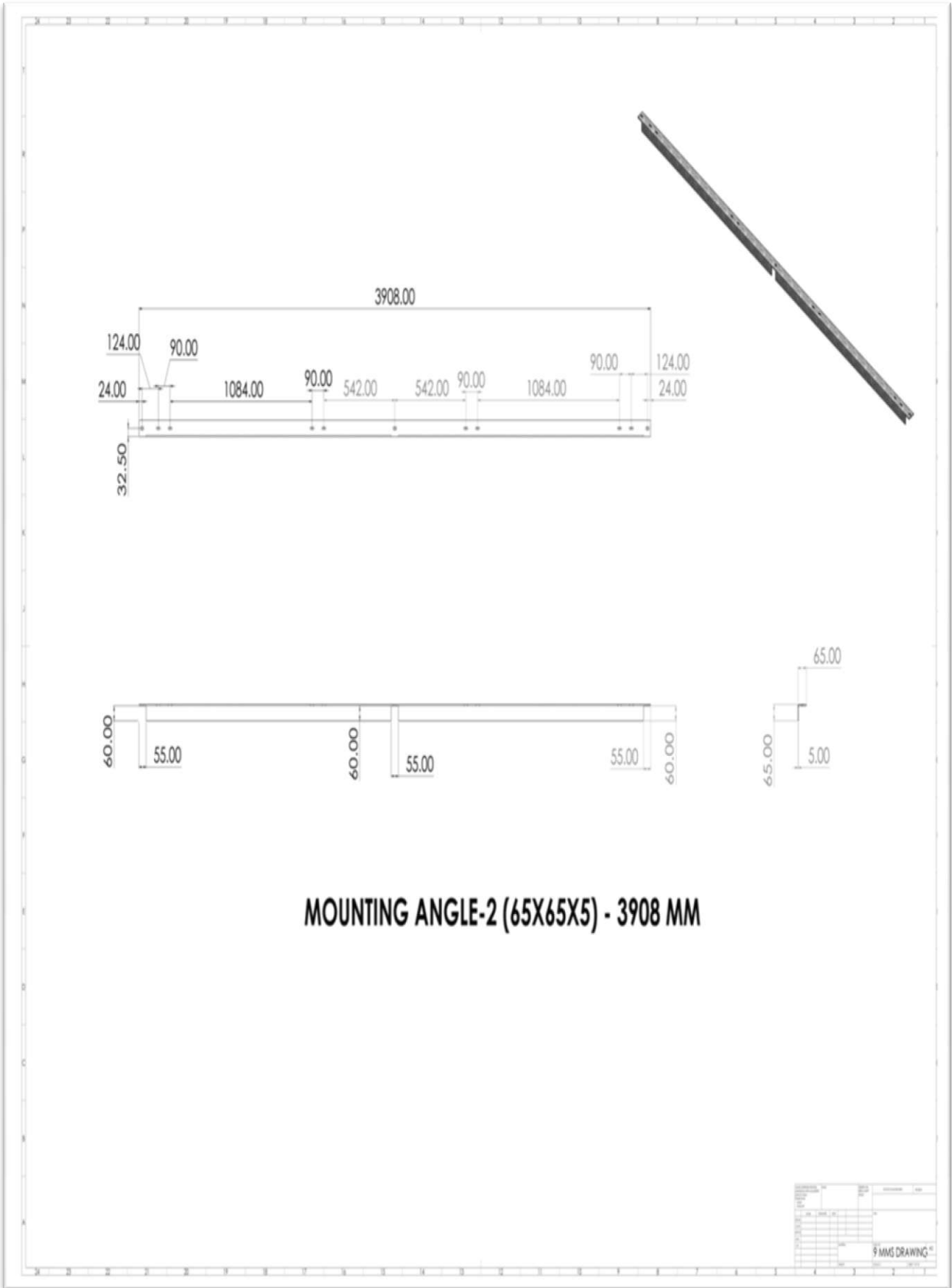


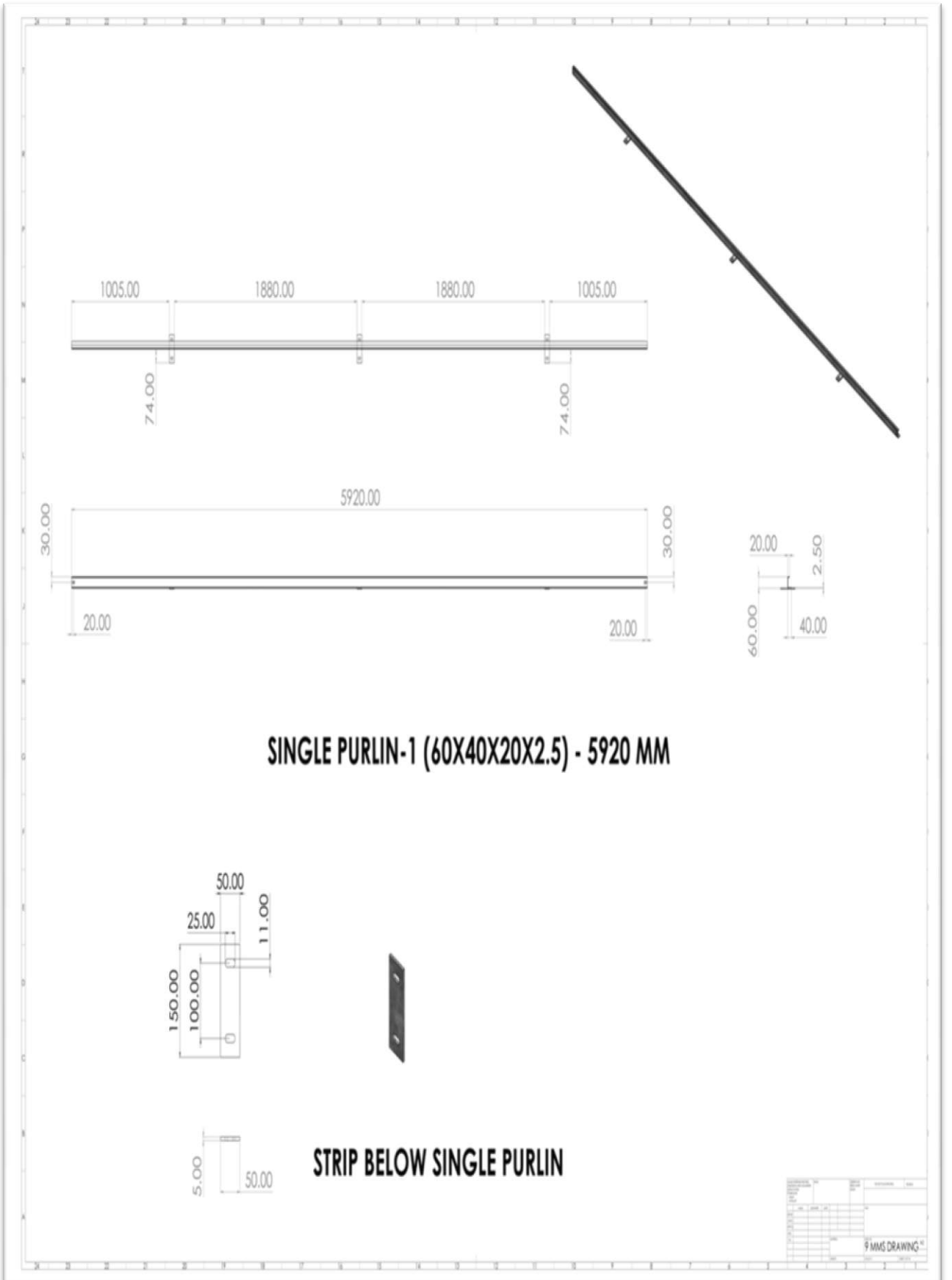


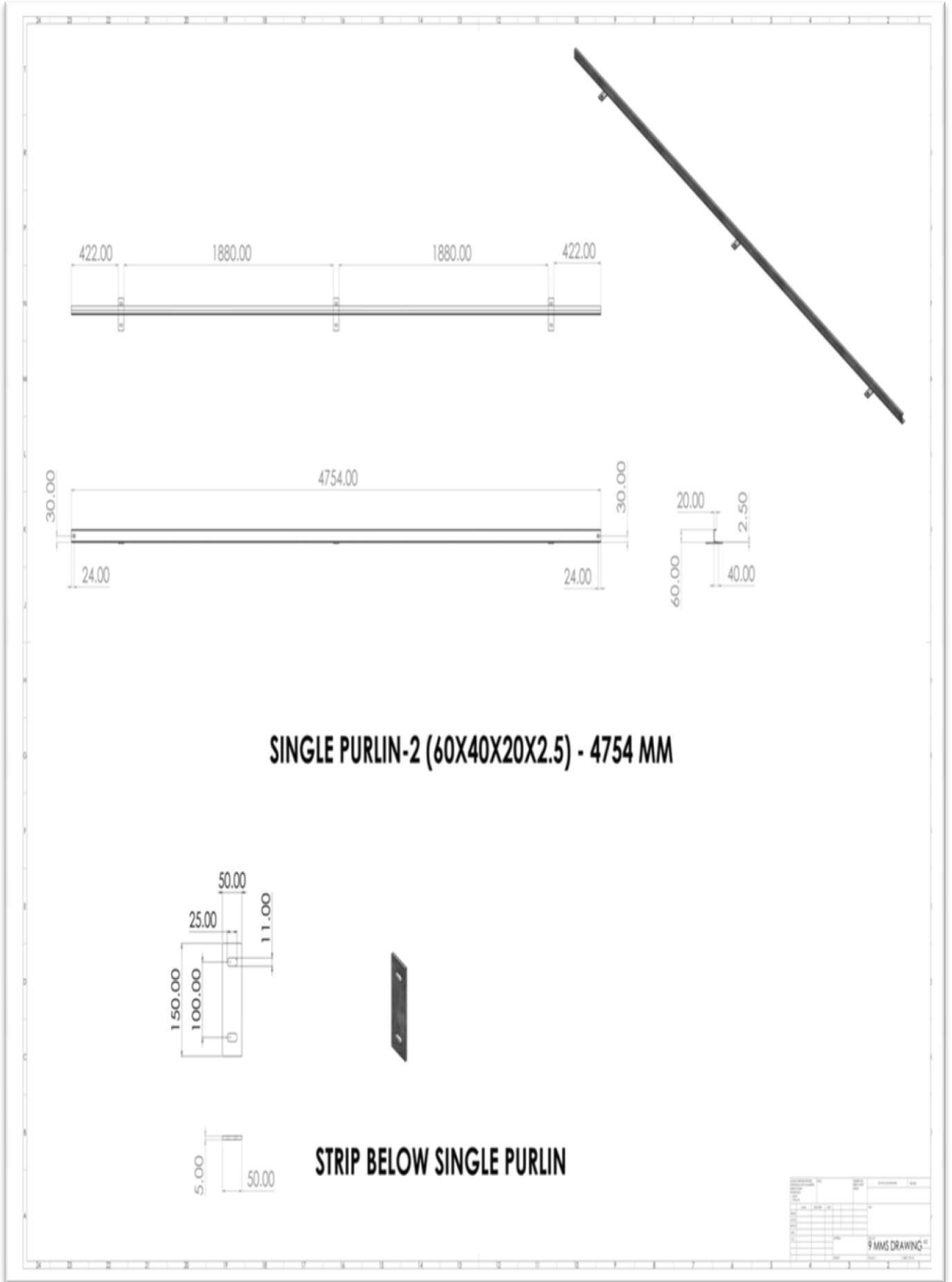
A-44

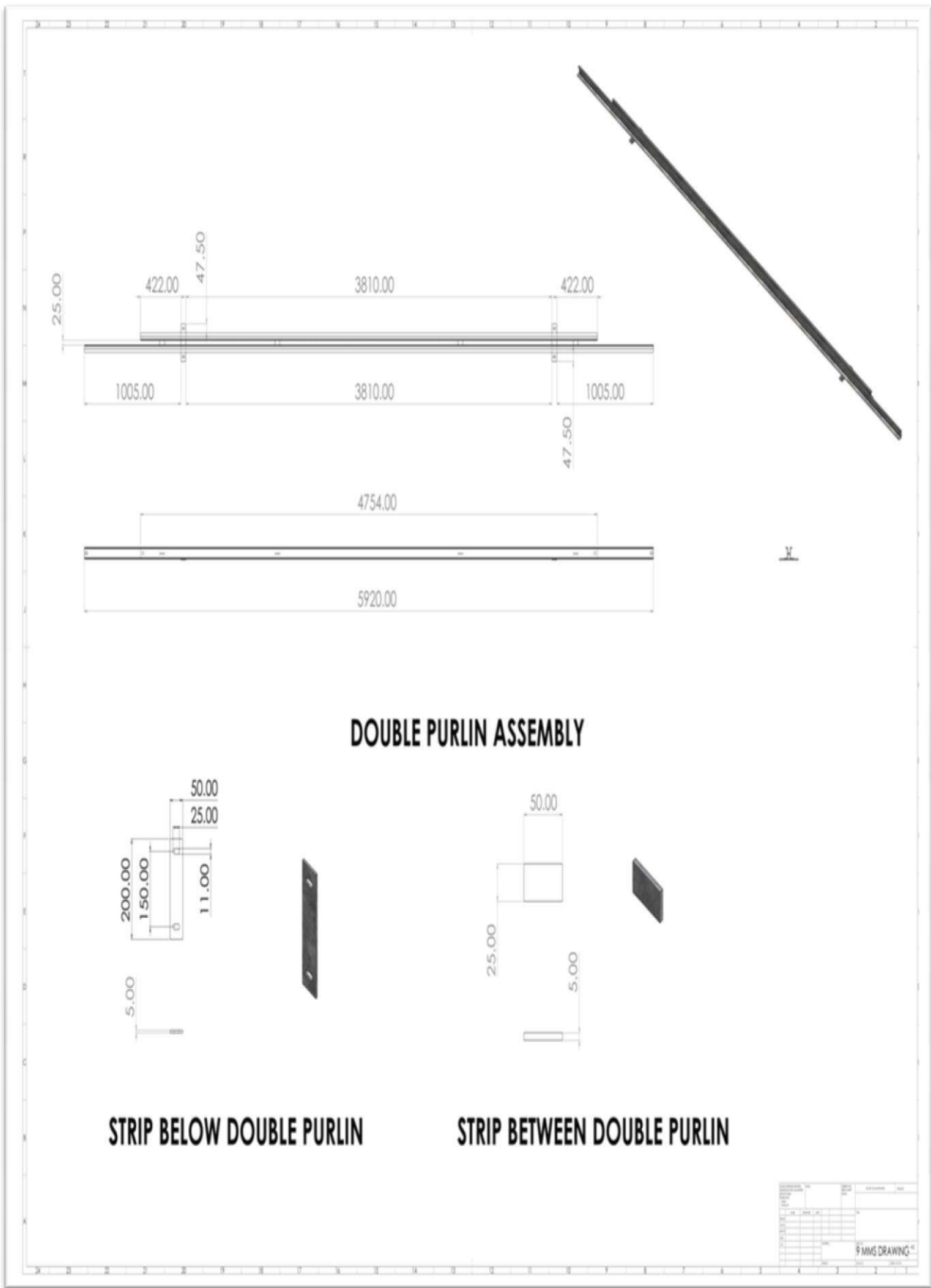


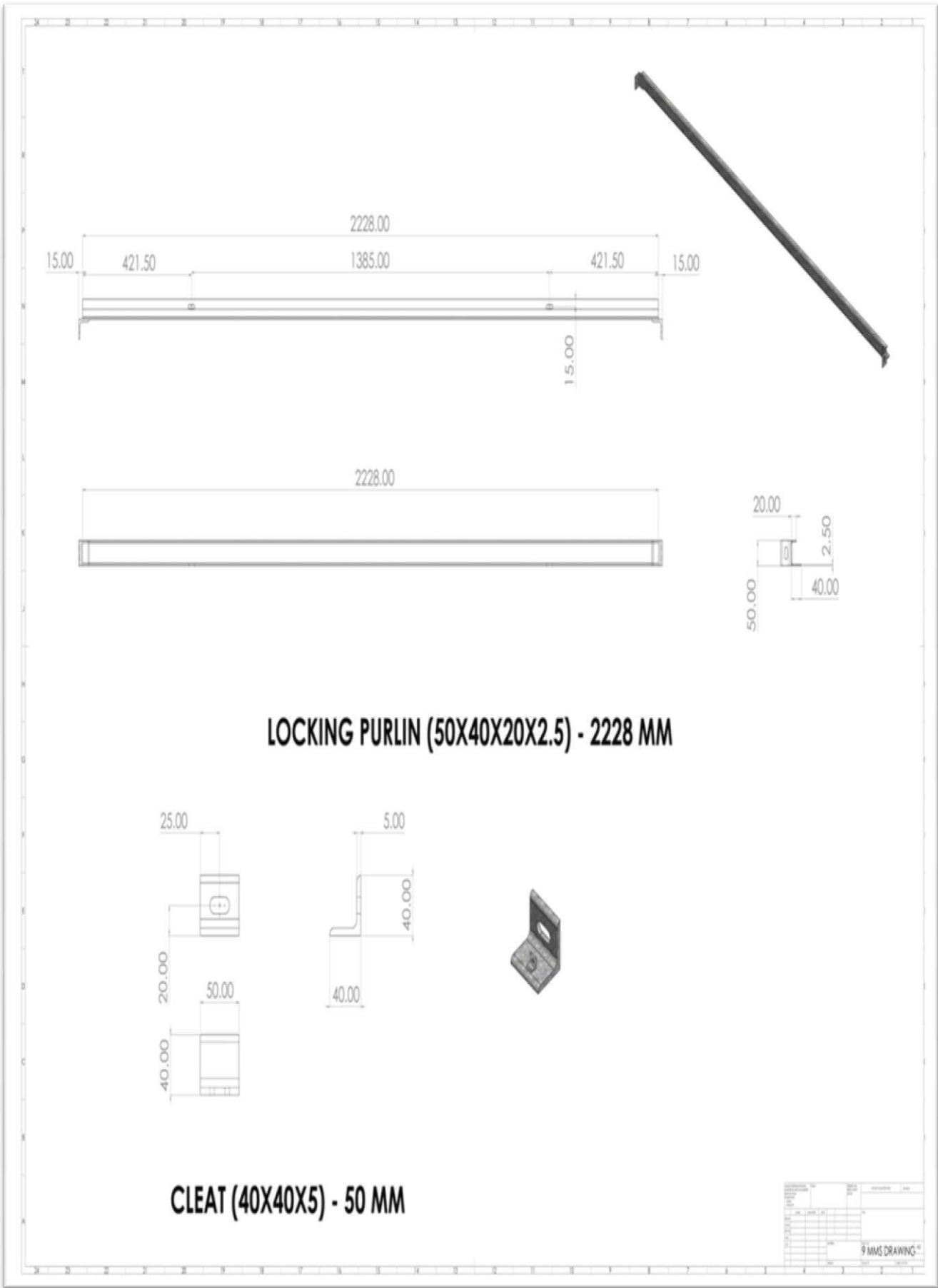
A-45

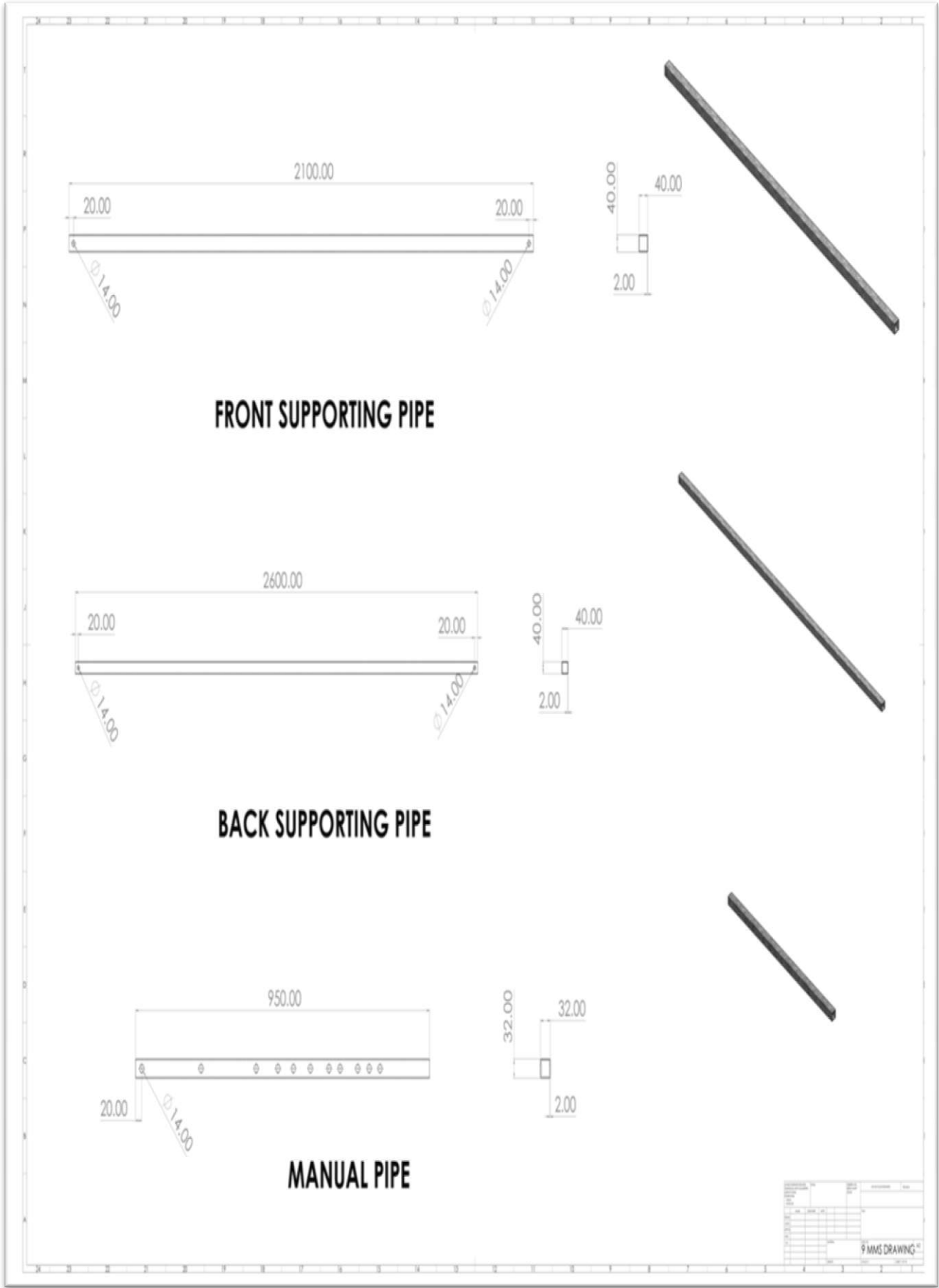




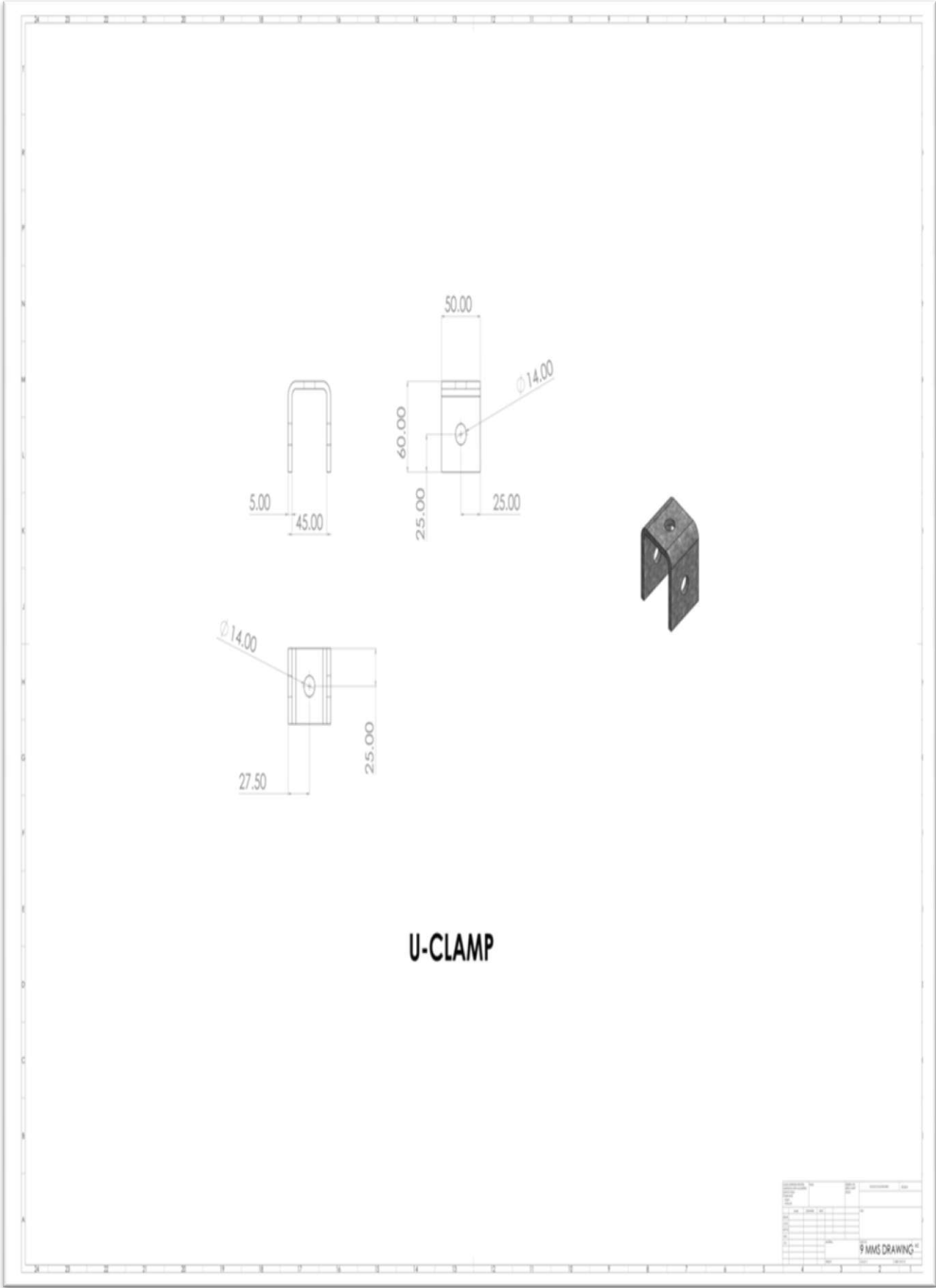








PROJECT	NO.	DATE	SCALE
DESIGNER	CHECKED	APPROVED	DATE
9 MMS DRAWING			



DRAFT AGREEMENT

CONTRACT AGREEMENT BETWEEN Chief Engineer Chhattisgarh State Renewable Energy Development Agency (CREDA) Raipur AND M/s..... Represented byTHIS CONTRACT AGREEMENT against Tender No. 8500/CREDA/SPV IRRIGATION PUMPS/2022-23 Dated: 27.07.2022 (also referred to as "Service Contract") is made on theday of2022.

BETWEEN

(1) Chief 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 3Hp to 5Hp.

Vide Tender No.105235/CREDA/ SPV Irrigation pumps/2022 Dated: 27.07.2022 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 Pumping Systems and Annexures therein, engineering documents, detailed specifications of BOS & drawings, so far they relate to the Tender No. 105235/CREDA/SPV IRRIGATION PUMPS/2022-23 Dated: 27.07.2022 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 or any losses caused to CREDA as may be required for the completion of erection of the SPV 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 5% (Five Per cent) of the cost. 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.

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 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.

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 **120 days** after Installation and Commissioning of SPV 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.105235/CREDA/SPV Irrigation pumps /2022 dated: 27.07.2022.

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 or through sublet 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 - V) 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 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 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. 23) 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 the jurisdiction of Hon'ble High Court of Chhattisgarh.

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

"Herewith everything and anything contained in Tender document no. 105235/CREDA/SPV IRRIGATION PUMPS/2022-23 dated: 27.07.2022 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 : **Sanjeev Jain**
Designation : **Chief 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-III	Model-IV	Model-V	Model-VI	Model-VII
PV array (Wp)	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	3	3	5	5	5
Shut Off Dynamic Head (meters)	12	25	12	25	45
Water output * (Liters per day)	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 7 meters.
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 D.C. Motor Pump Set with Brushes or Brushless D.C. (B.L.D.C.)

Description	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array (Wp)	3000	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	3	3	3	5	5	5
Shut Off Dynamic Head (meters)	45	70	100	70	100	150
Water output * (Liters per day)	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-III	Model-IV	Model-V	Model-VI	Model-VII
PV array (Wp)	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	3	3	5	5	5
Shut Off Dynamic Head (meters)	12	25	12	25	45
Water output * (Liters per day)	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 - IX (CONTD.)

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

Description	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array (Wp)	3000	3000	3000	4800	4800	4800
Motor Pump-set capacity (HP)	3	3	3	5	5	5
Shut Off Dynamic Head (meters)	45	70	100	70	100	150
Water output * (Liters per day)	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	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 Liter/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 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 for 3HP and PN10 for 5HP Pump set.
4	Suction and delivery pipe for surface pump	IS 15265 PVC pipes hoses for suction line for agriculture pumps.
5	Rope wire/ Garware safety Rope	Stainless steel/GI/Nylon 8mm for 3HP, 10mm for 5HP Prope 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 standard make. LA 14 ft. GI pipe with 30mm GI strip or 10 mm GI wire.
7	Earthing Kit-2	Chemical earthing with tested compound IEC 6235-3 of standard make.
8	SS theft proof Nut Bolt	SS304 anti theft Nut bolt with washer.
9	MS and SS Nut bolt and washer	MS with SS polish nut bolt and washer for main pole and other are SS nut bolt.
10	Conduit pipe/ black drip pipe	2mm thick PVC conduit pipe ISI make or black drip pipe for covering panel wiring.
11	Cable Tie	UV protected cable tie.
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 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.
- Casing pipe and cables should be as per depth of bore/requirement of site i.e. it may be more than 50 metres and 70 metres for 03 & 05 HP Pumps respectively.