



NUTRIHUB-TECHNOLOGY BUSINESS INCUBATOR (NIELAN)

(Sponsored by Department of Science and Technology, Govt)

ICAR-INDIAN INSTITUTE OF MILLETS RESEARCH

Rajendranagar, Hyderabad-500030

Phone: 040-24599331, Fax: 040-24599304

www.millet.res.in and www.nutrihub-tbi-iimr.org

Dated: 21-07-2020

Tender FileNo: TBI/109/129/Nielan/20

**TENDER DOCUMENT
FOR CONSTRUCTION OF NEW KIRBY SHED
INCLUDING ELECTRICAL WORKS**

**Under RKVY RAFTAAR, renovation of furnishing space for incubation cubicles and Industrial shed spaces,
NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research,
Rajendranagar, Hyderabad.**

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NOTICE INVITING TENDER THROUGH E-PROCUREMENT

Online Bids are invited from the interested bidders under two bid system for CONSTRUCTION OF NEW KIRBY SHED INCLUDING ELECTRICAL WORKS for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research, Rajendranagar, Hyderabad. Manual bids shall not be entertained at all.

Tender documents may be downloaded from e-Procurement website of CPPP <https://eprocure.gov.in/eprocure/appas> per the schedule as given in CRITICAL DATE SHEET as under:

CRITICAL DATE SHEET

Tender F. No.	F. No. TBI/109/129/Nielan/20
Date and Time for issuing /Publishing	21-07-2020 11.00 AM
Document Download/Sale Start Date and Time	21-07-2020 11.00 AM
Bid Submission Start Date and Time	21-07-2020 2.00 PM
Bid Submission End Date and Time	10-08-2020 2:00 PM
Date and Time for Opening of Technical Bids	11-08-2020 2:00 PM
Address for Communication	Chief Executive Officer, NUTRIHUB-TBI(NIELAN), ICAR - Indian Institute of Millets Research, (IIMR), Rajendranagar; Hyderabad-500030.


Chief Executive Officer,
(NIELAN-TBI)

Annexure -I

INSTRUCTIONS FOR ONLINE BID SUBMISSION

1. The tender form/bidding documents may be downloaded from the website: <https://eprocure.gov.in/eprocure/app.online>. Submission of Bids through Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>) is mandatory. Manual/Offline bids shall not be accepted under any circumstances.
2. Tenderers/bidders are requested to visit the website <https://eprocure.gov.in/eprocure/app> regularly. Any changes/modifications in tender enquiry will be intimated by corrigendum through this website only.
3. In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. This institute reserves the right to accept or reject any or all the tenders.
4. The interested bidders should log on to the website well in advance for bid submission so that they can upload the bid on time. Bidder will be solely responsible for any delay due to any issues/reason. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the bid document.
5. Bidder has to select the payment option as "Offline" to pay the tender fee/Bid Security (i.e, EMD) as applicable and enter details of the instrument.
6. The tender fee of Rs. 500/- (Five Hundred Rupees Only) (Non-refundable) in the form of Demand Draft should be drawn in favour of "NIELAN" account payable at Hyderabad, may be addressed to the Chief Executive Officer, NIELAN-Technology Business Incubator, Indian Institute of Millets Research, (IIMR), Rajendranagar, Hyderabad-500030, on or before bid opening date and time. Signed and scanned copy of the tender fee instrument must be uploaded in the CPP Portal along with the other documents.
7. EMD as per the tender, the bidder needs to send to the Chief Executive Officer, NIELAN-Technology Business Incubator, Indian Institute of Millets Research, (IIMR), Rajendranagar, Hyderabad-500030, on or before the bid opening date and time as mentioned in the Critical Date Sheet. Signed and scanned copy of the EMD instrument must be uploaded in the CPP Portal along with the other documents.
8. Bidder need not to come at the time of Technical bid as well as Financial bid opening at NIELAN-TBI, ICAR-IIMR. They can view live bid opening after login on e-Procurement Portal at their remote end. If bidder wants to join bid opening event at NIELAN-TBI, ICAR-IIMR, they have to come with bid acknowledgement slip that generates after successful submission of online bid.

9. The Bidder should have registered with any of state or central, PWD, MES and Railways as – contractor and proof should be enclosed.

Bidders are also required to upload copies of the following documents with duly signed and stamped.


TECHNICAL BID:

- a) Scanned copy of Tender fee and Earnest Money Deposit (EMD).
- b) Certificate of registration with any of state or central, PWD, MES, Railways or any other body as contractor.
- c) Scanned copy of Firms registration, Pan Card and GST Registration certificate signed and stamped.
- d) Scanned copy of Annexure – II and IV duly signed and stamped.
- e) Tender Acceptance Letter (Annexure-V) duly signed and stamped.
- f) Filled scanned copy of Annexure – VIII duly signed and stamped. Also enclose minimum two work orders (either completed or on hand)
- g) Scanned copy of Annexure – IX Local service availability certificate duly signed and stamped
- h) Scanned copy of Annexure-X and it should be duly signed and stamped on each and every page.
- i) Scanned copy of audited P&L accounts, balance sheets and IT returns for the last two years (2018-19 and 2019-20) (certified by the chartered Accountant or self-attested).

All the above documents must be signed and stamped. Then convert them into PDF format and then upload (asking more than one document in single line please club those documents and upload). If fails to upload, your tender will not be considered for technical evaluation and the bid will be rejected.

FINANCIAL BID:

- a) Price Bid as BoQ_XXXX.xls


Chief Executive Officer
NIELAN- TBI

Annexure -II
TERMS AND CONDITONS

1. Bidder shall, as part of their bid, submit a written Authorization Letter from Partner/Director of bidding firm, if the signatory is other than Partner/Director. Bidder shall not be under liquidation, court receivership or similar proceedings. Bidding documents shall at all times remain the exclusive property of the NIELAN-TBI.
2. Canvassing in any form by the bidder or by any other agency on their behalf may lead to disqualification of their bid. In case any bidder is found to be involved in cartel formation, his bid will not be considered for evaluation / placement of order. Such Bidder will be debarred from bidding in future.
3. Earnest money deposit: The interested bidders are required to deposit an EMD of Rs. 1,00,000/- in the form of demand draft drawn in favour of NIELAN and payable at Hyderabad and send to the CEO NIELAN,IIMR, Hyd. Signed and scanned copy of the bid security instrument must be uploaded in the CPP Portal along with the other documents.
4. Certificate of registration with any of state or central, PWD, MES, Railways or any other body as contractor.
5. Bids which meet the technical qualifications only will be considered for opening of price bids.
6. The Contractor shall not enter into sub-contract, transfer or assign the contract or any part thereof to any other person / firm / organization.
7. The tenderer shall quote rates, which will include all other incidental charges, taxes, if any should be indicated separately in the BOQ itself. The Bidder shall quote in Indian Rupees.
8. The rates should be quoted as per the BOQ uploaded on the CPP Portal (reference may be obtained from Annexure –III). Taxes, if any, should be indicated separately. It must be noted that the contract shall be awarded to the firm which fulfils all the required terms and conditions and remains L-1.
9. The firm must possess valid PAN, & GST Registration Number and a copy of the same must be uploaded on the portal while submitting the bid.
10. Copy of the P&L Account and balance sheet for last two years 2018-19 & 2019-20 (certified by the chartered Accountant or self-attested) should be uploaded to verify the turnover of the firm.
11. The firm should have at least 02 (two) years of continuous experience of similar works in the trade with the business turnover of not less than Rs.50.00 Lakh (Rupees Fifty Lakhs only) per annum during the last two years 2018-19 & 2019-20.

12. Modification/alteration in the tender document may be made, if any, 2 days prior to the "Bid-submission End Date". IIMR- NIELAN at its discretion may or may not extend the due date and time of submission of bids on account of amendments. Extension if any will be notified on CPPP. Hence, all the bidders are requested to periodically browse CPPP till the closing date of this tender for any amendments or corrigendum issued. IIMR-NIELAN is not responsible for any misinterpretation of the provisions based on changes announced through CPPP. Bids/Tenders received after the due date and time shall be rejected.

13. The successful firm shall have to complete the total construction of new kirby shed including electrical works within 120 days from the date of confirmed work order and if the complete construction is not happened in time liquidity damages shall be levied @2% per week subjected to maximum of 10% of the order value and suitable legal action will be taken against the firm and EMD/Security deposit shall be forfeited. The rates quoted shall be valid for 180 days from the date of opening of tender.

14. The contractor/bidder or his representative may contact the CEO at No. 040-24599331 for any further clarification. No variation in terms of quality of the items shall be entertained or else EMD/Security deposit shall be forfeited.

15. The President, NIELAN-TBI, Indian Institute of Millets Research, (IIMR), Rajendranagar, Hyderabad-500030, shall have all the rights to reject all or any of the offers, accept more than one offer, and assign part of the job.

16. Service Support and Warranty of the bidder should carry an onsite comprehensive warranty/guarantee for a period of at least 12 (Twelve) months. The maintenance services shall be free of cost during the warranty/ guarantee period. (No extra cost will be paid during warranty period).

If the performance of any individual equipment or System fails to meet the contract specifications, the same shall be replaced by the Supplier free of cost during the term of the warranty/guarantee period.

During the term of warranty/guarantee, the service/repair calls will have to be attended by the supplier within forty eight hours from the time of such calls. The defective card/item/equipment should be repaired on the same day at Purchaser's location. In case of major defects requiring the defective card/item/equipment to be taken to the supplier's workshop, it should be returned within a week duly repaired and an immediate substitute card/item/equipment will be provided by the supplier for the smooth operation of the System. The to and fro transportation and other incidental expenses of the card/item/equipment will be the responsibility of supplier.

17. Merely quoting of lowest rates does not mean that order shall be given to that firm. The Competent Authority will finally decide on the basis of quality and past performances.

18. The Bidder can make payment of Tender Fee and EMD in the form of Demand Draft from any Nationalized Bank drawn in favour of "NIELAN" and payable at Hyderabad. The original Demand Draft will be submitted by the Bidder either in person or by post which must be received in the office of the tender publishing authority on or before the last date

of Submission of bid. The Earnest Money will be refunded only after finalization of the procurement and no interest will be paid on Earnest Money.

19. Rates once finalized will not be enhanced during the period of the contract and NIELAN-TBI, IIMR reserves all rights in any stage of work to change or modify regarding to Kirby shed as NIELAN-TBI, IIMR requirement.

20. Successful bidder should deposit Performance Security of 7% of the value of the work order within 21 days in the form of Demand Draft/Bank Guarantee and shall remain valid for a period of 60 days beyond the date of completion of all contractual obligations including warranty obligations. The Performance Security shall be returned to the bidder after completion of all contractual obligations of supplier and also completion of warranty/guarantee service period of twelve months.

21. In case, the successful bidder shows inability at any stage, after the contract is finalized and awarded, for whatsoever reason(s), to honor the contract, the Earnest Money/Performance Security deposited would be forfeited.

22. The President, NIELAN-TBI, ICAR-IIMR reserves the right to cancel the contract at any time during the currency period of the contract without giving any reason.

23. Any disputes arising out of this order will be subject to the jurisdiction of Ranga Reddy District only and Bid Validity: 180 days from the date of opening of tender.

24. Pre-inspection of construction work: NIELAN-TBI, IIMR will appoint certified civil engineer who will inspect the constructed shed to verify and certify whether the work has been completed as per the technical specifications indicated in the work order.

25. PAYMENT: The payment will be released after completion of the work as per work order and handing over of the new kirby shed including electrical works for nielan-technology business incubator (TBI) at icar-indian institute of millets research, rajendranagar, hyderabad. One part payment may be considered against the work done after submission of bank grantee as GFR -2017.

26. If the service/supply is found inferior to the sample approved by the Purchase/Technical Committee, the consignment will be rejected. The supplier will have to take back the consignment at his own cost and replace it with fresh stock as per approved samples within 15 days.

27. In Annexure-X works details are given in Part-A, Part-B and Part-C, but bidder should understand that it is a single work. Also, bidder needs to fill as a single unit in BOQ (Financial Bid).

28. COMPLETION OF WORK: The successful bidder should complete the work and handover the shed, complete in all respects WITHIN 120 days from the date of award of work order.

(Signature of the Bidder, with Official Seal)

ANNEXURE-III

(Reference for BOQ) (To be quoted in format provided on CPP Portal)

Price bid: CONSTRUCTION OF NEW KIRBY SHED INCLUDING ELECTRICAL WORKS for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad -500030.

Sl. No	Name of the item	Quantity	Per unit price* (in figure/words) as per BOQ)
1.	CONSTRUCTION OF NEW KIRBY SHED INCLUDING ELECTRICAL WORKS for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad -500030.	1 No.	Rates must be quoted in BOQ (FB)

- Tax extra as applicable should be indicated separately in the column provided.

Note: The above mentioned Financial Proposal/Commercial Bid format is provided as BoQ_XXXX.xls along with this tender document at <https://eprocure.gov.in> [eprocure/app](#). Bidders are advised to download this BoQ_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the Financial Bid. Bidder shall not tamper/modify download price bid template in any manner. In case, if the same is found to be tempered/modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with ICAR-IIMR.

ANNEXURE-IV
Banking Details of Bidder

Name of the Firm : _____

Registered /Postal Address : _____

1	Permanent Account Number (PAN)	
2	Service Tax Registration No, if applicable	
3	BANK DETAILS	
	(a) Bank Name	
	(b) Branch Address	
	(c) Account No.	
	(d) Type of Account (Current/Savings)	
	(e) MICR No.	
	(f) IFSC Code	

Date

Name of the Authorized
Signatory

Place:

Stamp & Signature

ANNEXURE-V
TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To:
The Chief Executive Officer
NIELAN-Technology Business Incubator,
ICAR-Indian Institute of Millets Research,
HYDERABAD 5000 30, Telangana

Sub: Acceptance of terms and conditions of tender.
Tender Reference No.:

Name of tender/work: _____

Dear Sir,

1. I/we have downloaded / obtained the tender documents(s) for the above mentioned „Tender/work“ from the web site(s) namely:

As per your advertisement, given in the above-mentioned website (s).

2. I/we hereby certify that I/we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedules(s), etc.,) which form part of the contract agreement and I/we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department / organization too has also been taken into consideration, while submitting this acceptance letter.

4. I/we hereby unconditionally accept the tender conditions of above mentioned tender document(s)/corrigendum(s) in its totality / entirety.

5 I/we do hereby declare that our Firm has not been blacklisted / debarred by any Govt. Department/Public Sector Undertaking/ Central Autonomous Bodies.

6. I/we certify that all information furnished by the our Firm is true and correct and in the event of the information is found to be incorrect/untrue or found violated, your department/organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours faithfully,
(Signature of the Bidder, with Official Seal)

Annexure-VI

INSTRUCTIONS FOR ONLINE BID SUBMISSION:

The bidders are requested to submit soft copies of their bids electronically on the CPP Portal, using valid user ID and Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION:

- Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online Bidder Enrolment” on the CPP Portal which is free of charge.
- As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority Recognized by CCA India (e.g. Sify / nCode / eMudhraetc.), with their profile.
- Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC“s to others which may lead to misuse.
- Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC /e-Token.

SEARCHING FOR TENDER DOCUMENTS:

- There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, other keywords etc, to search for a tender published on the CPP Portal.

- Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective

“My Tenders” folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

- The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviation from these may lead to rejection of the bid.
- Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF / JPG formats. Documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN Card Copy, TIN, Annual Turnover details, Auditor Certificates etc.) has been provided to the bidders. Bidders can use “My Space” or Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS:

- Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission date & time. Bidder will be responsible for any delay due to any issues/ reason.
- The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- Bidder has to select the payment option as “Online” to pay the tender fee / EMD as applicable and enter details of the instrument.

- Bidder should prepare the EMD as per the instructions specified in the tender document. The Original should be posted / couriered / given in person to the concerned official, latest by the last date and time of bid submission or as specified in the tender documents. The details of the DD / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

- Bidders are requested to note that they should necessary submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard

BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changes. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

- The server time (which is displayed on the bidder's dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

- All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers / bid openers public keys.

- The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

- Upon the successful and timely submission of bids (i.e., after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

- The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS:

- Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

ANNEXURE-VII

TENDER FEE AND E.M.DDETAILS OF CONSTRUCTION OF NEW KIRBY SHED INCLUDING ELECTRICAL WORKS

S.No.	Work Name	Quantity	Tender Fee	EMD in INR	File No. for reference
1.	CONSTRUCTION OF NEW KIRBY SHED INCLUDING ELECTRICAL WORKS for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad - 500030.	1 No.	Rs.500/-	Rs.100,000/-	TBI/109/129/Nielan/20

ANNEXURE - IX

LOCAL SERVICE AVAILABILITY CERTIFICATE

It is certified that we have a local service center to give all types of services including spare parts relating to the Kirby shed as well as electrical works during warranty period and also after warranty period as per your requirement.

our local Address:

Signature of the Bidder with Official Seal

Annexure – X

PART A: Detailed Description Relating to CONSTRUCTION OF NEW KIRBY SHED for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad - 500030.

DESCRIPTION OF WORK								
SN	BOQ CODE	DESCRIPTION OF THE WORK	UNIT	No's	L	B	D	Qty
		Civil Works			M	M	M	
A	EXE - 00	EARTH WORK EXCAVATION						
	EXE-01	Earthwork excavation in all types of soil for Footing, Raft, RC wall foundations, Lift pits, Trenches, etc. stacking the excavated earth & disposable material where ever indicated in site, excluding back filling but including filling depressions and loose pockets wherever necessary including watering, consolidating etc., complete. Rate to include disposing of excess earth within the site and spreading in layers to required levels, shoring, bailing out water, etc. complete. Contractor shall get acquainted with site conditions and soil report and submit method statement for dewatering and getting the surface reasonably dry for laying PCC. Note: Authorised working space shall be considered as per IS 1200						
	a.	Lift upto 1.5M depth	Cum	12	2.5	2.5	1.5	112.50
	EXE-02	Back filling in plinths, for sides of foundation, trenches, lift pits, area development else where as directed including breaking clods, watering and consolidating in 150mm thick layers, compacting each layer with vibratory compactor and at inaccessible places with wooden/steel rammers to achieve 90 to 95% proctor density at optimum moisture content, all leads and lifts, bailing/ pumping out water to keep site dry while backfilling cost shall include conveyance of all materials, labour, hire and fuel charges for tools and plants and other incidental charges etc. complete as per detailed specification.						
	a.	With excavated earth available at site	Cum					112.50
	b.	With approved earth brought from outside.	Cum	1	12	25	0.6	180.00
		SUB TOTAL- EARTH WORK EXCAVATION						
B	PCC-00	PLAIN CEMENT CONCRETE						
	PCC-01	Providing and Laying in Position Cement Concrete of Specified grade excluding the cost of centering and shuttering _ All works up to Plinth level: footing and pedestals						
	a.	In Foundation	Cum	12	2.2	2.2	0.15	8.71

	b.	below Plinth beam	Cum	2	25	0.6	0.15	4.50
				6	11	0.6	0.15	5.94
	C	In below floor	Cum	1	11	22.5	0.15	37.13
								56.277
		SUB TOTAL-PLAIN CEMENT CONCRETE						
C	RCC-00	REINFORCED CEMENT CONCRETE						
	RCC-01	SITE MIX CONCRETE						
		Providing and laying cast in-situ design mix Reinforced Cement Concrete (RCC) using cement, coarse sand, granite, basalt or trap stone graded aggregate 20mm & down as per design & drawing including dewatering, preparing surface, machine batching, machine mixing, pouring in place, mechanical compaction, providing cement cover blocks, making construction joints, finishing, curing etc. complete as directed by the Engineer . The rate to include all labour, material, equipment, plant & machinery, conveyance, lowering, hoisting, wastages and all incidentals Including and excluding reinforcement work which shall be measured & paid for separately.						
	a.	Footing/Raft (M20)	Cum	12	1.8	1.8	0.55	21.38
	b.	Columns (M20)	Cum	12	0.6	0.6	1	4.32
	c.	Plinth Beam (M20)	Cum	1	111	0.23	0.6	15.32
	d	Linetels and chajjas (M15)	Cum	10	2.5	0.75	0.15	2.81
			Cum	3	70	0.23	0.23	11.11
								13.92
	FRM-00	FORM WORK						
	FRM-01	Providing, fabricating and erecting form work for all PCC & RCC works at places wherever needed / specified as per drawing including striking / deshuttering with steel ms centering sheet with adjustable steel props to full height and with sufficient bracing etc. complete. Cost to include sealing the joints with heavy duty brown self adhesive tape, applying mould releasing agents (Rebol from Fosroc or equivalent) aligning to line and levels including M S Ties, PVC spacer etc.Complete & as directed at all levels.						

		Formwork shall be designed for rigidity, durability, strength, water tightness, easy deshuttering etc. Formwork designed with proposed material (approved prior to making), shall be able to withstand its shape, line, dimensions, level within the allowable tolerances. Only steel jacks and steel spans shall be used. Bracing in both directions as specified by the structural engineer shall be provided. Necessary arrangements for providing camber as required shall be made. Formwork shall have adequate openings for cleaning. Formwork for construction joints shall be submitted for approval. All slabs shall be progressively deshuttered and back propped as per instructions by structural engineer.						
		Shuttering below the shrinkage strip at every level shall be retained in place without disturbing for a time as specified by the structural engineer.						
	a.	Footing/Raft	Sqm	12.00	8.00		0.60	57.60
	b.	Columns upto Plinth beam	Sqm	12.00	1.80		1.50	32.40
	c.	Plinth beam	Sqm	2.00	111.00		0.60	133.20
	d.	Lintels and Chajjas	Sqm	12.00	2.5		0.60	18.00
D	RST-00	REINF. STEEL						
	RST-01	Providing ,Fabricating & Placing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe 500 conforming to IS codes & make ISPAT or SAIL or VIZAG or TATA including straightening, cutting, bending, hooking, lapping and/or welding wherever required as directed, placing in position, tieing with 18G black annealed binding wire double fold, cost of binding wire and anchoring to the adjoining members wherever necessary, all laps and wastages etc. complete as per structural drawings. Rate also to include cost of all materials, cost of labour, cost of equipment and machinery, loading and unloading, transportation, all other incidental charges and work at all leads and lifts etc. complete.	Mt					6.00

		Note: Unless noted otherwise the measurements will be in accordance with IS: 1200 or equivalent BS. However reinforcement shall be measured only in lengths of bars as actually placed in position on standard weight basis, no allowance being made in the weight for rolling margin. Authorised laps and splices only will be measured. Chairs of any shape & profile, spacer bar of any shape & profile, concrete cover blocks, wastages, binding wire etc., will not be measured and shall be included in the quoted rates. Quoted rate shall be deemed to have considered the above stipulation.						
E	MSR-00	MASONRY						
	MSR-03	Providing and constructing 230mm thick Solid Brick work in straight or curved walls, piers and architectural features at all levels using approved solid red Bricks (Class A or First class red Bricks as per indian standard) in cement mortar 1:4 (1 cement, 4 sand) including curing, scaffolding, staging, packing the residual space between masonry & other structural members like columns, beams, slabs etc., providing openings as directed and finishing neatly around the same, the cost of all materials, cost of labour, cost of equipment and machinery, work at all leads and lifts, loading and unloading, transportation, and all other incidental charges etc., complete. The work shall be carried out as per the directions of the Engineer in charge						
	a.	Ground Floor	Sqm	2	11		3	66.00
				2	25		3	150.00
		SUB TOTAL-MASONRY						216.00
F	PLS-00	PLASTERING / POINTING Internal						
		Internal Plastering						
	PLS-01	Cement plastering on internal wall 20 mm thickness in C.M. (1:5) finished smooth including providing and removing scaffolding, curing, hacking etc., complete. With all lead & lift as directed by engineer incharge. (Including all materials)						
	a.	Ground Floor	Sqm	2	11		3	66.00
				2	25		3	150.00
		External Plastering						216.00

	PLS-04	Providing 20 mm THICK CEMENT PLASTER IN TWO COATS under layer 12 mm thick cement plaster 1:4 (1 cement: 4 coarse sand) top layer 8 mm thick cement plaster 1:6 (1 cement: 6 fine sand) and finished as specified, including providing necessary plaster grooves at junctions wherever required and for all exterior heights etc. for top layer finish & finished rough with sponge for sand face plaster. The quoted rate shall include addition of approved water-proof compound (dosage as per manufacturer), GI Dimond/plaster mesh for joints, as directed by the Engineer-in-charge at all levels						
			Sqm	2	11		3.6	79.20
				2	25		3.6	180.00
								259.20
G	VDF - 00	VDF Flooring						
	VDF - 01	Providing , Laying RCC for flooring on prepared sub grade with reinforcement as directed The rates quoted shall be inclusive of lateral formwork. The floor shall be cast in alternate strips and the concrete shall be vibrated and finished smooth by power trowelling and finished as specified and as directed. Required level or slope shall be maintained on the top surface. Care shall be taken to prevent local depressions. Only steel sections such as channels, angles will be allowed to be used as form work. The top level of form work shall be flush with required finished floor level. Under any circumstances form work shall not be allowed to project above FFL. Concrete of M 25 grade with Minimum Qty. of cement. 360 kgs/Cum Finishing the top concrete surface of flooring laid under above item by providing vacuum dewatering system "Trimix" including finishing the top using power trowels to a smooth and fair surface. (Thickness of flooring 150mm)						
			Sqm	1	12.5	25		312.50
F								
	JNR-01	DOORS						
		Providing & fixing door with Machine Finished hard wood or sal wood (Aproved by In charge)frame of 5"X 3 1/2" projecting out by 1/4" from Plastered wall surfaces shall fixed to the wall/column with 6 nos of heavy duty MS clamp grouted by M20 concrete after Antitermite proof coat on frame with 32mm thick solid door shutter with necesarty design or groves as aproved by in charge (Inlcuding all materials)						
	a.	All Main Doors (2.4m w x 2.4 h)	Sqm	1	2.4		2.4	5.76

	JNR-02	Providing and Fixing two track sliding/Fixed/openable aluminium windows with 5mm thick clear glass shutters including SS hardware and frame & shutter sections as per manufacture specification etc., complete							
		All windows (2.2 X 1.2)	Sqm	4	2.2		1.2	10.56	
G	SST-01	Providing, fabricating and fixing in position Door/Window Grills at all levels with Semi-decorative MS grill work made out of MS square bars and MS flats as per design weighing approx. 15 kg/sqm with necessary screw lugs inserts, spot welding and buffing etc. including zinc chromite primer(Yellow) plus 2 or more coat of synthetic enamel paint as detailed in drawing and as directed.	Sqm	4	2.2		1.2	10.56	
H	PNT-01	Providing & painting two or more coats of Acrylic Emulsion paint of approved colour & shade to internal surfaces over one coat of primer including necessary centering, scaffolding, cleaning of paint stains where ever necessary including curing etc, complete with all lead & lift as directed by the engineer incharge. at all levels	Sqm	4	11		3	132.00	
				2	25		3	150.00	
								282.00	
	PNT-02	Providing & painting 2 or more coats of Exterior Acrylic Emulsion Paint(Dulux Weather shield)of approved colour & shade to external surfaces over one coat of primer including necessary centering, scaffolding, cleaning of paint stains where ever necessary including curing etc, complete with all lead and lift as directed by the engineer in charge at all levels	Sqm	2	11		3.6	79.20	
				2	25		3.6	180.00	
								259.20	
I	SRH-01	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. (13'0" X 15'0")	Sqm	1	4		4.57	4.57	
			Sqm	1	4		3	3.00	
								7.57	

PART A: BOQ Relating to CONSTRUCTION OF NEW KIRBY SHED for NIELAN-TECHNOLOGY BUSINESS INCUBATOR (TBI) at ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad -500030.

BILL OF QUANTITY (PART - A)

SN	BOQ CODE	DESCRIPTION OF THE WORK	UNIT	Qty
		Civil Works		
A	EXE - 00	EARTH WORK EXCAVATION		
	EXE-01	Earthwork excavation in all types of soil for Footing, Raft, RC wall foundations, Lift pits, Trenches, etc. stacking the excavated earth & disposable material where ever indicated in site, excluding back filling but including filling depressions and loose pockets wherever necessary including watering, consolidating etc., complete. Rate to include disposing of excess earth within the site and spreading in layers to required levels, shoring, bailing out water, etc. complete. Contractor shall get acquainted with site conditions and soil report and submit method statement for dewatering and getting the surface reasonably dry for laying PCC. Note:Authorised working space shall be considered as per IS 1200		
	a.	Lift upto 1.5M depth	Cum	112.5
	b.	Lift from 1.5M depth to 3.0M	Cum	
	EXE-02	Back filling in plinths, for sides of foundation, trenches, liftpits, area development else where as directed including breaking clods, watering and consolidating in 150mm thick layers, compacting each layer with vibratory compactor and at inaccessible places with wooden/steel rammers to achieve 90 to 95% proctor density at optimum moisture content, all leads and lifts, bailing/ pumping out water to keep site dry while backfilling cost shall include conveyance of all materials, labour, ,hire and fuel charges for tools and plants and other incidental charges etc.complete as per detailed specification.		
	a.	With excavated earth available at site	Cum	112.5
	b.	With approved earth brought from outside.	Cum	180
		SUB TOTAL- EARTH WORK EXCAVATION		
B	PCC-00	PLAIN CEMENT CONCRETE		
	PCC-01	Providing and Laying in Position Cement Concrete of Specified grade excluding the cost of centering and shuttering _ All works up to Plinth level: footing and pedastals		
	a.	In Foundation	Cum	8.71
	b.	below Plinth beam	Cum	10.44

25

	C	In below floor	Cum	37.13
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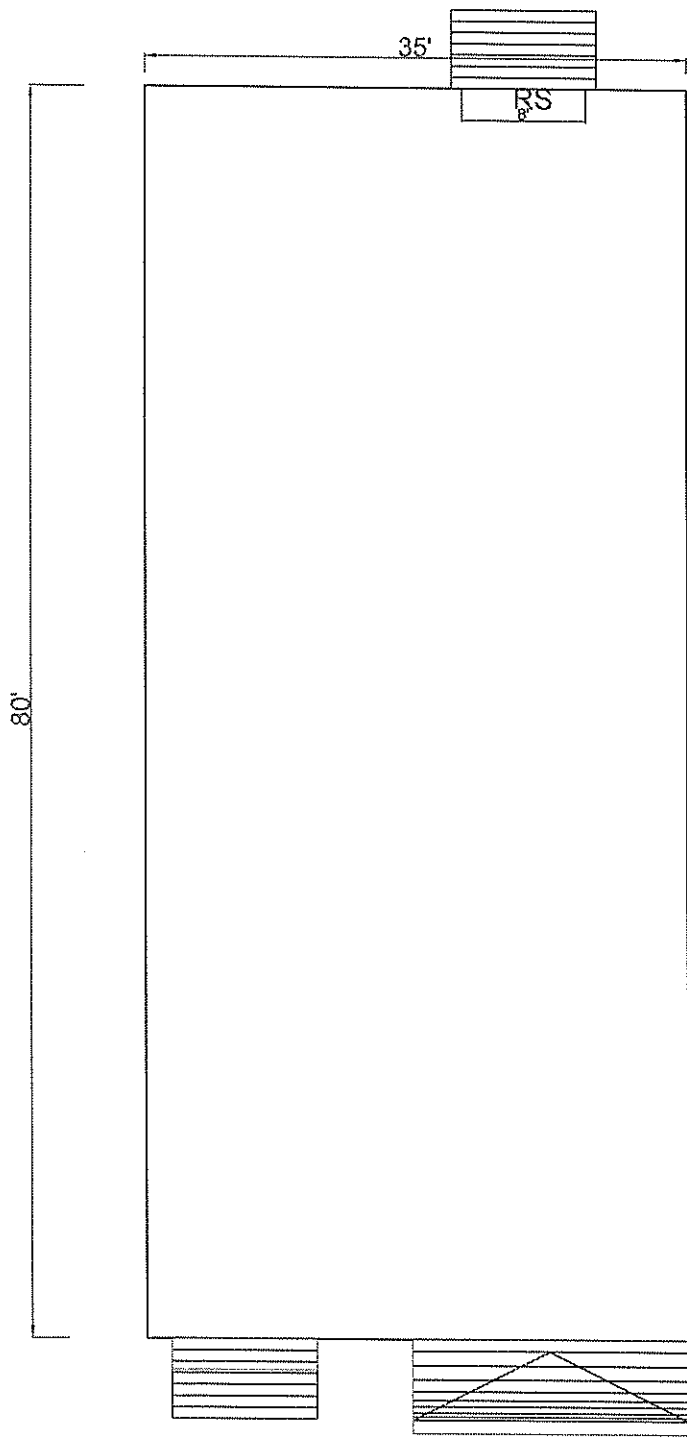
		SUB TOTAL-PLAIN CEMENT CONCRETE		
C	RCC-00	REINFORCED CEMENT CONCRETE		
	RCC-01	SITE MIX CONCRETE		
		Providing and laying cast in-situ design mix Reinforced Cement Concrete (RCC) using cement, coarse sand, granite, basalt or trap stone graded aggregate 20mm & down as per design & drawing including dewatering, preparing surface, machine batching, machine mixing, pouring in place, mechanical compaction, providing cement cover blocks, making construction joints, finishing, curing etc. complete as directed by the Engineer . The rate to include all labour, material, equipment, plant & machinery, conveyance, lowering, hoisting, wastages and all incidentals Including and excluding reinforcement work which shall be measured & paid for separately.		
	a.	Footing/Raft (M20)	Cum	21.38
	b.	Columns (M20)	Cum	4.32
	c.	Plinth Beam (M20)	Cum	15.32
	5	Linetels and chajjas (M20)	Cum	13.92
	FRM-00	FORM WORK		
	FRM-01	Providing, fabricating and erecting form work for all PCC & RCC works at places wherever needed / specified as per drawing including striking / deshuttering with steel ms centering sheet cente with adjustable steel props to full height and with sufficient bracing etc. complete. Cost to include sealing the joints with heavy duty brown self adhesive tape, applying mould releasing agents (Rebol from Fosroc or equivalent) aligning to line and levels including M S Ties, PVC spacer etc.Complete & as directed at all levels.		
		Formwork shall be designed for rigidity, durability, strength, water tightness, easy deshuttering etc. Formwork designed with proposed material (approved prior to making), shall be able to withstand its shape, line, dimensions, level within the allowable tolerances. Only steel jacks and steel spans shall be used. Bracing in both directions as specified by the structural engineer shall be provided. Necessary arrangements for providing camber as required shall be made. Formwork shall have adequate openings for cleaning. Formwork for construction joints shall be submitted for approval. All slabs shall be progressively deshuttered and back propped as per instructions by structural engineer.		

		Shuttering below the shrinkage strip at every level shall be retained in place without disturbing for a time as specified by the structural engineer.		
	a.	Footing/Raft	Sqm	57.60
	b.	Columns upto Plinth beam	Sqm	32.40
	c.	Plinth beam	Sqm	133.20
	d.	Lintels and Chajjas	Sqm	18.00
D	RST-00	REINF. STEEL		
	RST-01	Providing ,Fabricating & Placing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe 500 conforming to IS codes & make ISPAT or SAIL or VIZAG or TATA including straightening, cutting, bending, hooking, lapping and/or welding wherever required as directed, placing in position, tying with 18G black annealed binding wire double fold, cost of binding wire and anchoring to the adjoining members wherever necessary, all laps and wastages etc. complete as per structural drawings. Rate also to include cost of all materials, cost of labour, cost of equipment and machinery, loading and unloading, transportation, all other incidental charges and work at all leads and lifts etc. complete.		
			Mt	6.00
		Note: Unless noted otherwise the measurements will be in accordance with IS: 1200 or equivalent BS. However reinforcement shall be measured only in lengths of bars as actually placed in position on standard weight basis, no allowance being made in the weight for rolling margin. Authorised laps and splices only will be measured. Chairs of any shape & profile, spacer bar of any shape & profile, concrete cover blocks, wastages, binding wire etc., will not be measured and shall be included in the quoted rates. Quoted rate shall be deemed to have considered the above stipulation.		
E	MSR-00	MASONRY		

	MSR-03	Providing and constructing 230mm thick Solid Brick work in straight or curved walls, piers and architectural features at all levels using approved solid red Bricks (Class A or First class red Bricks as per Indian standard) in cement mortar 1:4 (1 cement, 4 sand) including curing, scaffolding, staging, packing the residual space between masonry & other structural members like columns, beams, slabs etc., providing openings as directed and finishing neatly around the same, the cost of all materials, cost of labour, cost of equipment and machinery, work at all leads and lifts, loading and unloading, transportation, and all other incidental charges etc., complete. The work shall be carried out as per the directions of the Engineer in charge		
	a.	Ground Floor	Sqm	216.00
		SUB TOTAL-MASONRY		
F	PLS-00	PLASTERING / POINTING Internal		
		Internal Plastering		
	PLS-01	Cement plastering on internal wall 20 mm thickness in C.M. (1:5) finished smooth including providing and removing scaffolding, curing, hacking etc., complete. With all lead & lift as directed by engineer incharge. (Including all materials)		
	a.	Ground Floor	Sqm	216.00
		External Plastering		
	PLS-04	Providing 20 mm THICK CEMENT PLASTER IN TWO COATS under layer 12 mm thick cement plaster 1:4 (1 cement: 4 coarse sand) top layer 8 mm thick cement plaster 1:6 (1 cement: 6 fine sand)and finished as specified, including providing necessary plaster grooves at junctions wherever required and for all exterior heights etc. for top layer finish & finished rough with sponge for sand face plaster. The quoted rate shall include addition of approved water-proof compound (dosage as per manufacturer),Gl Dimond/plaster mesh for joints, as directed by the Engineer-in-charge at all levels		
			Sqm	259.20
G	VDF - 00	VDF Floring		

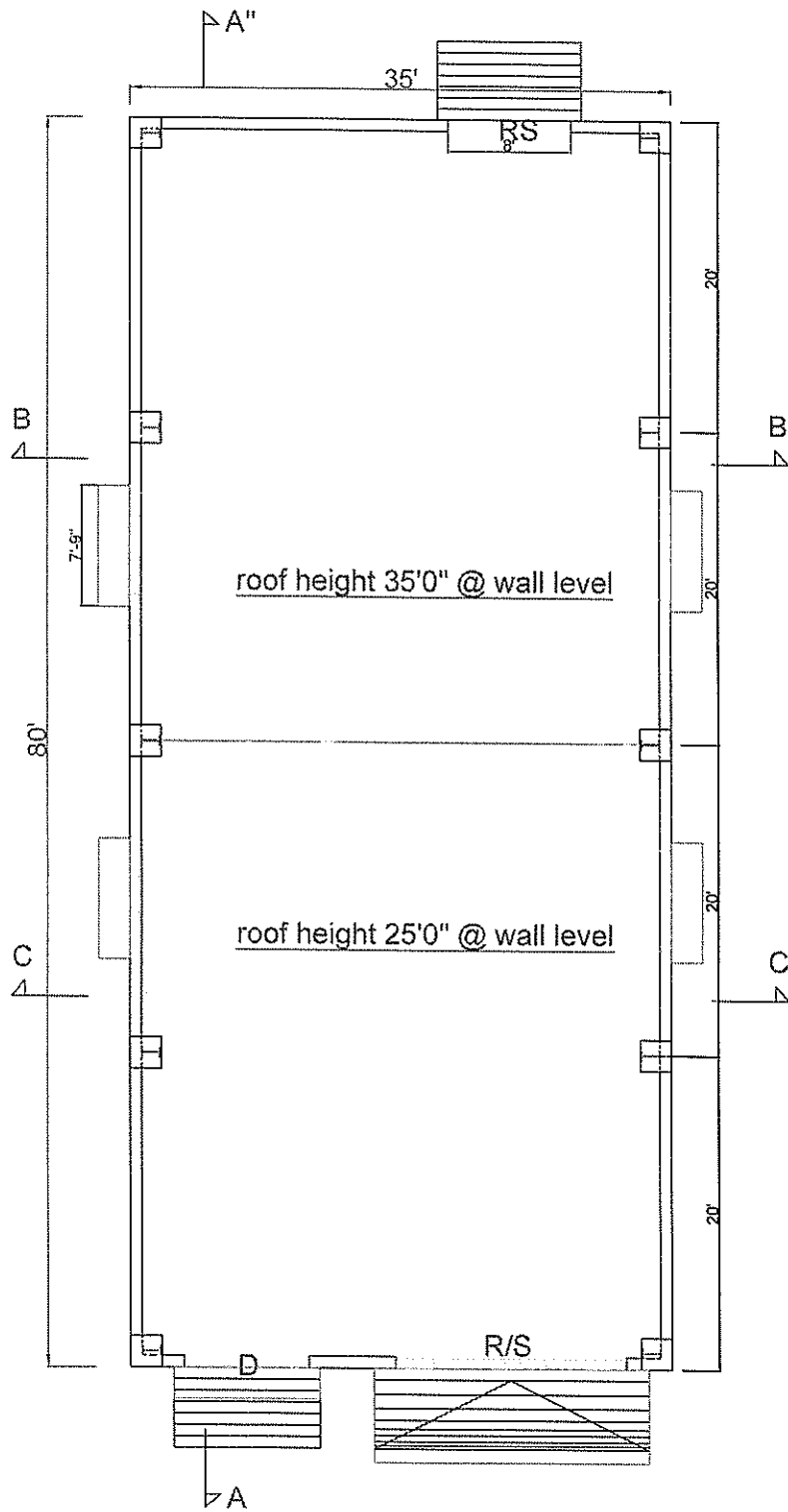
	VDF - 01	Providing , Laying RCC for flooring on prepared sub grade with reinforcement as directed The rates quoted shall be inclusive of lateral formwork. The floor shall be cast in alternate strips and the concrete shall be vibrated and finished smooth by power trowelling and finished as specified and as directed. Required level or slope shall be maintained on the top surface. Care shall be taken to prevent local depressions. Only steel sections such as channels, angles will be allowed to be used as form work. The top level of form work shall be flush with required finished floor level. Under any circumstances form work shall not be allowed to project above FFL. Concrete of M 25 grade with Minimum Qty. of cement. 360 kgs/Cum Finishing the top concrete surface of flooring laid under above item by providing vacuum dewatering system "Trimix" including finishing the top using power trowels to a smooth and fair surface. (Thickness of flooring 150mm)		
			Sqm	312.50
F				
	JNR-01	DOORS		
		Providing & fixing door with Machine Finished hard wood or sal wood (Aproved by In charge)frame of 5"X 3 1/2" projecting out by 1/4" from Plastered wall surfaces shall fixed to the wall/column with 6 nos of heavy duty MS clamp grouted by M20 concrete after Antitermite proof coat on frame with 32mm thick solid door shutter with necesarty design or groves as aproved by in charge (Inlcuding all materials)		
	a.	All Main Doors (2.4m w x 2.4 h)	Sqm	5.76
	JNR-02	Providing and Fixing two track sliding/Fixed/openable aluminium windows with 5mm thick clear glass shutters including SS hardware and frame & shutter sections as per manufacture specification etc., complete		
		All windows (2.2 X 1.2)	Sqm	10.56
G	SST-01	Providing, fabricating and fixing in position Door/Window Grills at all levels with Semi-decorative MS grill work made out of MS square bars and MS flats as per design weighing approx. 15 kg/sqm with necessary screw lugs inserts, spot welding and buffing etc. inlcuding zinc chromite primer(Yellow) plus 2 or more coat of synthetic enamel paint as detailed in drawing and as directed.		
			Sqm	10.56

H	PNT-01	Providing & painting two or more coats of Acrylic Emulsion paint of approved colour & shade to internal surfaces over one coat of primer including necessary centering, scaffolding, cleaning of paint stains where ever necessary including curing etc, complete with all lead & lift as directed by the engineer incharge. at all levels	Sqm	282.00
	PNT-02	Providing & painting 2 or more coats of Exterior Acrylic Emulsion Paint (Dulux Weather shield)of approved colour & shade to external surfaces over one coat of primer including necessary centering, scaffolding, cleaning of paint stains where ever necessary including curing etc, complete with all lead and lift as directed by the engineer in charge at all levels	Sqm	259.20
I	SRH-01	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. (13'0" X 15'0")	Sft	

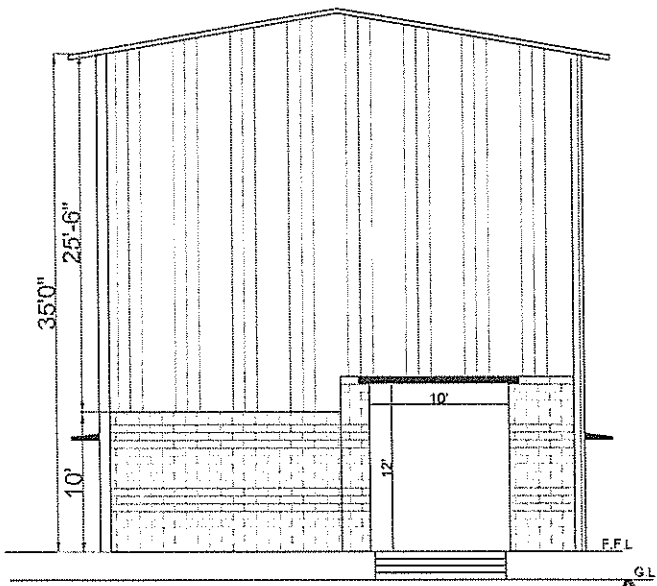


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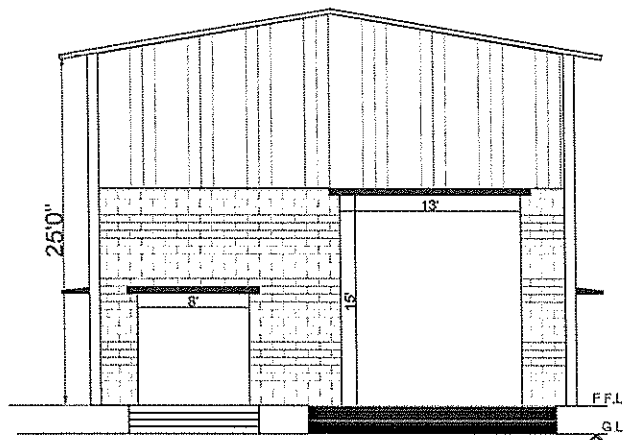
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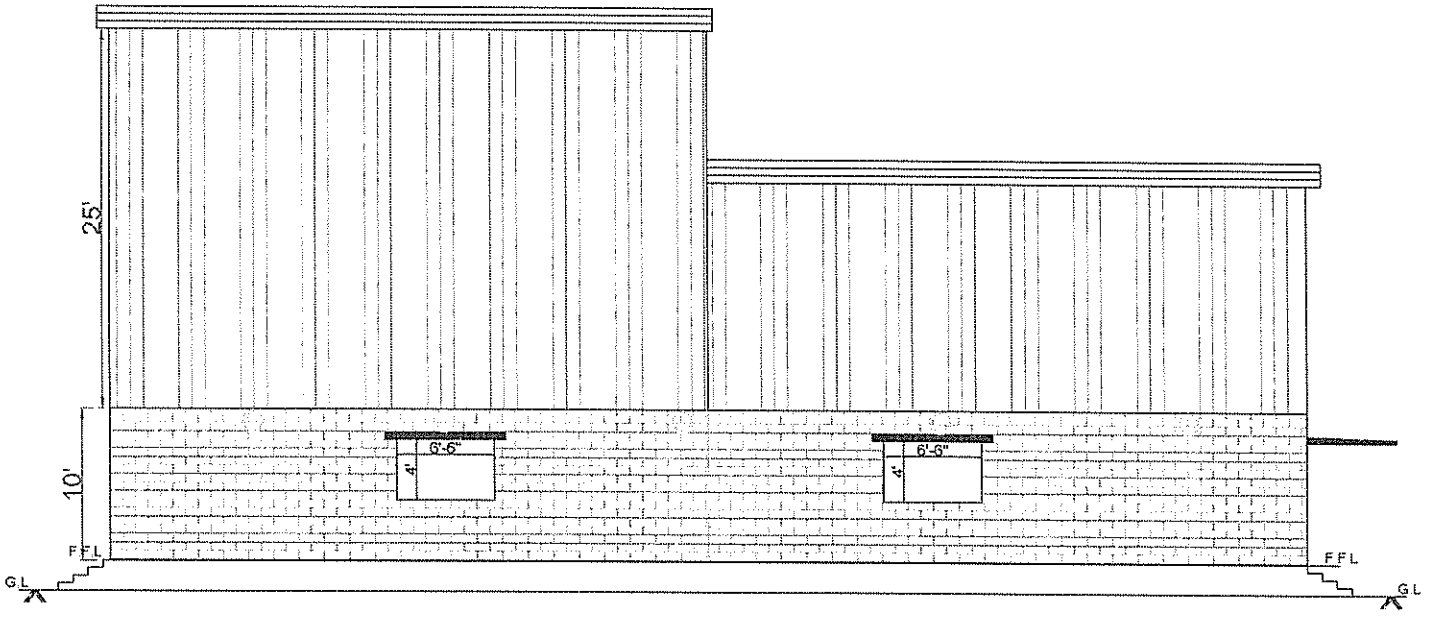
Floor Plan



REAR VIEW



FRONT VIEW



PART B: SCOPE OF WORK: Design, Supply of Steel Structural & Erection for New Industrial Kirby Shed at Nutrihub-TBI, IIMR, Hyderabad.

1. Building Description: KIRBY Shed For IIMR

Building No: B - 1	Usage: Main Building Quantity of identical buildings : 1 Job Site: Rajendra Nagar, Hyderabad. Roof Area: 260 sqm (2801 sft) & Canopy Area: 20 sqm (210 sft)
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Building-1

1	Frame type	Main frame with clear span
2	Width (m)	10.67 m (35') Out to out of steel
3	Length (m)	24.384 m (80') Out to out of steel
4	Height (m)	10.67m [35'] clear height at High bay & 7.62m [25'] clear height at Low bay
5	Roof slope	1:10
6	Width Module	1 @ 10.67 m
7	Bay spacing (m)	4 @ 6.096 m
8	Front End Frame	Light End Frame
9	Back End Frame	Light End Frame
10	Wind bracing	X- bracing for Roof & Side Walls
11	Roof cladding	0.50 mm Bare Galvalume
12	Wall cladding	0.50 mm Color coated
13	Openings at front sidewall	3.0m Brick wall above sheeting
14	Openings at back sidewall	3.0m Brick wall above sheeting
15	Openings at left end wall	3.0m Brick wall above sheeting
16	Openings at right end wall	3.0m Brick wall above sheeting
17	Eave Conditions	As per drawing.
18	Mezzanine Floors	N/A

19	Skylights	4 nos.- Considered
20	Turbo Ventilator	10 nos.- Considered
21	Canopy	3.0m wide – 1 no.
22	Rolling shutter	Added in Civil BOQ
23	Framed Openings	4.0m x 5.0m -1no.
24	Crane	N/A
25	Louvers	N/A
26	Wire mesh	N/A
27	Cage ladder	N/A

Notes:

- 1) Base Plates Starts from FFL.
- 2) Downspouts were considered up to F.F.L.
- 3) X- Bracing is considered for roof and side walls.

2. Steel Work Finish:

Sr. no	Item	FINISH
1	Frames, built-Up / HR Sections	2 Coats of Enamel paint with Red Oxide Primer
2	Purlins / Girt	Purlins
3	Anchor Bolts	Black (unpainted)

3. Design Loads:

S.no	DESCRIPTION	
1	Dead load on Roof	0.10 KN/M ²
2	Live load on Roof	0.57 KN/M ²
3	Wind speed	158.4 KM/H. (44 m/sec)
4	Collateral Load On Roof	0.03 KN/M ² for light fixtures
5	Seismic Zone	III As per IS 1893
6	Dead load on Mezzanine	N/A
7	Live load on Mezzanine	N/A
8	crane	N/A

4. CONSTRUCTION: Construction of Rafters, Columns, Purlins, Girts with Clips, Flange Brace, Strut tubes, Roof and wall bracings etc. and alignment of structure's, erection and alignment of crane system, fixing of column bracings above crane level, skylights, canopy roof sheeting and fixing of eave gutter, downspouts, fixing of all sheeting and PFSB accessories, installation of ridge vents, all framed openings as per approved construction drawings duly approved by Nutrihub IIMR Hyderabad.

5. APPLICABLE DESIGN CODES: The building is designed in accordance with the following codes:

a. Loads on the building are applied in accordance with MBMA

b. Hot rolled sections and built up sections are designed in accordance with:
AISC

c. Cold-formed members are designed in accordance with AISI

d. Welding is applied in accordance with:

The Edition (2006) of Structural Welding Code-Steel (AWS D1.1M: 2006)
By American Welding Society (AWS)

e. Wind Speed is calculated in accordance with:

IS 875 (Part 3): 1987 Code of practice for Design Loads

f. Seismic Load is calculated in accordance with:

IS 1893 (Part 1): 2002 CRITERIA FOR EARTHQUAKE RESISTANT DESIGN OF
STRUCTURES

6. Submission of Approval Drawings: Contractor should issue Approval Drawings within 1 week from the date of signing contract/issue of purchase Order.

7. STANDARD MATERIAL SPECIFICATIONS: A standard Prefabricated Building is made of primary members (M.S base plate with necessary nut bolts), secondary members, connections, roof sheeting, wall sheeting, sheeting fasteners, sealer, and ridge cover.

8. PRIMARY MEMBERS:

Primary structural framing shall include the transverse rigid frames (M.S base plate with necessary nut bolts), lean-to-rafters and columns, canopy rafters, interior columns (beam and column frames), bearing frame rafters and corner columns and end wall wind columns.

9. PAINT ON STRUCTURAL MEMBERS: All structural members surface shall be 80 to 100 microns of paint applied with Epoxy Paint and of one coat red oxide primer.

10. CONNECTIONS:

- All field connections shall be bolted (Unless otherwise noted).
- Primary bolted connections shall be furnished with high strength bolts conforming to the physical specifications of ASTM A325 (or equivalent).
- Secondary bolted connections shall be furnished with machine bolts conform to the physical specifications of ASTM A307 (or equivalent).

11. ROOF SHEETING & WALL SHEETING:

Roof and wall claddings shall conform to the physical specifications of ASTM A446 Grade D (or equivalent) and AS 1397, G550, AZ150 (550 MPA minimum yield stress, 150gm/m² mi. coating mass) Preprinted steel conforming to AS 2728 class 3 – 4 which shall be Approx. 0.42 mm BMT profiled Galvalume sheeting. Each panel shall provide 1000 mm coverage width and can be shipped in any length up to 10M.

12. SHEETING FASTENERS:

Standard fasteners shall be No. 14, Type a self-tapping sheet metal screws with metal and neoprene washers. All screws shall have hexagonal heads, be colour coated to match roof and wall sheeting and made of zinc plated steel.

13. SEALER / ROPE SEAL:

This is to be applied at all side laps and end laps of roof panels and around self-flashing windows. Sealer shall be 6mm wide x 5mm thick, asbestos fibre filled pressure sensitive Butyl tape. The sealer shall be non-asphalt, non shrinking, non drying and non toxic and shall have superior adhesion to metals, plastics and painted surfaces at temperatures from - 51 deg.`C' to + 104 deg.`C'.

14. FLASHING AND TRIM:

Flashing and/or trim shall be furnished at the rake, corners, eaves framed openings and wherever necessary to provide weather tightness and finished appearance. Color shall be white for rake and eave flashings and color of wall for corner flashings unless otherwise specified by client from one of Global standard range of colors. Material shall be 26 GA thick conforming to the physical specifications of ASTM A446 Grade C or equivalent and having minimum yield strength of 40,000 P.S.I. (275 MPa).

15. EAVE GUTTERS AND DOWNSPOUTS:

- Eave/valley gutters shall be box shaped, color coated, and 0.5 mm nominal thickness (26GA) galvanized steel. The outside face of the gutter shall be supported with color coated 0.5 mm nominal thickness (26GA) galvanized straps to the eave member at a maximum spacing of 1.2 m.
- Downspouts shall be rectangular shaped, color coated 0.5 mm nominal thickness (26GA) galvanized steel. Downspouts shall have a 45-degree elbow at the bottom and shall be supported by attachment to the wall covering at 3.0 m maximum spacing.

16. ANCHOR BOLTS & TEMPLATES:

These are normally supplied prior to the delivery of Pre-Fabricated Building, as per site requirement.

17. CHANGES IN SPECIFICATION: Clint (Nutrihub-IIMR) reserve the all the rights if any modification in the design of his standard building and to Substitute material equal to that originally specified (In order to permit incorporation of changes and improvements, in the continued development of as per the Nutrihub-IIMR)

PART C: SCHEDULE OF WORK

Name of work : Providing IEL, Fans and Power wiring in the New Industrial Kirby Shed at NIELAN-TBI, IIMR Campus, Rajendranagar, Hyderabad.

S.No	Description of item	Quantity	Units
SubHead-I (Wiring)			
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.		
1.1	Group-C	55	Pts.
2	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.		
2.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	150	Meter
2.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	300	Meter
2.3	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	50	Meter
2.7	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	350	Meter
3	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.		
3.1	2 Pair	100	Mtrs.
4	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	15	Nos
5	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.		
5.1	25 mm	50	Mtrs.
5.2	32 mm	50	Mtrs.
6	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.		
6.1	Telephone socket outlet	2	Nos
6.2	LAN RJ-45 socket out let	2	Nos
7	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	10	Nos
8	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.		
8.1	1 run of cable	100	Mtrs.
9	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	18	Nos.
SubHead- II (MCB DB, Panel Board)			
10	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
10.1	8 way , Double door	1	Nos.

11	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)		
11.1	12 way (4 + 36), Double door	3	Nos.
12	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)		
12.1	4 way (4 + 12), Double door	2	Nos.
13	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
13.1	Single pole	30	Nos.
13.2	Single pole and neutral	1	Nos.
13.3	Triple pole and neutral	2	Nos.
13.4	63Amps. Triple pole	24	Nos.
13.5	32Amps. Four pole	12	Nos.
14	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required		
14.1	200 A,36KA,FPMCCB	3	Nos.
15	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	18	Nos.
16	Supply, installation, testing and commissioning of electric Air circulators of 450 mm sweep with double ball bearing complete with capacitor, canopies, blades made of aluminium alloy, without speed regulator, suitable for operation on 230V single phase, 50Hz, AC supply and low voltage operation including connections with 1.5 Sq.mm FRLS PVC insulated, copper conductor, single core cable etc, as required.	8	Nos.
17	Supply, installation, testing and commissioning of 400 mm sweep high speed wall mounting fan, blade made of plastic, motor with over heat protection, Corrosion resistant powder coated guards, suitable to work on 230V single phase 50Hz AC supply, on the existing wall or pillar complete including connections etc, as required.	5	Nos.
18	Supply, Installation, testing and commissioning of not less than 380 mm sweep heavy duty metallic exhaust fan, conforming to IS: 2312 -1967 alongwith complete accessories including metallic louvre shutters suitable to work on 230Volts single phase, 50 Hz, AC supply as required.	8	Nos.
19	Supply of following rating indoor surface mount LED highbay light fitting of die cast aluminium housing, tempered glass cover with integral driver unit in steel driver box, fixing bracket with adjustable angle suitable for operation on 240Volts, 50Hz as required.		

19.1	Surface mount luminaire having system lumens not less than 12000 lm and full system power rating not more than 150 watt	9	Nos.
20	Supplying, Installing, Testing and Commissioning of LED based street light luminaire(IP65) of system wattage not more than 45watt and lumens not less than 2900 lumens incopartes LED light sources,optical system,heat sink and drivers in to one compact housing providing high energy saving high translucency glare free, non -yellowing diffuser complete with LED module, driver unit duly wired etc. as required.	6	Nos.
21	Supplying and fixing of 32 mm dia X 2.00 metres long G.I. pipe (medium class) bracket for mounting of fluourescent / HPMV / HPSV street light fitting on pole including bending the pipe to the required shape, 2 nos 40 mm X 3 mm flat iron clamps with nuts, bolts and washer, painting the flat iron with primer and finish paint etc. as required.	6	Nos.
NON ESSENTIAL INDOOR MACHINE PANEL			
22	Fabrication, Suppling, installation, testing and commissioning of Indoor type free standing weather & vermin proof flush finish cubical, compartmentalized, modular, totally enclosed type extendable LT Non-Essential (as per general arrangement drawing approved by engineer-in-charge) suitable for operation on 415V, 3 Phase, 4 Wire, 50 Hz, AC supply system, fabricated from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates, compartments with front hinged openable doors with panel lock, provision for incoming & outgoing termination from bottom/top, 800Amp capacity 4 strip aluminium Alloy bus bars of high conductivity in Verticle/ horizontal sections and DMC/ SMC bus bar supports, having short circuit withstand capacity of 31 MVA for 1 Sec.		
	The panel shall have suitable ventilation, bottom base frame with MS channel (ISMC100 (9.56 Kg/m) of section not less than 100mm X 50mm X 5 mm thick and entire width of the panel shall have a common G I earth bar of size 25mm x 5mm at the rear with 2 Nos x 25mm x 5mm at the rear with 2 Nos. earth stud. Fabrication shall be done in transportable sections. Connection and interconnections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5sq.mm. FRLS PVC insulated copper conductor single core cable, cable alleys, detachable cable gland plates in split sections including providing and fixing the following MCCB/ Switchgears /metering accessories etc complete as required.		
	The panel shall generally confirm to CPWD General Specification for Electrical works, Part-I Internal 2013, Part II External 1994 and Part IV substation equipment 2013 as ammended upto date.		
	The panel shall be painted with 7 TANK PROCESSED powder coating in an approved manner and shade as required.		
	The Panel shall be got fabricated from CPRI approved manufacturers		
	The overall size of the Panel shall be not less than 2000 mm (Width) x 1050 mm (Height) x 400 mm (Deep)		
	A) Incomer		
	i) 400 Amps. 4 pole, Moulded Case Circuit Breaker (MCCB), 50kA breaking capacity (Ics=100% Icu) with Microprocessor release, having adjustment for over load, short circuit, protection suitable for operation on 415V, 50Hz, 3 phase, AC supply confirms to IEC 60947-2 alongwith rotary handle and spreader links etc., complete as required -1 No.		
	ii) 3 Nos. Phase indication LED lamp with holders and back up protection for all phases with MCB's.-1set		
	iii) Digital multi function meter class 1.0 accuracy, Voltage, Current frequency, PF with suitable CT's - 1 Set.		

	Bus Bars:		
	Vertical 4 strip aluminium bus bars of 600 Amps capacity (as per general arrangement drawing approved by engineer-in-charge) of suitable length with heat shrinkable coloured sleeves and DMC/SMC bus bars supports at required intervals complete suitable for withstanding fault level of 31 MVA for 1 Sec. - 1 Set		
	Outgoing		
	i) 250 Amps. 4 pole, Moulded Case Circuit Breaker (MCCB), 35kA breaking capacity (Ics=100% Icu) with Microprocessor release,, having adjustment for over load, short circuit, protection suitable for operation on 415V, 50Hz, 3 phase, AC supply confirms to IEC 60947-2 alongwith rotary operating handle and spreader links - 3 Nos.		
	ii) 125 Amps. 4 pole, Moulded Case Circuit Breaker (MCCB), 25kA breaking capacity (Ics=100% Icu) with Thermal magnetic release, having adjustment for over load, short circuit, protection suitable for operation on 415V, 50Hz, 3 phase, AC supply confirms to IEC 60947-2 alongwith rotary operating handle and spreader links - 3 Nos.		
	iv) MV Danger notice plate- 1 No.	1	job
	SubHead- III (Earthing)		
23	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	2	Set
24	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I.pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	20	meter
25	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I.pipe from earth electrode including connection with G.I. nut,bolt, spring, washer excavation and re-filling etc. as required.	30	meter
26	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	20	Meter
	SubHead- IV (Cables)		
27	Supply of XLPE insulated PVC outer sheathed aluminium conductor armoured LT UG cable of 1.1KV grade confirming to IS: 7098 (Part-I) 1988 as amended upto date of following sizes duly ISI marked as required.		
27.1	3 1/2 x 185 Sq.mm	65	Meter
27.2	3 1/2 x 95 Sq.mm	60	Meter
28	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required		
28.1	Above 95 sq. mm and upto 185 sq. mm	60	Meter
28.2	Above 35 sq. mm and upto 95 sq. mm	55	Meter
29	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc.direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.		
29.1	90 mm dia (OD-90 mm & ID-76 mm nominal)	65	Meter

30	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.		
30.1	3½ X 185 sq. mm (57mm)	2	Sets
30.2	3½ X 95 sq. mm (45mm)	2	Sets
31	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.		
31.1	200 mm width X 50 mm depth X 1.6 mm thickness	100	Meter