

वाष्कोस लिमिटेड
WAPCOS LIMITED

(भारत सरकार का उपक्रम)
जल शक्ति मंत्रालय
(A Government of India Undertaking)
Ministry of Jal Shakti

TENDER DOCUMENT

FOR

**Development of Modern Community Post Harvesting
Facility at Palolem in South Goa**

NIT No.: WAP/GOA/Fisheries/CCM/2026/01

Date: 15.04.2026



76-C, Institutional Area, Sector - 18
Gurugram-122015, Haryana
Email: ccm@wapcos.co.in
Website: www.wapcos.co.in

Apr - 2026

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NOTICE INVITING e-TENDER (NIT)

NIT No. WAP/ GOA/Fisheries/CCM/2026/01

Dated : 15.04.2026

WAPCOS Limited (A Govt. of India Undertaking), for and behalf of Directorate of Fisheries, Government of Goa invites **Online Electronic Tenders** on **Percentage Rate Mode** from experienced and competent bidders, meeting prescribed qualifying criteria as mentioned in tender document.

1.	Name of Work / Project	:	Development of Modern Community Post Harvesting Facility at Palolem in South Goa.
2.	Site / Location	:	South Goa
3.	Website for Viewing tender/ Corrigendum/ Addendum	:	www.wapcos.co.in and https://etenders.gov.in/eprocure/app
4.	Website for Procurement, Downloading & Uploading/Submission of tender documents/ Corrigendum's/ Addendums	:	https://etenders.gov.in/eprocure/app (Central Public Procurement (CPP) Portal)
5.	Estimated Cost of Work	:	Rs. 5,72,23,174 (excluding GST)
6.	Cost of Tender Document	:	Rs. 5,000/- (Non Refundable). The tender fee shall be paid through NEFT/RTGS in the following Bank Account: Account Number – 193502000000405 A/c Holder – WAPCOS Limited Bank Name – Indian Overseas Bank Branch name: NHB, Gurugram IFSC code: IOBA0001935
7.	Amount of Earnest Money Deposit	:	Rs. 11,44,463/- in the form as per the NIT. The EMD shall be deposited in the form of Account Payee Demand Draft, Fixed Deposit Receipt, Bank Guarantee from nationalized/ scheduled commercial banks or payment online in an acceptable form, safeguarding the purchaser's interest in all respects in favour of "WAPCOS Limited" payable at Gurugram and submitted in sealed envelope cover before the last date of technical bid submission.
8.	Project Completion Period	:	12 Months from the Date of Award including Monsoon + Defect Liability Period of 1 year.
9.	Pre Bid Meeting	:	Prospective bidder requiring any clarification of the bidding documents may notify the Employer via email mentioned in NIT, at least one working day prior to pre-bid meeting. The queries shall be discussed during the pre-bid meeting. Thereafter no further queries/clarifications shall be entertained. The Employer will reply to only those queries which are received before the scheduled time as mentioned above, which are essentially required for submission of bids. The Employer will not reply to the queries which are not considered fit like replies of which can be implied /found in the NIT/Tender Documents or which are not relevant or in contravention to NIT/Tender Documents.

			The pre-bid meeting shall be held at the communication address mentioned in NIT. The Addendum/Corrigendum/Replies to pre bid queries as per Pre bid meeting, shall be uploaded on e-portal & WAPCOS website
10.	Pre Bid Meeting Date and Time		Pre Bid Meeting for the work of "Development of Modern Community Post Harvesting Facility at Palolem in South Goa." Friday, 22 April · 12:00 – 1:00pm Google Meet joining info Video call link: https://meet.google.com/bht-swnj-tcx
11.	Validity of Bid/Tender	:	120 Days
12.	Last date & time of Procurement / download of tender Document	:	As per CPPP Portal The bidder must officially procure/download the tender documents from the CPP portal of WAPCOS before the last date and time of sale of tender document in order to bid.
13.	Offline Submission of Technical document, Tender Fees, EMD, etc. as detailed in Tender	:	Till last due date on CPPP Portal to following address: WAPCOS Limited Deputy Chief Engineer, C&C Division 76-C, Institutional Area, Sector – 18, Gurugram-122015, Haryana
14.	Last date & time for online submission of Technical & Financial Bid.	:	As per CPPP Portal
15.	Online Opening of Technical Bid	:	As per CPPP Portal
16.	Online Opening of Financial Bid	:	To be Intimated to Technical Qualified Bidders.
17.	WAPCOS Contact information	:	WAPCOS Limited C&C Division 76-C, Institutional Area, Sector - 18 Gurugram-122015, Haryana Email: ccm@wapcos.co.in Tel. (+91-124)2399886

If the office of WAPCOS Limited, Gurugram happens to be closed on the last date and time mentioned for any of the event, the said event will take place on the next working day at the same time and venue.

The tender document has to be downloaded from above specified websites. Bidders are advised to visit above specified websites regularly for updates /Amendments/ Corrigendum, if any. The Updates/Corrigendum/Addendum shall be followed up to submission of tender and it will be the part of tender. The full details about the work, specifications, Drawings, terms and conditions shall be available in the Tender Document.

The purpose of this NIT is to provide interested parties with information to assist the preparation of their bid. While WAPCOS Limited has taken due care in the preparation of the information contained herein, and believe it to be complete and accurate, neither it nor any of its authorities or agencies nor any of its respective officers, employees, agents or advisors give any warranty or make any representations, expressed or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

Further, WAPCOS Limited does not claim that the information is exhaustive. Respondents to this NIT are required to make their own inquiries/ surveys and will be required to confirm, in writing, that they have done so and they did not rely solely on the information in NIT. WAPCOS Limited is not responsible if no due diligence is performed by the bidders.

IMPORTANT POINTS

- 1.1 The bidder should be an Indian Registered Company under Companies Act 1956/ 2013 Proprietorship Firm/ Partnership Firm.
- 1.2 All Bidders are hereby cautioned that Bids containing any deviation or reservation as described in Clauses of “Instructions to Bidders” shall be considered as non-responsive and shall be summarily rejected.
- 1.3 WAPCOS Ltd. reserves the right to accept or reject any or all bids without assigning any reasons. No Bidder shall have any cause of action or claim against the WAPCOS Ltd. For rejection of his Bid and will not be bound to accept the lowest or any other tender.
- 1.4 No reimbursement of cost of any type or on any account will be paid to persons or entities submitting their Bid.
- 1.5 All information submitted in response to this NIT shall be the property of WAPCOS Limited and it shall be free to use the concept of the same at its will.
- 1.6 It is hereby declared that WAPCOS is committed to follow the principle of transparency, equity and competitiveness in public procurement. The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected. This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the WAPCOS.

**Deputy Chief Engineer
WAPCOS LIMITED**

SECTION- I
INSTRUCTIONS TO BIDDER

SECTION- I INSTRUCTIONS TO BIDDER

1.0 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING

1.1 GENERAL

The Special Instructions (for e-Tendering) supplement 'Instruction to Bidders', as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender.

1. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. For conducting electronic tendering, bidders shall use the portal <https://etenders.gov.in/eprocure/app>. Tender is invited in Single Stage -Two Envelope system, one Technical Bid and second as Financial bid.

1.2 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING

Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid 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://etenders.gov.in/eprocure/app>.

Registration

- i. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://etenders.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- ii. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- iii. 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.
- iv. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- v. 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.
- vi. 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

- i. 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.

- ii. 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.
- iii. 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

- i. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- ii. 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 deviations from these may lead to rejection of the bid.
- iii. 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. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- iv. 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, annual reports, 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.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

Submission of Bids

- i. 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 time. Bidder will be responsible for any delay due to other issues.
- ii. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- iii. Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- iv. 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 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. – Not Applicable

- v. Bidders are requested to note that they should necessarily 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 changed. 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.
- vi. The server time (which is displayed on the bidders' 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.
- vii. 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 opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- viii. 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.
- ix. 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

- i. 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.
- ii. 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.

For any technical related queries please call at 24 x 7 Help Desk Number:

0120-4001 002

0120-4001 005

0120-6277 787

International Bidders are requested to prefix +91 as country code

Email Support:

For any Issues or Clarifications relating to the published tenders, bidders are requested to contact the respective Tender Inviting Authority

Technical - support-eproc@nic.in

Policy Related - cppp-doe@nic.in

2.0 INSTRUCTIONS TO BIDDER

The purpose of these instructions to serve as a guide to Bidders for preparing offer for carrying out the project in all respect.

- a) The Schedule of Quantity is given in Section XI. The tenderer has to quote their offer in Percentage Rate in Schedule of Quantities. The Percentage-Rate shall be quoted up to 2 decimals. The tenderer shall quote percentage rate(s) in figures as well as in words. In case of any discrepancy between the two, rate(s) quoted in words shall prevail. In case of discrepancy between quoted rate and amount, rate shall prevail. The payment will be made as per the actual work done and item wise measurement basis. Bidders are advised to examine the available Cost Index/ Market Rate while submitting the tender.
- b) Bidders are advised to quote their percentage rates including the lead/lift/carriage of material at site as per the site conditions. No request for the lead/lift carriage shall be considered after the award of the work.
- c) Submission of a tender by a tenderer implies that the tenderer has read this notice and all other Tender Documents and has made himself aware of the scope, the specifications, and conditions of contract, local conditions and other factors having bearings on the execution of the work.
- d) WAPCOS Limited desires that the bidders, suppliers, and Sub-contractors under the Project, observe the highest standard of ethics during the performance, procurement and execution of such contracts. In pursuance of this requirement, WAPCOS Limited, defines, for the purposes of this provision, the terms set forth below:
 - i. "Corrupt Practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - ii. "Fraudulent Practice" means any act of submission of forged documentation, or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation, or to succeed in a competitive bidding process;
 - iii. "Coercive Practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - iv. "Collusive Practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

Will reject the award of Contract, even at a later stage, if it determines that the bidder recommended/ selected for award/awarded has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices in competing for the Contract;

Will sanction a party or its successors, including declaring ineligible, either indefinitely or for a stated period of time, to participate in any further bidding/procurement proceedings under the Project, if it at any time determines that the party has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices in competing for, or in executing, the contract; and

The party may be required to sign an Integrity Pact, if required; and WAPCOS Limited will have the right to require the bidders, or its suppliers, contractors and consultants to permit WAPCOS Limited to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by WAPCOS Limited at the cost of the bidders.

The Bidder must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a bid and for entering into a contract, must examine the Drawings, must inspect the sites of the work, acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto. WAPCOS Limited will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

- e) The Contract shall be governed by each SECTION OF TENDER DOCUMENT i.e. instructions to bidders, selection & qualifying criteria, scope of works, General Conditions for Contract (GCC), Special Conditions for Contract (SCC), Annexures, Forms, Drawings, Technical Specification, Addendum / Clarification / Corrigendum etc. and all other Conditions mentioned in the tender documents.
- f) All Bidders are hereby explicitly informed that conditional offers or offers with deviations from the Conditions of Contract, the bids not meeting the minimum eligibility criteria, Technical Bids not accompanied with EMD and Tender Document Fees of requisite amount in acceptable format, Bids in altered/modified formats, or in deviation with any other requirements stipulated in the tender documents are liable to be rejected.
- g) The bidders shall not tamper or modify any part of the tender documents in any manner. In case in part of the bid is found to be tampered or modified at any stage, the bids are liable to be rejected, the contract is liable to be terminated and the full earnest deposit/retention money/performance guarantee will be forfeited and the bidder will be liable to be banned from doing any business with WAPCOS Limited.
- h) Incomplete Price bid shall be liable to be rejected, at the discretion of WAPCOS Limited. The total bid price shall cover the entire scope of works & drawings covered in the tender.

3.0 EARNEST MONEY DEPOSIT (EMD)

The Earnest Money Deposit **as mentioned in NIT and shall also be submitted** in physical form in favor of WAPCOS Ltd payable at Gurugram.

The EMD may be accepted only in the following forms:

- **Demand Draft of a Scheduled Bank.**
- **Fixed Deposit Receipt (FDR) of a Scheduled Bank in the name of WAPCOS Ltd.**
- **Bank Guarantee from Nationalized/ Scheduled Commercial Bank**

A part of earnest money is acceptable in the form of bank guarantee (in the specified format) also. In such cases 50% of earnest money or **Rs. 20 lakh** whichever is less, will have to be deposited in shape prescribed above and balance can be accepted in form of bank Guarantee issued by a scheduled bank as per the format mentioned in the tender (**Appendix-I**). The Bank Guarantee submitted as a part of Earnest Money shall be valid for a period of **SIX MONTHS** or more from the date of submission of the tender.

The EMD of unsuccessful tenderer(s) will be refunded after finalization of tender process. The Earnest Money deposit submitted by the successful tenderer shall be retained by WAPCOS Limited until the Performance Bank Guarantee (PBG) is submitted. EMD shall not carry any interest.

If any tenderer withdraws or make any changes in his offer already submitted before the expiry of the above validity period or any extension thereof without the written consent of the company, the EMD amount will be forfeited for such act of the tenderer.

WAPCOS Limited reserves the right of forfeiture of Earnest Money deposit (EMD) in case of the successful tenderer.

- i. After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.
- ii. Does not commence the work within the period as per LOI/Contract. In case the LOI/Contract is silent in this regard then within 15 days after award of contract.
- iii. The successful Tenderer shall not accept the LOI within 15 (Fifteen) days from receipt of the same. If failed, the EMD shall be forfeited and the award of work may be liable to be cancelled.

4.0 COST OF BIDDING

The Bidder shall bear all costs associated with the preparation & submission of the Bid as well as costs associated for facilitating the evaluation. WAPCOS Ltd shall in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

5.0 LANGUAGE OF BID

The Bid and all related correspondence and documents relating to the Project shall be in English language only. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate English translation which shall be certified by a qualified translator. Any material that is submitted in a language other than English and which is not accompanied by an accurate English translation will not be considered.

6.0 CURRENCY OF BID

Bid prices shall be quoted in Indian Rupees.

Tender submitted by tenderer shall remain valid for acceptance as mentioned in NIT from the date set for submission of the tender. The tenderer shall not be entitled within the said period to revoke or cancel or vary the tender given or any item thereof, without the consent of WAPCOS Limited. In case tenderer revokes, cancels, or varies his tender in any manner without the consent of WAPCOS Limited, within this period, his earnest money will be forfeited.

7.0 ANNEXURES

The successful Bidder shall submit the following documents and also follow the guidelines as per “Section of Annexures” mentioned in tender document.

ANNEXURE - I	: GUARANTEE BONDS / AFFIDAVIT FOR WORK
ANNEXURE – II	: GUARANTEE BOND FOR WATER PROOFING TREATMENT
ANNEXURE – III	: PERFORMANCE SECURITY
ANNEXURE – IV	: AFFIDAVIT
ANNEXURE – V	: ADVANCE PAYMENT BANK GUARANTEE

WAPCOS Limited reserves the right to reject any or all the bids or to cancel the Tender, without assigning any reason(s) whatsoever.

SECTION– II

SELECTION AND QUALIFYING CRITERIA

**SECTION-II
SELECTION AND QUALIFYING CRITERIA**

1. SITE VISIT

Intending Bidder(s) are advised to inspect and examine the site at his own cost and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground & sub-soil (so far as is practicable), the form & nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. No extra charge consequent on any misunderstanding or otherwise shall be allowed.

The bidder(s) shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder(s) implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

Site visit is to understand the actual scope of work, site condition, details & levels of already constructed structure & balance works to be done and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The site visit may be conducted by the bidder any time before the last date of submission of the bid. Before site visit, the bidder may request at email ID mentioned in NIT for site visit mentioning the date & time of visit. Accordingly, it is advised to bidders to visit the site with proper authorization letter of bidder representative from Bidder Company/ agencies. Bidder representative will submit the authorization letter to WAPCOS representative.

2. QUALIFYING CRITERIA: ONLINE TECHNICAL BID SUBMISSION

The intending bidders must read the terms & conditions of tender documents carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

The Technical Bid shall be uploaded **with colored scanned copies of following documents. All the documents must be serial wise as stated below along with check list and clearly marked page no. and sign & stamp on each page of the Technical Bid (MANDATORY)**

S.N	Particular of Document	Yes	No	Page Nos. (from – to)
a)	Authorization Letter to sign the Tender on bidder's original letter head or Power of attorney or Board Resolution from the competent authority of the firm.			
b)	Scanned copy of EMD instrument as mentioned in NIT along with Cancelled Cheque copy.			
c)	Scanned copy of Tender Fees of the amount as mentioned in NIT.			
d)	Letter of Transmittal for Technical Bid in prescribed format on bidder's original letter Head (Form-1).			
e)	Yearly Turnover and Audited Balance Sheet for Last 5 (three) years ending on the financial year 2024-25.			
	<ul style="list-style-type: none"> • Profit & Loss: The Bidder should not have incurred any loss in more than two financial years out of last 5 financial years ending on 31.03.2025. Audited Balance Sheet and Profit & Loss account (for 5 years) must be submitted with 			

	Bid.			
	<ul style="list-style-type: none"> • Turnover: Average annual financial turnover of the Bidder should be at least 50% of the Estimated Value of work during immediate last 3 consecutive financial years i.e. 2022-23, 2023-24 & 2024-25. Audited Balance Sheet and Profit & Loss account as well as Certificate issued by Chartered Accountant with registration number, seal and UDIN must be submitted. 			
	<ul style="list-style-type: none"> • Full Balance Sheet of Bidder for Last 5 (Five) years ending on the financial year 2024-25. 			
f)	Name, Address, details of the Organization, Name(s) of the Owner/Partners/Promoters and Directors of the firm / company. (Form-B)			
g)	Bidder should not be blacklisted/ debarred by any government/ semi government department/ PSU. Bidders shall give undertaking for not being involved in any form of corrupt and fraudulent practices. (Form-C) .			
h)	Letter of understanding of the project site on bidder's Letter Head (Form-D) .			
i)	'No Deviation Certificate' in prescribed format in Bidder's Letter Head (Form-E) .			
j)	Consent Letter to execute the Integrity Pact (Form-F) .			
k)	Bidder shall submit Information on litigation history, liquidated damages, disqualification etc. in bidder Letter Head (Form-G) .			
l)	<p>The bidder should not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended. Accordingly, Bidder shall submit Solvency certificate with details of Financial Status i.e. Name of the Banker & Current Solvency from Banker for a sum of at least 40% of the estimated cost of work Certificate in Original. (Form-I)</p> <p>IMPORTANT NOTE:</p> <ol style="list-style-type: none"> 1.The Solvency Certificate shall be issued by the Nationalized/ Scheduled Commercial bank & must have been issued after the date of publication of NIT & be addressed to the tendering authority quoting the name of the work. 2. MSME bidders may submit Banker's Certificate from a commercial Bank for or a sum of at least 40% of the estimated cost of work or Net Worth certificate from CA with Unique Document Identification Number (UDIN) of minimum 10% of the estimated cost of work (Scanned copy of original to be uploaded). 			
m)	<p>The Bidder should have satisfactorily completed any similar work in the last Seven years ending on the last date of bid submission of value with any State/ Central Government Organization/ PSU/ Govt. Autonomous Body as per the following details:</p> <p style="padding-left: 40px;">One work of at least 80% of Estimated value of Project or Two works of at least 50% of Estimated Value of Project or Three works of at least 40% of Estimated Value of Project</p>			

	<p>(Form-J).</p> <p>Similar work shall mean Construction of RCC framed structure Building for Residential / Non Residential Buildings along with associated works Electrical/Mechanical/Plumbing Work.</p> <p>Additionally, The bidder must have prior experience of Supply & Installation in the following works in a single or different contract for any Central/ State Government, Public Sector Undertakings (PSUs)/ Govt. autonomous bodies/ Private Entities in the last 7 Years.</p> <ol style="list-style-type: none"> 1. Solar Cold Storage (minimum 2.5 MT) 2. Ice Making Factory Equipment & Machines (minimum 7.5 TPD) 3. Solar/ Wind Energy systems – 20 KW <p>Alternatively, the bidder shall submit a duly signed Memorandum of Understanding (MoU) with a OEM/ vendor / specialized agency possessing relevant experience.- The MoU shall be made on Rs. 100/- stamp paper must clearly define the roles and responsibilities of both parties along with necessary completion certificate.</p> <p>The bidder shall submit Completion Certificate(s) along with Supply Order from respective Owner(s)/Client(s) and supported by TDS certificate in case of Private Client.</p>			
n)	Copy of P.F and PAN Number.			
o)	<p>Goods and Service Tax (GST): Bidders are advised to get themselves registered for GST, which are mandatory, as per Govt. of India notification regarding GST. Accordingly, bidder shall submit relevant documents if already registered. If not registered till date of submission of bid, bidder will give undertaking on bidder letter head stating that they will get registered in GST as per Govt. norms before submission of bills.</p>			
p)	<p>The bidder should be an Indian Registered Company under Companies Act 1956/2013 Proprietorship Firm/ Partnership Firm/ Limited company private or public or corporation. Copy of Certificate of Incorporation/Registration/ Partnership Deed or any other relevant document, as applicable, should be submitted along with a copy of address proof.</p>			
q)	<p>Each page of the all Volume of Tender document & Addendum/ Corrigendum shall be digitally signed by the bidders submitting the Tender in token of his/their having acquainted himself/ themselves and accepted the entire tender documents including various conditions of contract. Any Bid with any of the Documents not so signed is liable to be rejected at the discretion of WAPCOS Limited.</p>			

No information relating to financial terms of services should be included in the technical bid. Bids are to be submitted to determine that the bidder has a full comprehension of the tendered work. Where a bidder technical submittal is found non - compliant with the requirement of work, it may be rejected. This process is to assure that only technical acceptable bids are considered for the tendered work.

Contractors who fulfill the above requirements shall be eligible to apply.

3. OFFLINE SUBMISSIONS OF DOCUMENTS

The Bidder shall submit following Document offline also.

1. **Solvency, EMD & Tender submission fee in Original** in separate sealed envelope clearly labeled as “Solvency Certificate, EMD & TENDER FEE” for the work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, and E-mail on Envelope.

NOTE: Above envelope shall be submitted in one single envelope clearly labeled as “Documents for Offline Submission” for the Work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, and E-mail on Envelope.

The offline submissions (duly stamped & signed) as mentioned above shall be submitted on WAPCOS address given in NIT as per date & time mentioned in NIT. In case of non-submission of above offline documents, bids are liable to be rejected.

Note: *The Company reserves the right to waive minor deviations/submissions if they do not materially affect the capability of the Tenderer to perform the contract.*

4. CONTENTS OF FINANCIAL BID

The Financial Bid should be uploaded separately along with Technical bid before last date & time of submission of Tender Document.

The quoted cost filled in Summary of Cost, by bidders, should include all associated costs with the project including any out of pocket / mobilization expenses/ Custom duty (if any), Buildings and other construction workers’ welfare cess, TDS, taxes (except GST) if any applicable as per Govt. terms, shall be paid by the Contractor. The Goods and Services Tax (GST) shall be paid extra over quoted cost.

It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST), shall be reimbursed to the Agency only after uploading of bills by Contractor on GST Portal “to avail Input benefit of GST”

The company shall be performing all its duties of deduction of TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly / amended introduced during the execution of the Contract.

The tenderer shall quote the rate in percentage up to Two decimal and as well as in words. In case of any discrepancy rate quoted in words shall prevail.

The payment will be made as per the schedule of stage wise payment.

The Summary of cost to be filled for this tender is attached in Microsoft Excel format, bidder shall quote the amount only in soft format to avoid mistakes. The bidder will upload same filled soft Microsoft Excel copy during uploading of financial bid.

5. OPENING OF FINANCIAL BID

The financial bids of the technically qualified bidders shall be opened at the notified date & time after technical evaluation stage.

6. AWARD CRITERIA

After closing of Technical & Financial Bid process, WAPCOS Ltd. will award, the contract to the bidder, whose tender has been determined to be substantially responsive, complete and in accordance with the tender document, and whose total evaluation price for the undertaking the project as detailed in the scope of work is the lowest (L1). If the financial bids of lowest two bidders are equal, then the tender will be treated as cancelled and shall be re-tendered as per the WAPCOS rules.

SECTION – III

GENERAL CONDITIONS OF CONTRACT

SECTION – III
GENERAL CONDITIONS TO CONTRACT

1.0 GENERAL RULES AND DIRECTIONS

General Rules & Directions	1	<p>The work proposed for execution by contract will be notified in a form of invitation to tender by publication in website.</p> <p>This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance Security to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills.</p>
	2	<p>In the event of the tender being submitted by a Partnership firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.</p>
	3	<p>Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm</p>
Applicable for Items Rate tender only	4	<p>The rate(s) must be quoted in decimal coinage. Total Amount must be quoted in full rupees by ignoring fifty paise and considering more than fifty paise as rupee one.</p> <p>In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised online offer (through limited tender process) quoting rate/ cost of work of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer.</p> <p>If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in presence of WAPCOS and the lowest contractors those have quoted equal amount of their tenders.</p> <p>In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by</p>

		<p>the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited.</p> <p>In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors.</p> <p>Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work</p>
<p>Applicable for Percentage Rate/ EPC tender only</p>	<p>4A</p>	<p>In case of Percentage Rate /EPC Tenders, contractor shall fill up the usual printed`form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities , he will be willing to execute the work. The tender submitted shall be treated as invalid if :-</p> <ol style="list-style-type: none"> 1. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender. 2. The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender. 3. The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender. <p>Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected.</p>
	<p>4B</p>	<p>In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered amount or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.</p> <p>In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.</p> <p>If the revised tendered amount of two more contractors received in revised offer is again found to be equal , the lowest tender, among such contractors, shall be decided by draw of lots in the presence WAPCOS & the lowest contractors those have quoted equal amount of their tenders.</p> <p>In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting</p>

		50% of EMD of each contractor, whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.
	5	The designated committee will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
	6	The officer Inviting Tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender
	7	The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
Applicable for Items Rate tender only	8	<p>In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.</p> <p>However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer and earnest money deposited shall be forfeited.</p>
Applicable for Percentage Rate /EPC tender only	9	In case of Percentage Rate / EPC Tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy
Applicable for Percentage Rate EPC tender only	10	In Percentage Rate /EPC Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same

		should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P' and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.
	11	<p>i) The Contractor, whose tender is accepted, will be required to furnish Performance Security of 5% of the Tendered Value. This Security shall be in the form of cash (in case Security amount is less than Rs. 10,000/-) or Deposit at call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank (in case Security amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in the with the prescribed form.</p> <p>ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the value of each Running & Final bill. The Security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed</p>
	12	On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
	13	GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same.
	14	The contractor shall give a list of WAPCOS employees related to him.
	15	The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc.

2.0 CONDITIONS OF CONTRACT

Definitions	1	The “Contract” means the documents forming the tender and acceptance thereof and the formal Agreement executed between the WAPCOS and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-In-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
	2	<p>In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-</p> <p>a) “Employer” shall mean WAPCOS Limited, A Government of India undertaking- Ministry of Jal Shakti / WAPCOS i.e. Project Executing Agency (PEA) for execution of the Work / Project as mentioned in NIT, having their Registered office at 5th floor, Kailash building, 26-Kasturba Gandhi Marg, New Delhi-110001, India & include Engineer-in-charge, Project Manager, their successors & permitted assigns as well as their authorized officer / representatives. WAPCOS Limited is a company registered under the Indian Company Act 1956, with its registered office at New Delhi or its Administrative officers or its Engineer or other employees authorized to deal with any matter with which these persons are concerned and authorized on its behalf.</p> <p>b) “Principal Employer/Owner” Department of Fisheries Govt of Goa, who has appointed WAPCOS Ltd. as Project Executing Agency (PEA) for the work mentioned in NIT.</p> <p>c) “Bidder/Tenderer/Contractor/Supplier” shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company who are participating in Bidding process and will Execute the project after award of the Works as Contractor/Supplier. They should be an Indian Registered Company under Companies Act 1956/ 2013, Proprietorship Firm/ Partnership Firm.</p> <p>d) “Work or Project” means as mentioned in NIT.</p> <p>e) “Site and location” means the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract as mentioned in NIT.</p> <p>f) “Engineer-in-Charge” means the Officer appointed by WAPCOS who shall direct, supervise and sign the Contract Agreement on behalf of WAPCOS, for the purpose of Contract or his duly authorized representative.</p> <p>g) “Project Manager, WAPCOS” shall mean the officer appointed by WAPCOS to supervise the works at site on behalf of WAPCOS and Authorized by the Engineer-in charge.</p>

		<p>h) Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Engineer-in-charge or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.</p> <p>i) "Market Rate" shall be the rate as checked & verified by the Project Manager, WAPCOS and agreed by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Special Conditions of Contract to cover, all overheads and profits.</p> <p>j) "Schedule(s)" referred to in these conditions shall mean the relevant schedule(s), standard Schedule of Goa Schedule of Rates 2023/ Maharashtra Civil SOR 2023/Bombay Municipal Corporation 2023/ Delhi Schedule of Rates of the government mentioned in Special Conditions of Contract.</p> <p>k) "Tendered Amount" means the value as quoted by the bidder during bidding process excluding GST.</p> <p>l) "Tendered Value" means the value of work as stipulated in the letter of award excluding GST.</p> <p>m) "Contract Price" means the value of work executed under the Contract including tendered value, cost of extra items, cost of substituted items, cost of deviated items, works executed under the Contract including GST.</p> <p>n) "Date of Commencement of Work" The date of commencement of work shall be the date of start as specified in Letter of Award or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicated in the tender document.</p> <p>o) GST means Goods & Service tax- Central, State and Inter State</p>
Scope and Performance	3	Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
	4	Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
Works to be carried out	5	The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities/ Building Components shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

Sufficiency of Tender	6	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the cost quoted in the Schedule of Quantities/ Building Components, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
Discrepancies and Adjustment of Errors	8	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
	8.1	In the case of discrepancy between the schedule of Quantities/Building Components, the Specifications and/ or the Drawings, the following order of preference shall be observed:- <ol style="list-style-type: none"> 1. Description of Schedule of Quantities/ Building Components. 2. Particular Specification and Special Condition, if any. 3. Drawings. 4. Standard Specifications. 5. Indian Standard Specifications of B.I.S.
	8.2	If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer-in-charge shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
	8.3	Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
Signing of Contract		The letter of Award will be issued to the successful bidder by WAPCOS which will be duly signed & stamped by the successful bidder as token of unequivocal acceptance and confirmation. Subsequently, successful bidder will submit the Performance Security of required value within time specified in Tender document. Thereafter, on a date and time mutually agreed upon, the successful bidder or his authorized representative shall attend the office for signing of the Contract Agreement. The contract Agreement consisting of complete Tender Document along with all the documents Corrigendum/Amendments if any, Clarifications / Correspondences and any other documents as forming part of the contract. No payment for the work done will be made unless contract is signed by the contractor. Failure on the part of the successful bidder to comply with the above requirements will constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security.

3.0 CLAUSES OF CONTRACT

CLAUSE 1: PERFORMANCE GUARANTEE

- i. The contractor shall submit an irrevocable **Performance Guarantee of 5% (Five percent) of the tendered amount** in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Special Conditions of Contract from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in Special Conditions of Contract on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Cash (in case guarantee amount is less than Rs. 10,000/-) or Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the WAPCOS as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the WAPCOS to make good the deficit.
- ii. **The Performance Guarantee shall be initially valid up to 60 days beyond the stipulated date of completion plus 1 year claim period beyond that.** In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. However, in case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.
- iii. The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the WAPCOS is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
 - (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
 - (b) Failure by the contractor to pay WAPCOS any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- iv. In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of WAPCOS.
- v. The Performance Guarantee shall be refunded to the Contractor soon after the completion of works and issuance of the completion certificate.

CLAUSE 1A: RECOVERY OF SECURITY DEPOSIT

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit WAPCOS at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 5% of the tendered value of the work. Such deductions will be made and held by WAPCOS by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the WAPCOS as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the WAPCOS to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by WAPCOS on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks endorsed in favour of WAPCOS LIMITED, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. 5 lac subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lac. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of clause 2 and clause 5.

The Security Deposit shall be released after successful completion of Defect Liability Period

In case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.

Note-1: Government papers tendered as security will be taken at 5% (five per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

Note-2: Government Securities will include all forms of Securities mentioned in Rule No. 274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

Note-3: Note 1 & 2 above shall be applicable for both clause 1 and 1A

CLAUSE 2: COMPENSATION FOR DELAY

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or justified extended date of completion as per clause 5 (excluding any extension under Clause 5,51 as well as any extension granted under clauses 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' may decide on the amount of Tendered Value of the work for every completed day month (as determined) that the progress remains below that specified in Clause 5 or that the work remains incomplete.

(i) Compensation for delay of work @ 0.50% of the Tendered Value per week of delay (to be computed on per day basis). Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10 % of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned in Schedule 'F' for which a separate period of completion is originally given.

In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay.

Provided that compensation during the progress of work before the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on stipulated/justified extended date for such part work or if delay affects any other works/services. This is without prejudice to right of action by the Engineer in Charge under clause 3 for delay in performance and claim of compensation under that clause

In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule F, after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount

CLAUSE 2A: In case, the contractor completes the work ahead of stipulated date of completion or justified extended date of completion as determined under clauses 5.3, 12 & 15, a bonus @ 1% (one per cent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5% (five per cent) of the tendered value. Provided that justified time for extra work shall be calculated on pro-rata basis as cost of extra work X stipulated period /tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in 'Schedule F'.

CLAUSE 3: WHEN CONTRACT CAN BE DETERMINED

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- ii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- iii. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified.
- iv. If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.

- v. If the contractor shall offer or give or agree to give to any person in WAPCOS service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for WAPCOS.
- vi. If the contractor shall enter into a contract with WAPCOS in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- vii. If the contractor had secured the contract with WAPCOS as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.
- viii. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
- ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- xi. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublet (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer in-Charge on behalf of the WAPCOS shall have powers:

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the WAPCOS shall have powers:

- a) To determine the contract as aforesaid so far as performance of work by the Contractor is concerned (of which determination notice in writing to the contractor under the hand of the Engineer in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.
- b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this

contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

CLAUSE 3A

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract by giving notice to the other party stating the reasons. In such eventuality, the Performance Guarantee of the contractor shall be refunded within following time limits:

- | | | |
|----|--|---------|
| a) | Tendered value of work is up to Rs. 45 lac | 15 days |
| b) | If the Tendered value of work is more than Rs.45 lac and up to Rs. 2.5 Crore | 21 days |
| c) | If the Tendered value of work exceeds Rs. 2.5 Crore : | 30 days |

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party

CLAUSE 4: CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE 5: TIME AND EXTENSION FOR DELAY

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract, The execution of the work shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later. However, the handing over of site by the Engineer in Charge, in full or in part (if so provided in contract), shall be completed within two months from issue of acceptance letter. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the Government without prejudice to any other right or remedy available in law.

5.1 As soon as possible but within twenty one days of award of work and in consideration of

- a) Schedule of handing over of site as specified in the Schedule 'F'
- b) Schedule of issue of designs as specified in the Schedule 'F'
 - (i) The Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 30 days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The Chart shall be prepared in direct relation to the

time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.

PROGRAMME CHART

- (i) The Contractor shall prepare an integrated programme chart in MS Project/Primavera software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in- Charge within ten days of award of the contract. A recovery of Rs. 2500/- (for works costing upto Rs. 20 Crores) / Rs. 5000/- (for works costing more than Rs. 20 Crores) shall be made on per day basis in case of delay in submission of the above programme.
- (ii) In case of non-submission of construction programme by the contractor the program approved by the Engineer-in-Charge shall be deemed to be final.
- (iii) The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.
- (iv) The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in charge on or before 5th day of each month failing which a recovery Rs. 2500/ - (for works costing upto Rs. 20 Crores) I Rs. 5000/- (for works costing more than Rs. 20 Crores) shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5.2 If the work(s) be delayed by:-

- (i) force majeure, or
- (ii) abnormally bad weather, or
- (iii) serious loss or damage by fire, or
- (iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) delay on the part of other contractors or tradesmen engaged by Engineer-in- Charge in executing work not forming part of the Contract, or
- (vi) non-availability of stores, which are the responsibility of WAPCOS to supply or
- (vii) non-availability or break down of tools and Plant to be supplied or supplied by WAPCOS or
- (viii) Any other cause like above which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer in-Charge for entry in the hindrance register (physical or web-based as prescribed in schedule F) but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works. The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.

- 5.3** In case the work is hindered by any reasons, in the opinion of the contractor, by the Department or for someone for whose action the Department is responsible, the contractor may immediately give notice thereof in writing to the Engineer-in-Charge in the same manner as prescribed under sub Clause 5.2 seeking extension of time or rescheduling of milestone/s. The authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work after due consideration of the same within 30 days of receipt of such request. In event of non-application by the contractor for extension of time E-in-C after affording opportunity to

the contractor may give, supported with a programme, a fair and reasonable extension within a reasonable period of occurrence of the event.

Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages

- 5.4** Request for rescheduling of Mile stones or extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms i.e. Form of application by the contractor for seeking rescheduling of milestones (Appendix-XVI) or Form of application by the contractor for seeking extension of time (Appendix - XVII) respectively to the authority as indicated in Schedule 'F'. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired.

With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. A recovery as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised programme.

- 5.4.1** In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 30 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the contractor for extension of time E-in-C after affording opportunity to the contractor, may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.

- 5.5** In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.

CLAUSE 6: MEASUREMENTS OF WORK DONE

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer- in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties. If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and the WAPCOS shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.

The contractor shall give, not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the WAPCOS to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE 6A: COMPUTERIZED MEASUREMENT BOOK

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the WAPCOS so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheet shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheet and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the WAPCOS a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and records.

The contractor shall also submit to the WAPCOS separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Engineer-In-Charge

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in- Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the WAPCOS to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE 7: PAYMENT ON INTERMEDIATE CERTIFICATE TO BE REGARD AS ADVANCE

No payment shall be made for work, estimated to cost Rs. One lac or less till after the whole of the work shall have been completed and certificate of completion given. For work estimated to cost over Rs. One lac, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite

progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work, In the event of the failure of the contractor to submit the bills, no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asstt. Engineer together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of the Engineer- in-Charge, the period of ten working days will be extended to fifteen working days. In case of delay in payment of intermediate bills after 45 days of submission of bill by the contractor provided the bill submitted by the contractor found to be in order, a simple interest @ 10% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the WAPCOS to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt. Engineer to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor a simple interest @ 10% per annum shall be paid to the Government from the date of expiry of prescribed time limit which will be compounded on yearly basis.

In case of composite tenders, running payment for the major component shall be made by Engineer-In-Charge of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer in charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory, he may make the payment directly to the contractor associated for minor component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-charge of major or minor component from the next RA final bill due to main contractor as the case may be.

CLAUSE 8: COMPLETION CERTIFICATE AND COMPLETION PLANS

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

CLAUSE 8A: CONTRACTOR TO KEEP SITE CLEAN

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done: without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either WAPCOS or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days' notice in writing to the contractor.

CLAUSE 8B: COMPLETION PLANS TO BE SUBMITTED BY THE CONTRACTOR

The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-I internal) 2005 and (Part-II External) 1994 as applicable within thirty days of the completion of the work.

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum of 0.1 % of Tendered Value or limit prescribed in Schedule F whichever is more as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Superintending Engineer shall be final and binding on the contractor.

The contractor shall submit completion plans for Internal and External Civil, Electrical and Mechanical Services within thirty days of the completion of the work, provided that the service plans having been issued for execution by the Engineer-in-Charge, unless the contractor, by virtue of any other provision in the contract, is required to prepare such plans.

CLAUSE 9: PAYMENT OF FINAL BILL

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified hereinunder, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Engineer, complete with account of materials issued by the WAPCOS and dismantled materials.

- | | |
|--|----------|
| a) Tendered value of work is up to Rs. 45 lac | 2 months |
| b) If the Tendered value of work is more than Rs. 45 lac and up to Rs. 2.5 Crore | 3 months |
| c) If the Tendered value of work exceeds Rs. 2.5 Crore : | 6 months |

CLAUSE 9A: PAYMENT OF CONTRACTOR'S BILLS TO BANKS

Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by WAPCOS or his signature on the bill or other claim preferred against WAPCOS before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly received and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favor of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities vis-à-vis the WAPCOS.

CLAUSE 10: MATERIALS SUPPLIED BY WAPCOS

Materials which WAPCOS will supply are shown in Special Conditions of Contract (SCC) which also stipulates quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from the Engineer-in-Charge.

As soon as the work is awarded, the contractor shall finalize the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/or schedule of quantities of the work. The Contractor shall give in writing his requirement to the Engineer-in-Charge which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge, in accordance with the agreed phased programme of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement.

Such materials shall be supplied for the purpose of the contract only and the value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition.

The contractor shall submit along with every running bill (on account or interim bill) material wise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/section-wise in the case of steel) and resulting variations and reasons therefore. Engineer-in-Charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in clause 42 at any stage of the work if reconciliation is not found to be satisfactory.

The contractor shall bear the cost of getting the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the contract and (or the CPWA Code) all stores/materials so supplied to the contractor or procured with the assistance of the WAPCOS shall remain the absolute property of WAPCOS and the contractor shall be the trustee of the stores/materials, and the said stores/materials shall not be removed/disposed off from the site of the work on any account and shall be at all times open to inspection by the Engineer-in-Charge or his authorized agent. Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge in as good a condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall require, but in case it is decided not to take back the stores/materials the contractor shall have no claim for compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials, the contractor shall hand over the stores/ materials on being paid or credited such price as the Engineer-in-Charge shall determine, having due regard to the condition of the stores/materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licenses or permit and/or for criminal breach of trust, be liable to WAPCOS for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or any such materials and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the WAPCOS within the original scheduled time for completion of the work plus 50% thereof or schedule time plus 6 months whichever is more if the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the contractor.

The contractor shall see that only the required quantities of materials are got issued. Any such material remaining unused and in perfectly good/original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-Charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading, transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.

CLAUSE 10A: MATERIALS TO BE PROVIDED BY CONTRACTOR

The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the WAPCOS

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in Special Conditions of Contract.

Minimum 01 year warranty for Mechanical & Electrical equipment and other bought out items, at the discretion of WAPCOS Limited, if supplied directly by the contractor. The standard warranty period offered by the Manufacturer shall be retained, in case the original warranty period is more than one year.

CLAUSE 10B:

(i) SECURED ADVANCE ON NON-PERISHABLE MATERIALS

The contractor, on signing an indenture in the form in Annexure XVIII by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to 75% of the assessed value of any materials which are in the opinion of the Engineer-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive

insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

(ii) MOBILISATION ADVANCE

Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge at his sole discretion. The first installment of such advance shall be released by the Engineer-in-charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent installments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier installment to the entire satisfaction of the Engineer-in-Charge.

Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank for the amount equal to 110% of the amount of advance and valid for the contract period. This (Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.

(iii) PLANT MACHINERY & SHUTTERING MATERIAL ADVANCE

An advance for plant, machinery & shuttering material required for the work and brought to site by the Contractor may be given if requested by the contractor in writing within one month of bringing such plant and machinery to site. Such advance shall be given on such plant and machinery which in the opinion of the Engineer-in-charge will add to the expeditious execution of work and improve the quality of work. The amount of advance shall be restricted to 5% percent of the tender value. In the case of new plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new plant and equipment paid by the contractor for which the contractor shall produce evidence satisfactory to the Engineer-in-Charge. In the case of second hand and used plants and equipment, the amount of such advance shall be limited to 50% of the depreciated value of plant and equipment as may be decided by the Engineer-in-Charge. The contractor shall, if so required by the Engineer-in-Charge, submit the statement of value of such old plant and equipment duly approved by a Registered Value recognized by the Central Board of Direct Taxes under the Income- Tax Act, 1961. No such advance shall be paid on any plant and equipment of perishable nature and on any plant and equipment of a value less than Rs. 50,000/- Seventy five per cent of such amount of advance shall be paid after the plant & equipment is brought to site and balance twenty five percent on successfully commissioning the same.

Leasing of equipment shall be considered at par with purchase of equipment and shall be covered by tripartite agreement with the following:

1. Leasing company which gives certificate of agreeing to lease equipment to the contractor.
2. Engineer in Charge, and
3. The contractor.

This advance shall further be subject to the condition that such plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the works; (b) and are in working order and are maintained in working order; (c) hypothecated to the WAPCOS as specified by the Engineer-in-Charge before the payment of advance is released. The contractor shall not be permitted to remove from the site such hypothecated plant and equipment without the prior written permission of the Engineer-in-Charge. The contractor shall be responsible for maintaining such plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum. For this purpose, steel scaffolding and form work shall be treated as plant and equipment.

The contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amounts not recovered from the insurer will be borne by the contractor.

(iv) INTEREST & RECOVERY

The mobilization advance and secured advance in (i) & (ii) above bear simple interest at the rate of 10 per cent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractors bills commencing after first 10% of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time 80% of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

CLAUSE 10C: PAYMENT ON ACCOUNT OF INCREASE IN PRICE / WAGES DUE TO STATUTORY ORDER- NOT APPLICABLE

If after submission of the tender, if the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour increases as a direct result of the coming into force of any fresh law, or statutory rule or order (but not due to any variation of rates in GST applicable on such material(s) being considered under this clause) beyond the prices/wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, then the amount of the contract shall accordingly be varied.

If after submission of the tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rules or order (but not due to any changes of rate in sales tax/VAT, Central/State Excise/Custom Duty), WAPCOS shall in respect of materials incorporated in the works (excluding the materials covered under Clause 10CA and not being material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 hereof) and/or labour engaged on the execution of the work after the date of coming into force of such law statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and/or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2.

Engineer-in-Charge may call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages. The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/or wages of labour, give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.

For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule F, and the increase/decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor, fixed under any law, statutory rule or order.

CLAUSE 10CA: PAYMENT DUE TO VARIATION IN PRICES OF MATERIALS AFTER RECEIPT OF TENDER – NOT APPLICABLE

If after submission of the tender, the price of materials specified in Special Conditions of Contract increases/decreases beyond the base price(s) as indicated in Special Conditions of Contract for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of Contract including the justified period extended under the provisions of Clause 5 of the Contract without any action under Clause 2.

However for work done/during the justified period extended as above, it will be limited to indices prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost).

The increase/decrease in prices of cement, steel reinforcement, structural steel and POL shall be determined by the Price indices Economic Advisor to Government of India, Ministry of Commerce and Industry. For other items provided in the Special Conditions of Contract, this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry. Base price for cement, steel reinforcement, structural steel and POL shall be as issued by the state / Central Govt. from time to time. In case, price index of a particular material is not issued by Ministry of Commerce and Industry, then the price index of nearest similar material as indicated in Special Conditions of Contract shall be followed.

The amount of the contract shall accordingly be varied for all such materials and will be worked out as per the formula given Clause 10CA, Conditions of Contract of CPWD.

CLAUSE 10CC : PAYMENT DUE TO INCREASE/DECREASE IN PRICES/WAGES (EXCLUDING MATERIALS COVERED UNDER CLAUSE 10 CA) AFTER RECEIPT OF TENDER FOR WORKS – NOT APPLICABLE

If the prices of materials (not being materials supplied or services rendered at fixed prices by the WAPCOS in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. However, for the work done during the justified period extended as above, the compensation as detailed below will be limited to prices/wages prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost). No such compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in Special Conditions of Contract. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the provisions mentioned in the Clause 10CC of CPWD Conditions of Contract.

CLAUSE 10D: DISMANTLED MATERIAL WAPCOS PROPERTY

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as WAPCOS's/Client property and such materials shall be disposed off to the best advantage of WAPCOS according to the instructions in writing issued by the Engineer-in-Charge.

CLAUSE 11: WORKS TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications specified in Special Conditions of Contract or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

At least to 10% of prescribed Tests as per Central Public Works Department Manual/IS Codes/MORTH of construction materials shall be carried out from the outside approved/NABL recognized Laboratory as may be approved by WAPCOS without any extra expenditure to WAPCOS.

The Contractor shall establish a field test laboratory on the site with latest equipment's for carrying out field tests of construction materials and will maintain proper records of all the test results.

CLAUSE 12: DEVIATIONS / VARIATIONS EXTENT AND PRICING

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the Tendered Value sum being ordered, be extended, if requested by the contractor, as follows:

- (i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original Tendered Value plus
- (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.2 Deviations, Extra Items, Substituted item and Pricing

- (a) **In the case of extra item(s)** (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, for the work and the Project Manager, WAPCOS shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined after approval of Engineer-in - charge.
- (b) **In the case of substituted items** (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.
 - If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
 - If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- (c) **In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in Special Conditions of Contract**, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for

the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Project Manager, WAPCOS shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined after approval of Engineer-in -charge.

The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the contractor without observation of the Engineer-in-Charge or his authorized representative.

12.3 Any operation incidental to or necessarily has to be in contemplation of tenderer while filing tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE 13: FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK

If at any time after acceptance of the tender or during the progress of work, the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope the Engineer-in-Charge shall give notice in writing to that effect to the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

- (i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
- (ii) WAPCOS shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work). For materials taken over or to be taken over by WAPCOS, cost of such materials as detailed by Engineer-in- Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
- (iii) If any materials supplied by WAPCOS are rendered surplus, the same except normal wastage shall be returned by the contractor to WAPCOS at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to WAPCOS stores, if so required by WAPCOS, shall be paid.
- (iv) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.

The contractor shall, if required by the Engineer- in-Charge, furnish to him, books of account, wage books, time sheet and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the WAPCOS as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the WAPCOS from the contractor under the terms of the contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus 60 days beyond that. Wherever such a fresh Performance Guarantee is furnished by the contractor the Engineer-in-Charge may return the previous Performance Guarantee.

CLAUSE 14: CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to WAPCOS, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

- (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or
- (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by WAPCOS because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the WAPCOS are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by WAPCOS in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by WAPCOS as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to WAPCOS in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the

contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

CLAUSE 15: SUSPENSION OF WORK

- (i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
- (a) on account of any default on the part of the contractor or;
 - (b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or
 - (c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

- (ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
- (a) the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
 - (b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-Para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by WAPCOS or where it affects whole of the works, as an abandonment of the works by WAPCOS, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by WAPCOS, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

CLAUSE 16: ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-In-charge, his authorized subordinates in charge of

the work and all the superior officers, officer of the Quality Assurance Unit of the WAPCOS or any organization engaged by the WAPCOS for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorized subordinates in-charge of the work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the WAPCOS for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in- Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in Special Conditions of Contract may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

CLAUSE 17: CONTRACTOR LIABLE FOR DAMAGES, DEFECTS DURING DEFECT LIABILITY PERIOD

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in- Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.

Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

The defects liability period will be one year from the date of completion of development and construction works. During this period the Contractor will get the defects rectified without any cost to WAPCOS. For the item of water proofing roof treatment the Contractor will give guarantee bond for ten years. Similarly for other items, like electrical/mechanical equipment which have guarantee/warranty period beyond one year, wherever

applicable as per manufacturer recommendations, will also be given guarantee bond by the Contractor to WAPCOS.

CLAUSE 18: CONTRACTOR SUPPLY TOOLS & PLANTS ETC.

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in Special Conditions of Contract. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

CLAUSE 18A: RECOVERY OF COMPENSATION PAID TO WORKMEN

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, WAPCOS is obliged to pay compensation to a workman employed by the contractor, in execution of the works, WAPCOS will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the WAPCOS under sub-section (2) of Section 12, of the said Act, WAPCOS shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by WAPCOS to the contractor whether under this contract or otherwise. WAPCOS shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to WAPCOS full security for all costs for which WAPCOS might become liable in consequence of contesting such claim.

CLAUSE 18B: ENSURING PAYMENT AND AMENITIES TO WORKERS, IF CONTRACTOR FAILS

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, WAPCOS is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, WAPCOS will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the WAPCOS under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, WAPCOS shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by WAPCOS to the contractor whether under this contract or otherwise WAPCOS shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the WAPCOS full security for all costs for which WAPCOS might become liable in contesting such claim.

CLAUSE 19: LABOUR LAWS TO BE COMPLIED BY CONTRACTOR

The contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

CLAUSE 19A

No labour below the age of fourteen years shall be employed on the work.

CLAUSE 19B: PAYMENT OF WAGES

- (i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- (iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Contractor's Labour Regulations made by WAPCOS from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.
In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/ 43884-91, dated 31-12-1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.
- (v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.
- (vi) The contractor shall indemnify and keep indemnified WAPCOS against payments to be made under and for the observance of the laws aforesaid and the C.P.W.D. Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- (vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- (viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- (ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

CLAUSE 19C

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D. Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19 D

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) The number of labourers employed by him on the work,
- (2) Their working hours,
- (3) The wages paid to them,
- (4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- (5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to WAPCOS, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer-In-Charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and be binding on the contractor.

CLAUSE 19 E

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the WAPCOS and its contractors.

CLAUSE 19 F

Leave and pay during leave shall be regulated as follows:-

1. **Leave :**
 - (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
 - (ii) In the case of miscarriage - upto 3 weeks from the date of miscarriage.
2. **Pay :**
 - (i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
 - (ii) In the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.
3. **Conditions for the grant of Maternity Leave:**

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.
4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix -I and II, and the same shall be kept at the place of work.

CLAUSE 19 G

In the event of the contractor(s) committing a default or breach of any of the provisions of the WAPCOS, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default

subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the Fd huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

CLAUSE 19 H

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

- (i)
 - (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.
 - (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
 - (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
 - (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii)
 - (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
 - (b) The contractor(s) shall provide each hut with proper ventilation.
 - (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
 - (d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed
- (iii) **Water Supply** - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- (iv) The site selected for the camp shall be high ground, removed from jungle.

- (v) **Disposal of Excreta** - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (vi) **Drainage** - The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
- (vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (viii) **Sanitation** - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 19 I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE/JE will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.

CLAUSE 19J

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the WAPCOS whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, WAPCOS, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

CLAUSE 19K: Employment of Skilled / Semi Skilled Workers

The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

CLAUSE 19L: Contribution of EPF and ESI

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the

contractor. These contributions on the part of the employer paid by the contractor as per prevailing norms of EPF and ESI.

CLAUSE 20: MINIMUM WAGES ACT TO BE COMPLIED WITH

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.

CLAUSE 21: WORK NOT TO BE SUBLET. ACTION IN CASE OF INSOLVENCY

The contract shall not be assigned or sublet without the written approval of the Engineer-in Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of WAPCOS in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the WAPCOS shall have power to adopt the course specified in Clause 3 hereof in the interest of WAPCOS and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE 22

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of WAPCOS without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

CLAUSE 23: CHANGES IN FIRM'S CONSTITUTION TO BE INTIMATED

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

CLAUSE 24

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

CLAUSE 25: DISPUTES RESOLUTION

25.1 Governing Law, Jurisdiction & Waiver of Alternative Remedies

25.1.1 Governing Law: This Contract shall be governed and interpreted strictly in accordance with the laws of India. No foreign law, conflict-of-laws principle, or external rule shall apply, unless expressly mandated by a funding agency and separately approved in writing by the Competent Authority.

25.1.2. Exclusive Jurisdiction: Subject to prior exhaustion of the internal dispute-resolution tiers stipulated in this Contract, the Parties agree that all suits, actions, or proceedings arising out of or in connection with this Contract, including its formation, validity, performance, breach, or termination, shall be instituted exclusively before the competent civil courts at Delhi, being the place where the Company's Registered Office is situated, to the exclusion of all other courts. The Parties irrevocably waive any objection relating to forum non conveniens, place of suing, or inconvenience.

25.1.3. Exclusion of arbitration & consensual ADR: The Parties unequivocally agree that no dispute shall be referred to arbitration, conciliation, expert determination, Dispute Review Board, or any other form of consensual alternative dispute resolution, except where statutorily mandated (eg., MSMED Act). This exclusion is without prejudice to the mandatory pre-litigation mediation process stipulated in Clause 25.2.3 below.

25.1.4. The parties expressly agree that there is no arbitration agreement between them and they irrevocably waive any right to invoke arbitration under the Arbitration and Conciliation Act, 1996 or to constitute an arbitral tribunal in any manner whatsoever.

25.2. STRUCTURED INTERNAL DISPUTE RESOLUTION MECHANISM (SIDRM)

25.2.1. Tier-I: Dispute resolution by Engineer-in-Charge (EIC)

25.2.1a. Notice of Dispute: Any Dispute must be notified in writing to the EIC within 21 days from the date on which the aggrieved Party became, or ought reasonably to have become, aware of the event giving rise to the Dispute.

25.2.1b. Contents of Notice: The notice shall contain (i) complete facts and chronology; (ii) precise contractual clauses invoked; (iii) a quantified claim with calculations; and (iv) full supporting records such as drawings, DPRs, MBs, photographs, test results, correspondence, and site registers, vague, omnibus, or un-particularised notices shall be summarily rejected without prejudice to WAPCOS.

25.2.1c. EIC's Decision: The EIC shall examine the matter, including through joint site verification of expert inputs as needed, and shall issue a speaking order within 30 days of receiving a complete notice.

25.2.1d. Binding Effect: The EIC's decision shall bind both Parties unless a written request seeking escalation to Tier-II is filed within 15 days from the date of issuance of EIC's decision. Absence of a timely request shall render the EIC decision final.

25.2.2 Tier-II: Departmental Review Committee (DRC)

25.2.2a Constitution: A standing Departmental Review Committee, consisting of three senior officers including two Technical and one Finance/ Account officer, shall independently review disputes escalated from Tier-I.

25.2.2b. Review Process: The DRC shall conduct a record-based administrative review of the Tier-I file, supplemented by written submissions from the Contractor. The committee may permit oral hearings if it deems them necessary for a fair decision.

25.2.2c. Decision & Finality: The DRC shall deliver reasoned determination within 30 days of referral, extendable once by 30 days for, if resolution takes time, with reasons recorded. This determination shall constitute the final administrative decision of WAPCOS.

25.2.3 MANDATORY PRE-LITIGATION MEDIATION

25.2.3a. Obligation to Mediate: Following the DRC decision (or deemed decision), either Party may initiate pre-litigation mediation. Where the dispute qualifies as a 'commercial dispute' under the Commercial Courts Act, 2015, this mediation shall satisfy the mandatory pre-litigation requirement under Section 12A of the said Act.

25.2.3b. Mediation Parameters: Mediation shall be conducted by a mediator empanelled with the High Court or a Government-notified mediation service provider in accordance with the Mediation Act, 2023. The timelines and extension provisions stipulated in the Act shall apply.

25.2.3c. Approval of Settlement: Any mediated settlement agreement shall be subject to final written approval and execution by the Competent Authority of WAPCOS. The mediator shall be informed at the outset that the authorized representative of WAPCOS does not have the inherent power to bind WAPCOS to a settlement without such approval. If such approval is not granted within 30 days of the settlement terms being presented, the settlement shall be deemed not concluded, and the mediation shall be treated as unsuccessful.

25.2.4 CIVIL COURT JURISDICTION & CONSEQUENCES OF BREACH

25.2.4a. Exhaustion of Remedies: A Party may file a civil suit only after (a) obtaining a DRC decision or deemed decision, and (b) participating in the mandatory mediation process and obtaining a failure report.

25.2.4b. Mandatory Pleadings: Every plaint shall specifically demonstrate compliance with Tier-I, Tier-II, and Tier-III requirements. Failure to do so shall render the plaint liable to rejection.

25.2.4c. Any attempt to initiate arbitration or file a civil suit without first exhausting the mandatory tiers stipulated above shall constitute a material breach of contract. WAPCOS shall be entitled to seek appropriate relief from the court, including but not limited to an injunction to restrain such proceedings, and to recover all associated costs and expenses.

25.2.5 GENERAL PROVISIONS

25.2.5.1. Severability: If any portion of this Clause is invalidated by a court, the remaining parts shall remain in force.

25.2.5.2. Amendment: This Clause may be amended only by a written instrument signed by the CMD or an expressly authorized officer of WAPCOS.

25.2.5.3. Failure to continue performance shall constitute a material breach entitling WAPCOS to terminate the Contract without prejudice to its other right.

CLAUSE 26: CONTRACTOR INDEMNIFY WAPCOS AGAINST PATENT RIGHTS

The contractor shall fully indemnify and keep indemnified the WAPCOS against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against WAPCOS in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the contractor shall not be liable to indemnify the WAPCOS if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27: LUMP SUM PROVISIONS IN TENDER

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

CLAUSE 28: ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the

work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE 29: WITHHOLDING AND LIEN IN RESPECT OF SUM DUE FROM CONTRACTOR

- a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the WAPCOS or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or WAPCOS will be kept withheld or retained as such by the Engineer-in-Charge or WAPCOS till the claim arising out of or under the contract is determined by the arbitrator(if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

- b) WAPCOS shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for WAPCOS to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by WAPCOS to the contractor, without any interest thereon whatsoever.

Provided that the Government shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the WAPCOS on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by WAPCOS.

CLAUSE 29A: LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the WAPCOS or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or WAPCOS or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the WAPCOS or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the WAPCOS will be kept withheld or retained as such by the Engineer-in-Charge or the WAPCOS or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

CLAUSE 30: EMPLOYMENT OF COAL MINING OR CONTROLLED AREA LABOUR NOT PERMISSIBLE

The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted.

Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the contractor.

The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to WAPCOS a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this contract.

It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.

Explanation: - Controlled Area means the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana Commissionery, Districts of Bankuara, Birbhum, Burdwan, District of Bilaspur.

Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

CLAUSE 31: UNFILTERED WATER SUPPLY

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

- (i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.
- (ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

CLAUSE 31A: WATER SUPPLY, IF AVAILABLE

Water if available may be supplied to the contractor by the WAPCOS subject to the following conditions: -

- (i) The water charges @ 1 % shall be recovered on gross amount of the work done.
- (ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.
- (iii) The WAPCOS do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangements for water at his/ their own cost in the event of any temporary break down in the water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

CLAUSE 32: ALTERNATE WATER ARRANGEMENTS

- (i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Government, no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
- (ii) The contractor shall be allowed to construct temporary wells in the proposed land for Construction for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be

required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE 33: RETURN OF SURPLUS MATERIALS

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of WAPCOS either by issue from WAPCOS stocks or purchase made under orders or permits or licences issued by WAPCOS, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the WAPCOS and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and/or for criminal breach of trust, be liable to WAPCOS for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

CLAUSE 34: HIRE OF PLANT & MACHINERY

- (ii) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work

CLAUSE 35: CONDITION RELATING TO USE OF ASPHALTIC MATERIALS

- (i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- (ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to WAPCOS, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in- Charge in writing.
- (iii) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

CLAUSE 36: EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES

Contractors Superintendence, Supervision, Technical Staff & Employees

- (i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Special Conditions of Contract. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s)

shall be appointed by the contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/ checked measurements/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (nonrefundable) shall be effected from the contractor as specified in Special Conditions of Contract and the decision of the Engineer-In-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every on account bill final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

- (ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work. The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

CLAUSE 37: LEVY / TAXES PAYABLE BY CONTRACTOR

- (i) All the taxes including GST applicable in respect of this contract shall be payable by the Contractor and WAPCOS will not entertain any claim whatsoever in respect of the same.
- (ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the WAPCOS and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the WAPCOS and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor

CLAUSE 38: CONDITIONS FOR REIMBURSEMENT OF LEVY/TAXES IF LEVIED AFTER RECEIPT OF TENDERS

- (i) All tendered cost shall be inclusive of all taxes and levies (excluding GST) payable under respective statutes. However, if any further tax or levy or cess is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes/levies/cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the WAPCOS attributable to delay in execution of work within the control of the contractor.
- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the WAPCOS and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE 39: TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-In-Charge on behalf of the WAPCOS shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 40: IF RELATIVE WORKING IN WAPCOS THEN THE CONTRACTOR NOT ALLOWED TO TENDER

The contractor shall not be permitted to tender for works in the WAPCOS responsible for award and execution of contracts in which his near relative is posted in WAPCOS. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Officer in the WAPCOS. Any breach of this condition by the contractor would render him liable to be debarred from tendering in WAPCOS any breach of this condition.

NOTE: By the term “near relatives” is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

CLAUSE 41: NO GAZETTED ENGINEER TO WORK AS CONTRACTOR WITHIN ONE YEAR OF RETIREMENT

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

CLAUSE 42: RETURN OF MATERIALS & RECOVERY FOR MATERIAL ISSUED

- (i) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance - (see Clause 10), theoretical quantity of materials issued by the WAPCOS for use in the work shall be calculated on the basis and method given hereunder:-
 - (a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of **work as shown in the Schedule of Rates** mentioned in Special Conditions of Contract. In case any item is executed for which standard constants for the consumption of cement or bitumen are not available in the above mentioned schedule/statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.

- (b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter wise, section wise and category wise separately.
 - (c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheet shall be taken as quantity actually required and measured plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheet it shall be 10%), such determination & comparison being made diameter wise & category wise.
 - (d) For any other material as per actual requirements.
- (ii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Special Conditions of Contract. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorized variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of written notice by the Engineer-in-charge to this effect shall be recovered at the rates specified in Special Conditions of Contract, without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Special Conditions of Contract, shall be final & binding on the contractor.
- For non-scheduled items, the decision of the Engineer-In-Charge regarding theoretical Quantities of materials which should have been actually used shall be final and binding on the contractor.
- (iii) The said action under this clause is without prejudice to the right of the WAPCOS to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

CLAUSE 43: COMPENSATION DURING WARLIKE SITUATION

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-In-Charge upto Rs. 5,000/- and by the WAPCOS for a higher amount. The contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer-In-Charge.

CLAUSE 44: APPRENTICES ACT PROVISIONS TO BE COMPLIED WITH

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the WAPCOS

may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

CLAUSE 45: RELEASE OF SECURITY DEPOSIT AFTER LABOUR CLEARANCE

Release of Security Deposit of the work shall not be refunded till the contractor produces a clearance deposit after labour certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

CLAUSE 46: INSURANCE

1. Requirements

Before commencing execution of works, unless stated otherwise in the special conditions of contract, it shall be obligatory for the contractor to obtain at his own cost stipulated insurance cover under the following requirements:

- a) Contractor's all risk and Third Party Cover.
- b) Liability under the workmen's compensation Act, 1923, Minimum Wages Act, 1948 and Contract Labour (Regulation and Abolition) Act, 1970.
- c) Accidents to staff, Engineers, Supervisors and others who are not governed by workmen's compensation Act.
- d) Damage to material, machinery and works due to fire theft etc.
- e) Any other risk to be covered by insurance as may be specified by the employer in the special conditions of contract.

2. Policy in Joint Names of Contractor and Employer

The policy referred to under sub-clause 46(1) above shall be obtained in the joint names of the contractor and the employer and shall inter-alia provide coverage against the following, arising out of or in connection with execution of works, their maintenance and performance of the contract.

- a) Loss of life or injury involving public, employee of the contractor, or that of employer and Engineer, labour etc.
- b) Injury, loss or damage to the works or property belonging to public, government bodies, local authorities, utility organizations, contractors, employer or others.

3. Currency of Policy

The policies shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period. The contractor shall, whenever called upon, produce to the engineer or his representative the various insurance policies obtained by him as also the rates of premia and the premia paid by him to ensure that the policies indeed continue to be in force. If the contractor fails to effect or keep in force or provide adequate cover in the insurance policies mentioned in the sub clause 46(1) or any other insurance he might be required to effect under the contract, then in such cases, the employer may effect and keep in force any such insurance or further insurance and the cost and expenses incurred by him in this regard shall be deductible from payments due to the contractor or from the contractor's performance security.

CLAUSE 47: CONDITIONS SPECIFIC TO GREEN BUILDINGS PRACTICES

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

1. SITE

- 1.1** The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction phase. The contractor shall implement the Erosion and Sedimentation Control Plan (ESCP) provided to him by the Engineer-in-charge as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan

(ESCP) Guidelines from the Engineer-in-charge and then prepare “working plan” for the following month’s activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.

- 1.2 The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractors shall take the clearance of the architects / Engineer-in-charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation of the proposed vegetation. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimeter) diameter. The stored top soil may be used as finished grade for planting areas.
- 1.3 The contractor shall carry out the recommendations of the soil test report for improving the soil under the guidance of the Engineer-in-charge who would also advise on the timing of application of fertilizers and warn about excessive nutrient levels.
- 1.4 The contractor shall carry out post-construction placement of topsoil or other suitable plant material over disturbed lands to provide suitable soil medium for vegetative growth. Prior to spreading the topsoil, the sub-grade shall be loosened to a depth of 50mm to permit bonding. Topsoil shall be spread uniformly at a minimum compacted depth of 50mm on grade 1:3 or steeper slopes, a minimum depth of 100mm on shallower slopes. A depth of 300mm is preferred on relatively flatter land.
- 1.5 The Contractor should follow the construction plan as proposed by the Engineer-in-charge to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.
- 1.6 No excavated earth shall be removed from the campus unless suggested otherwise by Engineer-in-charge. All subsoil shall be reused in backfilling/landscape, etc as per the instructions of the Engineer-in-charge
- 1.7 The contractor shall not change the natural gradient of the ground unless specifically instructed by the architects / landscape consultant. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, rocky outcrops, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-charge.
- 1.8 The contractor shall not carry out any work which results in the blockage of natural drainage.
- 1.9 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-charge
- 1.10 Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 1.11 Overloading of trucks is unlawful and creates erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering must take place. No overloading shall be permitted.

2. CONSTRUCTION PHASE AND WORKER FACILITIES

- 2.1 The contractor shall specify and limit construction activity in preplanned/ designated areas and shall start construction work after securing the approval for the same from the Engineer-in-charge. This shall include areas of construction, storage of materials, and material and personnel movement.
- 2.2 Preserve and Protect Landscape during Construction
 - a) The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash, oil, paint, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be

damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.

- b) The contractor shall take steps to protect trees or saplings identified for preservation within the construction site using tree guards of approved specification.
 - c) The contractor shall conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) proposed by the Engineer-in-charge. All the existing trees should be preserved, if not possible than compensate the loss by re-planting trees in the proportion of 1:3.
 - d) The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. Separate the zones of movement of heavy equipment, parking, or excessive foot traffic from the fenced plant protection zones.
 - e) The contractor shall ensure that maintenance activities shall be performed as needed to ensure that the vegetation remains healthy. The preserved vegetated area shall be inspected by the Engineer-in-charge at regular intervals so that they remain undisturbed. The date of inspection, type of maintenance or restorative action followed shall be recorded in the logbook.
- 2.3 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. A project-wide policy of “Nothing leaves the Site” should be followed. In such a case when strictly followed, care would automatically be taken in ordering and timing of materials such that excess doesn’t become “waste”. The Contractor’s ingenuity is especially called towards meeting this prerequisite/ credit (GRIHA). Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.
- 2.4 Contractor shall collect all construction waste generated on site. Segregate these wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
- 2.5 The contractor shall provide clean drinking water for all workers
- 2.6 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employs in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.
- 2.7 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall ensure the following activities to prevent air pollution during construction:
- Clear vegetation only from areas where work will start right away
 - Vegetate / mulch areas where vehicles do not ply.

- Apply gravel / landscaping rock to the areas where mulching / paving is impractical
 - Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10 – 20%
 - Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged. Water spraying can be done on:
 - a) Any dusty materials before transferring, loading and unloading
 - b) Area where demolition work is being carried out
 - c) Any un-paved main haul road
 - d) Areas where excavation or earth moving activities are to be carried out
 - The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
 - All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
 - Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
 - Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area
 - Provide dust screens, sheeting or netting to scaffold along the perimeter of the building Cover stockpiles of dusty material with impervious sheeting
 - Cover dusty load on vehicles by impervious sheeting before they leave the site
- 2.8 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.
- 2.9 The contractor shall ensure that no construction leach ate (Ex: cement slurry), is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including, reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).
- 2.10 Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 2.11 The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 _Constructional practices and safety, 2005, National Building code of India,

Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.

- 2.12 The contractor shall ensure the following activities for construction workers safety, among other measures:
- Guarding all parts of dangerous machinery.
 - Precautionary signs for working on machinery
 - Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
 - Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
 - Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
 - Provide protective equipment; helmet etc.
 - Provide measures to prevent fires. Fire extinguishers and bucket of sand to be provided in the fire-prone area and elsewhere.
 - Provide sufficient and suitable light for working during night time.
- 2.13 Adopt additional best practices, prescribed norms in construction industry.
- 2.14 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 – Storage, Stacking and Handling practices, NBC 2005 and shall be to the satisfaction of the Engineer-in-charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered. The Owner shall not take any responsibility on any account.
- 2.15 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilisation of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labeled in both Hindi and English.
- 2.16 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.
- 2.17 Contractor shall collect the relevant material certificates for materials with high recycled (both post-industrial and post-consumer) content, including materials for structural use like TMT steel rolled with high percentage of recycled steel, and RMC mix with fly-ash etc. (see appendix)
- 2.18 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork.
- 2.19 Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.

2.20 The contractor shall ensure that a flush out of all internal spaces is conducted prior to andover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

2.21 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are dorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below:

Paints

Non-flat - 150 g/L

Flat (Mat) - 50 g/L

Anti-corrosive/ anti rust - 250 g/L

Coatings

Clear wood finishes

Varnish - 350 g/L

Lacquer - 550 g/L

Floor coatings - 100 g/L

Stains - 250 g/L

Sealers

Waterproofing sealer - 250 g/L

Sanding sealer - 275 g/L

Other sealers - 200 g/L

The VOC (Volatile Organic Compounds) content of adhesives and sealants used must be less than VOC content limits mentioned:

Architectural Applications VOC Limit (g/l less water)

Indoor Carpet adhesives - 50

Carpet Pad Adhesives - 50

Wood Flooring Adhesive - 100

Rubber Floor Adhesives - 60

Sub Floor Adhesives - 50

Ceramic Tile Adhesives - 65

VCT and Asphalt Tile adhesives - 50

Dry Wall and Panel Adhesives - 50

Structural Glazing Adhesives - 100

Multipurpose Construction Adhesives - 70

Substrate Specific Application VOC Limit (g/l less water)

Metal to Metal - 30

Plastic Foams - 50

Porous material (except wood) - 50

Wood - 30

Fiber Glass – 80

2.22 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with GRIHA program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

2.23 **Water Use during Construction**

Contractor should spray curing water on concrete structure and shall not allow free flow of water. After liberal curing on the first day, all the verticals surfaces of concrete structures should be painted with curing chemical to save water nothing extra shall be paid. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

2.24 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material

shall be segregated and stored separately. The malba obtained during construction shall be collected in well-formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.

2.25 MATERIALS & FIXTURES FOR THE PROJECT

2.26 The contractor shall endeavor to source most of the materials for construction at this project. Contractor shall collect the relevant material certificates to prove the same

- a) All cement used at site for reinforced concrete works, including structural members such as foundations, columns, beams, slabs, and precast elements shall be OPC (Ordinary Portland Cement) grade 43 nd above conforming to relevant IS specifications. For non-structural works such as plastering, PPC (Portland Pozzolana Cement) grade 43 or above conforming to IS 1489: 1991 shall be used.
- b) As a measure to reduce wastage and water consumption during construction, the contractor shall source or set up the infrastructure for a small scale ready mix concrete, all concreting works at site shall utilise only batch mix concrete.
- c) The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization, where it stipulates that ii. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction. Any brick/block containing more than 25% fly ash is designated as fly ash brick/block. As per GRIHA credits, bricks / blocks should contain more than 40% fly ash.
- d) The contractor shall ensure that sand from approved source is used in place of sand in an all concreting works unless specifically instructed otherwise by the Engineer-in-charge.
- e) Timber and aluminum use should be minimized in the project. If used, timber shall constitute of reclaimed timber and aluminum shall constitute recycled content. The source of such reclaimed timber shall be approved by the Engineer-in-charge.
- f) The contractor shall ensure that nontoxic anti-termite and other pest control is strictly used.
- g) The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer-in-charge before the application of any such material.
- h) All plumbing and sanitary fixtures installed shall be as per the requirement of the of the GRIHA and shall adhere to the minimum LPM and LPF mentioned.
- i) The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipment's and/halon-free fire suppression and fire extinguishing systems.
- j) The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc do not contain any added urea formaldehyde resin.

2.28 CONSTRUCTION WASTE

- a) Contractor shall ensure that wastage of construction material is kept to a maximum of 3%.
- b) All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type. Employ measures to segregate the waste on site into inert, chemical, or hazardous wastes.
- c) All construction debris shall be used for road preparation, back filling, etc, as per the instructions of the Engineer-in-charge, with necessary activities of sorting, crushing, etc.
- d) No construction debris shall be taken away from the site, without the prior approval of the Engineer-in-charge.
- e) The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos

- f) If and when construction debris is taken out of the site, after prior permissions from the Project Manager, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.
- g) Inert waste to be disposed off by Municipal Corporation/ local bodies at landfill sites.

2.29 Documentation

- a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer-in-charge on a monthly basis:
 - i) Water consumption in liters
 - ii) Electricity consumption in 'kwh' units
 - iii) Diesel consumption in liters
 - iv) Quantum of waste generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
 - v) Digital photo documentation to demonstrate compliance of safety guidelines as specified here.
- b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer-in-charge on a weekly basis:
 - i) Quantities of material brought into the site, including the material issued to the contractor by the client.
 - ii) Quantities of construction debris (if at all) taken out of the site
 - iii) Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc as guided by the Engineer-in-charge.
- c) The contractor shall submit one document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disrupted during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction)
- d) The contractor shall submit to the Engineer-in-charge after construction of the buildings, a detailed as built quantification of the following:
 - i) Total materials used,
 - ii) Total top soil stacked and total reused
 - iii) Total earth excavated,
 - iv) Total waste generated,
 - v) Total waste reused,
 - vi) Total water used,
 - vii) Total electricity, and
 - viii) Total diesel consumed.
- e) The contractor shall submit to the Engineer-in-charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.
- f) The contractor shall submit to the Engineer-in-charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.
- g) Provide supporting document from the manufacturer of the cement specifying the fly-ash content in PPC used in reinforced concrete.
- h) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.
- i) The contractor shall, at the end of construction of the buildings, submit to the Engineer-in-charge, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:
 - i) Source of products: Supplier details and location of the supplier and brand name.
 - ii) Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.

- iii) Recycled Content: Submit information regarding product postindustrial recycled and post-consumer recycled content. Use the “Recycled Content Certification Form”, to be provided by the Commissioning Authority appointed for the Project.
- iv) Product Recyclability: Submit information regarding product and product’s component’s recyclability including potential sources accepting recyclable materials.
- v) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
- vi) Indoor Air quality and Environmental Issues: Submit following certificates:
 - a) Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
 - b) Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
 - c) Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.
- k) Provide total support to the Engineer-in-charge appointed by the owner in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead.

2.30 EQUIPMENT

- a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the architects.
- b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL/LED bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

The contractor is expected to go through all other conditions of the GRIHA rating stipulations, which can be provided to him by the architects.

Failure to adhere to any of the above mentioned items, without necessary clearances from the architects and the Engineer-in-charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as determined by the architects.

CLAUSE 48: PAYMENT

1. Payment Schedule

The Payment Schedule includes a schedule setting out each Milestone Event to be achieved in a month for the Works.

2. Contractor's Application for Payment

From the date of issue of the Notice to Proceed, on the 5th (fifth) Business Day of any month, the Contractor may submit a Request for Payment, to WAPCOS Limited Representative in respect of the preceding month.

Within each Request for Payment the Contractor shall show separately:

- (i) the amounts which the Contractor claims to be payable as the cost of the Works completed during that month; and
- (ii) the cumulative amount of all prior payments made by WAPCOS Limited; and
- (iii) Any amounts to which the Contractor considers are due and payable to it in accordance with the provisions of the Contract.

The Contractor's Request for Payment shall:

- (i) be prepared on forms in the form and in a number advised by WAPCOS Limited Representative; and

- (ii) contain confirmation of the relevant Milestone Events which, in the opinion of the Contractor have been achieved in that month which applies to each such Milestone Event; and
- (iii) be accompanied by:
 - (a) Copy of relevant records of measurement of works, jointly taken and signed by both the parties;
 - (b) A status report describing in such detail as may reasonably request, the percentage of any uncompleted Milestone Event for the month in question and the work to be undertaken by the Contractor prior to the next Request for Payment;
 - (c) Certification by WAPCOS Limited Representative confirming that the Milestone Events referred to in the Request for Payment have been achieved.
 - (d) Confirmation by the Contractor of any amounts due and owing from the Contractor to WAPCOS Limited pursuant to the Contract;
 - (e) The Contractor's certification that the quality of all completed Works accords with the requirements of the Contract;
 - (f) The Contractor's certification that each obligation, item of cost or expense mentioned in that Request for Payment has not been the basis of any previous payment.
 - (g) The Contractor's certification that it has reviewed all financial and budget data contained in the Request for Payment;
 - (h) The Contractor's certification that the quality of all completed Works accords with the requirements of the Contract;
 - (i) The Contractor's certification that each obligation, item of cost or expense mentioned in that Request for Payment has not been the basis of any previous payment; and
 - (j) The Contractor's certification that each Subcontractor who performed part of the Works which was included in the immediately preceding Certificates of Payment was paid all amounts then due to it for such Works
 - (k) The Contractor providing evidence of the validity of the Contractor's Insurances.

3. Certificates of Payment

Within [14 (fourteen)] Business Days of receipt of the Contractor's Request for Payment under Clause 48(2) [Contractor's Application for Payment], WAPCOS Limited and WAPCOS Limited Representative shall review such request and, shall issue to the Contractor, a Certificate of Payment certifying what amounts WAPCOS Limited shall pay. Each Certificate of Payment shall be for an amount which in the opinion of WAPCOS Limited, is the basis of the Request for Payment and pursuant to the Contract, is properly due to the Contractor (the "Gross Certifiable Amount") less (i) the cumulative amounts of payments previously certified as due to the Contractor, (ii) any deduction on account of recovery of Advance Payment, and (iii) Retention Amount.

In the event that the Contractor fails to achieve any Milestone Event specified in the Payment Schedule, the Contractor shall not be entitled to the payment value attributable to that Milestone Event until the relevant Milestone Event has been achieved. When the relevant Milestone Event is achieved, the Contractor may include the payment value attributable to the Milestone Event in the next Request for Payment.

No sum shall be included in the Certificate of Payment in respect of Materials yet to be incorporated into the Permanent Works unless the WAPCOS Limited Representative is satisfied that:

- (i) such Materials have been properly acquired and properly and not prematurely delivered to the Project Site;
- (ii) such Materials have been properly stored on the Project Site and fully protected against loss, damage or deterioration;
- (iii) the Contractor's records of the requisitions, orders, receipts and use of any Materials are kept in a form approved by the WAPCOS Limited Representative, and such records are available for inspection by the WAPCOS Limited Representative; and
- (iv) The Contractor has submitted a proper statement of the cost of acquiring the Materials together with such documents as may be required for evidencing such cost.

Without prejudice to any other rights of WAPCOS Limited to withhold payment to the Contractor, WAPCOS Limited may withhold from any payment due to the Contractor such amount as WAPCOS Limited deems reasonably necessary or appropriate:

- (i) if in the opinion of the WAPCOS Limited Representative the progress of the Works at the time of the Request for Payment is behind the progress of the Works as set out in the Programme; and/or
- (ii) to protect it from any losses, expenses, costs or liability because of any one or more of the following reasons:
 - (a) defects and deficiencies in any Works, whether or not payment has been made;
 - (b) unsatisfactory performance of the Contract;
 - (c) the filing of third party claims relating to the Works or any of its commitment parts for which the Contractor is liable;
 - (d) the Contractor's failure to make payments to Subcontractors;
 - (e) failure by the Contractor to provide or procure replacement Performance Security in accordance with the Contract;
 - (f) failure by the Contractor to provide evidence of insurance coverage in accordance with the Contract;
 - (g) reasonable evidence that Completion will not occur by the Time for Completion;
 - (h) any overpayments made by WAPCOS Limited with respect to a previous payment;
 - (i) failure by the Contractor to submit a properly updated monthly Programme; and
 - (j) failure by the Contractor to provide satisfactory evidence that the costs of all labour and Materials and other obligations arising out of the Contract have been fully satisfied and discharged by the Contractor and/or to otherwise fail to submit adequate supporting documentation for any Request for Payment.

Any Provisional Sum Works shall only be executed in whole or part upon the WAPCOS Limited Representative's instruction. If the WAPCOS Limited Representative issues no such instruction, the Provisional Sum Works shall not form part of the Works and the Contractor shall not be entitled to payment for it. The Contractor shall be deemed to have allowed the necessary time and resources to enable design and Execution of the Provisional Sum Works in so far as the scope and nature of the Provisional Sum Works was reasonably foreseeable.

The Contractor shall be entitled only to such amount in respect of the Provisional Sum Works as the WAPCOS Limited Representative determines in accordance with this Clause 48(3). The WAPCOS Limited Representative shall notify the Contractor of any such determination. The WAPCOS Limited Representative shall have the authority to issue instructions to the Contractor for every Provisional Sum Works for which the Contractor shall be entitled to a part of the Provisional Sum as determined by the WAPCOS Limited Representative.

The Contractor shall produce to the WAPCOS Limited Representative all quotations, vouchers, invoices, accounts or receipts in connection with the expenditure in respect of the Provisional Sum Works, except where the Provisional Sum Works is valued in accordance with the item wise rates quoted by the Contractor in its bid submitted to the Employer.

In respect of every Provisional Sum the WAPCOS Limited Representative shall have authority to issue instructions for the execution of work or for the supply of goods, materials, Plant Sums or services by the Contractor, in which case the Contractor shall be entitled to an amount equal to the value thereof determined in accordance with Clause 48(3).

4. Payment

WAPCOS Limited shall pay the amount certified in a Certificate of Payment less the amount paid earlier in accordance with Clause 48(3) [Certificate of Payment], no later than [15 (fifteen)] Business Days from the date of such Certificate of Payment. The payment schedule shall be applicable only upon verification of measurement and execution of work to the satisfaction of Engineer In-Charge and Directorate of Fisheries.

5. Back to Back Payment

The Associate/Sub-consultant/sub-contractor unconditionally acknowledges that under the present contract/agreement/work order/arrangement, WAPCOS is only working as intermediary between DIRECTORATE OF FISHRIES being Principal Employer/Client and Associate/ sub-consultant /sub-contractor. Thus the Associate/ sub-consultant /sub-contractor also unconditionally acknowledges that the payment under the present contract/ agreement/ Work Order /Arrangement shall be made proportionately by WAPCOS only on back to back basis i.e. after 21 days subject to receipt of payment from DIRECTORATE OF FISHRIES being Principal Employer/Client. The Associate/ sub-consultant /sub-contractor also unconditionally agree that in the event the payment or part thereof, under the present Contract/Agreement/Work Order/Arrangement is not received from DIRECTORATE OF FISHRIES (Principal Employer/Client), then WAPCOS &/or any of its Employer/Officer shall not be responsible to pay any amount to Associate/ sub-consultant /sub-contractor. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties.

CLAUSE 49: Make in India

Public Procurement (Preference to Make in India)

The bidder must comply with Order Nos. P-45021/112/2020-PP(BE-II)(E-43780) dated 24.08.2020, 28.08.2020, and 31.08.2020 and also Make in India Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 of Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India and any amendments thereon. The details available on ministry website.

Self-certification that the item offered meets the minimum local content of 50% giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the make in India policy, if applicable.

In cases of procurement for a value in excess of ₹10crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost account or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content to avail the benefits under the make in India policy, if applicable.

Government has issued Public Procurement (Preference to Make in India) [PPP-MII] Order 2017 vide the Department for Promotion of Industry and Internal Trade (DPIIT) Order No.P45021/2/2017-B.E.-II dated 15.06.2017 and subsequent revisions vide Order No.45021/2/2017PP(BE-II) dated 28.05.2018, 29.05.2019, 04.06.2020 and 16.09.2020 to encourage 'Make in India' and to promote manufacturing and production of goods, services and works in India with a view to enhancing income and employment. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017. The salient features of the aforesaid Order are as under:

The Order is applicable for procurement by Ministry / Department / attached / subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

In procurement of all goods, services or works in respect of which the Nodal Ministry/Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.

The margin of purchase preference shall be 20%. 'margin of purchase preference' means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference. Ministry of Electronics and Information Technology is the Nodal Ministry for implementation of the Electronic Product Notifications issued in furtherance of PPPMII Order 2017.

Classes of Local Suppliers based on local content as per the revised PPP-MII Order dated 04.06.2020 issued by the Department for Promotion of Industry and Internal Trade (DPIIT) are as under:

- Class-I Local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%.
- Class-II Local supplier - a supplier or service provider, whose goods, services or works
- Offered for procurement, has local content more than 20% but less than 50%.
- Non-Local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%.
- Only 'Class-I local supplier' and 'Class-II local supplier' shall be eligible to bid in procurement of all goods, services or works, and with estimated value of purchases less than Rs. 200 crore.

CLAUSE 51: Provision as per Rule 144(xi) of GFR

F.NO.6/18/2019-PPD Ministry of Finance Department of Expenditure Public Procurement Division 161, North Block, New Delhi 23rd July, 2020 Office Memorandum Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017 Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.

The order available on the Ministry of Finance Department of Expenditure Public Procurement Division website.

SECTION- IV

SPECIAL CONDITIONS OF CONTRACT

SECTION-IV

SPECIAL CONDITIONS OF CONTRACT

1.0 SPECIAL CONDITIONS OF CONTRACT

The Special Condition of Contract (SCC) shall be followed by the Contractor in addition to the General Condition of Contract (GCC) of tender document. The following General Condition of Contract of this tender are modified/added as detailed below. In case of any discrepancy between GCC and SCC, the SCC will succeed over GCC.

Clause No.	Description	Applicability/Modified/ Added
GENERAL RULES AND DIRECTIONS		
5	Office Inviting Tender Deputy Chief Engineer C&C Division WAPCOS Limited 76-C, Institutional Area, Sector - 18 Gurugram-122015, Haryana Email: ccm@wapcos.co.in	
8	Schedule of Materials to be issued to the Contractor	Not Applicable
DEFINITIONS		
Added	'Owner' means Director, Directorate of Fisheries (DoF), Government of Goa 'Client/ Employer': WAPCOS Limited	
2(iii)	Work / Project Means: As Mentioned in NIT	
2(iv)	Site / Location Means : - Survey No. 135/18 situated at Nagorcem Palolem Village, Canacona Taluka - Goa. The Contractor shall obtain necessary permissions/ NoC from the relevant authorities before executing the works.	
2 (vi)	Engineer-In-Charge Will be intimated to the successful Bidder at the time of issue of Notice to Proceed the works.	
2 (vii)	Accepting Authority Shall mean WAPCOS LIMITED/ Directorate of Fisheries	
2 (x)	Market Rate Percentage on cost of materials and labour to cover all overheads and profits	15% (Provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.)
2(xi)	Standard Schedule of Rates Schedule of Rates (Civil) Schedule of Rates (Electrical)	Goa Schedule of Rates 2023/Bombay Municipal Corporation 2023/ Maharashtra Civil SOR 2023/DSR 2023 Goa Schedule of Rates 2023/ Maharashtra Electrical SOR 2022
2(xvi)	Date of Commencement of work	Within 10 days after date of award of Work
CLAUSES OF CONTRACT		
Clause 1	Performance Guarantee i. Performance Guarantee. ii. Performance guarantee if contractor quotes abnormally low iii. Time allowed for submission of	Applicable 5% of Tendered Value Not Applicable 10 days

Clause No.	Description	Applicability/Modified/ Added
	Performance Guarantee from the date of issue of letter of acceptance.	
	iv. Validity of Performance Guarantee	The Performance Guarantee shall be initially valid 60 days beyond the stipulated date of completion plus 1 year claim period beyond that.
	v. Return of Performance Guarantee	Soon after the completion & commissioning of works and issuance of the completion certificate.
Clause 1A	Security Deposit	Applicable 5% of Tendered Value
	Release of Security Deposit	Successful Completion of Defect Liability period of 1 year.
Clause 2	Compensation for Delay	Applicable and Modified: Timely completion of the work is very much/strictly essential due to time constraints 0.50% of the Tendered Amount per week. (Maximum up to 10% of the Project Cost)
Clause 2A	Incentive for Early Completion	Not Applicable
Clause 5	Time and Extension for Delay	Applicable
	Number of days from the date of issue of letter of acceptance for reckoning date of start	15 days
	Stipulated time of completion of project	As Mentioned in NIT
Clause 7	Payment on Intermediate Certificate to be Regarded as advance	Not Applicable
New Clause 7A (Added)	Payment	It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between WAPCOS and the Contractor; the contractor shall become entitled to payment only after WAPCOS has received the corresponding payment(s) from the client/Owner/Funding Agency for the work done by the contractor. Any delay in the release of payment by the client/ Owner/ Funding Agency to WAPCOS leading to a delay in the release the corresponding payment by WAPCOS to the contractor shall not entitle the contractor to any compensation/ interest from WAPCOS. All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by WAPCOS.
Clause 10	Materials Supplied by WAPCOS	Not Applicable
Clause 10A	Materials to be Provided by Contractor	Applicable In addition, The contractor shall get the testing of materials from NABL accredited Laboratory and carry out the tests in presence of WAPCOS Officials during the normal working hours.

Clause No.	Description	Applicability/Modified/ Added
Clause 10 B(ii)	Mobilization Advance	Not Applicable
Clause 10 B(iii)	Plant Machinery & Shuttering Material Advance	Not Applicable
Clause 10 B(iv)	Recovery of Mobilization advance	Not Applicable
Clause 10 C	Payment on Account of Increase in Price / Wages due to Statutory Order	Not Applicable
Clause 10 CA	Payment due to Variation in Prices of Materials after Receipt of Tender	Not Applicable
Clause 10 CC	Payment due to Increase / Decrease in Prices / Wages (Excluding Materials covered under Clause 10 CA) after Receipt of Tender for Works	Not Applicable
Clause 11	Works to be Executed in Accordance with Specifications, Drawings, Orders etc. Specifications to be followed for execution of work	<p style="text-align: center;">Applicable</p> <p>The following is added: All works are to be executed in accordance with the specifications, drawings. Details of items & specifications mentioned in the tender document In case specification of any item is not clear, The Specifications of pertaining SOR (GSR,MSR,DSR etc) with up to date correction slips issued on the last date of submission of tender for Civil work is applicable.</p>
Clause 12	Deviations / Variations Extent and Pricing	
	Clause 12.1	Not applicable
	Clause 12.2(a)	Modified as “In the case of extra item(s) (items that are completely new and not in the scope of works as per tender condition), the rates for extra items shall be determined on basis of latest GSR/ MSR/DSR (respectively). In case extra items, which are not available in SOR and market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS.
	Clause 12.2(b)	<p>Modified as “The specification / Item(s) mentioned in Tender may be substituted as per the requirement of Owner/ WAPCOS.</p> <ul style="list-style-type: none"> • In this case of substituted item(s) being GSR item, the rates for substituted items shall be determined on basis of latest GSR (Goa Schedule of rates) as approved by WAPCOS. • In this case of substituted item(s) being Non scheduled item, market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS. • The rate of tendered item to be substituted will also be assessed by same above manner. <p>The plus/minus difference of rates of mutually</p>

Clause No.	Description	Applicability/Modified/ Added
		substituted items will be submitted by Contractor and approved by Engineer-in-Charge WAPCOS after written consent from principle client. Accordingly the plus/minus difference of payment will be made to the Contractor for the substituted quantities.
	<p>Clause 12.2(c) Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for all items other than foundation work (except earthwork) as mentioned in clause 12.5</p> <p>Clause 12.5 Deviation limit beyond which clause 12.2 & 12.3 shall apply for foundation work (except earth work)</p> <p>Deviation limit for items in 100% earth work sub head of GSR or related items</p>	<p>Project & Original Works</p> <p>30%</p> <p>30%</p> <p>100%</p> <p>Modified as “In case of deviated item(s) beyond the %age mentioned above (Non Scheduled item within GSR 2023 or latest) the contractor may within fifteen days of receipt of the order or occurrence of the item(s) claim rates, supported by the proper analysis on basis of market rates. Contractor shall be paid in accordance with rates approved by WAPCOS.</p> <p>In case of deviated item, beyond the % mentioned above, being the scheduled item (Goa Schedule of Rates 2023 or latest), these shall be paid of the scheduled rates plus the applicable cost index.</p>
Clause 15A	Compensation in case delay supply of material	Not Applicable
Clause 17	Contractor liable for Damages, Defects during Defect Liability Period Defect Liability Period	<p>Applicable</p> <p>Added/Modified: One year from the date of successful completion of each component of the project in all respect along with submission of all required documents i.e. As Built Drawings, Inventory List, Guarantee/Warrantee Bonds, Certificates & Invoices of Equipment’s, Lock & Key of each room and NOCs from various Departments.</p>
Clause 18	Contractor Supply Tools & Plants Etc.	Applicable
Clause 25	Settlement of Disputes & Arbitration	Not Applicable
Clause 27	Lump sum Provisions in Tender	Not Applicable
Clause 30	Employment of coal mining or controlled area labour not permissible	Not Applicable
Clause 33	Return of surplus material	Not Applicable
Clause 34	Hire of plant and Machinery	Not Applicable

Clause No.	Description	Applicability/Modified/ Added				
Clause 36(i)	Requirement of Technical Representative(s)					
	S. No.	Requirement of Technical Staff		Minimum Experience (Yrs)	Designation of Technical Staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling
		Minimum Qualification	Numbers			
	1.	Graduate in Civil Engineering	1	10	Project Manager	Rs. 60,000/- per month
	2	Diploma/ Degree (Civil)	1	05	Site Engineer (Civil)	Rs. 35,000/- per month
2	Diploma/ Degree (Mechanical/ electrical)	1	05	Site Engineer (MEP)	Rs. 30,000/- per month	
*Curriculum vitae shall be submitted by the successful bidder after award of work						
*The above staff should have experience in similar works						
Clause 42	Return of Material & Recovery for Material Issued	Not Applicable				
Clause 43	Compensation During War Like Situation	Not Applicable				
Clause 46	Insurance	Applicable				
Clause 47	Conditions Specific to Green Buildings Practices	Not Applicable				
Clause 49	Arbitration Clause	Yes, Applicable				

ADDITIONAL CONDITIONS

1. The Contractor shall be responsible for consequential effects arising out during the inspection done by the Chief Technical Examiner Cell, Central Vigilance Commission or by the Building Works Committee or third party authorized by WAPCOS or any statutory committee or by any duly authorized representative of WAPCOS, during the progress or any time after the construction and development of project up to the defect liability period, and will take appropriate action for rectification of defective work and modification as suggested by the above teams/ group/ individual. Rectification of defective works or replacement of sub-standard materials or articles, as pointed out by the Chief Technical Cell, Central Vigilance Commission, Building Works Committee or authorized representative of WAPCOS or third party authorized by WAPCOS or any statutory committee, will be carried out or replaced by the Contractor at his own risk and cost. WAPCOS will not pay any extra amount for such rectification or replacement or modification.
2. The Construction/Execution Work may be subject to deletion from scope of work as per the desire/requirement from Client "Department of Fisheries, Goa". In such cases before/during the construction, the contractor is not liable for any financial claim or damage charges or any claim whatsoever. The time extension will be granted to the contractor in such circumstances.
3. The construction work will only be commenced by the Contractor only after the approval/vetting of drawings from the concerned local authorities/ Department of Fisheries or any other department as per statutory requirement.
4. The contractor shall deploy the resources at site to start/resume the construction activities as per the availability of the clear & after the clearance from the Owner of the project, land/land clear from hindrance and subsequent written approval from WAPCOS. No claim shall be entertained for idle labour, idle machinery, idle technical / non-technical staff, idle T&P if any, due to delay in start of the works.
5. **Handing Over of the Project:** Contractor will hand over the project to Owner /Client after successful completion of each component of the project in all respect and complete satisfaction of Engineer-In-charge. **The partial handing over of works components shall not be considered.** Contractor shall also provide necessary Completion Certificates/NOCs from all local Government/ Statuary Authorities including Fire, Forest, Electrical, Environment, Lift, DG Set, required before handing over the project to the client. The defect liability period will be one year after such handing over.
6. If any dispute/ hindrance may arise during construction due to any reason whatsoever, the contractor is not liable for any financial claim for damages due to such circumstances.
7. The contractor shall provide fully equipped office for Engineer- in-charge & site engineers/ client along with facility of 24 hours electric with Power Backup/Inverter, drinking water supply, sanitary, internet facilities, one inspection vehicle, office furniture – tables, chairs, almirah for storage of documents etc., desktop computers/laptop of latest version/configuration along with printers (for A4 & A3 both b/w & colored printing) with internet connection and any other miscellaneous requirement as directed by Engineer-in-charge for finalizing immediate technical solutions/decisions on the site, so that the work progress may not be hampered. An amount equal to 1% of the gross amount of running account bills and final bill will be deducted, if above facilities are not provided at site.
8. The Contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. nothing extra shall be payable to the agency on this account.
9. Contractor should provide R.O. Plant sufficient for workers employed at site, his technical staff and site staff.
10. The Contractor shall be solely responsible to follow the general clauses of the contract including labour regulations, registration of contractor, obtaining labour license from labour department, safety precautions, etc. and all other statutory provisions related to labor/works as per the prevailing General Clauses of Contract amended from time to time. The Contractor shall stick to the schedule of all activities and carry out it with mutually agreed time frame.

11. Quoted percentage rate by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation shall be applicable on this contract. Quoted amount by the contractor shall be all inclusive and shall apply to all heights lifts, leads and depths of the building and nothing extra shall be payable on this account. The Contractor is advised to visit the sites before quoting the rates.
12. The contractor shall make his own arrangements for obtaining electric connection and water Connection/arrangement (if required). The water charges and electricity charges as charged by the Directorate of Fisheries, Goa and Local Authorities will be paid by the Contractor. No dispute in this regard shall be entertained.
13. The Contractor shall dispose off all the dismantled materials, debris, garbage, waste outside of the campus of the works at his own cost and provide clear and clean site at the time of handing over the works
14. The payment of final bill will be made after successful completion and handing over of the works with complete satisfaction of Engineer In-Charge as well as Directorate of Fisheries.
15. Some restrictions may be imposed by the security staff etc. on the working and for movement for labour materials etc. The contractor shall be bound to follow all such restrictions / instructions and nothing extra shall be payable on this account.
16. The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.
17. The percentage cost/rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials working during monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
18. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department/WAPCOS for the same.
19. The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipment shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.
20.
 - (a) The work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer in charge and nothing extra will be paid on this account.
 - (b) The work of water supply, internal sanitary installation and drainage work etc. shall be carried out as per local Municipal Corporation or such local body Bye-laws. Water tanks, taps, sanitary, water supply and drainage pipes and fittings etc. should conform to bye laws and specification as applicable. The contractor should engage plumbing and sanitary agency approved by WAPCOS, which should have requisite T&P, skilled workers and experience for which necessary certificates & document proof shall be submitted within one month of the start of work. The contractor shall get the materials (fixtures / fittings) tested agencies approved by WAPCOS as required at his own cost.
 - (c) The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rule and regulations and pay all fees and charges which he may be liable.
21. The contractor shall give a performance test of the entire installation(s) as per standing specification before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
22. Any cement slurry added over base surface (or) for continuation of concreting for better bond is

deemed to have been in-built in the items and nothing extra shall be payable nor extra cement shall be considered in consumption on this account.

23. Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided shall be borne by the Contractor. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself. The testing of various construction materials shall be carried out as per the testing frequency mentioned in the CPWD Specifications/Manual/IS Code. An amount equal to 0.5% of the gross amount of running account bills and final bill will be deducted, if the tests are not conducted as per the testing frequency. **The testing carried out from outside laboratory, shall be done through NABL Accredited laboratories only.**
24. The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time, by the Engineer-in-Charge. Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available there from is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim whatsoever shall be entertained on this account.
25. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by WAPCOS.
26. In the case of items of which abbreviated nomenclature is not available in the above cited publication and also in case of extra and substituted items of works for which abbreviated nomenclature is not provided in the agreement, the full nomenclature of items shall be reproduced in the measurements books and bill forms for running account bill. The full nomenclature of the items shall be adopted in preparing abstract of final bill in the measurement book and also in the bill form for final bill.
27. The contractor shall have to make approaches road to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-charge. Nothing extra shall be paid on this account.
28. No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.
29. All mass Reinforced Cement Concrete work shall be design mix concrete of specified grade. Initial Design Mix shall be carried out from the Govt. approved Laboratory/NABL Accredited Lab/NIT/IIT, The contractor shall install on site automatic batching plant of sufficient capacity for production of design mix concrete which shall be used in the work.
30. Various factory made materials shall be procured from reputed and approved manufacturers or their authorized dealers. List of such approved manufacturers is provided in the tender document.
31. **Contractor shall have to execute a Guarantee Bond in respect of Water Proofing works as per Performa attached in this Tender Document. He shall also have to execute guarantee bonds for water supply and sanitary installations work as per Performa attached in this Tender Document.**
32. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.
33. Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in

execution of work. It is suggested that immediately after award of work, contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge. Any material procured without prior approval of Engineer in charge in writing is liable to be rejected. Engineer in charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Non-standard materials shall not be accepted.

34. Doors and frames shall be procured from specialist firms and name of such agencies shall be got approved from the Engineer in charge well in advance.
35. The construction joints shall be provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.
36. The gradation of fine sand to be used in plaster work shall be strictly as per Table 3.1 (clause 3.1.3) of CPWD Specification 2009 Vol.-I conforming to IS 1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.
37. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical work accordingly.
38. The contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-charge.
39. One sample quarter/room complete in all shape for each category, shall be prepared by the contractor and got approved from Engineer-in-charge in writing. The contractor shall be allowed to proceed with further quarters only after getting the sample quarters approved in writing from Engineer-in-charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.
40. The contractor shall take instruction from the Engineer in charge for stacking of materials at any place. No excavated earth or building material shall be stacked on areas where other buildings, roads, services or compound walls are to be constructed.
41. If as per municipal rules, the huts for labour are not be created at the site of work by the contractors, the contractor are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account.
42. Royalty at the prevalent rates shall be payable by the contractor on all the boulders, metals, shingle, sand and bajri etc. collected by him for the execution of the work, direct to the Revenue authority or authorized agent of the state Government concerned or Central Government. No such claim of Contractor on royalty shall be entertained by the WAPCOS.
43. The contractor shall establish a fully equipped site laboratory and shall provide electrically operated cube crushing and testing machine appliance at site, such as weighing, scale, graduated cylinder, standard sieves, thermometer, slump cones, testing machines for testing of bitumen content, CBR Value, aggregate impact value, ductility & softening point of bitumen, VG of bitumen. MDD & compaction value, Sand replacement, elongation & flakiness of aggregates etc. all relevant tests for BMC / RMC as per prescribed IS codes in order to enable the Engineer in charge to conduct field tests to ensure that the quality is consistent with the prescribed specifications and nothing extra shall be paid on this account.
44. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case, he or his authorized representative is not present or does not associate himself, the results of such tests and consequences thereon shall be binding on the contractor.
45. The contractor shall get the water tested with regard to its suitability of use in the works and get written approval from the Engineer in charge before he proceeds with the use of same of execution of works. The suitable water for construction shall be arranged by Contractor at his own cost and nothing extra shall be paid to the contractor on this account.

46. The material shall conform to the quality and make as per attached list attached in the tender document. However for the items not appearing in the list preference shall be given to those articles which bear ISI certification marks. In case articles bearing ISI certification marks are not available, the quality of sample brought by the Contractor shall be judged by the standard laid down in the relevant ISI specification/CPWD specification. All materials and articles brought by the contractor to the site for use shall conform to the samples approved, which shall be preserved till the completion of the work. However, such articles which bear ISI mark but stand banned by CPWD will not be used. Notwithstanding the case of materials of "Preferred Make" as given provisions of Clause 10A of the General Conditions of Contract for Central PWD works shall be applicable on the materials of "**Preferred Make**" also.
47. It must be ensure that all materials to be used in work bear BIS certification mark. In cases where BIS certification system is available for a particular material/product but not even a single producer has so far approached BIS for certification the material can be used subject to the condition that it should confirm to CPWD specification and relevant BIS codes. In such case written approval of the Engineer-In-Charge may be obtained before use of such material in the work.
48. The final approval of the brand to be used shall be as per the direction of Engineer-in-Charge. The brand used shall be one of the brands in case specified in the list of preferred make / materials.
49. In case of non-availability of material of the brands specified in the list of approved materials, an equivalent brand may be used after getting written approval of WAPCOS giving details to indicate that the brand proposed to be used is equivalent to the brands mentioned in the agreement.
50. **Special conditions for Cement**
The contractor shall procure 43 grade Ordinary Portland Cement (conforming to IS : 8112), Portland Pozzolona Cement (confirming to IS : 1489 : Part –I) as required in the work, from reputed manufacturers of cement as per the list of approved makes mentioned in the tender document or from any other reputed cement manufacturer, having a production capacity not less than one million tons per annum as approved by WAPCOS. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufactures, given by the tenderer, fully or partially. The cement brought to the site for execution of work shall be in bags bearing manufacturer's name & ISI marking. Weight of cement in each bag shall be 50 kg. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and it shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.
51. **Special condition for steel reinforcement bars**
The CPWD / Contractor shall / procure IS marked TMT bars of various grades from
- (1) **The steel Manufacturers such as SAIL, TATA Steel Ltd., RINL, Jindal Steel & Power Ltd, JSW Steel Ltd., or their authorized dealers having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012)**
 - (2) (a) The steel manufactures or their authorized dealers (as per following selection criteria) having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012).

The procured steel should have following qualities: -

- i. Excellent ductility, bend ability and elongation of finished product due to possible refining technology.
- ii. Consumption of steel should be accurate as per design.
- iii. Steel should have no brittleness problem in finished product.
- iv. Steel should carry the quality of corrosion and earthquake resistance.
- v. Quality steel with achievement of pro
- vi. per level of sulphur and phosphorus as per IS: 1786-2008.

b) Selection Criteria of steel manufacturers

(I) The supply of reinforcement steel for all CPWD works should have following selection criteria of steel manufacturers: -

Steel producers of any capacity using iron ore / processed iron ore as the basic raw material adopting advanced refining technologies as given under,

- (i) DRI-EAF = Direct Reduced iron – Electric Arc furnace
- (ii) BF-BOF – Blast furnace – Basic Oxygen Furnace
- (iii) COREX-BOF = COREX – Basic Oxygen Furnace

For production of liquid steel to finish product at single / multiple locations with NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 conforming to IS: 1786-2008 (Amendment -1 November 2012).

The check list for incorporation of any quality steel producer is enclosed for technical assessment is given in Annexure – 1.

Chief Engineer CSQ (Civil) unit, Directorate of CPWD shall approve the steel manufacturers.

(II) The contractor shall have to obtain the furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.

(III) Samples shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-charge to do so.

(IV) The steel reinforcement bars shall be stored be brought to the site in bulk supply of 10 tonnes or more, or as decided by the Engineer-in-charge.

(V) The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

(VI) For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random, and a frequency not less that specified below:

Size of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10 mm dia bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
Under 10 mm to 16 mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Under 10 mm to 16 mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

(VII) The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.

(VIII) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumptions of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment need to be made.

(IX) The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

52. Removal of rejected/sub-standard materials.

The following procedure shall be followed for the removal of rejected/sub-standard materials from the site of work:

- (i) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the Site Order Book under the signature of the Engineer-In-Charge, giving the approximate quantity of such materials.
- (ii) As soon as the material is removed, a certificate to that effect shall be recorded by the Engineer-In-Charge against the original entry, giving, the date of removal and mode of removal, i.e., whether by truck, carts, or by manual labour. If the removal is by truck, the registration number of the truck should be recorded.
- (iii) When it is not possible for the Engineer-In-Charge to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site, the required certificate should be recorded by the Authorized Representative of WAPCOS, and the Engineer-In-Charge should countersign the certificate recorded by the Authorized Representative.

53. In case of works where a ready mix concrete (RMC) is stipulated to be used from an approved source/manufacturer, cement register need not be maintained. However, the computerized dispatch slips that are sent with each dispatch of RMC shall be kept as record.
54. If the work is carried out in more than one shift or during night, no claim on this account shall be entertained. The contractor has to take permission from the police & local authorities etc. if required for work during night hours. No claim / hindrance on this account shall be considered if work is not allowed during night time. The requisite supervision shall be made available by the WAPCOS along with necessary issue of material under joint custody.
55. After the building is completed, the contractor shall be responsible to attend & rectify the defects pointed out by WAPCOS and then hand over the building to the client. Nothing extra shall be paid on this account.
56. Contractor should hand over the warranty of the specialized items to the WAPCOS.
57. Contractor shall submit all the Guarantee/ Warranty bond for the water proofing and Anti- Termite Treatment works with 10 years of service warranty
58. Contractor shall not divert any advance payments or part thereof for any work other than that needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization advance, secured advance against materials brought at site, secured advance against plant & machinery and/or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability of resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.
59. All running account bills preferred by the contractor for advance payments shall be processed only if Engineer-in-charge is satisfied that up to date investments (excluding security deposit & performance guarantee, which are not considered as investments) made by the contractor against contracted work are more than the payments received. Accordingly, all running account bills shall be supported with an

account of up-to-date payments received vis-a-vis upto date investments made on the work to enable engineer-in-charge to check to his satisfaction that the payments made by engineer-in-charge are properly utilized only on the work and nowhere else.

SECTION – V
ANNEXURES

ANNEXURE-I

(Format for “Contract” to be signed on Non-Judicial Stamp Paper of Rs. 100 by successful bidder)

CONTRACT AGREEMENT

This Contract made on the ____ day of ____ 20____ between WAPCOS Limited, a Company in corporate under Indian Company’s Act and having its registered office at 5th floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called “WAPCOS” of the one part) and (Name of Contractor Firm & Address)_____ (hereinafter called “Contractor” of the other part).

WHEREAS the WAPCOS is desirous that Work known as “_____”. (Herein after referred to as “Work/ Project”) under the Tender no. _____ dated _____ should be executed by the Contractor AND WHEREAS by a Letter of Award No. _____ dated _____ issued by WAPCOS Limited and accepted by the contractor. WAPCOS Limited has accepted a Bid submitted by the Contractor for the execution and completion of such Work AND WHEREAS the Contractor has agreed to undertake such Work and furnish a Performance Security _____ (details) pursuant to Tender conditions.

NOW THIS AGREEMENT WITNESSETH as follows;

In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as part of this Contract, viz;

- a) Tender Document no. _____ dtd. _____
- b) Letter of Award to Contractor by WAPCOS
- c) Documents furnished by the Contractor during Bidding process
- d) Corrigendum/Amendments, if any
- e) Clarifications / Correspondences, if any
- f) Any other documents as forming part of the contract

1. The aforesaid documents shall be taken as complementary and mutually explanatory of one another.
2. In consideration of the payment to be made by WAPCOS to the Contractor as indicated in this Contract, the Contractor hereby covenants with WAPCOS to execute and complete the Works in conformity, in all respects, with the provisions of the Contract.
3. WAPCOS hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the contract at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with Laws of India on the day, month & year indicated above.

SIGNED, SEALED AND DELIVERED

For and on behalf of the WAPCOS

For and on behalf of the Contractor

NAME _____
Designation

NAME _____
Designation

in the presence of witness: _____

in the presence of Witness _____

1 _____

1 _____

2 _____

2 _____

NOTE: Contractor shall submit the Original Power of Attorney on Non-Judicial Stamp Paper for this particular Work / Project, in the name of Person who will sign the Contract with WAPCOS after award of Work.

FORMAT FOR LETTER OF AWARD

No.

Date:.....

M/s(Name of successful bidder)
..... (Address of successful bidder)

Subject: Award Letter for

Reference: Tender No.

Dear Sir,

We are pleased to inform that work of
“.....” is awarded to your firm, in cost of
Rs. ----- excluding GST, according to submission of your technical & financial bids against
referred tender for the subjected work.

Project	Awarded Cost excluding GST
Construction of Development of Modern Community Post Harvesting Facility at Palolem in South Goa.....	Rs.

1. The “Date of Commencement of Work” shall be 15 days after Date of Award or Handing over of Site whichever is later and accordingly, planning should be started for deploying manpower, resources as per Terms & Conditions of Tender document.
2. The tender document wholly accepted by you along with all related correspondences at the time of bidding shall form a part of this letter of award.
3. You are requested to submit the following as per Terms & Conditions of tender
 - Performance Security @5% of Tendered Value as per the form enclosed in the tender document before signing of the Agreement within 21 (Twenty One) days of the date of acceptance of the letter of award and sign the Contract Agreement.
 - Detailed Schedule Plan/ Bar chart of each component of work to complete the work in stipulated time period
 - Labour License from concerned Labour Department of State
 - Contractor All Risk (CAR) and Third Party Cover Policy.
 - Liability under the workmen’s compensation Act, 1923, Minimum Wages Act, 1948
 - Details of manpower to be deployed at site along with CVs
 - List of Lab Equipment required for the work for approval of Engineer-in charge.
4. The terms & conditions of the Work will be governed as mentioned in the tender document.

This letter of award is being issued to you in duplicate. You are requested to return the duplicate copy of the letter of award immediately duly signed and stamped as a token of your unequivocal acceptance and confirmation of the same.

Thanking You,

Yours faithfully,
(Name & Designation)

Annexure – IA

GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER SUPPLY AND SANITARY INSTALLATIONS, UPVC WINDOWS, ROCK WOOL INSULATION AND POLYURETHENE FOAM

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the WAPCOS LIMITED (hereinafter called the WAPCOS of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the WAPCOS of the other part, whereby the contractor interalia, under look to render the work in the said contract recited structurally stable workmanship and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship, finishing, manufacturing defects of materials and leakages etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, after the expiry of maintenance period prescribed in the contract for the minimum life of ten years, to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defects shall be final. During the period of guarantee the guarantor shall make good all defects to the satisfaction of the Engineer in charge calling upon him to rectify the defects, failing which the work shall be got done by the WAPCOS by some other contractor at the guarantor's cost and risk. The decision of the Engineer in charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects, commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and / or damage and / or cost incurred by the WAPCOS the decision of the Engineer-in-charge will be final and binding on the parties.

IN WITHNES WHEREOF those presents have been executed by the obligator _____ and _____ by for and on behalf of the WAPCOS LIMITED on the day, month and year first above written.

Signed sealed and delivered by OBLIGATOR in presence of :

1. _____
2. _____

SIGNED FOR AND ON BEHALF OF THE WAPCOS LIMITED BY _____ in the presence of:

1. _____
2. _____

Annexure – II
**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR WATER PROOFING
TREATMENT FOR BASEMENT / TERRACE / TOILET**

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the WAPCOS Limited (hereinafter called the WAPCOS of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the WAPCOS of the other part, whereby the contractor interalia, undertook to render the structures in the said contract the work in the said contract recited completely water and leak proof.

THE GUARANTOR hereby guarantee that the water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects.

The decision of the Engineer in charge with regard to cause of leakage shall be final.

During the period of guarantee the guarantor shall make good all defects and in case of any defects being found render the structure water proof to the satisfaction of the Engineer in charge at his cost and shall commence the work for such rectification within seven days from the date of issue of notice from the Engineer in charge calling upon him to rectify the defects, failing which the work shall be got done by the WAPCOS through some other contractor at the guarantor's cost and risk. The decision of the Engineer in charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement . As to the amount of loss and / or cost incurred by the WAPCOS on the decision of the Engineer-in-charge will be final and binding on the parties.

IN WITNES WHEREOF those presents have been executed by the obligator _____ and _____ by for and on behalf of the WAPCOS LIMITED on the day, month and year first above written.

Signed sealed and delivered by OBLIGATOR in presence of .:

1. _____
2. _____

SIGNED FOR AND ON BEHALF OF THE WAPCOS LIMITED BY _____ in the presence of :

1. _____
2. _____

Annexure – III
FORM OF PERFORMANCE GUARANTEE

WAPCOS Limited,
76-C, Sector 18, Institutional Area
Gurgaon, Haryana-122015.

In consideration of _____ (Employer's name) (hereinafter referred to as "the Employer") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to _____ (Contractor's name & address) (hereinafter referred to as "the Contractor" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Notification of Award No. _____ dt. _____ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. _____ (Rupees _____ only) for _____ (name of work) (hereinafter called "the contract") and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire contract equivalent to Rs. _____ (Rupees _____ only) (5 % of the said value of the Contract to the Employer).

We, _____ (name & address of bank) (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, on demand any or, all monies payable by the Contractor to the extent of Rs. _____ (Rupees _____ only) as aforesaid at any time upto _____ without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor or court. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer and further agrees that the guarantee herein contained shall continue to be enforceable till the Employer discharges this guarantee.

We the said Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The guarantee shall not be affected by a change in the constitution of the bank or of the employer.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We The Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney / Post Approval Authorization dated _____ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have

been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. _____(Rupees _____ only) and it shall remain in force upto and including _____ and shall be extended from time to time for such period as may be desired by M/s WAPCOS Limited to whom this bank guarantee has been given.

Notwithstanding anything contained herein

- i) Our liability under this guarantee shall not exceed Rs. _____ (Rupees _____ only);
- ii) This bank guarantee shall be valid upto _____; and
- iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before _____ (**indicate a date twelve month after validity of Guarantee**)

Dated this _____ day of _____ at New Delhi.

Annexure – IV
FORMAT FOR AFFIDAVIT

I / We have submitted a bank guarantee for the work (Name of work) Agreement No. _____ Dated _____ from _____ (Name of the Bank with full address) to the WAPCOS Limited, New Delhi with a view to seek exemption from payment of performance guarantee in cash. This Bank guarantee expires on _____ I / We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at my / our own initiative upto a period of _____ months after the recorded date of completion of the work or as directed by the WAPCOS.

I / We also indemnify the WAPCOS against any losses arising out of non-encasement of the bank guarantee if any.

(Deponent)
Signature of Contractor

Note: The affidavit is to be given by the Executants before a first class Magistrate.

Annexure – V
FORM OF ADVANCE PAYMENT GUARANTEE

FORMAT FOR MOBILIZATION ADVANCE PAYMENT BANK GUARANTEE

To,
The WAPCOS Limited,
76-C, Sector 18, Institutional Area
Gurugram, Haryana-122015

In consideration of WAPCOS LTD. (hereinafter referred to as “the Employer”) which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to _____ (Contractor’s name) with its Registered /Head Office at _____(hereinafter referred to as “the Contractor” which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer’s Notification of Award No. _____ dt. _____ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. _____ (Rupees _____ only) for _____ (hereinafter called “the contract”) and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs. _____ (Rupees _____ only) as an advance against bank guarantee to be furnished by the Contractor.

We, _____ (name & address of bank) having its Head Office at _____ (hereinafter referred to as “the Bank” which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer immediately on demand any or, all monies payable by the Contractor to the extent of Rs. _____ (Rupees _____ only) as aforesaid at any time upto _____ without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee. We further agree that no change in the constitution of the Bank or of the Employer shall affect this guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time, to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We the Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney/ Post Approval Authorization dated _____ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or

other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank does hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank does hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is limited to Rs._____ (Rupees _____ only) and it shall remain in force upto and including _____ and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s _____ on whose behalf this bank guarantee has been given.

Notwithstanding anything contained herein

- i) Our liability under this guarantee shall not exceed Rs._____(Rupees _____only);
- ii) This bank guarantee shall be valid upto _____ and
- iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before _____ (**indicate a date twelve months after the validity of the guarantee**).

Dated this _____ day of _____ at.....

Authorized Signatory of Bank

Signature

Signature

Name.....

Name.....

Signature Code/ S.S no.

Signature Code/ S.S no.

Annexure – VI

(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement))

FORMAT FOR GUARANTEE BONDS

To Be Executed by Contractor for Water Proofing after Completion of Work

This Supplementary Agreement made this ____ day of _____ 20__ between (Name of Contractor firm & address) _____ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the WAPCOS LIMITED, 5th floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called WAPCOS of the other part) for the Work <Name of Work> in respect of Contract Agreement (hereinafter called the “Original Agreement” signed between(Name of Contractor firm) and WAPCOS on..... dated), whereby the contractor inter alia, under look to render the buildings and structures in the contract recited completely water and leak-proof for Toilets, Shower , Under Ground Tank, Roof, Over Head Tank, Basement and any other allied areas of building.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **ten years** from the date after the Defect Liability Period or Maintenance Period whichever is later, prescribed in the contract. NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be **ten years** to be reckoned from the date after the Defect Liability Period / Maintenance Period whichever is later, prescribed in the contract.

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- a. Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof.
- b. Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.
- c. The decision of the Principal Employer with regard to cause of leakage/seepage shall be final.

During this period of guarantee the Guarantor shall make good all defects and in case of any defect being found, render the building water proof to the satisfaction of the Principal Employer at his cost and shall commence the work for the rectification within seven days from the date of issue of the notice from the Principal Employer calling upon him to rectify the defects failing which the work shall be done by the Principal Employer by some other agency at the GUARANTOR’s risk and cost. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding. That if Guarantor fails to make good all defects or commits breach there under then the Guarantor will indemnify the principal and his successors against all loss, damage, cost expense otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and/or damage and/or cost incurred by the Principal Employer the decision of the owner will be final and binding on the parties.

IN WITNES WHEREOF those presents have been executed by the GUARANTOR(Name and Designation who sign the Contract) on behalf of(Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor

**For and on behalf of the Principal
Employer/Employer**

NAME _____

Designation

in the presence of witness:

1 _____

2 _____

NAME _____

Designation

in the presence of Witness

1 _____

2 _____

ANNEXURE VI (a)

FORM OF BANK GUARANTEE BOND FOR WATER PROOFING WORK

1. In consideration of the(Name of Principal Employer) (hereinafter called “The Owner”) having agreed to exempt..... (Hereinafter called the said contractor(s)) from the demand, under the terms and conditions of the Agreement No..... dated.....Made between and For the work of..... (hereinafter called “The said Agreement”) security deposit for the due fulfillment by the said contractor(s) of the terms & conditions contained in the said Agreements for the work of Anti water proofing work on production of an irrevocable Bank Guarantee for Rs. 10 Lakhs for ten years we (Indicate the name of the bank) (Hereinafter referred to as “the Bank) hereby undertake to pay to the Owner an amount not exceeding Rs.(Rupeesonly) on demand by the Owner

2. We..... (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from Principal Employer stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under the Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.(Rupeesonly).

3. We..... (indicate the name of the bank) further undertake to pay to Principal Employer any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We..... (indicate the name of the Bank) further agree that the guarantee hereinafter contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of Principal Employer under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Principal Employer certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We..... (indicate name of the bank) further agree with Principal Employer that Principal Employer shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by Principal Employer against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractors(s) or for any bearance, act of commission of the part of Principal Employer or any indulgence by Principal Employer to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

- 6. This guarantee will not be discharged due to the change in the constitution of Bank or the contractor(s).
- 7. We..... (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of Principal Employer in writing
- 8. This guarantee shall be valid upto unless extended on demand by Principal Employer. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.(Rupeesonly) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged

Dated this _____ day of _____ at.....

Authorized Signatory of

Bank

Signature

Signature

Name.....

Name.....

Signature Code/ S.S no.

Signature Code/ S.S no.

ANNEXURE VII

(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate)

FORMAT FOR GUARANTEE BONDS FOR ANTI-TERMITE TREATMENT
To Be Executed by Contractor for Anti Termite Treatment after Completion of Work

This Agreement made on this ____ day of _____ 20__ between _____ (Name of Contractor firm & address) _____ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the _____(hereinafter called Principal Employer/Employer of the other part) for Anti Termite Treatment Works for <Name of Work>

WHEREAS This Agreement is Supplementary, to a Contract (hereinafter called the Contract) Contract no. _____ dated _____ and made between the _____ (Name of Contractor) and WAPCOS LIMITED, 5th floor, Kailash Building, 26, K. G. Marg, New Delhi, whereby the contractor, inter alia, undertook to render the wooden work in the said contract recited completely Termite proof.

THE GUARANTOR hereby guarantee that the anti-termite treatment given by him will render the wooden works completely Termite proof and the minimum life of such Anti-Termite treatment shall be five years to be reckoned from the from the date after the Defect Liability Period or Maintenance Period which ever is later, prescribed in the contract.

During the period of guarantee the Guarantor shall make good all defects and in case of any defects being found render the wooden works termite proof to the satisfaction of the Principal Employer at his cost and shall commence the work for such rectification within seven days from the date of issue of notice from the Principal Employer calling upon him to rectify the defects, failing which the work shall be got done by the Principal Employer through some other Agency at the Guarantor's cost and risk. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the Anti-termite works, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and / or cost incurred by the Principal Employer on the decision of the Principal Employer will be final and binding.

IN WITNES WHEREOF those presents have been executed by the GUARANTOR(Name and Designation who sign the Contract) on behalf of(Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor	For and on behalf of the Principal Employer/Employer
--	---

NAME _____
Designation _____

NAME _____
Designation _____

in the presence of witness:

in the presence of Witness

1 _____

1 _____

2 _____

2 _____

SECTION – VI
FORMS

“FORM-1”

LETTER OF TRANSMITTAL FOR TECHNICAL BID

*(On Bidder **Original** Letter Head)*

To

Deputy Chief Engineer
C&C Division
WAPCOS Limited
76-C, Institutional Area, Sector - 18
Gurugram-122015, Haryana
Email: ccm@wapcos.co.in

Subject: Development of Modern Community Post Harvesting Facility at Palolem in South Goa.

Sir,

Having examined the details given in tender document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed Forms A to H and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we submit the requisite certified solvency certificate and authorize the WAPCOS Ltd. to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize WAPCOS Ltd. to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works:

Name of work	Certificate from

Certificate:

It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I/we shall be liable to be debarred, disqualified / cancellation of enlistment in case any information furnished by me/us found to be incorrect.

Enclosures:

Seal of bidder

Date of submission: Signature(s) of Bidder(s).

FORM-A

FINANCIAL INFORMATION

[To be submitted on Original Letter Head of Bidder OR **Original** Letter Head of CA]

Financial Analysis: Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last three years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Years	Gross Annual Turnover	Profit/Loss (After Tax)
2020-2021		
2021-2022		
2022-2023		
2023-2024		
2024-2025		

Financial arrangements for carrying out the proposed work: It is hereby declared that ----- (Name of firm with address) has enough financial resources to execute the proposed work.

Signature of Chartered Accountant
(with Seal)
UDIN No.

Signature of Bidder(s)
(with Seal)

Note: Original Signature with Stamp of CA is Mandatory. UDIN No has to be mentioned in the Certificate. Copy will not be entertained.

FORM- B

STRUCTURE & ORGANISATION

*(On Bidder **Original** Letter Head)*

S.No.	Particulars	Details Submitted by Bidder
1.	Name & address of the bidder	
2.	Contact Details a) Telephone no. b) Fax no c) Email id d) Website	
3.	Legal status of the bidder (attach copies of original document defining the legal status) (a) An Individual (b) A proprietary firm (c) A firm in partnership (d) A limited company or Corporation	
4.	Particulars of registration with Government Body (attach attested photocopy)	
5.	Names and titles of Directors & Officers with designation to be concerned with this work.	
6.	Designation of individuals authorized to act for the organization	
7.	Has the bidder or any constituent partner in case of partnership firm Limited Company/ Joint Venture, ever been convicted by the court of law? If so, give details.	
8.	Any other information considered necessary but not included above.	

Signature of Bidder(s)

FORM-C

FORMAT FOR NO-CONVICTION CERTIFICATE

[To be submitted on Bidder's **Original** Letter Head]

Subject: No-Conviction Certificate for --- (Name of the work / project)

This is to certify that _____ (Name of the organization), having registered office at _____ (Address of the registered office) has never been blacklisted or restricted to apply for any such activities by any Central / State Government Department or Court of law anywhere in the country.

This is also to certify that M/s _____ (Name of the organization), is not involved in any form of Corrupt and Fraudulent Practices in past and will never be involved in future.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

FORM-D

FORMAT FOR UNDERSTANDING THE PROJECT SITE

[To be submitted on Bidder's **Original** Letter Head]

To

Deputy Chief Engineer
C&C Division
WAPCOS Limited
76-C, Institutional Area, Sector - 18
Gurugram-122015, Haryana
Email: ccm@wapcos.co.in

Subject: Undertaking of the Site Visit for --- (Name of the work / project)

Sir,

I/we hereby certify that I/we have examined & inspected the site & its surrounding satisfactorily, where the project is to be executed as per the scope of works. I/ We are well aware about the following:

- Site clearance and no cutting off the matured trees.
- Topography and contouring of the land where the project is to be executed to understand the cutting & filling during the construction and about depth of column/ foundation below the plinth beam.
- Nature of the ground & sub-soil of the site and accessibility to the site.
- Existing surrounding road level to finalize plinth beam level as per standard norms.
- Location of Existing Sewer line & Water pipe line network to connect the proposed building and allied works to make the building functional.
- Location of existing Electric Sub-Station to supply the electricity for the proposed building and allied works to make the building functional.
- Existing electrical supply line/ substation to connect the proposed building and allied works to make the building functional after taking proper permission and approvals from the concerned Departments
- Position of existing underground & overhead HT/ LT electric lines
- Safety of Surrounding structures during excavation and during execution of work
- Hindrances, if any, which may arise during the execution of work

I / We hereby submit our BID considering above all facts gathered during site visit, each & every aspect have been considered in the Quoted cost of the project. The site locations have also been Geo-tagged .

I / We hereby confirm that no extra/additional cost shall be claimed on above aspects.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

FORM-E

FORMAT FOR NO DEVIATION CERTIFICATE

[To be submitted on Bidder's **Original** Letter Head]

To,

Deputy Chief Engineer
C&C Division
WAPCOS Limited
76-C, Institutional Area, Sector - 18
Gurugram-122015, Haryana
Email: ccm@wapcos.co.in

Subject: No Deviation Certificate for ----- (name of Work /Project)

Dear Sir,

With reference to above this is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

FORM-F

FORMAT FOR INTEGRITY PACT

[To be submitted on Bidder's **Original** Letter Head]

To,

WAPCOS Limited,
76-C, Sector 18,
Institutional Area
Gurgaon-122015, Haryana

Sub: Integrity Pact for ----- (Name of Work / Project)

Dear Sir,

I/We acknowledge that WAPCOS is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document at **Enclosure-I**.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by WAPCOS. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, WAPCOS shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

Enclosure-I
INTEGRITY AGREEMENT

[To be submitted on Bidder's **Original** Letter Head or Stamp Paper]

This Integrity Agreement is made at on this..... day of 20.....

BETWEEN

WAPCOS Limited, New Delhi (Hereinafter referred as the **'Principal/Owner'**, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/firm/Company)

through..... (Hereinafter referred to as the

(Details of duly authorized signatory)

"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No.) (hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for..... (Name of work) hereinafter referred to as the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:-

Article 1: Commitment of the Principal/Owner

- (1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- (2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the

Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

- (1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the WAPCOS all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- (2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - (b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - (d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - (e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- (3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the WAPCOS interests.
- (5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- (2) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.
- (3) Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- (4) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- (1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- (3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- (1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub-vendors.
- (2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- (3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6: Duration of the Pact

- (1) This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
- (2) If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, WAPCOS

Article 7: Other Provisions

- (1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Principal/Owner, who has floated the Tender.
- (2) Changes and supplements need to be made in writing. Side agreements have not been made.
- (3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- (4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8: LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....
 (For and on behalf of Principal/Owner)

.....
 (For and on behalf of Bidder/Contractor)

WITNESSES:

1.....
 (signature, name and address)

2.....
 (signature, name and address)

Place:

Dated:

FORM-G

[To be submitted on Bidder's **Original** Letter Head]

LITIGATION HISTORY, LIQUIDATED DAMAGES, DISQUALIFICATION

Subject: The Bidders should provide information as per this Performa for the firm/company on any history of litigation or arbitration resulting from contracts executed in the last 5 years ending 31.03.2025 or currently in execution.

1. ARBITRATION CASES

Year	Name of work	Name and address of Client	Cause of litigation and matter in dispute	Disputed amount in Rs.	Actual Award amount in Rs.

2. COURT CASES

Year	Name of work	Name and address of Client	Cause of litigation and matter in dispute	Name of court	If judgment given whether for or against the Tenderer

3. Information Regarding Current Litigation, Debarring / Expelling of Tenderer or Abandonment of Work by Tenderer.

- a) i) Has the Bidder consistent history of Litigation.....Yes/No
ii) If yes, give details:
- b) i) Has the Bidder been debarred/ expelled by any Agency in India, during the last 5 years on the date of application except on account of reasons other than non- performance, Yes/No
ii) If yes, give details:
- c) i) Has the Bidder abandoned any contract work during the last 5 years...Yes/No
ii) If yes, give details:
- d) i) Has the Bidder been declared bankrupt during the last 5 years...Yes/No
ii) (If yes, give details, including present status:
- e) i) Has the Bidder been debarred by client or by any Department... Yes/No
ii) If yes, give details:

Note: i) Separate sheet may be used for giving detailed information.

If any information in this schedule is found to be incorrect or concealed, pre- Qualification of bidder will be summarily rejected.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:
Bidder

Name and seal of

[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF STATUTORY AUDITOR OF BIDDER]

FORM-H: FINANCIAL INFORMATION

Years	Gross Annual turnover	Profit/Loss (After Tax)	Net worth
2020-2021			
2021-2022			
2022-2023			
2023-2024			
2024-2025			

Above Details are being furnished as per the figures in balance sheet for the last five years in respect of M/s(Name & address of firm of bidder), as submitted by the firm to the Income Tax Department.

Date:

(Signature of Statutory Auditor with Seal)

UDIN No. :

Place:

FORM-I
FORMAT FOR SOLVENCY CERTIFICATE

SOLVENCY CERTIFICATE

To,

WAPCOS Limited,
76-C, Sector 18, Gurugram-122015

Name of Work: "*Development of Modern Community Post Harvesting Facility at Palolem in South Goa.*"

This is to certify that to the best of our knowledge and information M/s _____ having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of Rs. _____ (Rupees.....)

This certificate is issued without any guarantee or responsibility on the Bank or any of the officers for the work: "*Development of Modern Community Post Harvesting Facility at Palolem in South Goa.*" (Name of work as per NIT).

(Signature) For the Bank with seal
Name:
Designation:
Power of Attorney No.:

Note:

Solvency Certificate should be in Original on letter head of the Bank.

The date of Solvency Certificate shall be after the publication of the tender.

FORM-J

DETAILS OF ANY CIVIL WORK COMPLETED DURING THE SEVEN YEARS

Sl No.	Name of The work & location	Owner or sponsoring organization	Cost of Work (in Crores)	Date of Commencement as per Contract	Stipulated Date of Completion	Actual Date of Completion	Litigation/ Arbitration cases which are over and Litigation/ Arbitration cases pending/ in progress with details	Name & address/ telephone number of Executive Engineer/ Project Manager or equivalent to whom reference shall be made	Remark / Reasons for delay and compensation charged if any
1	2	3	4	6	7	8	9	10	11
<u>1.</u>									
<u>2.</u>									
<u>3.</u>									
<u>4.</u>									
<u>5.</u>									

(Signature of Bidders)

SECTION– VII

APPENDIX

APPENDIX-I

BANK GUARANTEE FORMAT FOR EMD

WHEREAS, M/s having their Registered/Head Office at (hereinafter called “the Bidder”) has submitted his Bid dated for the [hereinafter called “the Bid”] to M/s WAPCOS Limited (hereinafter called the Employer)

KNOW ALL PEOPLE by these presents that we (Name of the Bank) having our head office at (hereinafter called “the Bank”) are bound unto Employer in the sum of for which payment well and truly to be made to the Employer, the Bank binds itself, its successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this day ofmonth..... year.

THE CONDITIONS of this obligation are:

1. If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified;
- OR
2. If the Bidder having been notified of the acceptance of his bid by during the period of Bid Validity:

We undertake to pay to the up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Bidder will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above mentioned two conditions and specify the occurred condition or conditions.

This Guarantee will remain in force up to and including the date after the deadline for submission of Bids as is stated in the instructions to Bidders or as it may be extended by the notice of which extension(s) to the Bank is hereby waived and notice to the bidder would constitute sufficient notice to the Bank. Any demand in respect of this guarantee should reach the Bank not later than the above date.

Notwithstanding anything contained herein

- i) Liability under this guarantee shall not exceed
- ii) This bank guarantee shall be valid upto and;
- iii) Our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee only and only if you serve upon us a written claim or demand in terms of the guarantee on or before (**Indicate a period twelve months after the date of issue of Bank Guarantee**).

DATE:
(Signature of Witness)

SIGNATURE:
SEAL

APPENDIX-II

ACCEPTABLE MAKES OF MATERIALS

Acceptable makes of materials to be used in the work are enclosed. In case of non-availability of these makes, after the approval of Engineer-in-Charge WAPCOS Limited, the Contractor can use the alternative makes only BIS marked materials. Non BIS marked materials may be permitted by the PEA only when BIS marked materials are not manufactured.

Note:

1. The Contractor shall obtain prior approval from the WAPCOS before placing order for any specific material or engaging any of the specialized agencies. The Contractor shall make a detailed submittal with catalogues and highlighted proposed specifications as well as full details of the works proposed to be executed by the specialized agency, as specified.
2. Wherever applicable, the WAPCOS as PEA may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence to his satisfaction.
3. Unless otherwise specified, the brand / make of the material as specified in the item - nomenclature, in the particular specifications and in the list of approved materials attached in the tender, shall be used in the work.
4. Reinforcement steel shall be procured from any vendors who have the license for at least 5 years for manufacture of BIS subject to prior written approval of WAPCOS as PEA. Steel sample of all the lots procured shall be subjected to testing through recognized laboratories and shall be at Contractors' cost. Sampling shall be as per the Specifications (referred to Schedule F).

S. NO	DESCRIPTION OF WORK	MANUFACTURERS
I	Structural & Architectural	
1.	Cement	ACC, Ultra Tech, Dalmia Cement, JK Cement, Ambuja Cement, JSW Cement
2.	White Cement/ Putty	J.K., Birla, Redwop Chemicals Pvt Ltd.
3.	Ready Mix Concrete	A.C.C., Ultra Tech, RMC, Godrej, Skyway,
4.	Waterproofing Compound	Pidilite, BASF, Cico, Fosroc, Roff, Sunanda, Sika, Redwop Chemicals Pvt Ltd.
5.	Reinforcement Steel	SAIL, Tata Steel, RINL, Jindal Steel & Power Ltd., JSW Steel Ltd., Makes- Conforming To Criteria Mentioned In Tender Document
6.	Mechanical Splicing System With Coupler	Splicetek India Pvt. Ltd. Dextra India Pvt. Ltd. Ishita Enterprises
7.	Structural Steel	TATA, SAIL, RINL, Vizag, Jindal, APL, Apollo, IISCO
8.	Concrete Blocks	Conwood, Gurjari, Hindustan, Lokgroup, Sai Block, Ved Pmc Ltd.
9.	AAC Blocks	Aerocon, Siporex, Ultra Tech, Ecolite, Godrej
10.	Sand	Approved Source Conforming To IS Code
11.	Precast Concrete Products	Siporex Ind, B.G. Shirke & Co; Supreme Concrete Minato Blocks - Kolhapur
12.	Anti-Termite Treatment	PCI, PECOPP, Godrej Hi-Care

S. NO	DESCRIPTION OF WORK	MANUFACTURERS
13.	Factory Made Concrete Blocks	Astra Concrete, Raj Cover Blocks
14.	Ready Mixed Cement Plaster	Walplast, Ultra Tech, Madras Cement Ltd, Sound Build Care Ltd., Ferrouscrete, Precise Conchem Pvt Ltd.
15.	Paver Blocks/ Grass Pavers/ Kerbstone	Vyara, Basant Betons, Super, Hindustan
16.	External Paver Tiles	H.R.Johnson-Endura, Vyara, Super, Pavit, Kajaria
17.	External Ceramic Mosaic Tiles	Shon, Mridul, Kent Bisazza, Palldio
18.	External Texture Paint	Renovo, Ruff&Tuff, Roughtex, Sherwin Williams, SKK, Redwop Chemicals Pvt Ltd.
19.	Acrylic Rough Plaster	Asian Paints, Spectrum, Heritage, SKK
20.	Waterproofing Cement Paint	Snowcem, Berger, Nerolac, Asian,
21.	Paints	Ici, Asian, Berger, Nerolac, Dulux, Godavari Paints, British Paint, Redwop Chemicals Pvt Ltd
22.	Gypsum Light Weight Plaster	Gyproc, Ferrouscrete, Ultratech, Saint Gobain
23.	White Cement Based Putty For Concrete/Plastered Surfaces	Birla White, Plasto Shine, Walplast Products Pvt. Ltd, Redwop
24.	Polymer Modified Cementitious Grout/ Cement Adhesive/ Epoxy Grout	Pidilite, Basf, Cico, Fosroc, Roff, Laticrete, Ardex Endura
25.	Polymer Modified Adhesive Mortar For AAC Blocks	Walplast, Ultra Tech, Madras Cement Ltd, Sound Build Care Ltd., Ferrouscrete, Precise Conchem Pvt Ltd., Keracol, Pidilite
26.	Integral Water Proofing Compound	Pidilite, Roff, Fosroc, Sunanda, Cico, Accoproof, Mc Bauchemie, Sika, Kemper, Redwop
27.	Cement Bonded Fibre Particle Board	NCL Industries, Visaka, Everest, Bison, Shera, Ramco
28.	Moisture Resistant Board	Saint Gobain Gyproc India, USG Boral
29.	Calcium Silicate Boards/Tiles	Hilux, Promat, Visaka, Starpan, Aerolite
30.	Aluminium Composite Panels	Aludecor, Eurobond, Alstrong, Alucobond, Timex Bond, Viva - All Fr Class B
31.	Friction Hinges & Locks	Cotswold, Geze, Alualpha, Securistyle, Sotralu, Master
32.	Spacertape, Backer Rod	Norton, Bow, Tremco
33.	All Types Of Silicon	Dow Corning, GE, Wacker India
34.	EPDM	Ame Rubber Industries, Okaska
35.	Nuts, Bolts, Screws	Kundan, Puja, Atul
36.	Welding Rods	Ador, Cosmos, Esab, Super Bond (S)
37.	Stainless Steel Anchor Fasteners	Hilti, Fischer, Klimas
38.	Aluminium Extrusion Sections	Jindal, Hindalco, Nalco, Indian Aluminium Co, Vedanta, Gujrat Aluminium
39.	Fire Resistant Wooden Door Frame & Shutters	Ardor, Signature, Sukriti, Promat, Kuttu, Signum, Kenwood, Shreeji, Tufwood, Navair

S. NO	DESCRIPTION OF WORK	MANUFACTURERS
40.	Fire Resistant Metal Door Frame & Shutters	Ardor, Signature Sukriti, Promat, Kutty, Signum, Kenwood, Shreeji, Tufwood, Navair, Shaktimate Horman, Iclean
41.	Fire Rated Glass	Pilkington, Schott, Saint Gobain, Asahi, Guardian, Modi
42.	Hardware For Fire Rated Doors	Dorma, Geze, Hafele, Hettich
43.	SS Door Hardware	Dorma, Geze, Hafele, Hettich, Kich
44.	Floor Springs, Door Closures, Panic Bar, Patch Fittings	Dorma, Geze, Hafele, Hettich, Horman, Sevax, Casma
45.	Locks	Godrej, Vision/ Vijayan, Dorset
46.	Wooden Flush Doors	Kenwood, Anchor, Century, Greenply, Shreeji, Kutty
47.	Hidden Woodwork	Seasoned Old Burma
48.	Exposed Woodwork	1st BTC
49.	Marine Plywood	Kenwood, Anchor, Century, Greenply, Shreeji, Kutty
50.	Commercial Plywood	
51.	Blockboard	
52.	High Pressure Laminates	Greenlam, Merino, Century Ply Ltd.
53.	Veneers	Greenlam, Euro, Archid, Century Ply Ltd., Timex
54.	Drawer Channels	Earl Bilhari, Efficient Gadgets, Enox
55.	Soft Board	Jolly Board
56.	Screws	Nettlefold, Brass Oxide
57.	High Pressure Compact Laminate Cubicles	Merino, Greenlam, Citadel
58.	Castors	Pitroda, Rexilla
59.	Vertical/ Horizontal Blinds	Vista, Levolor, Mac.
60.	Writing Board	White Mark, Alko Sign
61.	Tecsound Sheet	Texsa, Enviro Solutions, Sound Blanket, Tranquil
62.	Cotton Fabric	Century, Raymond
63.	Nylon Fabric	Reliance
64.	Foam Of Chairs, Sofa	Mm Foam
65.	Fabric Protection	Scotchguard Of Birla 3m
66.	Stainless Steel	Jindal, Sail, Tata Steel, Jsw
67.	Polycarbonate Sheets	Palaram, Danpalon, Lexon, Alcox
68.	Architectural Fabric	Ferrari, Nehlek, Hiraoka
69.	Engineered Composite Marble	H.R.Johnson, Cmc, Agl, Asian
70.	Granite	Cmc, Elegant, Asia Pacific, Stone Source
71.	Quartz	H.R.Johnson, Cmc, Agl, Asian
72.	Vitrified Tiles - Glazed, Soluble Salt, Double Charge, Full Body	Somany, Kajaria, H.R.Johnson, Agl, Asian, Nitco
73.	Ceramic Tiles	Somany, Kajaria, H.R.Johnson, Agl, Asian, Nitco

S. NO	DESCRIPTION OF WORK	MANUFACTURERS
74.	Non Shrink Cementitious Grout	Sika, Fosroc, Basf
75.	Hydrophilic Swellable Water Bar Profile Sealants	Sika, Basf, Adeka India
76.	Polymer Modified Cementitious Grout / Cement Adhesive / Epoxy Grout	Pidilite, Keracol, Ardex Endura, Laticrete, Bal Endura, Ferrouscrete
77.	Polymer Modified Adhesive Mortar For AAC Blocks	Walplast, Ultra Tech, Sound Buildcare Ltd., Ecolite, Ferrouscrete, Keracol, Pidilite
78.	Adhesive For Granite, Marble, Stone	Araldite, Hunstman, Redwop Chemicals Pvt Ltd
79.	Polyster Pu Coating On Venner, Wood	Mrf Corp, Ica, Asian Paints
80.	Adhesive For Wood, Laminate, Veneer	Fevicol-Pidilite, Euro-Jyoti Resins
81.	Plaster Of Paris	Mk, Saint Gobain
82.	Modular Mineral Fibre Ceiling Tiles	Armstrong, Saint Gobain, Hunter Douglas
83.	Acoustical Grid Ceiling	Knauf, Rockfon, Gyptech, Anutone, Armstrong, Fibrecrete, Ecotone
84.	Loop Pile Carpet	Indiana Floor, Pvr Floor, Galeecha Carpets
85.	Wooden Laminate Flooring	Ego, Indiana Floor
86.	Acoustic Panel / Polyster Fibre Board Panels	Tranquir, Inodsonic, Techno Acoustic
87.	Polyster Fibre Insulation	Prime, Nowofill, Mikakasha Mikron
88.	Aluminium Skirting	Cubic, Vedic
89.	Compactors	Kompact, Godrej
90.	Modular Furniture	Godrej, Spacewood, Featherlite, AOS
91.	Modular Furniture- SS Wire Baskets	Hettich, Hafele, Dorma
92.	PVC Edge Banding Tape	Rehau, Dolkin, Pegasus, Fibro
93.	Hot Melt Glue For Edge Banding Tape	Eva (Ethylene Vinyl Acetate) Henkel, Kleiberit 773.3
94.	Wall Paper	Marshalls, Bharat Furnishings, Pvr Flooring
95.	Frosted Glass Film	3m, Llumar, Garware
96.	Vinyl Floor	Armstrong, Square Foot, Pergo
97.	Decorative MDF Boards	Asis, Green, Century MDF
98.	PVC Bird Nets	Balaji Safety Nets, Nets'n'screens
99.	GFRC Fins, Chajja, Cornices	Birla White Cement, Asian Grc, Swastik Grc
100.	P.V.C Rainwater Pipe	Supreme, Astral, Ashirvad, Finolex, Prince
101.	Sanitary Wares	Jaquar, Parryware, Hindware, Kohler, Grohe,

S. NO	DESCRIPTION OF WORK	MANUFACTURERS
		Stemhagen
	C. P. Fittings	Jaquar, Parryware, Hindware, Kohler, Grohe, Stemhagen
102.	S. S. Sink	Nirali, Deepali, Futura,
	C. I. Pipes & Fittings	Neco, Kapilansh, Skf, Hepco
103.	G.I. Pipes	Tata, Jindal, Prakash Surya,
	G. I. Fittings	Unik, R-Brand, Zoloto
104.	NP2 Class, R.C.C. Pipes	Jain Spun Pipe, K. K. Spun Pipe, The Indian Hume Pipe Co. Ltd., Patel Hume Pipes
	Upvc Pipes And Fittings	Astral, Finolex, Supreme, Kisan, AKG
105.	CPVC Pipes And Fittings	Astral, Supreme, Finolex, Prince, AKG
106.	S. S. Gratings	Chilly, Camry
107.	Expanded Polyurathane Board	Saint Gobain, Macoy, 3m
108.	Anti Vibration Pads/Isolaters	Sylomere
109.	Visco Elastic Synthetic Sound Proofing Membrane	Tecsound, Tranquil
110.	Glass Wool	U. P. Twiga, Rock Wool, Mikron
111.	Internal Partition System	Otic Jeb / Bene/ Vetroln/Fantoni
112.	Galvalume Sheets	TATA Bluescope, JSW Colouron, JSW Steel

Specialized Agencies:

Sr. No	Description For Work	Manufacturers & Applicator
1	Waterproofing Works	SIKA, FOSROC, Pidilite, BASF, Keracol, India Waterproofing Co., Keracol, Redwop Chemicals Pvt Ltd.
2	Curtain Glazing	Glaze Tecno India, Ajit India Pvt. Ltd., Innovators Facade Systems Pvt. Ltd., Alumayer India Pvt. Ltd. 4ftbsys Pvt Ltd or Any Other Agencies Proposed By The Main Contractor Who Has Executed Work of Similar Nature And Quantum.
3	Glass Processer	Asahi Glass, Sejal, Glasstech, Fg, Gsc, Impect Safety, Saint Gobain
4	PVDF Coating	Aura Architectural Coatings, M. J. Coaters Pvt. Ltd., S P Architectural Coatings Pvt Ltd., Ameco, Radiant Anodisers Pvt. Ltd.
5	Solar Fish Cold Storage	Covestro (India) Private Limited, Inficold India Private Limited, Krishna Techno Solution, Write Water Solutions
6	Ice Making Machine	Blue Star Ltd, Middleby Celfrost , M/s Covestro (India) Private Limited or Equivalent

LIST OF RECOMMENDED MATERIALS FOR ELECTRICAL AND MECHANICAL (E&M) WORKS

Note:

1. The Contractor shall obtain prior approval from the PEA before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal with catalogues and highlighted proposed specifications as well as full details of the works proposed to be executed by the specialized agency as specified.
2. Wherever applicable, the PEA may approve any material equivalent to that specified in the tender subject to proof being offered by the contractor for equivalence to his satisfaction.
3. Unless otherwise specified, the brand / make of the material as specified in the item nomenclature, in the particular specifications and in the list of approved materials attached in the tender, shall be used in the work.
4. Any other / additional Material (Not mentioned below) – Shall be approved from PEA before use at site.

Sr. No.	Equipment / Materials	Recommended Manufacturers
A	Electrical Works	
1	LT Panels (TTA Panels) OEM Manufactured	Legrand / L&T / Schneider Electric / ABB / Siemens
2	LT Panels (Non TTA Panels) and Motor Control Centre	Legrand / L&T / Schneider Electric / ABB / Siemens (OEM approved TTA vendor)
3	IoT Based System	ABB / Siemens / Schneider / Aunoa / Honeywell / Bosch
4	Sandwiched Construction Bus Duct and Rising Mains	Schneider Electric / Legrand / L&T
5	Distribution Board	Hager / Legrand / Siemens / L&T / ABB
6	Motor Starter	L&T / Schneider / Siemens / ABB / Legrand
7	Air Circuit Breaker	L&T (U-Power) / Schneider Electric (Master Pact NW) / Siemens (3WL) / Legrand (DMX3) / ABB (Emax)
8	Moulded Case Circuit Breaker (MCCB)	Schneider Electric (NSX) / L&T (D-Sine) / Siemens (3VA) / Legrand (DPX3) / ABB (Tmax)
9	LT Switchgears: Miniature Circuit Breakers (MCB) Residual Current Circuit Breaker (RCCB) Residual current operated Circuit Breaker (RCBO) Motor Protection Circuit Breakers (MPCB) Isolators	Hager / Legrand / Siemens / ABB / Schneider Electric / L&T
10	Power / Auxiliary Contactor	Legrand / Schneider Electric / Siemens / L&T / ABB
11	Energy Monitoring System	Legrand / Socomec / Schneider / L&T / ABB
12	Change Over Switch	Socomec / L&T / Legrand / ABB
13	ATS – Auto Transfer Switch	Vitzrotek / ASCO / Socomec / Schneider Electric / Legrand / L&T / ABB / Siemens / GE

Sr. No.	Equipment / Materials	Recommended Manufacturers
14	Control Transformers / Potential Transformers	Automatic Electric / Indcoil / Pragati / AE / Kappa / L&T / Precise / Elmex / Ashmor / ECS / Kalpa
15	Relays	L&T / Siemens / Enercon / Legrand / Trinity / Schneider Electric / Beluk / Ducati / EPCOS / ABB
16	Indicating Lamps (LED type)	L&T / Salzer / Schneider Electric / ABB / Legrand / Siemens / GE / As per OEM Standards
17	Push Buttons and Bush Button Set	L&T / Salzer / Schneider Electric / ABB / Legrand / Siemens / GE / C&S / As per OEM Standards
18	Selector Switch	L&T / Salzer / Kaycee / Schneider Electric / ABB / Legrand / Siemens / MECO / As per OEM Standards
19	Terminal Blocks	Connect Well / Elmex
20	Connectors (Colours as per Phases and Neutral)	WAGO / Phoenix Contact / Connect Well
21	Meters / Energy Meters & Load Managers (Digital)	L&T / Siemens / Schneider Electric / Legrand / ABB
22	Meters (Analog)	L&T / Siemens / Schneider Electric / Legrand / ABB
23	Electric Timers	L&T / Legrand / Siemens / Schneider Electric / ABB / MECO / BCH
24	Rotary Switches	Siemens / Kaycee / Salzer / L&T / Legrand / Schneider Electric / As per OEM Standards
25	LT Capacitors	L&T / Siemens / Legrand / Schneider Electric / ABB
26	Low Voltage Cables	Finolex / KEI / Havells / Polycab / RR Kabel / Century
27	Cable Glands (Double / Single Compression type)	Comet / Cosmos / 3D / HMI / Hex / Jainsons / Dowells / Braco / Polycab
28	Cable Lugs / Cable Terminations	Comet / Cosmos / 3D / HMI / Hex / Jainsons / Dowells / Braco / Polycab
29	Cu. Conductor Wires (FRLS)	Finolex / Havells / Anchor / Polycab / RR Kabel / KEI/ Century
30	PVC Conduits and related accessories	Precision / Polycab / Anchor / Asian
31	MS / GI Conduit (ISI approved)	BEC / Vimco / Precision / Steelcraft / Anchor
32	HDMI Cables / USB Cables / Audio Cables	Legrand / AMP / Molex
33	TV Co-Axial Cables	Finolex / Havells / Polycab / RR Kabel / KEI / Molex
34	Modular Switches & Sockets / Modular Base Frames with Plate and GI Switch Boxes	Legrand (Myrius & Arteur) / MK (Blenze Plus & Orna) / Crabtree (Murano) / Schneider (Opale) / Norisys / Panasonic (Europa) / L&T

Sr. No.	Equipment / Materials	Recommended Manufacturers
		(Englaze) / GM Modular (GX10 Series or equivalent) Model shall be as approved by Architect & Client. Contractor to provide minimum 03 Nos. samples of different makes for approval of Client & Architect
35	Occupancy Sensor / Motion Sensor	Legrand / Schneider / Wipro / Phillips / Siemens
36	Industrial type Sockets (Metal Clad / Splash Proof / Water Proof / Weather Proof)	Legrand / Schneider Electric / L&T / ABB / Siemens / Hager / Hensel
37	Ceiling Fan – BLDC / Exhaust Fans	Atomberg / Superfan / Havells / Crompton
38	Exhaust Fans	Atomberg / Crompton / Havells / Usha
39	Lighting Fixtures	
	a) Internal	Philips / Eveready / Panasonic / Wipro / Trilux, Havels
	b) Decorative	Phillips / Eveready / Panasonic / Wipro / Trilux / Luker / K-Lite
	c) Indoor Gaming / Sports	Philips / Eveready / Panasonic / Wipro / Trilux / Harrison
	d) External	Philips / Eveready / Panasonic / Wipro / Trilux/ K-Lite
	e) Poles for External Light	Eveready / Bombay Poles / Rajan Tubes / Bajaj
40	Junction Boxes	Hensel / Sintex / Clipsal / Spelsberg / SCAME
41	Aviation Light	Bajaj / Insta Power / Spectrum
42	Cable Trays (Ladder Type / Perforated)	OBO Bettermann / Legrand / Indiana / Profab / MK / Erico
43	Floor Raceways / Floor Trunking	MK / Legrand / OBO Bettermann / Asian Ancillary Corporation / Profab / Indiana / Erico / Schneider
44	Floor Junction Boxes	MK / Legrand / OBO Bettermann / Asian Ancillary Corporation / Profab / Indiana / Erico / Schneider
45	UPVC Trunking	MK / Legrand / OBO Bettermann
46	Fire Sealant & Fire-Retardant Paint	3M / HILTI / OBO
47	Lightning Protection System / Surge Arrestor	Axis / LPI / OBO / Dehn / Indelec / ABB Furse / Purcel / Eltech / Tercel
48	Earthing System	OBO Bettermann / JEF / JMV / Axis / Dehn / Eltech / Indelec / ABB
49	UPS	Eaton / APC-Schneider / Legrand (Numeric) / Vertiv (Emerson) / Delta
50	SMF Batteries for UPS	Exide / Amara Raja / Rocket / Amaron / Standard / AMCO / Prestolite / Tata Green

Sr. No.	Equipment / Materials	Recommended Manufacturers
51	Inverter	Microtek / Luminous / Prostorm
52	RCC Hume Pipes	Dhere / KK / Indian Hume Pipe / Pranali
53	DWC Pipes / HDPE Pipes	Rex / Natni / Polymer / Gemini
54	Anchor Fasteners	HILTI / Fischer
55	Solar Power/Panel	Rayzon / Vikram / Novasis / Sova / Waaree/Tata Power/ Goldi Solar/ Servo Tech Renewable
56	Wind Turbine	Suzlon/ Siemens Gamesa/ Inox Wind/ GE Renewable/ Envision Energy India/ Ecoater Technology
B	DG Set Works	
1	Alternator	Kirloskar Green / Crompton / Stamford / Leroy / Somer / Elmot
2	Engine	Cummins / Caterpillar / Volvo Penta / Kirloskar / Perkins / Greaves/ BAUDOUIN
3	Batteries	Exide / Amara Raja / Rocket / Amaron / Standard / AMCO / Prestolite / Tata Green / Cummins Pulselite /
4	Integrators	Powerica / Goel Power / Sterling & Wilson / Jackson / Captiva / Cooper / Sudhir / Cummins Power / Kalpaka
5	AMF Panel	Legrand / L&T / Schneider Electric / ABB / Siemens
In case, any electrical components or items or related accessories are required for all the above, please refer to the electrical make list for appropriate product recommendations and specifications.		
Sr. No.	Equipment / Materials	Recommended Manufacturers
C	ELV Works	
1	Fire Alarm System and all accessories	Edwards / Simplex / Tyco / Honeywell-Notifier / Bosch / Siemens-Fire finder
2	Cables for Fire Alarm System	Finolex / KEI / Havells / Polycab / RR Kabel / Tyco / Century
3	Public Address System (Master Controller, Amplifier, Speakers, Call Station)	TSG Optimus/ Honeywell Variodyn/ Bosch Preasensa / Bose
4	Cables for Public Address System	Finolex / KEI / Havells / Polycab / RR Kabel / Century
5	CCTV Cameras	Prama / Honeywell/ DV Tel/ CP Plus/ Hi Focus
6	24 X 7 LED Displays	Samsung / Sony / LG / One Plus/ Apple
7	Servers / Workstations / Display	Dell / HP / Apple/ Samsung
8	Switches and Accessories (PoE, Non PoE / Network, Core)	Cisco / HP-Aruba /Juniper
9	Cat 6 Cables, Wire, Fiber Optic Cables and Patch Cords, Patch Panels and related accessories	R&M / Legrand / Systemax / Molex / AMP / Siemens / Panduit
		R&M / Legrand / Molex / AMP / Siemens /

Sr. No.	Equipment / Materials	Recommended Manufacturers
10	LIU and related accessories	Panduit / Cisco
11	Hard Disk	Seagate / Toshiba / WD-Purple
12	Racks	Valrack / ApwPresident / Rittal / R&M / APC / Cisco / Wipro / Vertiv
13	Network Video Recorder / Digital Video Recorder, Software and related accessories	Prama / Sony / Samsung / Honeywell / Bosch / Axis / Dv Tel
14	Telephone Tag Box	ADC-Krone / Legrand / Cisco
15	Telephone Junction Boxes and Modules	ITL / Krone / MALSON
16	RJ-45 Information Outlets	Legrand (Myrius & Arteor) R&M / Systimax / Molex / AMP / Siemens / Panduit Model shall be as approved by Architect & Client. Contractor to provide minimum 03 Nos. samples of different makes for approval of Client & Architect
17	Door Access Control System	Siemens / Honeywell / Bosch / HID / Matrix / Fortuna Impex / eSSL
18	Cables for Door Access Control System	Finolex / KEI / Havells / Polycab / RR Kabel / Century
19	Gas leak detection System	Ambtronics /
20	BMS SYSTEM / IOT	Tridium/ Netix/ Auona
In case of LAN & Telephone Works, all the passive components shall be of one make or else 100% compatibility shall be ensured. Required certification for compatibility from the component manufacturer to be furnished on demand of Engineer -In-Charge.		
OEM Manufacturer for TTA Panels and Non-TTA Panels shall be same.		
In case of Light Fixtures, all the fixtures and related accessories shall be sourced from the same make / manufacturer.		
In case, any electrical components or items or related accessories are required for all the above, please refer to the electrical make list for appropriate product recommendations and specifications.		
D	ELEVATORS	
1	Elevators	Kone Elevators India Pvt. Ltd. Otis Elevator Company (I) Ltd. Johnson Lifts Pvt. Ltd. Schindler India Pvt. Ltd. Omega Elevators
E	HVAC	
1	Air cooled Chillers	Trane, York, Carrier, Climaveneta, Kirloskar
2	Chilled water pump	Grundfos, Armstrong, Xylem
3	PIBC valve	Danfoss, Belimo, Honeywell
4	AHU filters/HEPA filters	Freudenberg, AAF, Camfill
5	Magnetic gauges	Dwyer, Warree
6	Differential pressure Transmitter	Dwyer, Greystone, Setra, Omicron, Siemens
7	Readymade ducting profile	Rola star, Zeco, Radiant, Asawa
8	PIR ducting	Pal, Asawa

Sr. No.	Equipment / Materials	Recommended Manufacturers
9	Airflow Switch	Siemens, Honeywell
10	Balancing Valves	Advance, Castle, Belimo
11	Butterfly valves	Audco, Intervalve, Crane
12	VRV / VRF System (indoor / outdoor units)	Mitsubishi Electric / Daikin / Toshiba / Fujitsu General
13	Double Skin TFA Unit	Zeco / Edgetech / Nutech / Citizen
14	GI Ducts	Jindal / Sail / TATA
15	Grilles and Diffusers	Cosmos / Caryaire / System Air / Airtech / Airpro / Dynacraft / Tristar
16	Ventilation Fans	Kruger / Nicotra / Air Flow / Caryaire / Greenheck
17	Vibration Isolators	Dunlop / Cori / BDK / Resistoflex
18	Fire Dampers	Caryaire / Airtech / Cosmos / Greenheck / Airpro
19	Damper Actuator	Siemens / Honeywell / Belimo
20	Sensors	Siemens / Honeywell / Belimo
21	Motors	Bharat Bijlee / Crompton / Siemens / ABB/ Kirloskar
22	Starter Panel	Sterling and Wilson / Zenith Engineering / Arrow Engineers / Marine Electricals / Sinerco / Goel Power / Power Control / L&T / ABB / Schneider Electric / GE
23	Refrigerant Copper Piping	Mandev / Totaline / Mexflow / Nippon
24	Insulation Materials	
	a) Resin Bonded	Lloyds / Beardsell / Cooline Navair / Pyroguard / UP Twiga / Kimmco
	b) Rock Wool	Vidoflex / Arma Flex / Arma Cell / Thermobreak / UP Twiga
	c) Nitrile Rubber	K Flex/ Armaflex / Superlon
25	Variable Frequency Drive	Siemens / ABB / Schneider / Danfoss
26	Refrigerant Copper Piping Insulation	K Flex / Armaflex / Superlon
27	PVC Pipes and related accessories	Precision / Polycab / Prince / Finolex / Supreme / Astral / Dunlop
28	Filter	Klenzaid / Spectrum / Pyramid / EMW
29	Fire Rated Canvas Connection	Easyflex / Resistoflex
30	Adhesives	Armaflex 520 / Pidlite SR 998 / Foster / IIDL / Napco / Star Bond
31	Central Controller	Daikin / Toshiba/ Mitubishi / Fujitsu General
32	Corded / Cordless Remotes	Daikin / Toshiba/ Mitubishi / Fujitsu General
33	Flow Control Devices	Aldes / Transmonk / Airflow / Belimo/ Seimens / Schneider / Flowcom
F	FIREFIGHTING	

Sr. No.	Equipment / Materials	Recommended Manufacturers
1	Fire, Sprinkler, Hydrant Main / Jockey Pumps	Kirloskar / Mather & Platt-WILO / Crompton / KSB
2	Terrace Pumps	Kirloskar / Mather & Platt-WILO / Crompton / KSB
3	Diesel Engine	Cummins / KOEL / Greaves / Perkins / Cooper / Gemmco
4	Battery	Exide / Amara Raja / Rocket / Amaron / Standard / AMCO / Prestolite / Tata Green
5	Battery Chargers	Servilink / HBL / Numeric / Robin Teper
6	Motors	KEC / Siemens / ABB / Crompton / Kirloskar / Crompton / Bharat Bijlee
7	Starters	L & T / Schneider / Siemens / ABB / Legrand
8	Anti Vibration Mounting, Expansion Joints	Dunlop / Resistoflex / Easy Flex / Flexionics / Vimpa / IMRA
9	Motors	KEC / Siemens / ABB / Crompton / Kirloskar / Crompton / Bharat Bijlee
10	Starters	Legrand / L&T / Schneider Electric / ABB / Siemens
11	GI / MS Pipes	TATA / Jindal / Sail
12	Pipe Fittings	Jainsons / Unik / VR
13	Non-Return Valves	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa / Lehry
14	Gate Valves	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa / Lehry
15	Sluice Valves	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa / Lehry
16	Butterfly Valves	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa / Lehry
17	Ball Valves	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa / Lehry
18	Air Release Valves	Leader / Zoloto / Sant / Kirloskar / Lehry / Shah Bhogilal
19	Solenoid Valves	Rotex / ASCO / Switzer / Danfoss / Aira Eurotech / Honeywell
20	Y-Strainer	Leader / Zoloto / Sant / Kirloskar / Advance / Audco / Hawa
21	Pressure Switches	Indfos / Danfoss / Honeywell / Stefa / Switzer / NICO
22	Pressure Gauges	HD Fire / H Guru / Fiebig / Waree
23	Air Vessel	Nema / Golden Deer / Zenith / As per CPWD Specifications tested upto 25KG / Sq. Mtrs.
24	Anti Corrosive Materials	IWL / Rustech / Pypkote
25	Pipe Clamp & Supports	Chilly / Euroclamp / Easyflex / Gripple
26	Hydrant Valves	Padmini / New Age / Omex / Minimax / Superex

Sr. No.	Equipment / Materials	Recommended Manufacturers
27	Fire Hydrants	Padmini / New Age / Omex / Minimax / Superex
28	RRL Hose Reel	Padmini / New Age / Omex / Minimax / Superex
29	Fire Hose Reel	Padmini / New Age / Omex / Minimax / Superex
30	Fire Hose, First -Aid Hose Reel, Branch Pipe, Siamese Connections, Hose Coupling, Nozzle, Fire Brigade Connection, etc.	Padmini / New Age / Omex / Minimax / Superex
31	Stand Post Hydrant	New Janta Metal Works / New Age / AAG / Padmini
32	Sprinklers	HD Fire / Tyco / Viking / Grinnell / Spray Safe
33	Flexible Drop Connection	Flexhead / Newage / Tyco
34	Flow Switch	Danfoss / Switzer / Honeywell / System Sensor / HD Fire / Tyco
35	Test Drain Assembly	New Age / Tyco / HD Fire / Viking / Spray Safe / Grinnell
36	Alarm Control Valve, Installation Control Valve	New Age / Tyco / HD Fire / Viking / Spray Safe / Grinnell
37	Fire Extinguisher	Kanex / Minimax / Safex / New Age / Cease Fire / Safe Guard
38	Single Phase Preventer	Salec / Legrand / Minilec
34	C.I Water quality pipes	Electrosteel / Kapilansh/Keshospun
35	C.I Soil quality pipes	Neco / Saint Gobain/ Kapilansh
S.	Description	Approved Makes
36	C.I Frame & Cover	Neco / Saint Gobain
37	S.W Pipe & Gully Trap	Kashmira, Rajura, Girco, Perfect, C.I.or approved eq.
38	RCC Hume pipe	IHP, Pranali, Premier, Shreeji, Pragati, Usha, JSP or app. Eq
39	SFRC frame & cover / gratings	Bharat, Shreeji, SS, KK or approved eq.
40	HDPE Pipe	Supreme / Mahavir
41	SS Pipes & Fittings	J-Press/ Viega/ Platinox
42	SWR-UPVC pipe & fittings	Supreme / Ajay / Astral
43	Water supply PVC pipes & fittings	Ashirwad/ Ajay / Astral
44	Pig Lead	Hindustan Zinc
45	PVC flushing Cistern	Parryware / Hindware
46	Pressure Gauge	Fiebig / H. Guru
47	Foot Valve (Ball type)	Normex /Zoloto/Itap
48	SBR / EPDM Gaskets	Prabhat, Orient, Paul, Durable or approved eq.
49	C.I fittings / Specials	Electrosteel / Kapilansh/NECO

Sr. No.	Equipment / Materials	Recommended Manufacturers
50	Flush Valves	Jaquar / Grohe / Kohler
51	Check Valve Wafer Type	Advance / Danfoss / Kirloskar
52	Check Valve Dual Plate	Advance / SKS
53	Check Valve Forged Screwed	Leader / RB / Sant / TBS / Zoloto
54	Check Valves (slim type)	Zoloto / Intervalve
55	Butterfly Valve	Itap / C&R / Audco
56	Ball Valve (15 to 40 mm)	Sant / Zoloto
57	Pressure Reducing Valve	VARIE (Vartsila) / Honeywel/Zoloto
58	Cockroach trap	Chilly
59	CI double flanged non-return valve	Kirloskar, IVC, Leader,
60	Cast Iron Pipes & Fittings Manhole covers and frames	
a.	As per IS:3989 (Pipes & Fittings)	Kapilash
b.	As per IS:1729 (Manhole covers and frames)	Raj Iron Foundry Agra
c.	As per IS:1536 (CI Class LA Pipes)	IISCO / NECO / Electrosteel
61	D.I. Manhole Covers & Frames	Neco / Kapilansh
62	CILA fittings	Kartar valves & fittings
3	Suspended Manhole and Gully Trap	Patel Pattern
64	Drip Seal	ACQUA Bond / Vinod Cement Co.
65	GI pipe sealant	Henkel - LOCTITE 55
66	Pipe clamp & supports	Chilly / Euroclamp / Easyflex / Gripple
67	D. I. Pipes	Electro Steel / Jindal / Lanco Kalahasthi
68	Copper Pipes & Fitting	Flowflex Rajco / Viega Max flow
69	UPVC Pipe	Astral / Ashirwad/ Ajay
70	CPVC pipes	Astral / Ashirwad/ Ajay
71	PB Pipe	Flexalen Thermaflex / George Fisher
72	Solenoid Valve	Avcon / Danfoss
73	FRP frames, covers and gratings	Everlast / Thermodrain / Fibro cast
74	Enamel Panting of pipes etc. (low VOC)	Asian (ADCOLITE ONLY) / Goodlas Nerolac / ICI
75	Ball Float Valve	Esseti / HBD / Zoloto
76	NRV Ball type Sewage application	Danfoss / Silverspark
77	Y Strainer CI	Emerald / Sant / SKS / Zoloto
S.	Description	Approved Makes
78	Water Pumps	Grundfos/DP/Wilo/KSB/Kirloskar
79	Anti-Vibration Mounting & Flexible Connections	Cori / Dunlop / Flexionics / Kanwal Industrial Corporation / Resistoflex /

Sr. No.	Equipment / Materials	Recommended Manufacturers
80	Pressure Switch	Indfoss / Danfoss
81	HDPE corrugated underground	D-Rex
82	Electronic Flow Meter	Krohne (Forbes Marshall) / Rockwin
83	Level Controller & Indicator (Water)	Auto Pump/ Cirrus Engineering/ Elegant Controls / Technika/ Techtrol
84	MH / Water Tank Plastic Steps	KGM / Patel / Pranali Industries
85	Fastner	Fisher / Hilti
86	Fire Sealant	Birla 3 M / Hilti / Promat / STI (USA)
87	Manhole (Prefabricated)	OK Play / Supreme
88	Temperature Sensor/ Gauge	Forbes Marshall / Danfoss / Wika
89	Pressure Vessel	ELBI / Wellmate/ Aventura
90	Compressor	Bitzer/ Frascold/ Dorin/ Copeland/ Bluecold

NOTE:

- **THE SUPERIOR/ EQUIVALENT MAKE MAY BE USED ONLY AFTER THE APPROVAL OF EMPLOYER.**
- **IN CASE ANY INFERIOR QUALITY / SUB-STANDARD MAKE IS FOUND TO BE SUPPLIED BY THE CONTRACTOR, THE EMPLOYER'S RESERVES THE RIGHT TO DISCARD THE USE OF THE SAME.**

APPENDIX-III
SAFETY CODES

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to $1\frac{1}{4}$ horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder upto and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person
6. (a) Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

(b) Safety Measures for digging bore holes:-
 - i. If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
 - ii. During drilling, Sign boards should be erected near the site with the address of the drilling contractor and the Engineer in-charge of the work;
 - iii. Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50m all round the point of drilling to avoid entry of people;

- iv. After drilling the borewell, a cement platform (0.50m x 0.50m x 1.20m) 0.60m above ground level and 0.60m below ground level should be constructed around the well casing;
 - v. After the completion of the borewell, the contractor should cap the bore well properly by welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil. This should be done even while repairing the pump;
 - vi. After the borewell is drilled the entire site should be brought to the ground level.
7. Demolition - Before any demolition work is commenced and also during the progress of the work,
- (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided.
- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
 - (iii) Those engaged in welding works shall be provided with welder's protective eyeshields.
 - (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :-
 - (a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
 - (b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - (c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - (d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
 - (e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - (f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - (g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.

- (h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - (i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
 - (j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - (k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
 - (l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.
 - (m) The workers shall be provided with Gumboots or non sparking shoes bump helmet and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
 - (n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
 - (o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
 - (p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
 - (vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-
 - (a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
 - (b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - (c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
9. The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :
- (i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - (ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
 - (iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - (v) Overall shall be worn by working painters during the whole of working period.
 - (vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man.
 - (viii) WAPCOS may require, when necessary medical examination of workers.

- (ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-
- (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
 - (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - (ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

APPENDIX-IV

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY CONTRACTORS

1. APPLICATION

These rules shall apply to all buildings and construction works in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:-
 - (a) For work places in which the number of contract labour employed does not exceed 50- Each first-aid box shall contain the following equipments :-
 - 1) 6 small sterilized dressings.
 - 2) 3 medium size sterilized dressings.
 - 3) 3 large size sterilized dressings.
 - 4) 3 large sterilized burn dressings.
 - 5) 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
 - 6) 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - 7) 1 snakebite lancet.
 - 8) 1 (30 gms.) bottle of potassium permanganate crystals.
 - 9) 1 pair scissors.
 - 10) 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
 - 11) 1 bottle containing 100 tablet (each of 5 gms.) of aspirin.
 - 12) Ointment for burns.
 - 13) A bottle of suitable surgical antiseptic solution
 - (b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipment.
 - 1) 12 small sterilised dressings.
 - 2) 6 medium size sterilised dressings.
 - 3) 6 large size sterilised dressings.
 - 4) 6 large size sterilised burn dressings.
 - 5) 6 (15 gms.) packet sterilised cotton wool.
 - 6) 6.1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.

- 7) 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label
 - 8) 1 roll of adhesive plaster.
 - 9) 1 snake bite lancet.
 - 10) 1 (30 gms.) bottle of potassium permanganate crystals.
 - 11) 1 pair scissors.
 - 12) 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes / Government of India.
 - 13) A bottle containing 100 tablet (each of 5 gms.) of aspirin.
 - 14) Ointment for burns.
 - 15) A bottle of suitable surgical antiseptic solution.
- (iii) Adequate arrangements shall be made for immediate recoument of the equipment when necessary
 - (iv) Nothing except the prescribed contents shall be kept in the First-aid box.
 - (v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
 - (vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
 - (vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
 - (viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- (i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- (iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- (i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- (ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- (iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- (i) Latrines shall be provided in every work place on the following scale namely :-
 - (a) Where female are employed, there shall be at least one latrine for every 25 females.

- (b) Where males are employed, there shall be at least one latrine for every 25 males.
Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.
- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- (iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- (iv) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.
(b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- (v) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (vi) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- (vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- (viii) Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 meters (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm (6 sft) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- (i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b & c.
- (ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

- (iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- (iv) The contractor shall provide one ayaal to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- (v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- (i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- (ii) The canteen shall be maintained by the contractor in an efficient manner.
- (iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- (iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- (v) The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once in each year.
Provided that the inside walls of the kitchen shall be lime-washed every four months.
- (vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- (vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- (viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- (ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- (x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.
- (xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
(b) Washing places for women shall be separate and screened to secure privacy.
- (xii) Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- (xiii) (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
2. A service counter, if provided, shall have top of smooth and impervious material.
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- (xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- (xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.
- (xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-

- (a) The rent of land and building.
 - (b) The depreciation and maintenance charges for the building and equipment provided for the canteen.
 - (c) The cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils.
 - (d) The water charges and other charges incurred for lighting and ventilation
 - (e) The interest and amounts spent on the provision and maintenance of equipment provided for the canteen.
- (xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

SECTION – VIII

SCOPE OF WORK

SECTION-VIII

SCOPE OF WORK

1.0 Site

The contractor is advised to make the site visit for understanding of work and site conditions before submission of bid. Proposed work is to be executed along the coastal line of state of Goa. However, if the work is not feasible to start the work at any portion, the contractor shall take-up the work for feasible portion first, where the work can be start without any hindrance. Balance work can be taken-up simultaneously when the working environment is feasible.

2.0 NOC'S / APPROVALS/ CLEARANCES FROM LOCAL BODIES/ AUTHORITIES/ Directorate of Fisheries, Goa

The Contractor will take necessary Statuary Approval/ NoCs/ Clearance including CRZ clearance from all concern Local Authorities / Departments, if any, required before start of the work / during the work / after execution of work & before handing over.

The fee deposited for getting these approval, shall be deposited by the Contractor to the concerned Department / Authorities and no extra cost for the same shall be claimed by the contractor.

The contractor shall mobilize the resources at site after getting approval / NoCs/ Clearance including CRZ clearance from all concern Local Authorities / Departments if any, essential before start of the construction and shall not make any claim due to any delay in approval.

3.0 Scope of Works

3.1 Introduction

Climate change is a phenomenon in which the distribution of weather patterns changes spatially and temporally, impacting coastal areas through sea level rise, changes in storm frequency/intensity, and rising sea temperatures. These climate changes affect coastal habitats like wetlands and disrupt marine ecosystems and fish populations, which coastal communities heavily rely on for their livelihoods. The Intergovernmental Panel on Climate Change (IPCC) predicts that as sea temperatures change, fish stocks may shift, disrupting food chains in coastal regions. Damage to low-lying coastal habitats from sea level rise and extreme weather further threatens the resources and livelihoods of fishing communities.

Fishing, which is the major source of income in fishing villages, has declined significantly worldwide. Many fishing villages have lost their ability to grow and flourish some even may face extinction gradually. However, fishing villages and oceans offer various resources and include excellent natural environments and unique cultures that can make such villages attractive spaces. These could potentially meet the finances, health, culture, and environmental needs of the community. There are real problems linked to the survival of fishing communities, but the resources and appeal of these villages' present opportunities to support their sustainability if leveraged appropriately.

To minimize the impact of climate, change the fisheries department of Goa has proposed the idea of modern Integrated village at Polelem and sought financial funding under the FIDF scheme.

Palolem, a coastal village in the Canacona taluka of South Goa district, India, is not only renowned as a tourist destination but also plays a vital role in the local fishing economy. Located approximately 70 km south of Panaji, Palolem is home to a small yet active fishing community. The crescent-shaped Palolem Beach, stretching 1.61 km with its pristine white sand and clear waters, serves as an ideal spot for traditional fishing practices. Fishermen can often be seen hauling their daily catch, contributing to the local seafood supply chain and livelihoods of the community.

The proximity to Chaudi, the nearest town for economic activities, ensures that fresh fish and seafood from Palolem are transported for trade and consumption. However, the absence of adequate cold storage and ice-making facilities in the area poses significant challenges in preserving the freshness and quality of

the catch. This often results in a dependency on nearby towns for ice supply, increasing costs and delays, thereby impacting the profitability of small-scale fishermen.

Establishing an ice-making factory in Palolem is crucial to support the local fishing industry. It would provide a reliable source of ice for preserving the daily catch, reducing wastage, and improving the overall value of seafood products. Furthermore, such a facility would enhance the supply chain efficiency, enabling fishermen to reach broader markets while maintaining quality. This initiative aligns with the goals of sustainable fisheries development and supports the socio-economic upliftment of the fishing community in Palolem.

Project Introduction

The existing site structures at Palolem are in a dilapidated condition, making them unsuitable for efficient fisheries operations and administrative functions. The absence of a functional ice-making facility and a dedicated office space for the Directorate of Fisheries has led to operational inefficiencies, increased post-harvest losses, and inadequate support for fishermen. This project aims to address these gaps by establishing a modern ice factory and administrative center, ensuring improved fish preservation, enhanced regulatory oversight, and better support services for the local fishing community.

The proposed plan for the Ice Making Factory and Office Space for the Directorate of Fisheries at Palolem integrates industrial and administrative functions within an available site area of approximately 1,197 sqm. The design aims to enhance operational efficiency, provide flexibility for future scalability, and cater to the needs of both the fishing community and the Directorate of Fisheries. This section outlines the architectural and infrastructural details, covering zoning, functionality, mechanical, electrical, plumbing, fire safety considerations, and road infrastructure design.



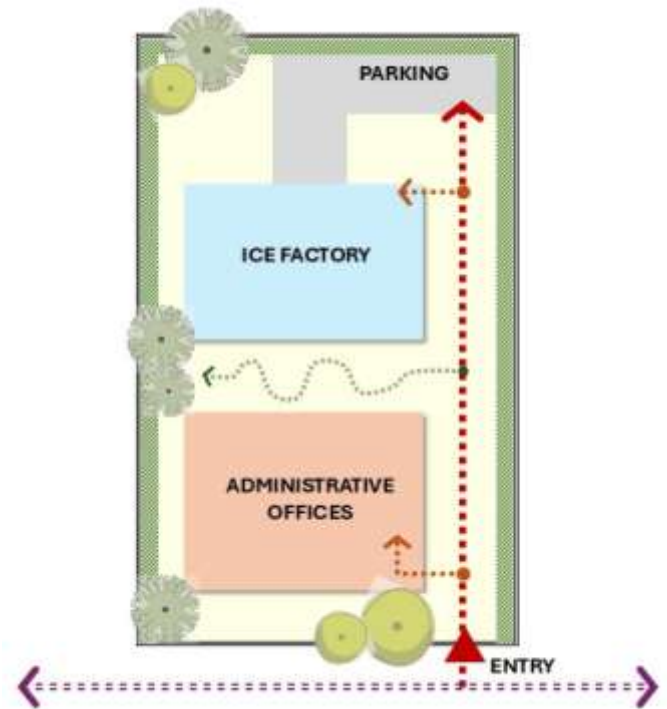
Palolem Ice Making Factory Location

Palolem Ice Making Factory Location

Site Planning and Functional Zoning

The site is strategically divided into two primary zones: the administrative office and the industrial ice-making factory. This functional segregation minimizes operational interference, enhancing efficiency and usability.

The front section accommodates the administrative office and a multipurpose stilt structure, while the rear section houses the ice-making factory, dispatch area, and essential utility services. A well-planned internal road, complemented by designated parking for cars and loading trucks, ensures seamless circulation. Open courtyards further enhance accessibility and spatial fluidity, creating a well-integrated and efficient layout.



A) Ice Making Factory

Positioned at the rear of the site, the ice-making factory is designed for optimal efficiency in seafood preservation, minimizing wastage and enhancing marketability for local fishermen. With a production capacity of 15 tons and a built-up area of 144 sqm, the facility integrates advanced cooling technology to maintain industry standards.

The factory is equipped with a state-of-the-art cooling plant and essential sanitary facilities, ensuring strict hygiene compliance. A dedicated dispatch zone, featuring a loading platform and designated truck parking, streamlines the transportation of ice products, enabling smooth logistical operations without disrupting the overall site functionality.

Currently, the village lacks adequate cold chain facilities. The existing ice factory is non-operational due to its dilapidated condition, and no industrial ice production facility is available nearby. Fishermen rely on small-scale ice vendors or must procure ice from distant centers. Due to limited storage facilities for preserving their catch, there is a high dependency on immediate sales. The use of ice can significantly reduce post-harvest losses and improve the quality of fish, ensuring sustainable market value. Storing fish in ice immediately after being caught enhances its quality and increases its commercial value.

This project involves establishing an ice plant with a capacity to produce 15-ton ice blocks to cater to the needs of fishermen, fish vendors, processing units, and traders. The ice plant will primarily consist of compressors, condensers, water tanks, brine agitators, cranes, trolleys, oil separators, and electric motors. All required machinery is readily available in the market at a reasonable price. Using locally manufactured machinery has the added advantage of ensuring the availability of spare parts and facilitating ease of operation through trained personnel.

Fishermen Training Centre

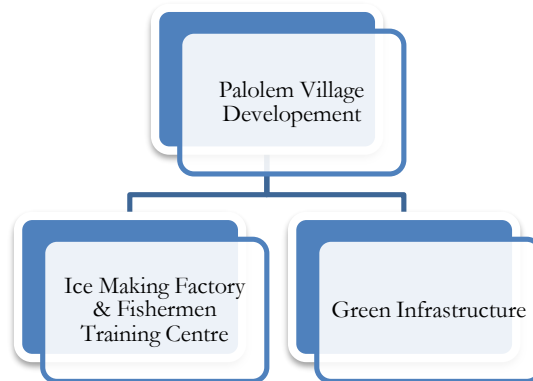
The administrative block is designed with a partially stilted ground level, serving as a dedicated parking area while offering a flexible, multipurpose space. This adaptable area can accommodate various functions, including potential conversion into commercial shops, providing an opportunity for revenue generation if required. Additionally, the stilted structure houses a seminar hall and storage facilities for Directorate officials, supporting meetings, workshops, and training programs aimed at the local fishing community.

On the first floor, the office space is thoughtfully planned to enhance efficiency and visitor experience. A well-defined reception and waiting area ensure seamless visitor interactions, while dedicated office cabins and workspaces provide privacy and functionality for the Directorate officials. With a total built-up area of approximately 406 sqm, the office is proportioned to meet present operational needs while allowing for future expansion, ensuring long-term adaptability.

Establishing a dedicated support and training center would be highly beneficial. The center could provide training on modern and sustainable fishing methods, enhance safety standards, and promote awareness of climate-resilient strategies. Additionally, it would serve as a communication hub, offering timely updates on fishing zone advisories, disaster preparedness, and market price trends. By equipping fishermen in Palolem and surrounding areas with essential knowledge and skills, this initiative would enable them to adapt to changing conditions and improve their livelihoods.

A local office for the Directorate of Fisheries is essential for ensuring smooth operations, regulatory oversight, and efficient resolution of concerns within the fishing community. In addition to the ice factory, this premise will include the Fishermen Support and Training Centre, frequently handling large numbers of people, perishable goods, and financial transactions. Having local authorities stationed nearby will help regulate activities, enhance safety, and improve the overall functioning of fisheries-related operations in Palolem.

Development proposals in Palolem village:



Ice Making Factory and Fishermen Training Centre:



Existing Site for Palolem Ice Factory

Site Infrastructure and Road Network

A strategically planned 6-meter-wide internal road ensures seamless vehicular movement, accommodating delivery trucks without congestion. This road efficiently connects administrative and industrial zones, optimizing accessibility. Additionally, an internal courtyard enhances natural ventilation and daylight penetration, fostering a well-lit, airy environment while enriching the site's spatial and aesthetic quality.

Mechanical, Electrical, Plumbing, and Fire Protection (MEPF) Considerations

Mechanical (HVAC & Ventilation)

1. The ventilation system is designed for optimal air quality and thermal comfort, integrating industrial exhaust fans to efficiently expel dust and fumes. Additionally, natural ventilation is enhanced through strategically placed louvered openings and ridge vents, promoting continuous airflow.
2. For cooling, the design incorporates evaporative coolers and insulated roofing to enhance thermal efficiency and maintain a comfortable indoor environment.
3. The ice-making facility is equipped with industrial-grade ammonia or Freon-based refrigeration systems, ensuring consistent sub-zero temperatures. Proper thermal insulation is integrated to prevent spoilage and optimize energy efficiency.

Electrical System

1. The electrical infrastructure at Modern Integrated Village Palolem is designed for reliability and efficiency, featuring a three-phase power supply to support both office functions and industrial operations. Dedicated electrical panels ensure seamless power distribution, while a backup system—comprising a diesel generator (DG) or UPS—guarantees uninterrupted operation during power outages.

2. Industrial areas will be illuminated with high-bay IP65-rated LED fixtures, ensuring durability and optimal visibility. Office spaces will incorporate energy-efficient lighting with automation controls, enhancing sustainability and operational efficiency.

Plumbing System

1. The plumbing system is designed for efficiency and hygiene, featuring overhead water storage tanks to support cleaning, maintenance, and sanitary requirements. A well-integrated drainage system with grated trench drains ensures effective wastewater management, with oil-water separators incorporated as needed.
2. To uphold product quality, the ice-making facility will be equipped with dedicated filtered water lines, ensuring a consistent supply of clean water for production.

Fire Protection System

1. The fire safety system is designed for comprehensive protection, incorporating smoke and heat detectors along with an addressable fire alarm system for early hazard detection. Strategically placed ABC-type fire extinguishers ensure rapid response, while fire hydrants or hose reels will be installed in compliance with NFPA and local safety regulations.
2. Emergency exit routes will be clearly marked with illuminated signage, ensuring safe egress, and fire-rated doors will be integrated where necessary to enhance fire containment and occupant safety.



View showing entrance to Fishermens' Training Centre at Palolem



View showing entrance to Fishermens' Training Centre at Palolem



Fisbermens' Training Centre at Palolem



Bird's Eye View Fisbermens Training Centre and Ice Factory at Palolem

Timelines

- The overall timelines are 12 months for execution + 12 months DLP. However, the project has many different type of components which are to be completed within the timelines given by the Client after the award of work.
- The above timelines are to be strictly followed by the contractor.

Note: The Contractor shall submit the detailed Work Plan for each Activity immediately after award of work.

SECTION – IX

Technical Specification

Section-IX
TECHNICAL SPECIFICATION

1. Ice Making Factory Equipment & Machines

The Ice Making Plant shall be designed and installed as a complete industrial block ice manufacturing system with a production capacity of 15,000 kg of ice per day (15 TPD) under standard operating conditions, capable of functioning efficiently at ambient temperatures up to 45°C with tolerance up to 55°C and a design wet bulb temperature of 29.3°C. The plant shall operate on a brine-based freezing system maintaining an evaporative temperature of approximately –18°C and brine temperature of –13°C to ensure efficient ice formation. The system shall produce 50 kg block ice units with approximate dimensions of 36 × 16 × 8 inches, utilizing 360 galvanized iron ice cans fabricated from 18-gauge GI sheets with 16-gauge bottom thickness, reinforced with mild steel framing and wooden top covers for durability. The refrigeration system shall use R404A refrigerant and shall be equipped with two semi-hermetic reciprocating compressors, designed for industrial continuous duty operation with a maximum pressure range of 19 bar (LP) and 32 bar (HP) and a COP of approximately 1.52 W/W for energy-efficient performance. The evaporator shall be of coil-type heat exchanger construction fabricated from 1-3/8-inch outer diameter copper tubes with 1.0 mm wall thickness, ensuring efficient heat transfer between refrigerant and brine solution. The condenser system shall consist of two water-cooled condensers each rated approximately 130 kW capacity, fabricated with 1/2-inch inner grooved seamless copper tubes housed within mild steel shells, and connected to a 150 TR FRP cooling tower with circulation pump for effective heat rejection. The freezing system shall include brine tanks fabricated from 5 mm thick mild steel plates with 70 mm polyurethane foam insulation and GI/MS external cladding, along with a motor-driven agitator mechanism to circulate brine uniformly and maintain consistent freezing temperature. All machinery shall be mounted on structural frames fabricated from mild steel channels with powder-coated finish, and the entire refrigeration plant shall be enclosed within pre-coated mild steel panels forming a compact packaged installation suitable for outdoor industrial environments. The refrigeration circuit shall be fitted with necessary control and safety instruments including filter driers, thermostatic expansion valves, high and low pressure switches, suction accumulator, vibration absorbers, globe control valves, non-return valves, service valves, crankshaft heater and anti-freeze protection devices to ensure safe and reliable operation. A dedicated electrical control panel shall be provided with digital temperature control, auto/manual operation modes, MCB protection, overload protection, phase failure and reverse phase protection, over-current protection, fault indicators and timer delay systems, utilizing components from reputed manufacturers such as Schneider, L&T, BCH and Selec controllers. **For handling of ice cans during production and harvesting, the plant shall include an electric hoist crane with minimum 500 kg lifting capacity, facilitating safe loading and unloading operations.** The complete plant shall operate on three-phase 420 V electrical supply with a total installed load of approximately 74 kW, ensuring reliable, energy-efficient and continuous industrial ice production suitable for fisheries and commercial applications.

S.No	Component	Specification
1	Plant Capacity	15 TPD (15,000 kg/day)
2	Operating Temperature	Up to 45°C (tolerance up to 55°C), Wet Bulb 29.3°C
3	Ice Type	50 kg block ice (36 × 16 × 8 inches approx.)
4	Ice Cans	360 Nos., 18G GI sheets, 16G bottom
5	Refrigerant	R404A

6	Compressors	2 Nos., Semi-hermetic (Bitzer/Frascold), COP ~1.52 W/W
7	Evaporator	Coil type, 1-3/8 inch OD copper tubes
8	Condenser	2 Nos. Water cooled, 130 kW each
9	Cooling Tower	150 TR FRP with circulation pump
10	Brine Tank	5 mm MS with 70 mm PUF insulation
11	Agitator	Motor driven
12	Structure	MS frame with powder coating
13	Control System	Digital panel with protections
14	Electrical Supply	3 Phase, 420V
15	Total Load	Approx. 74 kW
16	Hoist Crane	500 kg capacity

2. Chilled Fish Solar Cold Storage (5MT)

The Solar Fish Cold Storage System shall consist of a fully integrated solar-powered refrigeration facility designed for preservation and short-term storage of fish and other perishable marine products. The system shall have a storage capacity of approximately 5 metric tonnes with an internal storage volume of about 750–960 cubic feet, suitable for installation on an outdoor civil platform. The cold room structure shall be fabricated using insulated panels comprising 120 mm thick polyurethane foam (PUF) insulation of density approximately 40 kg/m³ sandwiched between 0.5 mm pre-painted galvanized iron (PPGI) sheets, ensuring high thermal efficiency and minimal temperature loss. The floor shall consist of 80 mm PUF insulated flooring with anti-skid finish or aluminium chequered plate over marine plywood or concrete/Kota stone flooring, designed to withstand heavy fish crates and moisture exposure. The cold storage chamber shall be equipped with a PUF insulated flush-type swing door with FRP profile, imported hardware, push type gasket, replaceable door heater and built-in locking arrangement, with approximate opening size of 6 ft × 3 ft, along with PVC strip curtains to minimize infiltration of warm air during loading and unloading operations. The refrigeration system shall be designed to maintain an operating temperature range from 0°C to –18°C or chilled storage range of –4°C to 0°C, with relative humidity control between 65% and 90%, ensuring preservation of fish quality and freshness. The refrigeration unit shall be equipped with a 2.5 TR variable speed semi-hermetic compressor, coupled with copper tube and aluminium fin condenser and evaporator units, with evaporator airflow capacity of approximately 2000 CFM and provided with automatic defrosting arrangement and brushless axial fans for efficient heat exchange. The system shall utilize an environmentally friendly zero ODP refrigerant for safe and sustainable operation. The cold storage shall be powered primarily by a solar photovoltaic system of approximately 7 kWp capacity comprising monocrystalline solar panels mounted on galvanized metal structures with about 11-degree tilt and wind resistance up to 150 kmph, capable of directly operating the compressor and simultaneously charging the battery bank. The energy storage system shall include solar-grade batteries of approximately 7.2 kWh capacity (such as Exide or Eastman) operating at about 48 V configuration, providing reliable power backup during low solar radiation periods. Additionally, the system shall incorporate a thermal energy storage system with approximately 200 MJ capacity using phase change material (PCM) panels mounted on the walls, enabling cold retention and temperature stability during non-solar hours or power interruptions. The system shall also provide automatic changeover facility for alternate power supply of approximately 3-phase 440 V, 4 kVA, allowing connection to grid

electricity when required. The cold storage shall be designed for loading rate of approximately 1200 kg of fish per day, with recommended limited door openings to maintain internal temperature stability, and shall include remote monitoring capability for temperature and system performance to enable efficient operation and maintenance. The entire installation shall be supplied as a complete integrated solar cold storage unit including refrigeration equipment, insulated panels, solar power system, battery backup, thermal storage system, and control system suitable for fisheries infrastructure applications in coastal and remote locations.

S.No	Component	Specification
1	Storage Capacity	5 MT (750–960 cu ft approx.)
2	Application	Fish & marine product storage
3	Panel Insulation	120 mm PUF, 40 kg/m ³ density, PPGI sheets
4	Flooring	80 mm PUF insulated with anti-skid/chequered plate
5	Door	PUF insulated, 6 ft x 3 ft with PVC strip curtains
6	Temperature Range	0°C to –18°C / –4°C to 0°C
7	Humidity	65% – 90% RH
8	Compressor	2.5 TR semi-hermetic (Fracold or equivalent)
9	Evaporator	2000 CFM airflow, auto defrost
10	Refrigerant	Zero ODP eco-friendly
11	Solar Capacity	7 kW _p monocrystalline panels
12	Battery Backup	7.2 kWh, 48V system
13	Thermal Storage	200 MJ PCM panels
14	Alternate Power	3 Phase 440V, 4 kVA
15	Loading Capacity	1200 kg/day
16	Monitoring	Remote monitoring system
17	Structure	Outdoor mounted, wind resistance up to 150 kmph

3. Green Energy (Solar & Wind) – 40 KW

The proposed Green Energy System of total output/effective capacity 40 kW shall be designed as an integrated renewable energy solution utilizing wind and solar resources. The system may be implemented either as (i) two independent systems comprising a standalone Wind Energy System and a standalone Solar Photovoltaic (PV) System, or (ii) a combined Hybrid System integrating both wind and solar energy generation within a single unified setup. In either configuration, the overall system shall be designed to ensure optimal performance, reliability, and continuous power generation. Out of the total output/effective capacity of 40 kW, the Wind Energy component shall mandatorily contribute approximately 65% (Minimum) of the total capacity, i.e., 26.66 kW, while the Solar Energy component shall contribute the remaining about 35%, i.e., 13.34 kW, in compliance with tender requirements. The design, selection, and installation of equipment shall be carried out accordingly to meet the specified energy contribution ratio. The Wind Energy System shall consist of Vertical Axis Wind Turbines (VAWT) or equivalent approved technology with omnidirectional wind acceptance capability, allowing efficient operation independent of wind direction without the need for a yaw mechanism. The turbine shall be fabricated using high-quality Fibre Reinforced Plastic (FRP) blades mounted on a corrosion-resistant aluminium or mild steel structure. The system shall be capable of operating at low start-up wind speeds of approximately 2 m/s and cut-in wind speeds of around 3.5 m/s, with a survival wind speed of

up to 50 m/s. Each turbine unit shall be equipped with a high-efficiency brushless Permanent Magnet Generator (PMG) with suitable voltage configurations for off-grid or grid-connected applications. The wind system shall be designed in modular form to achieve the required total capacity of 26.66 kW through multiple turbine units, arranged in an optimized layout such as delta or staggered formation to maximize wind capture and minimize interference. The Solar PV System shall consist of high-efficiency photovoltaic modules of mono/polycrystalline technology, mounted on suitable corrosion-resistant structures, either ground-mounted or integrated with the wind turbine system in case of hybrid configuration. The solar system shall have a total minimum installed capacity of 13.34 kW and shall be designed to ensure maximum energy generation through proper tilt angle, orientation, and spacing to avoid shading. The system shall include necessary components such as grid-tied or off-grid inverters, module mounting structures, DC/AC cabling, earthing, lightning protection, and associated balance of system (BoS) components. In case of a Hybrid System, both wind and solar subsystems shall be integrated through a common power conditioning and management unit, including hybrid controllers, inverters, and monitoring systems to ensure efficient utilization of both energy sources. The system shall allow seamless operation of both sources, prioritizing energy availability and ensuring stable output. The complete system, whether standalone or hybrid, shall be designed for low noise (generally below 55 dB), minimal vibration, and high durability, making it suitable for installation in coastal and environmentally sensitive areas. All components shall be corrosion-resistant and suitable for harsh climatic conditions. The system shall be engineered for continuous, reliable operation with minimal maintenance requirements and shall comply with relevant MNRE guidelines and applicable IS/IEC standards. The Green Energy System shall provide a sustainable and efficient solution for power generation by optimally utilizing wind and solar energy resources while adhering strictly to the prescribed capacity distribution and performance requirements.

S.No	Component	Specification
1	Total Capacity (output/effective)	40 kW
2	System Type	Standalone Wind + Solar OR Hybrid System
3	Wind Capacity	Minimum 26.66 kW (65%)-
4	Solar Capacity	About 13.34 kW (35%)
5	Wind Turbine Type	Vertical Axis Wind Turbine (VAWT), omnidirectional
6	Blade Material	FRP blades with corrosion-resistant structure
7	Wind Speed	Start ~2 m/s, Cut-in ~3.5 m/s, Survival ~50 m/s
8	Generator	Brushless PMG, multi-voltage (off-grid/on-grid)
9	Wind Layout	Modular, delta/staggered arrangement
10	Solar Panels	Mono/Polycrystalline PV modules
11	Mounting	Corrosion-resistant structures
12	Solar Design	Optimized tilt, spacing, no shading
13	Inverter System	Grid-tied/Off-grid/Hybrid inverter
14	BoS Components	Cabling, earthing, lightning protection
15	Hybrid Control	Common controller, monitoring system
16	Noise Level	< 55 dB
17	Durability	Corrosion-resistant, coastal suitable
18	Standards	MNRE, IS/IEC compliance

4. Additional Specifications

- a. The Work will be executed strictly in accordance with the CPWD specification corrected up to date at the time of tenders, unless specified to contrary and as per the specifications mentioned in the NIT/BOQ.
- b. Measurement of work will be done as per Goa PWD/ CPWD specification.
- c. Excavation work to be carried out as per the Goa PWD/ CPWD norms.
- d. Jetty ramp rehabilitation work will be done in M-40 grade of concrete.
- e. The Contractor shall not be entitled to any payments on account of work done till he signs the agreement and the same is accepted by the competent authority.
- f. Actual quantities of completed and accepted work shall only be paid.
- g. No claim shall be entertained on account of increase in price of material and wages of labour due to any cause what so ever.
- h. The Engineer-In-Charge reserves the right to take away any item of work or any part thereof at any time during the currency of work and re-allot to any other agency with due notice to the contractor without liability of any kind or payment of any compensation.
- i. The contractor will be responsible for any and all losses of material damages done to unfinished works as result of floods and any other act of God. WAPCOS will not be responsible for any compensation as a result of such damages or loss to the contractor and the contractor shall be liable to set right such damages at his own cost the satisfaction of the Engineer-In-Charge.
- j. Nothing extra will be paid to the contractor for any lead or lift unless otherwise specified for any material required directly or indirectly under the contract.
- k. Nothing extra will be paid to the contractor for diverting water in the channels or streams if it becomes necessary for the execution and completion of the work.
- l. The Contractor shall be responsible for providing to the entire satisfaction of the Project Manager/ EIC at his own expenses for the following amenities for all the labour employed by him:-
 - ii) Suitable temporary hutting accommodation.
 - iii) Trench latrines, bathing enclosures, platforms separately for men and women and their regular cleanliness.
 - iv) Clean drinking water.
 - v) In event of his failure, the cost thereof shall be recovered from the contractor. Any dispute regarding above points shall be settled by the Engineer-In-Charge and his decision shall be final.
- a. For safe custody of materials and watch and ward thereof and proper double lock arrangement, the contractor shall be bound to follow the instruction of the Engineer-In-Charge.
- b. The size of reinforced cement concrete and other structural member shall be measured and paid as per size provided in the structural drawings.
- c. Error or omission, if any in the nomenclature rate or unit of the items or work shall be corrected as per GSR 2023.

5. Materials and testing of materials for quality:

- 5.1 The materials shall be subject to inspection and approval of the Engineer-In-Charge. The contractor shall be required to get necessary tests carried out of materials / work from an approved laboratory approved by the Board.
- 5.2 Any construction material will get tested at the cost of the contractor. The contractor will set up a site laboratory for testing of Coarse Aggregate, Fine Aggregate & Compressive Strength of Concrete, etc.
- 5.3 The make of the materials should be per the make list mentioned in the tender document. If the make of any material is not mentioned in the tender document, then the approval of the make

with all specifications has to be taken from WAPCOS before procurement of the material & before execution of the relevant works.

6. Pre-delivery Inspection of materials/ equipment's

- a. WAPCOS (PEA) or Owner i.e. Directorate of Fisheries shall have full authority to inspect the work (during progress and after completion) as well as materials brought to the site.
- b. Pre-delivery Inspection of all materials for which orders are placed directly by the Contractor will also be done by the PEA. The Contractor shall submit QAP and Technical Data sheets for the equipment's to be procured to WAPCOS. Upon approval adequate notice for inspection will be given by WAPCOS . The Charges for testing the materials at manufacture's laboratories or in any other laboratory shall be borne by the Contractor. The contractor shall be responsible to arrange factory inspection of 2 nos. of officials including their lodging, Boarding and travel arrangements for inspection of such equipment's.
- c. Free and full access to test certificates, quality control records and documents concerning the projects shall be provided by the contractor to the PEA
- d. The PEA shall have the authority to prescribe any test or get any test done in his presence on material also/finished work to ensure the quality of work as per specifications.
- e. The contractor shall bear all costs for sampling and testing during the quality check by PEA.
- f. PEA shall have the authority to prescribe standard formats in which test results should be recorded and submitted for quality Check and adherence to the same shall be binding on the Contractor.

7. Other General Technical Specifications of Works

- 7.1.1. Unless otherwise specified, the Work will be executed strictly in accordance with the CPWD specification corrected up to date at the time of tenders, unless specified to contrary. The specifications to be generally followed will be the following specifications and codes:
 - a) CPWD specification
 - b) BIS specification
 - c) National building code
 - d) Schedule of Quantities (SoQ) and Drawings
 - e) Particular specification as applicable for respective works specified herein.
- 7.1.2. Measurement of work shall be done as per CPWD specifications and BIS codes, as applicable.
- 7.1.3. Actual quantities of completed and accepted work shall only be paid.
- 7.1.4. Nothing extra will be paid to the contractor for any lead or lift unless otherwise specified for any material required directly or indirectly under the contract.
- 7.1.5. Nothing extra will be paid to the contractor for diverting water in the channels or

streams if it becomes necessary for the execution and completion of the work.

- 7.1.6. The contractor shall be responsible and liable for proper and complete execution of the entire work and ensure coordination and completion of Civil, Electrical, Plumbing, Mechanical/ Fire Fighting works, etc.
- 7.1.7. Any rock extracted during excavation from site shall be recovered and the same shall be used in the random rubble masonry or for stone pitching as much as possible.
- 7.1.8. The percentage of contract rates for the various items, wherein Supply, Installation, Testing, Commissioning (i.e. SITC) are involved in the Schedule of Quantities, shall be payable against the following stage of work:

Sl. No.	Stage of work	%age of Quoted Rate for Item
a)	On initial inspection of materials (as applicable) and delivery at Site in good condition	70%
b)	On completion of installation/ erection	20%
c)	On completion of Testing and Commissioning, as applicable	10%

7.1.9. **Material for installation**

- a. The Contractor shall bring the various items & materials as per actual requirement at site at the time of execution of work. For any material brought prematurely at site without approval of Engineer-in- Charge, no payment shall be made for such material and the Employer shall not be responsible for its damage / deterioration. The make of material has been indicated in the tender document. The Engineer-in-charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not as per specifications.
- b. Quality of material: All materials and equipment for installation / work supplied by the Contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.
- c. The quantities of various items may vary from the quantities given in schedule of Quantity (SoQ)/ Bill of Quantity (BoQ). The Contractor shall bring the various items & materials as per actual requirement at site. Excess material more than the actual requirement shall not be accepted & paid by the Employer.
- d. Before start of the work the Contractor is required to submit the shop drawings. The shop drawings shall be approved by the Engineer-in-Charge.
- e. Before placing orders on the manufacturer for supply of cables, pole, fittings, pipes, etc. the contractor is required to get assessed the exact requirement of each size of the cable at site of work and get the same approved from the Engineer-in-charge. The Employer shall not take back any spare quantity of cable whether in pieces or in sealed drums/ containers, if procured more than that required at site / approved by the Engineer-in-charge.

However, it may be noted that the contractor shall have to arrange extra quantity of the cables, poles, fittings, pipes, etc. over and above that assessed by the contractor, before start of the work and approved by the Engineer-in-charge, if such additional quantity of the cables, poles, fittings, pipes, etc., is required at site, in order to make the installation as covered in Scope of this work and in order to make the installation operational. Such quantity shall be paid as per contractual provisions of the Agreement.

7.1.10. Completeness of work

All hardware items such as screws, thimbles, G.I. wires, etc. which are essentially required for completing an SoQ item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned. All hardware materials such as nuts/bolts/screws/washers etc. to be used in the scheduled items shall be zinc/cadmium plated iron. Nothing extra on account of same shall be paid.

7.1.11. For items/equipment requiring initial inspection at manufacturer's works' the contractor will intimate the date of testing of equipment at the manufacturer's works before dispatch. The Employer also reserves the right to inspect the fabrication job at factory and the Contractor has to make the arrangement for the same. The Contractor shall give sufficient advance notice regarding the dates proposed for such tests/inspection to the Employer's representative(s) to facilitate his presence during testing/fabrication. The Engineer-in-charge at his discretion may waive off such testing/fabrication. The cost of the Engineer-in-charge's visit to the factory will be borne by the Contractor. Also, equipment may be inspected at the Manufacturer's premises before dispatch to the site by the contractor.

7.1.12. Conformity with statutory Acts, Rules, Standards and Codes

- a. All components shall conform to relevant Indian Standard Specifications, International Standards and shall bear the stamp of the testing laboratory wherever existing and amended to date.
- b. In respect of all labor employed directly or indirectly on the work for the execution of the work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provision,

BIS recommendations, factory act, and workman's compensation act, CPWD code and instructions issued from time to time. Failure to provide such safety requirements would make the Contractor liable for penalty. In addition, the Engineer-in- Charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost incurred thereon from the Contractor.
- c. The contractor shall provide necessary barriers, signals and other safety measures wherever necessary so as to avoid accident. He shall also indemnify the Employer against claims for compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian law and Regulations for any accident occurring due to any cause. The Employer shall not be responsible for any accident occurred or damage incurred or claims arising their form during the execution of work, the Contractor shall cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

7.1.13. Care of the Building

Care shall be taken by the contractor while handling and installing the various equipment and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

7.1.14. Performance Guarantee for Equipment Installation including Electrical works

The Contractor shall guarantee among other things, the following:

- a) Quality, Strength and performance of the materials used.
- b) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- c) Satisfactory operation during the maintenance period.

7.1.15. Guarantee of Equipment Installation

All equipment/ installations shall be guaranteed for a period of 1 years from the date of taking over the installation by the Employer or for the period of the manufacturer's guarantee period whichever is greater against unsatisfactory performance and/or break down due to defective design, workmanship of material. The equipment or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge.

In case it is felt by the Employer that undue delay is being caused by the contractor in doing this, the same will be got done by the Employer at the risk and cost of the contractor. The decision of the Engineer-in-Charge in this regard shall be final.

7.1.16. Training, Operation & Maintenance

Training of Owner's staff for operation and maintenance of all equipment such as Transformer, CCTV system, all electrical Panels/Equipment's and any other equipment shall be arranged by Contractor. In addition to this, the Contractor shall be required to hand over all installed equipment's manuals to the Owner.

7.1.17. The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the Employer. However, if there is any delay in construction from the Employer side, the installation may be taken over in parts, but the decision on the same shall rest with Engineer-in Charge which shall be a binding on the contractor.

7.1.18. Power Supply

Electrical power/Alternate source including backup power supply (as and when required) shall be arranged by the contractor for Construction, installation purpose at his own cost and payment for electricity charges shall be made by contractor. Electrical power supply required for testing of entire installation after completion shall be arranged by the Employer/Owner.

7.1.19. Data Manual and Drawings to be furnished by the Contractor

The Contractor would be required to submit the followings for approval before commencement of installation.

- a. Technical submittal/ catalogue/ brochures of all equipment's installations

to Engineering -In-Charge. Only after approval of such approval, the Contractor should place order for equipment and bring it to site.

- b. Any other drawing/information not specifically/mentioned above but deemed to be necessary for the job by the contractor.

7.1.20. Completion Plan & Test Certificate for Equipment Installations including Electrical

The layout of all the installation for all services with proper dimensions, shall be finalized in consultation with the Engineer-in-Charge or his representative and the layout shall be got approved by the Engineer-in-Charge before start of the work. Contractor shall submit completion plan/ Electrical drawings in triplicate before finalisation of bill.

7.1.21. Verification of correctness of Equipment at Destination:

The materials shall be procured only from the manufacturers and their authorized dealers and documentary proof for such procurement and supply shall be produced by the contractor as required by Engineer-in-charge. The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected. The Employer reserves the right to send such materials to the manufacturers / authorized test laboratory to verify the genuineness and quality of the product. The Contractor shall submit all documentary details in fulfillment of this of invoices, test certificates; gate passes etc. to prove the genuineness of material/purchases from manufacturer or authorized dealers which are used at site as per agreement.

7.1.22. Painting:

All equipment works shall be painted at the workshops/factory/manufacturing unit before dispatch to the site. Care shall be taken by the contractor while handling and installing the various equipment and components of the work to avoid damage to the finishes of equipment. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out for the installation from the site of work.

7.1.23. Maintenance during defect liability period

Sufficient trained and experienced staff shall be made available to meet any exigency of work attends the complaint during the defect liability period from the handing over of the project.

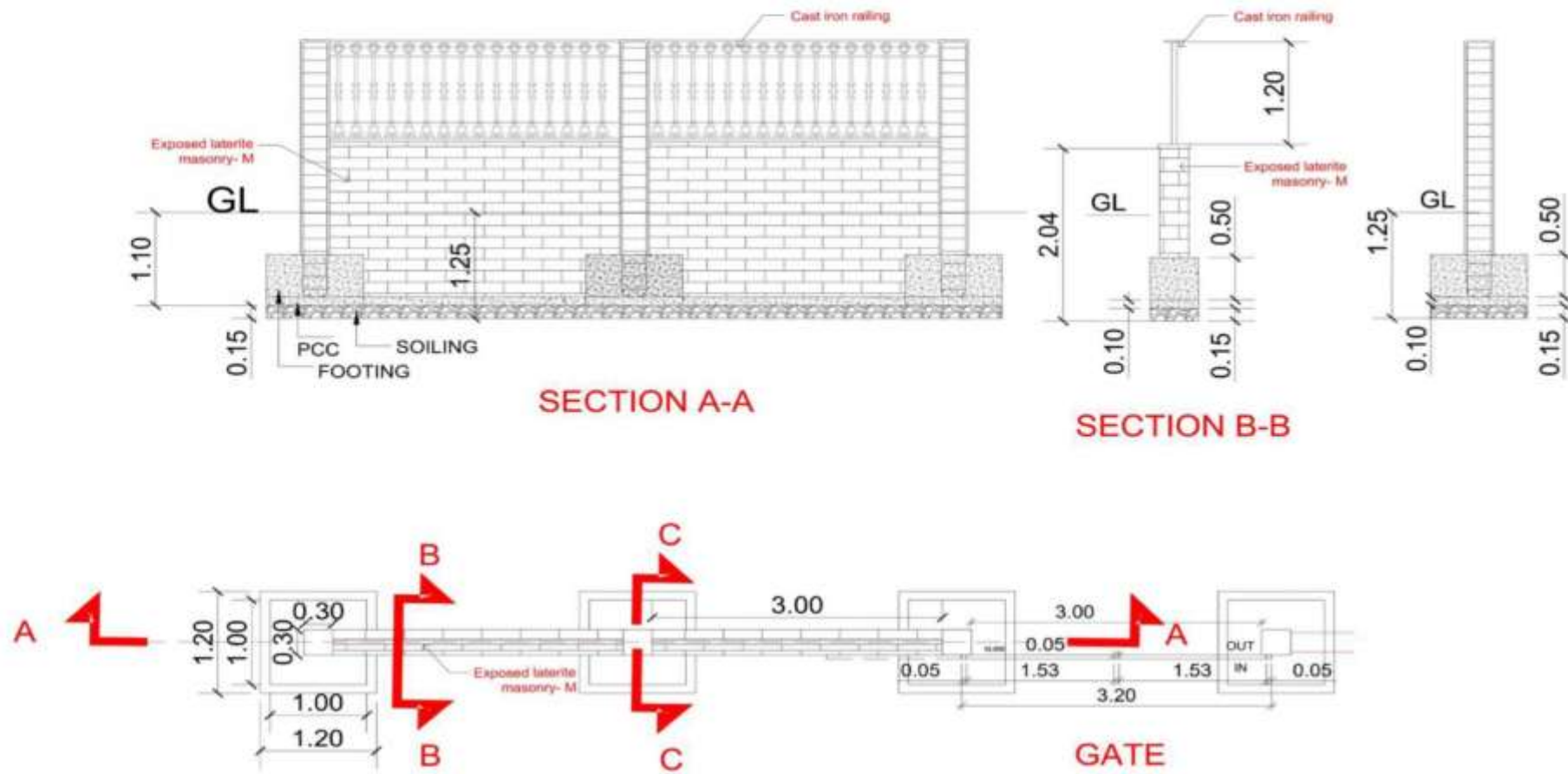
- 7.1.24. The contractor shall ensure that all the skilled persons managed / deployed for executing the electrical work possess wireman license issued by approved authorities, otherwise he will not be permitted to execute the work. Also, consequences arising due to the default of the contractor to comply with this condition would be contractor's responsibility only.

SECTION – X

DRAWINGS

1.0 Preamble to Tender Drawings:

The Tender Drawings has been prepared for various works stipulated in the tender document. The detailed Drawings may be subjected to change while finalizing during the Execution of works. The bidder's quote shall be fixed on account to changes in such drawings and no claims in this regards shall be entertained.



PROJECT :
Modern Integrated Village at Palolem in Goa under PMMSY

CLIENT :
Directorate of Fisheries, Government of Goa
മുഖ്യമന്ത്രിയുടെ മത്സ്യവകുപ്പ്, ഗോവ

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR 55A,
MILROD RIVERVIEW
RIBANDAR CHIMBEL GOA
PIN 403008

MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT:
Shashi Prabhu & Associates
SHASHI PRABHU AND ASSOCIATES WANKHEDE STADIUM,
BLOCK A2 AND B1 NORTH STALL,
ROAD CHURCHGATE,
MUMBAI - 400 020.

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

NOTES :
1. This is drawing for tender purpose only.
2. All dimensions are in metres.
3. All levels are in metres and with respect to MSL.

REV.	DATE	DESCRIPTION

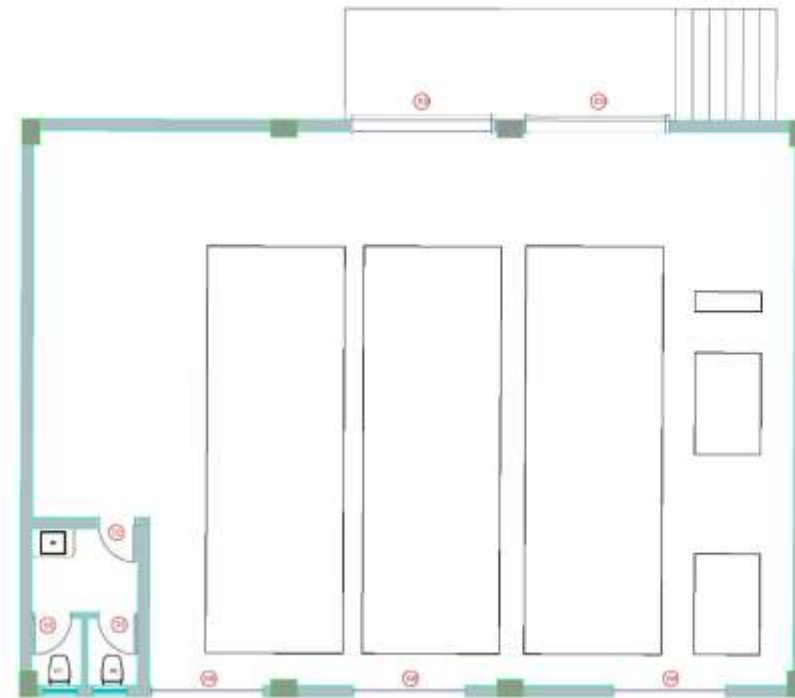
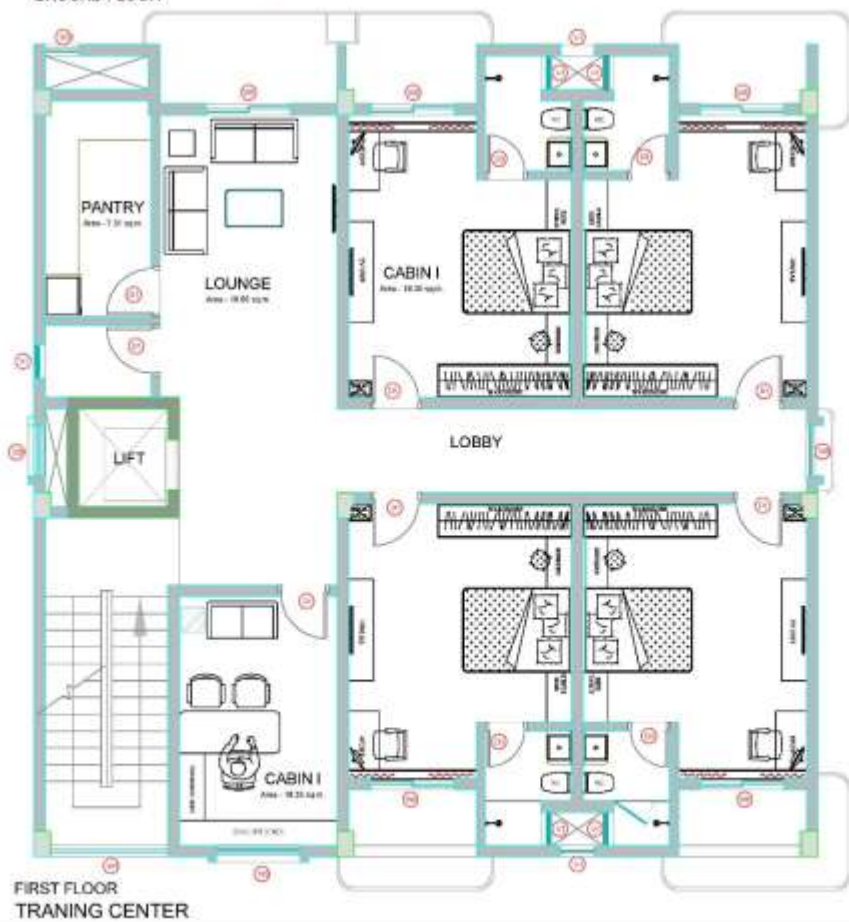
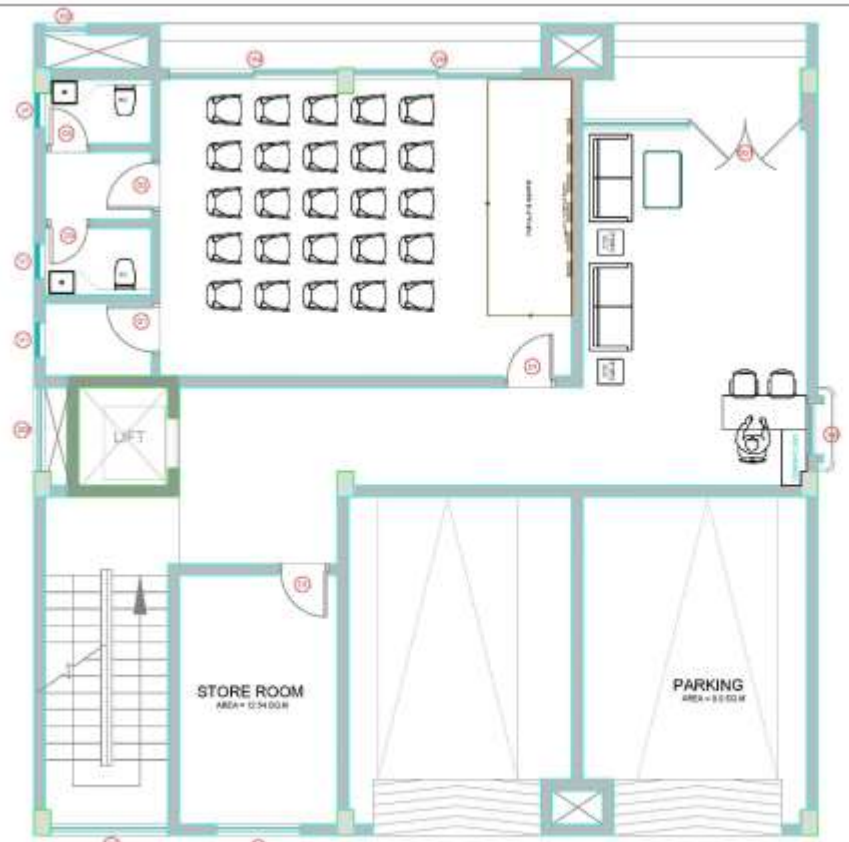
DRAWING TITLE
BOUNDARY WALL LAYOUT

PAPER SIZE: A3
SCALE: 1:500
REV NO.: R0
DRAWING NO.:

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 DD GFC AS BUILT

STAMP & SIGNATURE (SPA)

STAMP & SIGNATURE (CLIENT)



PROJECT
Development of Climate Resilient Coastal Fisheries Villages (CRFV) at Cera in Goa under PMMSY

CLIENT
Directorate of Fisheries, Government of Goa
fisheries@gov.goa.in

PROJECT EXECUTION AGENCY
WAPCOS WATER DEVELOPMENT WORKS CORPORATION LIMITED, GOA
WAPCOS

ARCHITECTURE CONSULTANT
SHASHI PRASAD AND ASSOCIATES ARCHITECTS
SHASHI PRASAD ARCHITECTS
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TEL: 020 28 18 1808
EMAIL: info@shashiprasad.com

IN J.V. PARTNERSHIP WITH
FP Project Management & Asstt. Engineering

STRUCTURAL CONSULTANT
SPC STRUCTURAL CONSULTANTS
PLOT NO. 10, SECTOR 10, VASCO DA GAMA, GOA
TEL: 020 28 18 1808
CONTACT: 98020 20000

NOTES:

- This drawing is the property of Sh. Shashi Prasad & Associates and is not to be used or reproduced without their permission.
- Contractor shall verify the dimensions on the site and report immediately if any discrepancy is found.
- Drawings shall be in metric units. All dimensions are in millimeters.
- All dimensions & notes are from centerline unless otherwise specified.
- All the drawings are to be read in conjunction with relevant specifications & standards.
- The ARCHITECT'S SIGNATURE is to be brought to the notice of the client immediately.
- We would like to express our appreciation to...

REV	DATE	DESCRIPTION
R0	20-02-2025	DRAWINGS ISSUED

AREA STATEMENT

SCHEDULE OF OPENINGS

Door type	Qty	Size	Remarks	U	L	H	W
D1	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10
D2	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10
D3	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10
D4	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10
D5	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10
D6	10	2100x1000	Standard door with 20mm thick F.V. glass entrance door	1000	2100	1000	10

Window type	Qty	Size	Remarks	U	L	H	W
W1	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W2	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W3	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W4	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W5	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W6	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10
W7	10	2100x1000	UPVC Glazed window 10mm	1000	2100	1000	10

GOA FISHERIES, PELOLEM ICE FACTORY AND TRAINING CENTER, DOOR AND WINDOW SCHEDULE

DRAWING TITLE
COMMUNITY HALL WORKING DWG

PAPER SIZE
A1

SCALE
R/S

REV NO
01

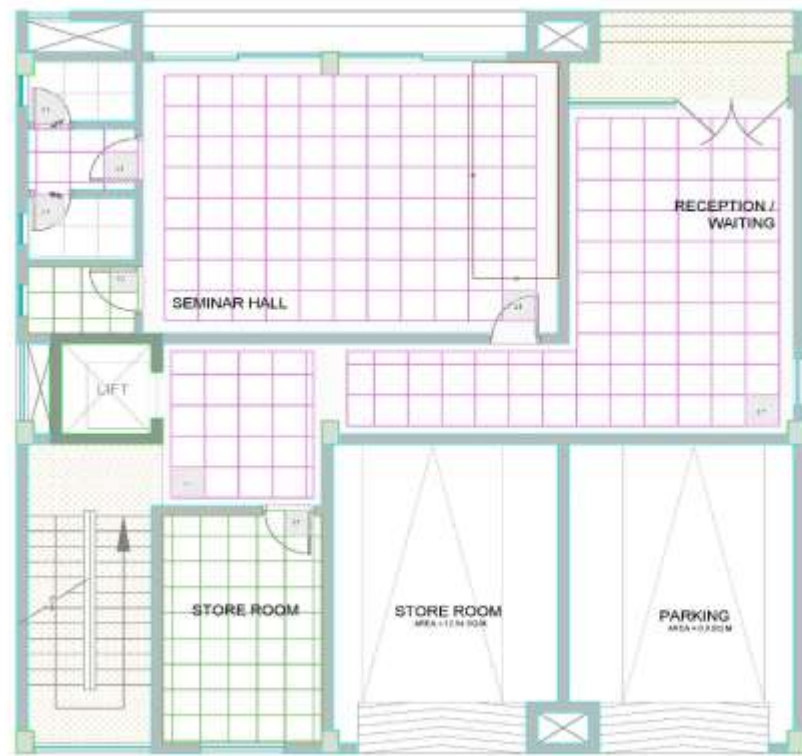
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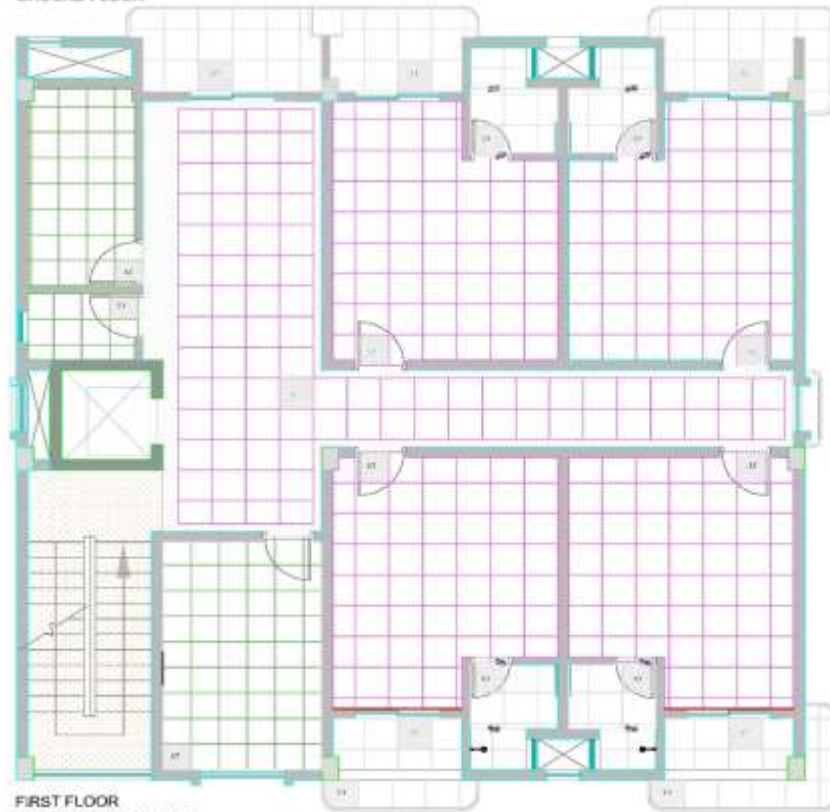
CHECKED BY
SHASHI PRASAD

RELEASED FOR
[] CLIENT [] CONSULTANT

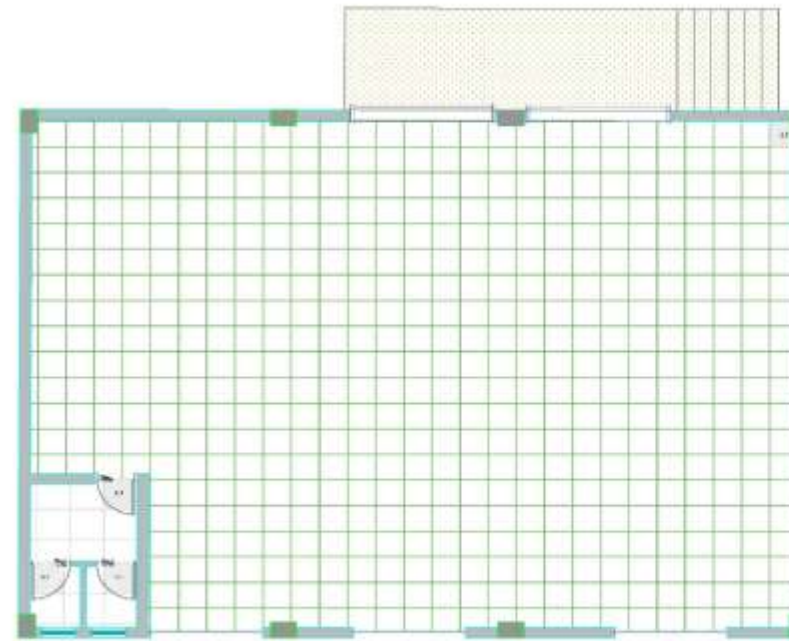
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GROUND FLOOR



FIRST FLOOR
TRAINING CENTER



ICE FACTORY

FLOORING LEGEND	
INDICATION	FLOOR TYPE
	600X600MM ANTI SKID VITRIFIES TILE
	600X600MM VITRIFIES TILE
	500X500MM KOTA TILE
	POLISHED GRANITE
	LEATHER FINISH GRANITE

PROJECT
Development of Climate Resilient Coastal Fishermen Villages (CRFV) at Cacra in Goa under PMMSY

CLIENT
Directorate of Fisheries, Government of Goa
प्रधानमंत्री कृषि सहायता योजना

PROJECT EXECUTION AGENCY
 WAPCOS LIMITED
WAPCOS PROJECTS DIVISION
PUNE, INDIA

ARCHITECTURE CONSULTANT
 SHASHI PRASAD AND ASSOCIATES
ARCHITECTS
PUNE, INDIA

IN J.V. PARTNERSHIP WITH
FF Project Management & Astute Engineering

STRUCTURAL CONSULTANT
 SFC
TECHNICAL CONSULTANTS
PUNE, INDIA

- NOTES :**
- The drawing is the property of the Client. It is not to be used for any other purpose without the written consent of the Client.
 - Dimensions and levels are given in the drawing unless otherwise specified.
 - Contractor shall ensure that all work is done in accordance with the specifications and standards mentioned in the drawing.
 - The Contractor shall be responsible for obtaining all necessary approvals and clearances from the relevant authorities.
 - The drawing is to be used for the construction of the project only and not for any other purpose.
 - All dimensions are in meters unless otherwise specified.

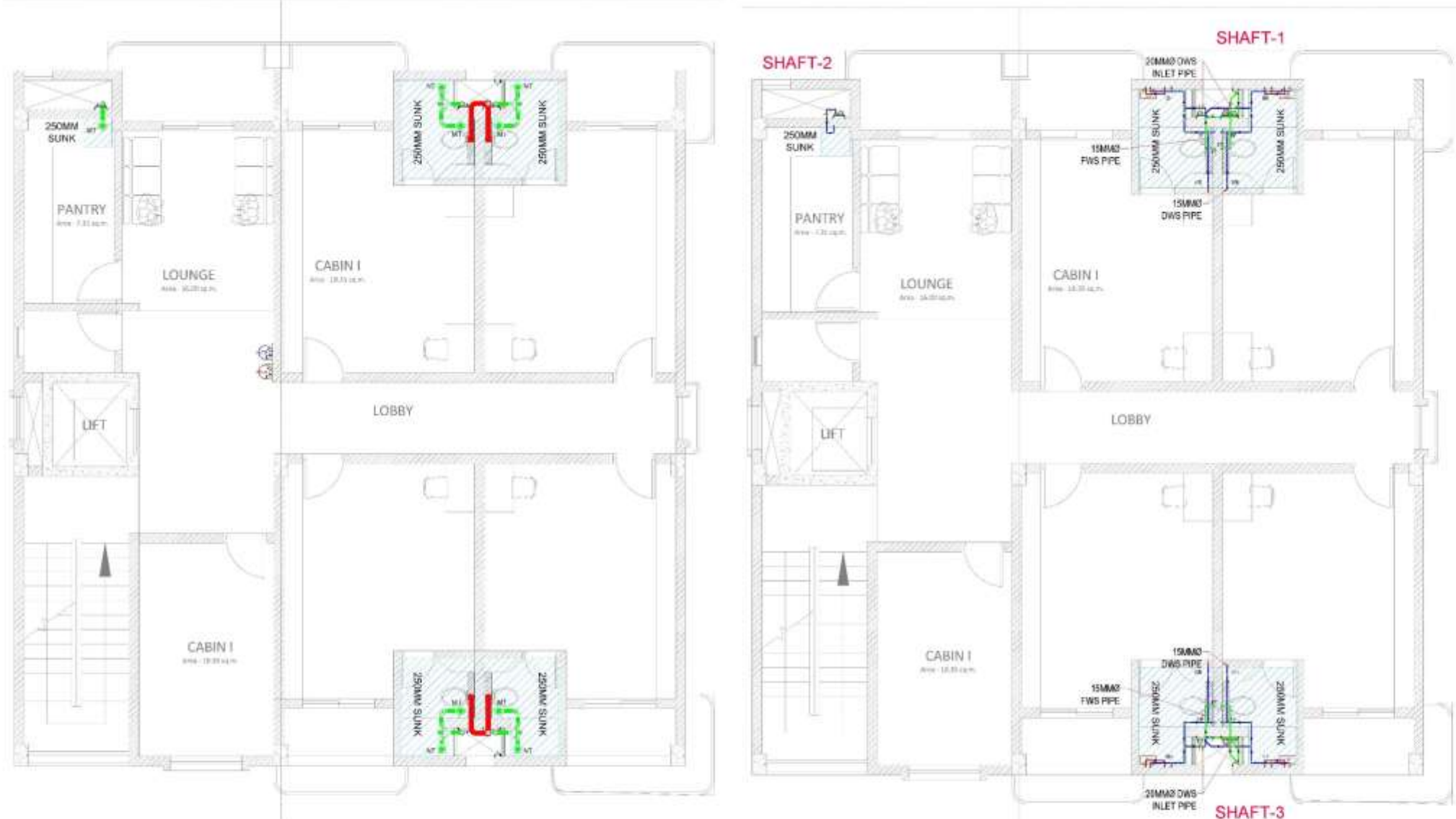
REV.	DATE	DESCRIPTION
R0	20-02-2026	DRAWING ISSUED

AREA STATEMENT

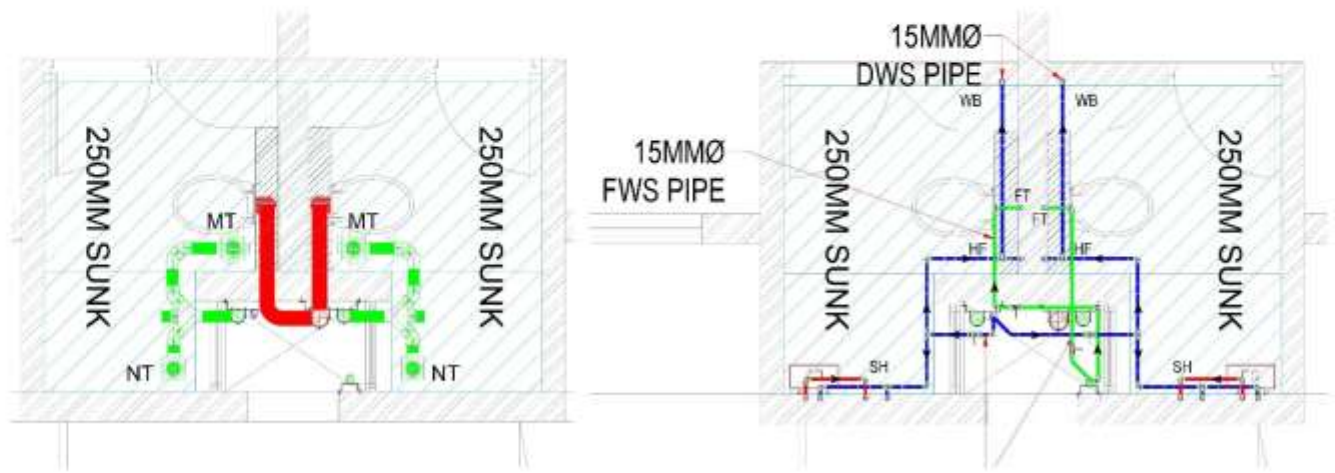
SCHEDULE OF OPENINGS

GOA FISHERIES, PELOLEM ICE FACTORY AND TRAINING CENTER_FLOORING LAYOUT

DRAWING TITLE COMMUNITY HALL WORKING DRAWING								
PAPER SIZE	A1							
SCALE	1/10							
DATE	20-02-2026							
DESIGNED BY	SHASHI PRASAD	<table border="1"> <tr> <td>RELEASED FOR</td> <td>DATE</td> <td>BY</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	RELEASED FOR	DATE	BY			
RELEASED FOR	DATE		BY					
CHECKED BY	SHASHI PRASAD							
STAMP & SIGNATURE (SPA)		STAMP & SIGNATURE (CLIENT)						



SYMBOL	DESCRIPTION
	Ø150MM SOIL PIPE
	Ø75MM SOIL PIPE
	Ø75MM WASTE PIPE
	Ø150MM RAIN WATER PIPE
	Ø200MM WASTE PIPE
	DOMESTIC WATER SUPPLY PIPE (DWS)
	FLUSHING WATER SUPPLY PIPE (FWS)
	HOT WATER SUPPLY PIPE (HWS)
	FLOOR TRAP
	MT - MULTI TRAP
	HT - HANGING TRAP
	INSPECTION CHAMBER
	GULLY TRAP
	Ø150MM SEWAGE PIPE
	WATER FLOW DIRECTION
	LEISURE HALL



PROJECT
Modern Community Post Harvesting Facility - Palolem

CLIENT
Directorate of Fisheries, Government of Goa
DIRETORIO DE PESCA, GOA

PROJECT EXECUTION AGENCY
WAPCOS
UPPER WIND FLOOR 8th, WIND POWER PARK, CHANDLER, GOA
PIN 403004

ARCHITECTURE CONSULTANT
SHARDE PRABHU AND ASSOCIATES
ARCHITECTS
100/100A, 100/100B, 100/100C, 100/100D, 100/100E, 100/100F, 100/100G, 100/100H, 100/100I, 100/100J, 100/100K, 100/100L, 100/100M, 100/100N, 100/100O, 100/100P, 100/100Q, 100/100R, 100/100S, 100/100T, 100/100U, 100/100V, 100/100W, 100/100X, 100/100Y, 100/100Z
100/100A, 100/100B, 100/100C, 100/100D, 100/100E, 100/100F, 100/100G, 100/100H, 100/100I, 100/100J, 100/100K, 100/100L, 100/100M, 100/100N, 100/100O, 100/100P, 100/100Q, 100/100R, 100/100S, 100/100T, 100/100U, 100/100V, 100/100W, 100/100X, 100/100Y, 100/100Z

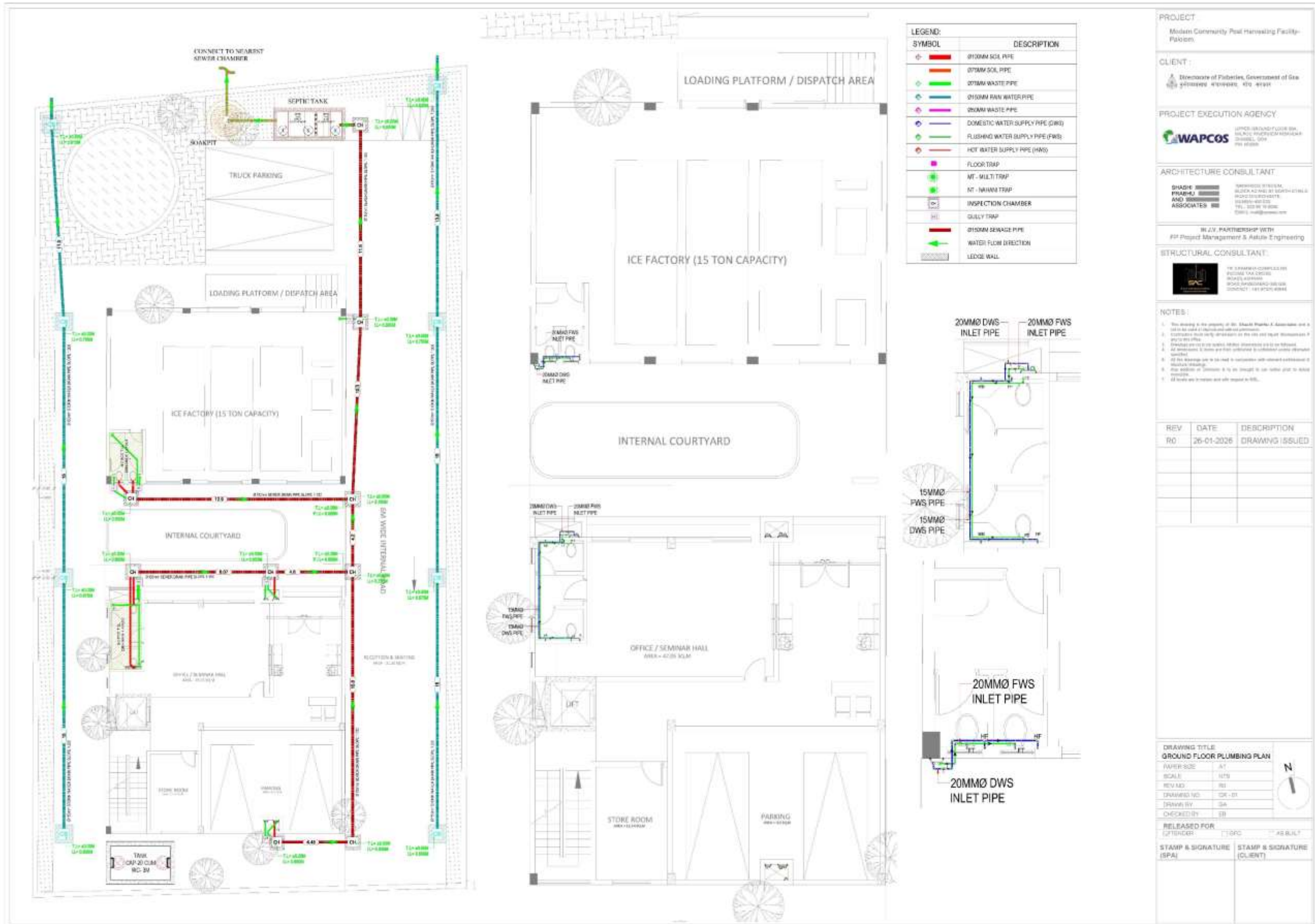
IN JV PARTNERSHIP WITH
PP Project Management & Audit Engineering

STRUCTURAL CONSULTANT
IPC
100/100A, 100/100B, 100/100C, 100/100D, 100/100E, 100/100F, 100/100G, 100/100H, 100/100I, 100/100J, 100/100K, 100/100L, 100/100M, 100/100N, 100/100O, 100/100P, 100/100Q, 100/100R, 100/100S, 100/100T, 100/100U, 100/100V, 100/100W, 100/100X, 100/100Y, 100/100Z

- NOTES:**
- This drawing is the property of Sh. Sharde Prabhhu & Associates and is not to be used for any other project without the written permission of the firm.
 - Contractor shall verify all dimensions on the site and report immediately if any discrepancy is found.
 - Workshop drawings shall be submitted to the client for approval.
 - All dimensions & levels are in meters unless otherwise specified.
 - All the drawings are to be read in accordance with relevant national & international standards.
 - Any addition or deletion to be brought to the notice prior to issue.
 - All works are to be done as per the approved drawings.

REV	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE		
FIRST FLOOR PLAN		
PIPER SIZE	A1	
SCALE	1/10	
REV NO	R0	
DRAWN BY	SA	
CHECKED BY	SB	
RELEASED FOR		
STAMP & SIGNATURE (SPA)		
STAMP & SIGNATURE (CLIENT)		

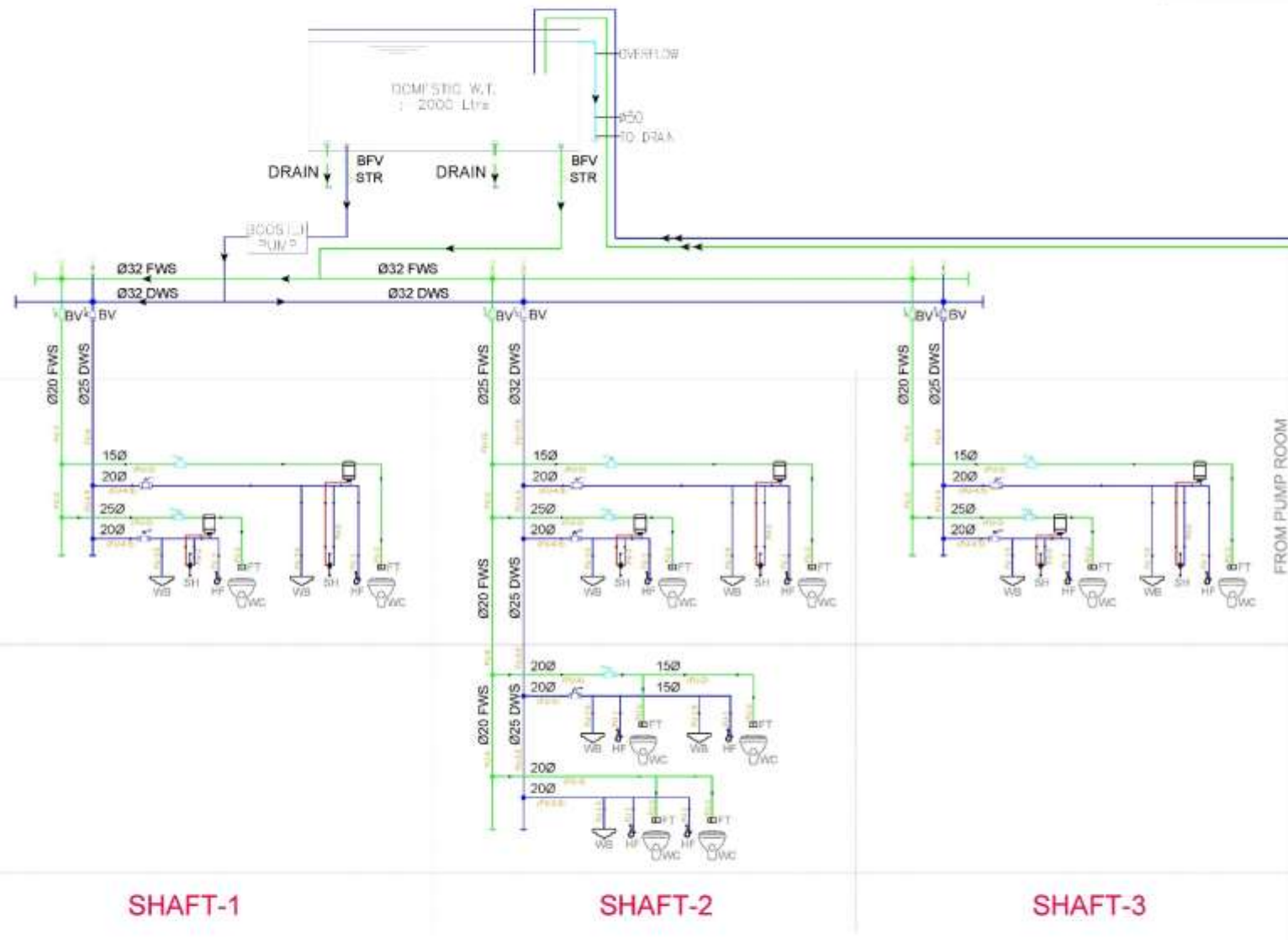


LEGEND

	KITCHEN SINK
	WASHING MACHINE
	WASH BASIN
	WATER CLOSET
	WATER PURIFIER
	SHOWER
	GEYSER
	BILUTION TAP
	URINAL

LEGEND

	FLUSHING WATER SUPPLY
	BOOSTER WATER SUPPLY
	AIR RELEASE VALVE
	PRESSURE REDUCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	NON RETURN VALVE
	STRAINER
	GATE VALVE



WATER SUPPLY SCHEMATIC

TERRACE FLOOR PLAN

FIRST FLOOR PLAN

GROUND FLOOR PLAN

PROJECT
Modern Community Post Harvesting Facility- Palolem.

CLIENT
Directorate of Fisheries, Government of Goa

PROJECT EXECUTION AGENCY
WAPCOS

ARCHITECTURE CONSULTANT
SHARAD PHARSI AND ASSOCIATES

IN JV PARTNERSHIP WITH
PSP Project Management & Audit Engineering

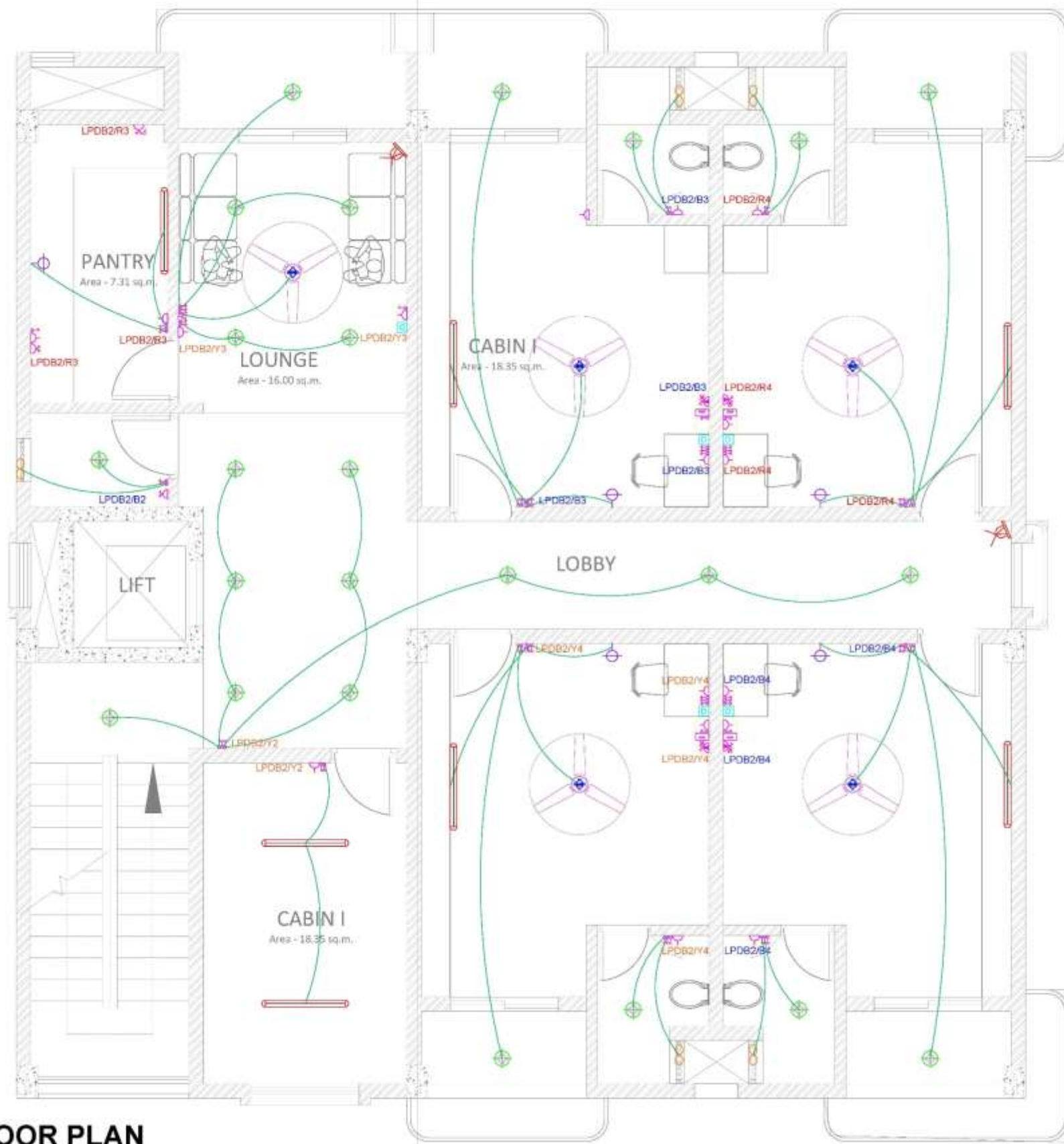
STRUCTURAL CONSULTANT
SPC

- NOTES:**
- This drawing is the property of Sh. Sharad Pharsi & Associates and is not to be used for any other project without their written permission.
 - Contractor shall verify dimensions on the site and report dimensions to project office.
 - Contractor shall verify all dimensions on the site before starting work.
 - All dimensions & notes are to be followed unless otherwise specified.
 - All the drawings are to be read in conjunction with relevant specifications & standards.
 - Site conditions & dimensions to be checked on the site prior to start of work.
 - All works are to be done as per approved drawings.

REV	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE	
WATER SUPPLY SCHEMATIC	
WATER SIZE	A1
SCALE	1:75
REV NO	01
DRAWN BY	SA
CHECKED BY	SB

RELEASED FOR	
DESIGNER	AS BUILT
STAMP & SIGNATURE (SPA)	STAMP & SIGNATURE (CLIENT)



FIRST FLOOR PLAN

PROJECT :
 Modern Integrated Village at Palolem in Goa under PMMSY

CLIENT :
 Directorate of Fisheries, Government of Goa
 मत्स्यव्यवसाय संचालनालय, वॉयस सरकार.

PROJECT EXECUTION AGENCY
WAPCOS
 UPPER GROUND FLOOR 59A,
 MILROD RIVERVIEW
 RIBANDAR CHIMBEL GOA
 PIN 400006

MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT:
Shashi Prabhu & Associates
 SHASHI PRABHU AND ASSOCIATES
 WANKHEDE STADIUM,
 BLOCK A2 AND B1 NORTH STAN/D
 ROAD CHURCHGATE,
 MUMBAI - 400 020.

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

NOTES :
 1. This is drawing for tender purpose only.
 2. All dimensions are in meters.
 3. All levels are in meters and with respect to MSL.

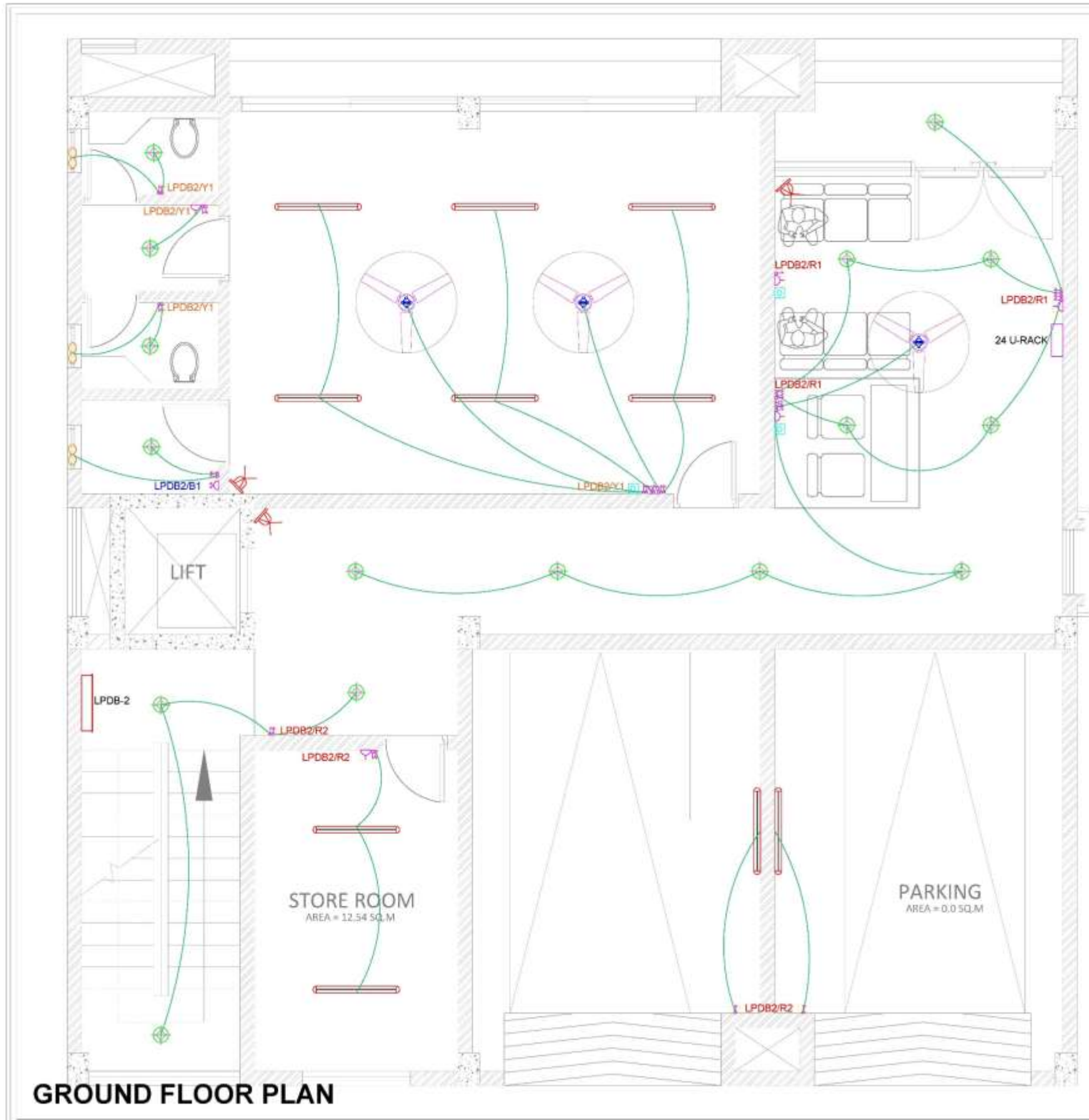
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DRAWING TITLE		N
FIRST FLOOR ELECTRICAL		
PAPER SIZE	A3	
SCALE	1:500	
REV. NO.	R0	
DRAWING NO.		

RELEASED FOR
 DD GFC AS BUILT

STAMP & SIGNATURE (SPA)

STAMP & SIGNATURE (CLIENT)



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
[Symbol]	SWITCH BOARD	40 NOS
[Symbol]	18 W CEILING LIGHT POINT	40 NOS
[Symbol]	FAN POINT	88 NOS
[Symbol]	ELECTRICAL DISTRIBUTION BOARD	01 NOS
[Symbol]	EXHAUST FAN	07 NOS
[Symbol]	6A SWITCH FOR LIGHTING / FAN	04 NOS
[Symbol]	6A SOCKET FOR GENERAL PURPOSE	02 NOS
[Symbol]	REGULATOR	08 NOS
[Symbol]	15A SOCKET OUTLET WITH SWITCH FOR GENERAL PURPOSE	03 NOS
[Symbol]	5W TUBE LIGHT	11 NOS
[Symbol]	EXHAUST FAN	1 NOS
[Symbol]	BROCK LIGHT	3 NOS
[Symbol]	VSB CHARGE	4 NOS
[Symbol]	DATA POINT	8 NOS
[Symbol]	15A AC SOCKET	4 NOS

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
[Symbol]	DOVE CAMERA	06 NOS

PROJECT :
Modern Integrated Village at Palolem in Goa under PMMSY

CLIENT :
Directorate of Fisheries, Government of Goa
අධ්‍යයන අංශය, ගෝව

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR 59A,
MILROC RIVERVIEW
RIBANDAR CHIMBEL GOA
PIN 403005

MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT:
Shashi Prabhu & Associates
SHASHI PRABHU AND ASSOCIATES
WANKHEDE STADIUM,
BLOCK A2 AND B1 NORTH STAND,
ROAD CHURCHGATE,
MUMBAI - 400 020

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

NOTES :
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3. All levels are in meters and with respect to MSL.

REV.	DATE	DESCRIPTION

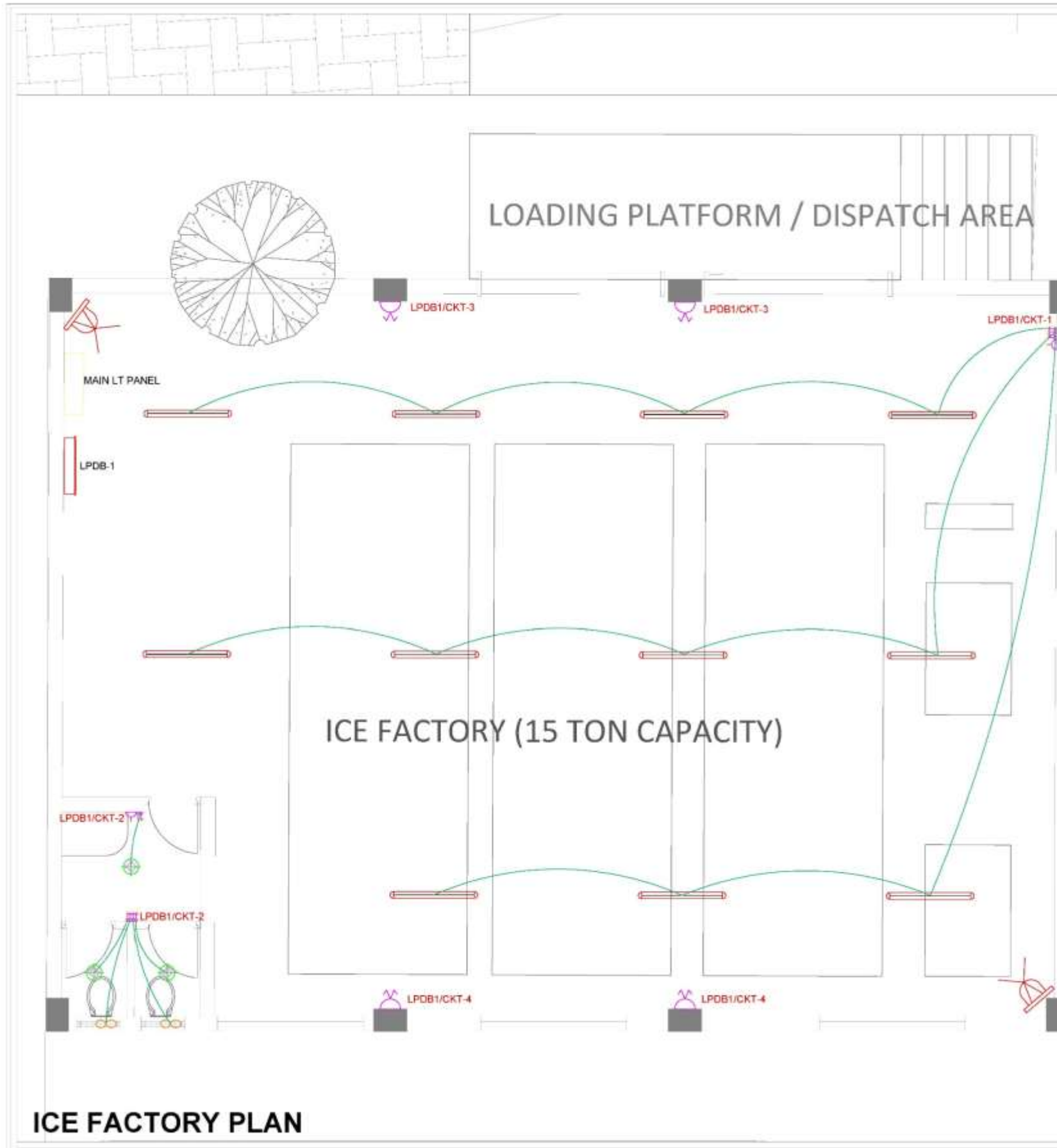
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SCALE: 1:500
REV NO: R0
DRAWING NO: [Blank]

RELEASED FOR
 DD GFC AS BUILT

STAMP & SIGNATURE (SPA)
[Blank]

STAMP & SIGNATURE (CLIENT)
[Blank]



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
	35W TUBE LIGHT	11 NOS
	18 W CEILING LIGHT POINT	03 NOS
	5A SOCKET FOR GENERAL PURPOSE	02 NOS
	ELECTRICAL DISTRIBUTION BOARD	01 NOS
	15A SOCKET OUTLET WITH SWITCH FOR GENERAL PURPOSE	04 NOS
	5A SWITCH FOR LIGHTING / FAN	06 NOS
	EXHAUST FAN	02 NOS
	MAIN LT PANEL	01 NOS

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
	DOME CAMERA	02 NOS

PROJECT :
Modern Integrated Village at Palolem in Goa under PMMSY

CLIENT :
Directorate of Fisheries, Government of Goa
ಇಲಿಖರಣೆ ಇಲಾಖೆ, ಗೋವಾ ಸರ್ಕಾರ

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR 59A,
MILROC RIVERVIEW
RIBANDAR CHIMBEL GOA
PIN 400008

MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT:
Shashi Prabhu & Associates
SHASHI PRABHU AND ASSOCIATES
WANKHEDE STADIUM,
BLOCK A2 AND B1 NORTH STAN.D
ROAD, CHURCHGATE,
MUMBAI - 400 020.

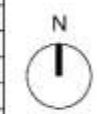
IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

NOTES :
1. This is drawing for tender purpose only.
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REV.	DATE	DESCRIPTION

DRAWING TITLE

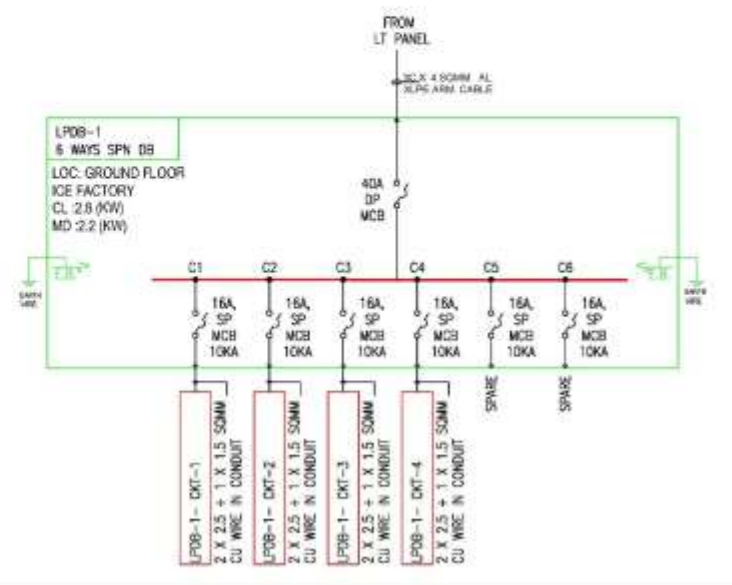
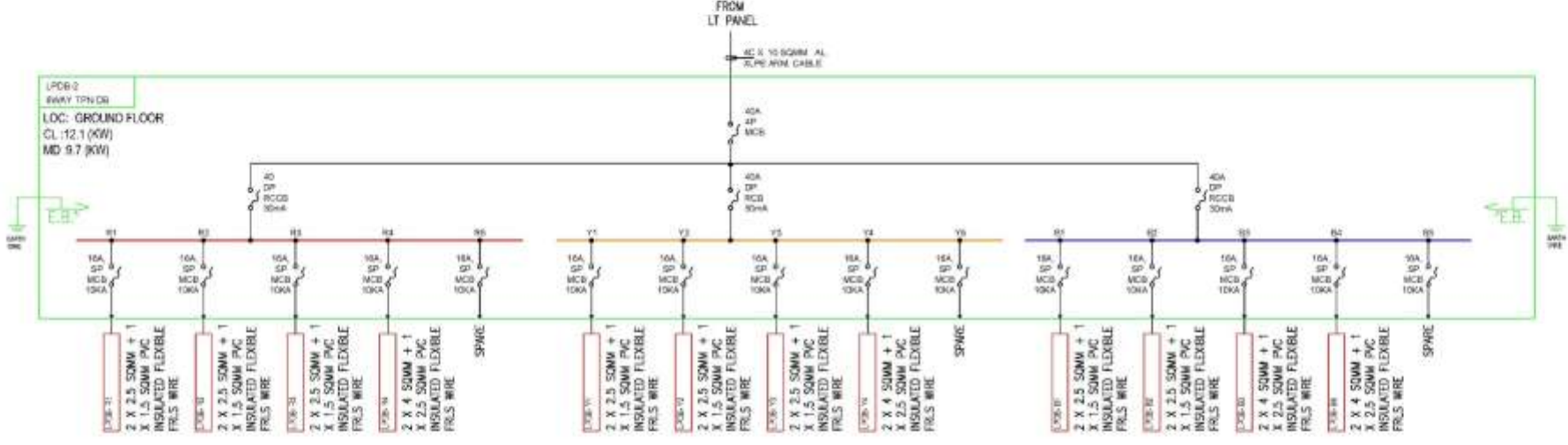
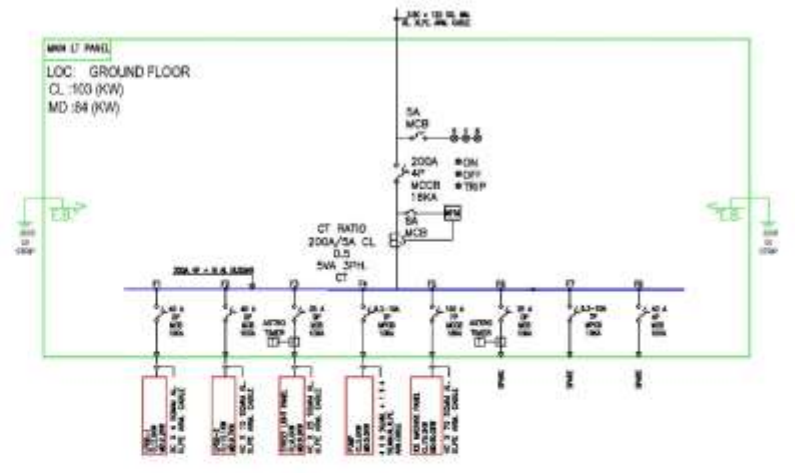
ICE FACTORY ELECTRICAL	
PAPER SIZE	A3
SCALE	1:500
REV NO.	R0
DRAWING NO.	



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STAMP & SIGNATURE (CLIENT)



SLD LAYOUT

PROJECT :
Modern Integrated Village at Palolem in Goa under PMMSY

CLIENT :
Directorate of Fisheries, Government of Goa
मुसंडीवस्वतंत्र मंत्रालय, गोंय सरकार.

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR 59A, MILROC RIVERVIEW, RIBANDAR CHIMBEL GOA, PIN 400006

MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT:
Shashi Prabhu & Associates
SHASHI PRABHU AND ASSOCIATES
WANKHEDE STADIUM, BLOCK A2 AND B1 NORTH STAND, ROAD CHURCHGATE, MUMBAI-400 020.

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

NOTES :
1. This is drawing for tender purpose only.
2. All dimensions are in meters.
3. All levels are in meters and with respect to MSL.

REV.	DATE	DESCRIPTION

DRAWING TITLE		
SLD LAYOUT		
PAPER SIZE	A3	
SCALE	1:500	
REV. NO.	R0	
DRAWING NO.		

RELEASED FOR
 DD GFC AS BUILT

STAMP & SIGNATURE (SPA)

STAMP & SIGNATURE (CLIENT)

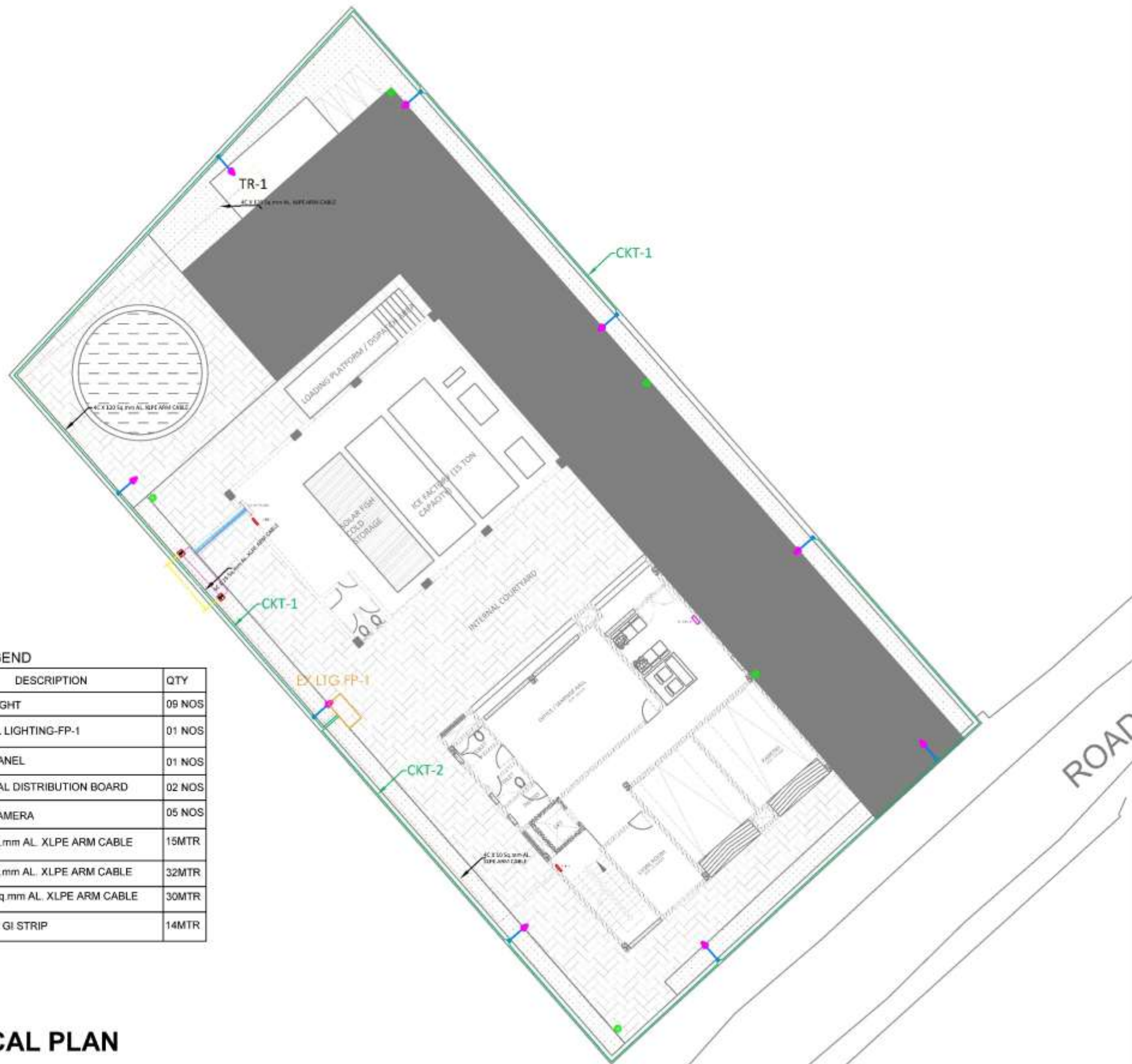


ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
	STREET LIGHT	09 NOS
	EXTERNAL LIGHTING-FP-1	01 NOS
	MAIN LT PANEL	01 NOS
	ELECTRICAL DISTRIBUTION BOARD	02 NOS
	PTZ CAMERA	05 NOS
	4C X 25 Sq.mm AL. XLPE ARM CABLE	15MTR
	4C X 10 Sq.mm AL. XLPE ARM CABLE	32MTR
	4C X 120 Sq.mm AL. XLPE ARM CABLE	30MTR
	32 X 6 MM GI STRIP	14MTR

SURVEY PLAN

PROJECT : Modern Integrated Village at Palolem in Goa under PMSY		
CLIENT : Directorate of Fisheries, Government of Goa मुलेजवसव नचालनव, गंव सरकार.		
PROJECT EXECUTION AGENCY WAPCOS UPPER GROUND FLOOR 59A, MILROC RIVERVIEW RIBANDAR CHIMBEL GOA PIN 400006		
MASTERPLAN, ARCHITECTURE AND MEP CONSULTANT: Shashi Prabhu & Associates SHASHI PRABHU AND ASSOCIATES WANKHEDE STADIUM, BLOCK A2 AND B1 NORTH STAND, ROAD CHURCHGATE, MUMBAI-400 020.		
IN J.V. PARTNERSHIP WITH FP Project Management & Astute Engineering		
NOTES : 1. This is drawing for tender purpose only. 2. All dimensions are in meters. 3. All levels are in meters and with respect to MSL.		
REV.	DATE	DESCRIPTION
DRAWING TITLE EXTERNAL LIGHTING LAYOUT		
PAPER SIZE	A3	
SCALE	1:500	
REV NO.	R0	
DRAWING NO.		
RELEASED FOR <input checked="" type="checkbox"/> DD <input type="checkbox"/> GFC <input type="checkbox"/> AS BUILT		
STAMP & SIGNATURE (SPA) 		
STAMP & SIGNATURE (CLIENT) 		



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
	STREET LIGHT	09 NOS
	EXTERNAL LIGHTING-FP-1	01 NOS
	MAIN LT PANEL	01 NOS
	ELECTRICAL DISTRIBUTION BOARD	02 NOS
	BULLET CAMERA	05 NOS
	4C X 25 Sq.mm AL XLPE ARM CABLE	15MTR
	4C X 10 Sq.mm AL XLPE ARM CABLE	32MTR
	4C X 120 Sq.mm AL XLPE ARM CABLE	30MTR
	32 X 6 MM GI STRIP	14MTR

ELECTRICAL PLAN

PROJECT :
Modern Community Post Harvesting Facility-
Palawan.

CLIENT :
Directorate of Fisheries, Government of Palawan
Palawan, Philippines, 544 0000

PROJECT EXECUTION AGENCY :
WAPCOS
1000 BANGALORE ROAD, 5TH FLOOR, WAPCOS HOUSE,
WAPCOS ROAD, BANGALORE, INDIA
91 80 2222 2222

ARCHITECTURE CONSULTANT :
SHASHI PRASAD AND ASSOCIATES
ARCHITECTS
BLOCK A5 FAS 07 NORTH WALK
ROAD CROSSING 11
WAPCOS ROAD
BANGALORE, INDIA
91 80 2222 2222

IN JV PARTNERSHIP WITH :
PP Project Management & Assist Engineering

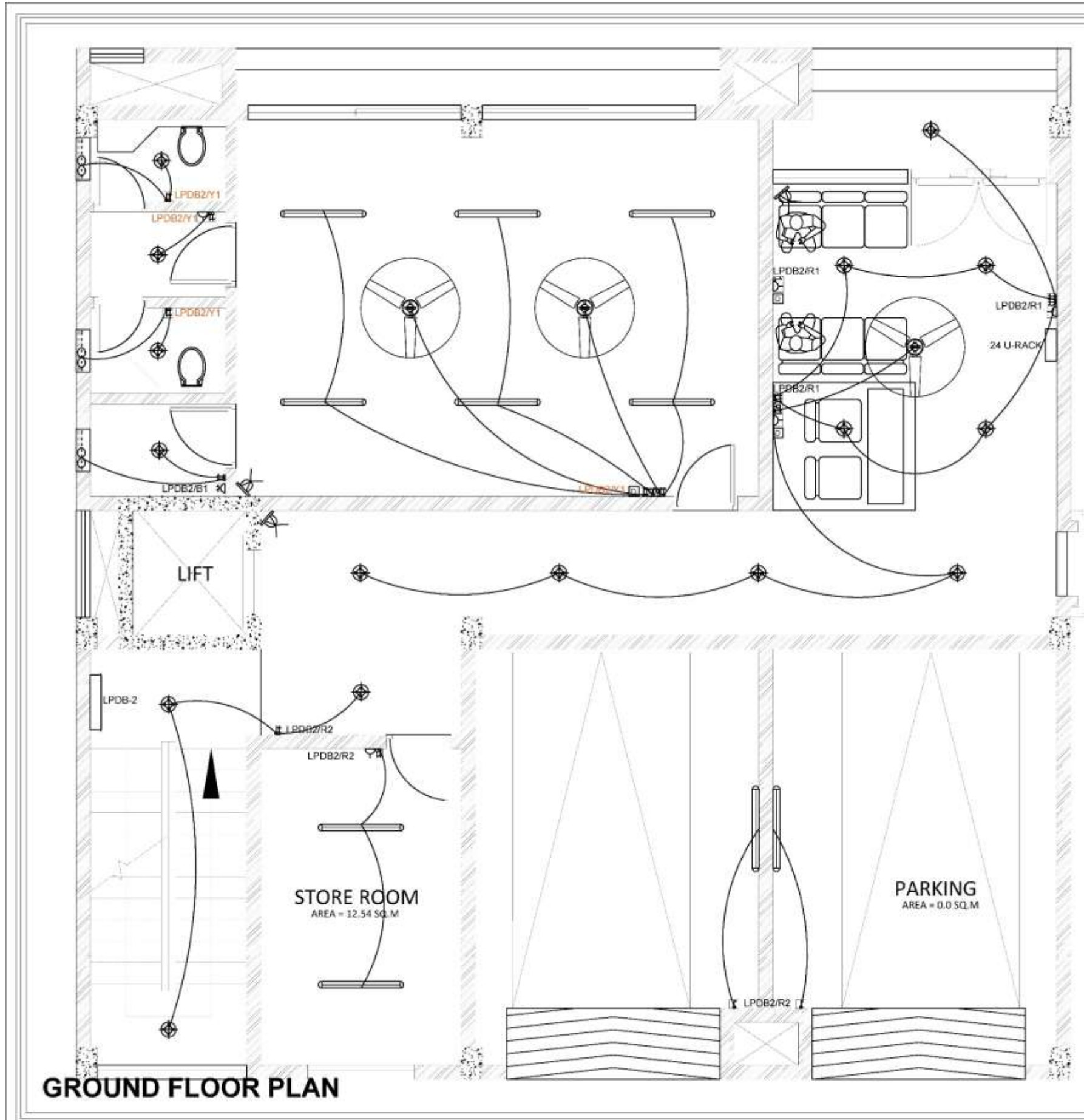
STRUCTURAL CONSULTANT :
SJC
SJC ENGINEERING CORPORATION
20000 1ST AVENUE
SUITE 1000
DALLAS, TEXAS 75244
CONTACT : +1 972 970 6666

- NOTES :**
- The drawing is the property of Sh. Shashi Prasad & Associates and it shall be used in accordance with the terms of the contract.
 - Contractor shall verify dimensions on the site and report discrepancies to the client.
 - Drawings are to be in colour unless otherwise specified.
 - All dimensions & areas are to be confirmed by independent certified surveyor.
 - All the drawings are to be used in accordance with relevant standards & specifications.
 - Any variation or omission is to be brought to the notice prior to start of work.
 - All works are to be done in strict accordance with the drawings.

REV.	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE :
MASTER GROUND FLOOR PLAN
PAPER SIZE : A1
SCALE : As Marked
REV NO : R0
DRAWING NO : CR - 01
DRAWN BY : SA
CHECKED BY : SS

RELEASED FOR :
OWNER : T AS BALT
STAMP & SIGNATURE (BPA) : _____
STAMP & SIGNATURE (CLIENT) : _____



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
[Symbol]	SWITCH-BOARD	41 NOS
[Symbol]	18 W WIDE LIGHT POINT	40 NOS
[Symbol]	FAN POINT	09 NOS
[Symbol]	ELECTRICAL DISTRIBUTION BOARD	01 NOS
[Symbol]	EXHAUST FAN	07 NOS
[Symbol]	SA SWITCH FOR LIGHTING / FAN	34 NOS
[Symbol]	SA SOCKET FOR GENERAL PURPOSE	22 NOS
[Symbol]	REGULATOR	08 NOS
[Symbol]	15A SOCKET OUTLET WITH SWITCH FOR GENERAL PURPOSE	03 NOS
[Symbol]	30W TUBE LIGHT	17 NOS
[Symbol]	EXHAUST FAN	7 NOS
[Symbol]	BRACK LIGHT	3 NOS
[Symbol]	USB CHARGE	4 NOS
[Symbol]	DATA POINT	8 NOS
[Symbol]	15A AC SOCKET	4 NOS

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
[Symbol]	DOVE CAMERA	07 NOS

PROJECT :
Modern Community Post Harvesting Facility-
Pakolen.

CLIENT :
Directorate of Fisheries, Government of Goa
Government Complex, NH-170/171

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR B3A,
MURDOCH WALLER BUILDING,
CHERVELL, COCHIN,
PIN 682004

ARCHITECTURE CONSULTANT
SHASHI PRABHU AND ASSOCIATES
WANNHEDE STADIUM,
BLOCK AC AND D1 NORTH STAIRS,
ROAD TO CHERVELL,
MUMBAI-400 030,
INDIA. TEL: 022 46 16 6666
EMAIL: mail@spacem.com

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

STRUCTURAL CONSULTANT
DR. S. KRISHNA COMPLEX PVT.
RECORDER TOWER,
ROAD TO CHERVELL,
MUMBAI-400 030,
INDIA. CONTACT: +91-97301-09943

- NOTES :**
- This drawing is the property of Sh. Shashi Prabh & Associates and is not to be used or reproduced without permission.
 - Contractor shall verify dimensions on the site and report discrepancies if any to the J.V.A.
 - Drawings are to be used. Further dimensions are to be followed.
 - All dimensions & levels are from unfinished or finished unless otherwise specified.
 - All the drawings are to be used in consultation with relevant architectural & structural drawings.
 - Any addition or deletion is to be brought to our notice prior to actual execution.
 - All works are to be carried out with regard to M.S.

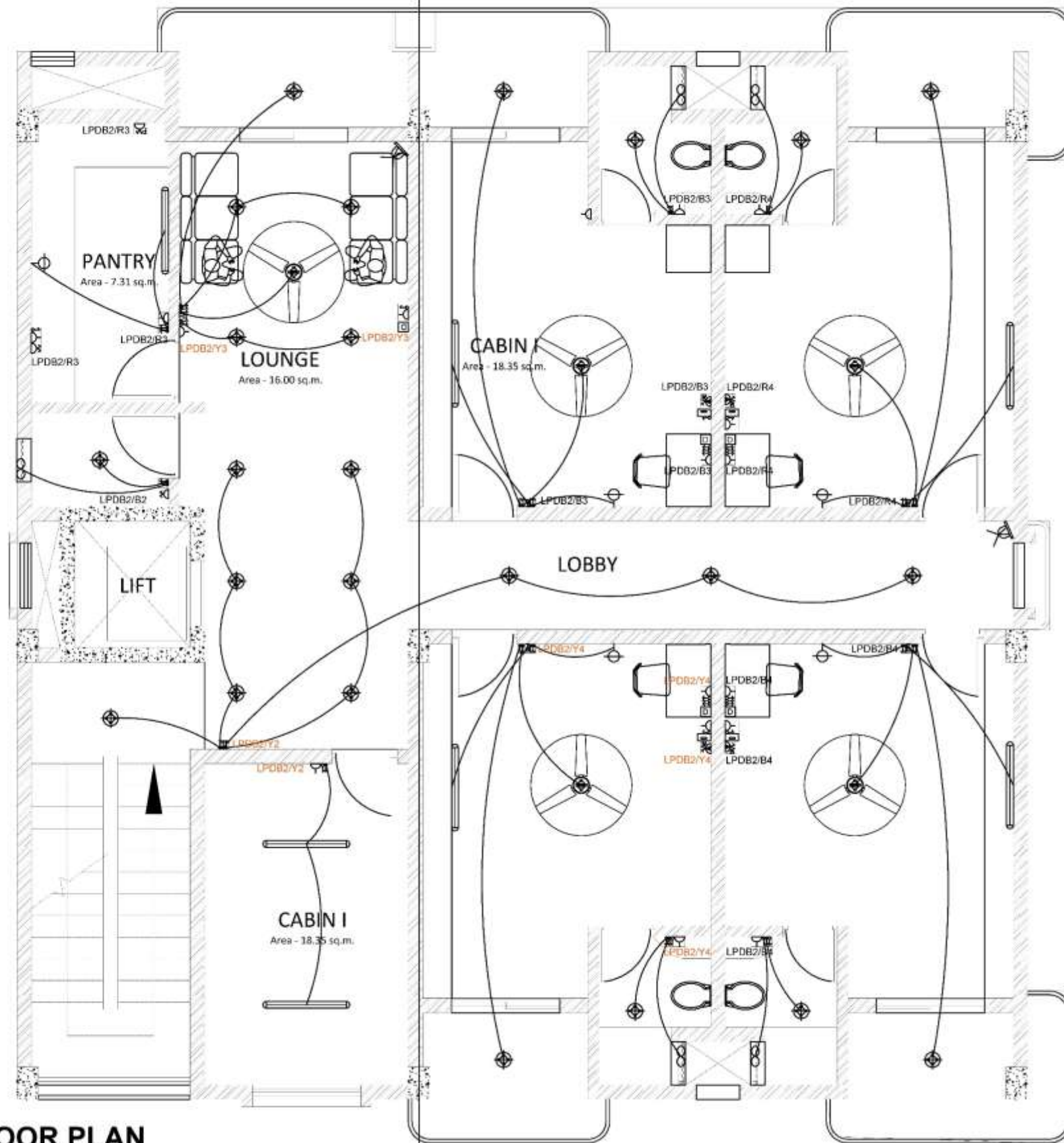
REV.	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE
GROUND FLOOR PLAN
PAPER SIZE: A1
SCALE: As Mentioned
REV. NO: 00
DRAWING NO: CR-01
DRAWN BY: SA
CHECKED BY: EB

RELEASED FOR
TAS BALT

STAMP & SIGNATURE (SPA) **STAMP & SIGNATURE (CLIENT)**





PROJECT :
Modern Community Post Harvesting Facility-
Pakistan.

CLIENT :
Directorate of Fisheries, Government of Sindh,
Government Secretariat, 8th Street

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR BLD,
MARKET TARA KHAN BANDA
CHERBEL, Sindh
76000 PAKISTAN

ARCHITECTURE CONSULTANT
SHASHI PRABHU AND ASSOCIATES
WAPNEED STADIUM,
BLOCK A2 AND B1 NORTH STANED
ROAD CHERBEL,
MANSURA-76000
Sindh, Pakistan

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

STRUCTURAL CONSULTANT
M. S. KHAN COMPLEX INC
REGD. CIVIL ENGINEER
REGD. ARCHITECT
ROAD JAMSHEDPUR, JAMSHEDPUR
CONTACT : +91 93730 4994

- NOTES :**
- The drawing is the property of Sh. Shashi Prabu & Associates and is not to be used or reproduced without permission.
 - Contractor shall comply with all regulations in the city and local authorities if any to the IFC.
 - Designs are to be subject to further developments to be followed.
 - All dimensions & levels are from unfinished unless otherwise specified.
 - All the drawings are to be used in accordance with relevant standards & specifications.
 - Any addition or deletion is to be brought to our notice prior to actual execution.
 - All works are to be done in strict accordance to IFC.

REV.	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

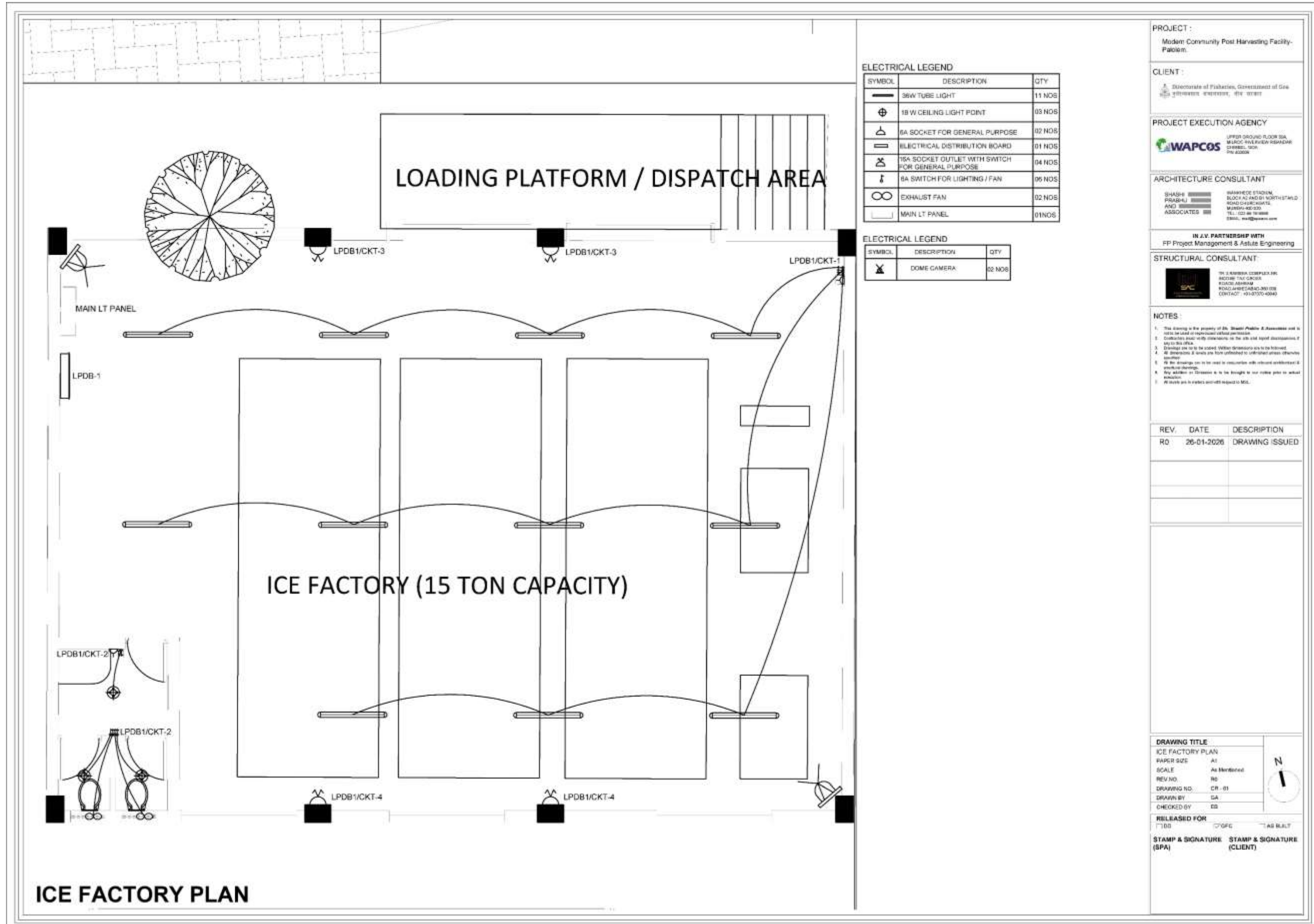
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FIRST FLOOR PLAN
PAPER SIZE: A1
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DRAWN BY: SA
CHECKED BY: EB

RELEASED FOR
TAS BALT

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FIRST FLOOR PLAN



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
—	36W TUBE LIGHT	11 NOS
⊕	18 W CEILING LIGHT POINT	03 NOS
⊕	8A SOCKET FOR GENERAL PURPOSE	02 NOS
—	ELECTRICAL DISTRIBUTION BOARD	01 NOS
⊕	15A SOCKET OUTLET WITH SWITCH FOR GENERAL PURPOSE	04 NOS
⊕	8A SWITCH FOR LIGHTING / FAN	06 NOS
∞	EXHAUST FAN	02 NOS
—	MAIN LT PANEL	01 NOS

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	QTY
⊕	DOME CAMERA	02 NOS

PROJECT :
Modern Community Post Harvesting Facility-
Paldam.

CLIENT :
Directorate of Fisheries, Government of Goa
C/O. Fisheries Department, 11th Street

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR, BLDG. WAPCOS, 11th STREET, BANGALORE, KARNATAKA, INDIA
PIN: 560024

ARCHITECTURE CONSULTANT
SHASHI PRABHU AND ASSOCIATES
WANNIODE STADIUM, BLOCK AC AND D1 NORTH STAIRS, ROAD TO BEACH, MANGALORE-575001
TEL: 022 46 16 6666
EMAIL: mail@shashi.com

IN J.V. PARTNERSHIP WITH
FP Project Management & Astute Engineering

STRUCTURAL CONSULTANT
S.P. ENGINEERING CONSULTANTS
B-10, KALBASKA COMPLEX, 1ST FLOOR, 1ST CROSS, ROAD TO BEACH, MANGALORE-575001
CONTACT: +91 97370 49943

- NOTES :**
- This drawing is the property of Sh. Shashi Prabh & Associates and is not to be used or reproduced without permission.
 - Contractors shall verify dimensions on the site and report discrepancies if any to the JPLA.
 - Drawings are to be used. Further alterations are to be followed.
 - All dimensions & levels are from unfinished unless otherwise specified.
 - If any drawings are to be used in connection with related architectural & structural drawings.
 - Any addition or deletion is to be brought to our notice prior to actual execution.
 - All works are to be done as per the approved drawings.

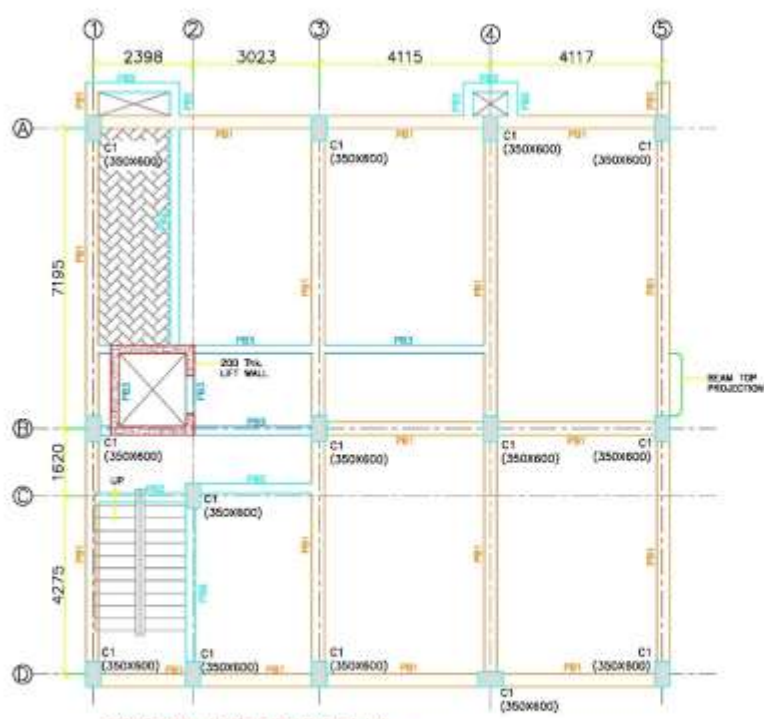
REV.	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE

ICE FACTORY PLAN
PAPER SIZE: A1
SCALE: As Mentioned
REV. NO: R0
DRAWING NO: CR-01
DRAWN BY: SA
CHECKED BY: EB

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TAS BALT

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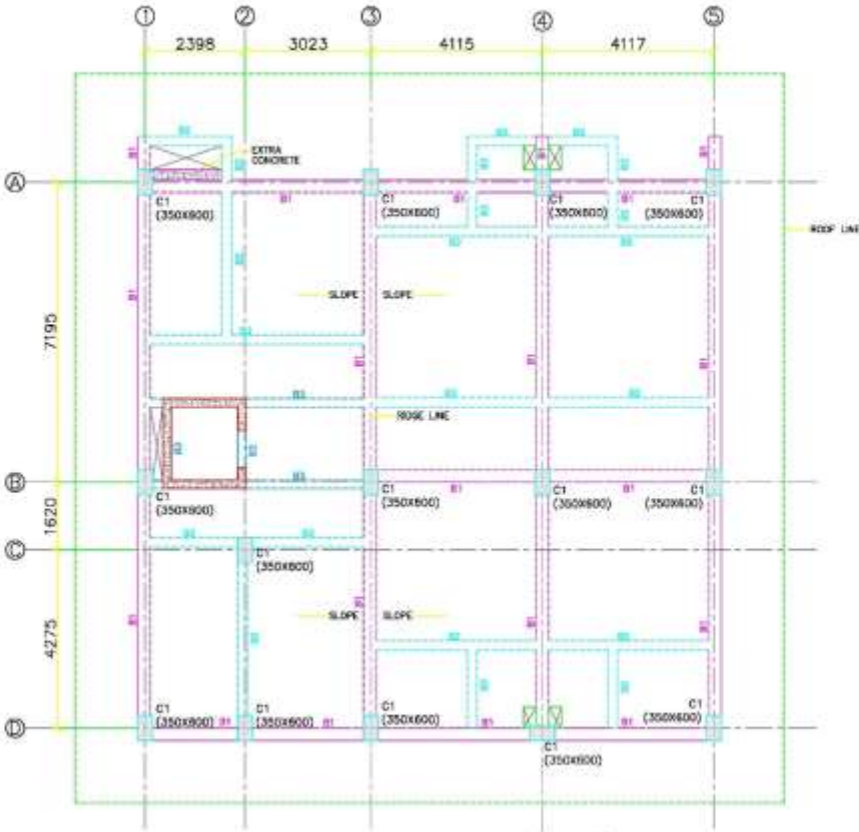


STRUCTURAL LAYOUT AT PLINTH LVL
SCALE 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS

INDICATES BEAM BOTTOM SUNK
INDICATES R.C.C. WALL

COLUMN AND BEAM POSITIONS AND DIMENSIONS SHOWN ARE PROVISIONAL. FINAL LOCATIONS AND SIZES SHALL BE AS PER APPROVED STRUCTURAL DESIGN AFTER DETAILED ANALYSIS.



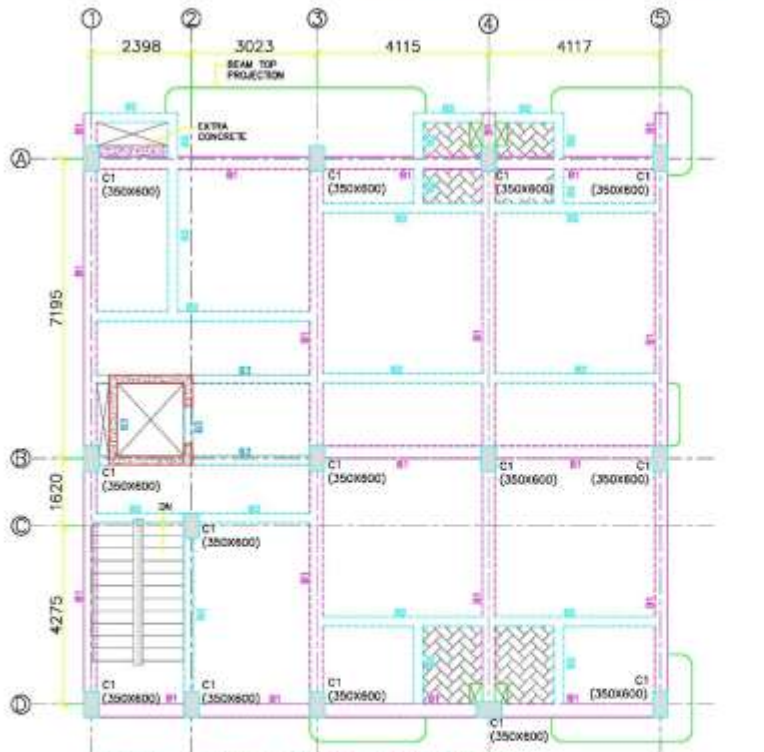
STRUCTURAL LAYOUT AT 1st FLOOR ROOF SLAB (TERRACE) LVL
SCALE 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS

INDICATES COLUMN END AT THIS LVL
INDICATES CUT-OUT AT THIS LVL

ALL SLABS ARE 150mm THK UNLESS SPECIFIED OTHERWISE.

COLUMN AND BEAM POSITIONS AND DIMENSIONS SHOWN ARE PROVISIONAL. FINAL LOCATIONS AND SIZES SHALL BE AS PER APPROVED STRUCTURAL DESIGN AFTER DETAILED ANALYSIS.



STRUCTURAL LAYOUT AT GROUND FLOOR ROOF SLAB LVL
SCALE 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS

INDICATES BEAM BOTTOM SUNK
INDICATES CUT-OUT AT THIS LVL

ALL SLABS ARE 150mm THK UNLESS SPECIFIED OTHERWISE.

COLUMN AND BEAM POSITIONS AND DIMENSIONS SHOWN ARE PROVISIONAL. FINAL LOCATIONS AND SIZES SHALL BE AS PER APPROVED STRUCTURAL DESIGN AFTER DETAILED ANALYSIS.

GENERAL NOTES

1. ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL DRAWINGS. IN CASE OF ANY DISCREPANCY BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS, STOP THE WORK AND CONSULT THE ARCHITECT AS WELL AS THE STRUCTURAL ENGINEER.
2. ALL MASONRY SHOULD BE DONE IN 1:6 CEMENT MORTAR AND WELL WATERED FOR 7 DAYS.
3. UNLESS SPECIFIED, THE CONCRETE SHALL BE OF GRADE M:25 WITH SPECIFIED CHARACTERISTIC STRENGTH OF 25N/mm² AT 28 DAYS.
4. UNDER NO CIRCUMSTANCES CONCRETING BE DONE UNLESS THE REINFORCEMENT IS CHECKED, APPROVED AND CERTIFIED BY THE STRUCTURAL ENGINEER / P.W.C.
5. T INDICATES HYSD BARS CONFIRMING TO IS : 1786-1985 GRADE Fe-500D.
6. REINFORCEMENT SHALL BE BENT AND FIXED IN ACCORDANCE WITH THE PROCEDURE SPECIFIED IN IS : 2502-1983.
7. LAP IN REINFORCEMENT SHALL BE PROVIDED AS PER TYPICAL DETAILS, NOT MORE THAN 50% OF THE REINFORCEMENT SHALL BE LAPPED AT A GIVEN CROSS SECTION.
8. ALL BENT BARS SHALL BE AT 45°, UNLESS OTHERWISE SPECIFIED.
9. 25 mm SPACER BARS SHALL BE USED AT 1000 mm c/c TO SEPARATE THE LAYERS OF BEAM BARS.
10. CHAIRS OF APPROVED TYPES SHALL BE USED TO SUPPORT THE SLAB/FOUNDATION STEEL WHERE NECESSARY. AT LEAST ONE CHAIR SHALL BE USED AT EACH 1.0 m² OF FLOOR AREA.
11. ALL DIMENSIONS ARE IN MILLIMETERS (mm).

SCHEDULE OF BEAM SIZE	
BEAM SIZE	BEAM NO.
200x450	PB3,B3
200x475	PH3,B3
300x525	PH1
300x600	B1

PROJECT
Development of Climate Resilient Coastal Fisheries Village (CRCFV) at Paklem in Goa under PMMSY

CLIENT :
Directorate of Fisheries, Government of Goa
A-10, P. O. Box 10, Panaji, Goa - 401 001

PROJECT EXECUTION AGENCY
WAPCOS
UPPER GROUND FLOOR BLDG. WAPCOS PROJECTS/GOA/2018/001/001/001
P.O. BOX 1000
PANAJI, GOA

ARCHITECTURE CONSULTANT
SHASHI PHADRI AND ASSOCIATES
INDONESIA STREET, WADIA, 401001
WADIA, PANAJI, GOA
9198000000
TEL: 91 98 98 00 00
WWW.SHAASHIANDASSOCIATES.COM

IN J.V. PARTNERSHIP WITH
P3 Project Management & Audit Engineering

STRUCTURAL CONSULTANT
SPC
P.O. BOX 1000, COMPLEX 001, PONDICHERRY, INDIA
PONDICHERRY, INDIA
605 004
CONTACT : 98 42 00 4000

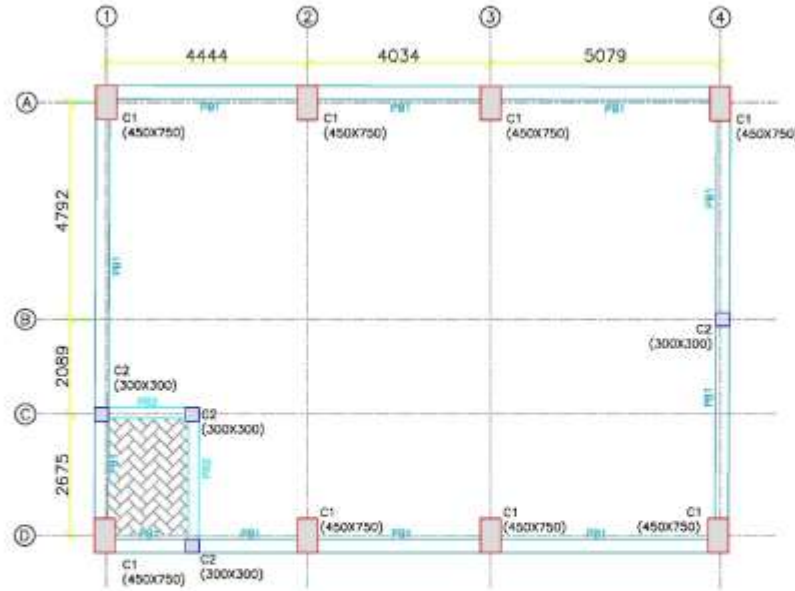
- NOTES :**
1. This drawing is the property of Sh. Shashi Phadri & Associates and is not to be used at any other project without permission.
 2. Corrections shall only be made on this drawing and not on the original drawing.
 3. All dimensions & notes are in millimeters unless otherwise specified.
 4. All the drawings are to be read in conjunction with relevant specifications & standards.
 5. This drawing is intended to be used for construction purposes only.
 6. All works are to be done as per approved design.

REV	DATE	DESCRIPTION
RD		

DRAWING TITLE CACRA RAMP WORKING DWG		N ↓
PAPER SIZE	A1	
SCALE	As Marked	
REV NO.	01	
DRAWING NO.	PTH-01	
DRAWN BY	SA	
CHECKED BY	EB	

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C. C. C. OFFENDER T. AS BUILT

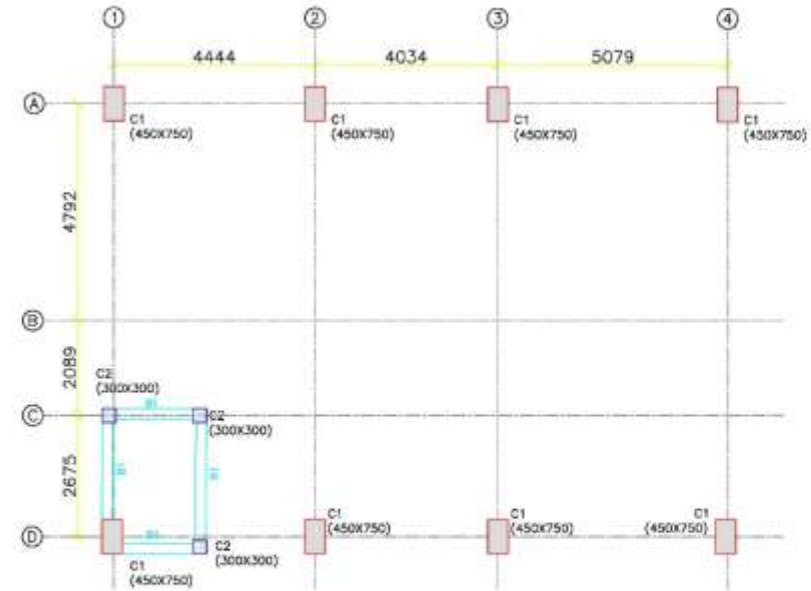
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STRUCTURAL LAYOUT AT PLINTH LVL
SCALE: 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS
 INDICATES .300mm SUNK
 INDICATES COLUMN END AT THIS LVL.

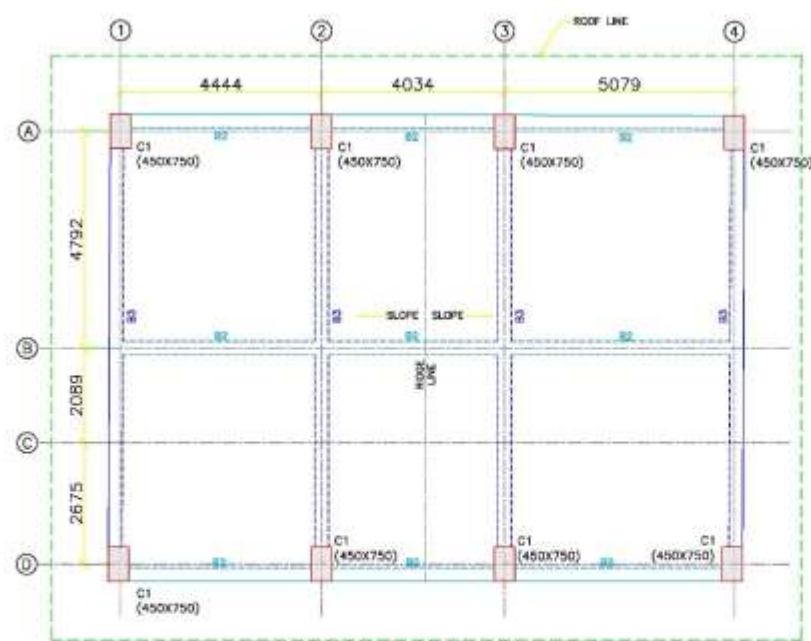
†COLUMN AND BEAM POSITIONS AND DIMENSIONS SHOWN ARE PROVISIONAL. FINAL LOCATIONS AND SIZES SHALL BE AS PER APPROVED STRUCTURAL DESIGN AFTER DETAILED ANALYSIS.



STRUCTURAL LAYOUT AT TOILET SLAB LVL
SCALE: 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS
 INDICATES COLUMN END AT THIS LVL.

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STRUCTURAL LAYOUT AT ROOF LVL
SCALE: 1:100

*REFER ARCH. DWG FOR CENTRE LINE AND OTHER DIMENSIONS
 INDICATES COLUMN END AT THIS LVL.

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- UNDER NO CIRCUMSTANCES CONCRETING BE DONE UNLESS THE REINFORCEMENT IS CHECKED, APPROVED AND CERTIFIED BY THE STRUCTURAL ENGINEER / PMC.
- T INDICATES HYSD BARS CONFIRMING TO IS : 1786-1985 GRADE Fe-500D.
- REINFORCEMENT SHALL BE BENT AND FIXED IN ACCORDANCE WITH THE PROCEDURE SPECIFIED IN IS : 2502-1963.
- LAP IN REINFORCEMENT SHALL BE PROVIDED AS PER TYPICAL DETAILS, NOT MORE THAN 50% OF THE REINFORCEMENT SHALL BE LAPPED AT A GIVEN CROSS SECTION.
- ALL BENT BARS SHALL BE AT 45°, UNLESS OTHERWISE SPECIFIED.
- 25 mm SPACER BARS SHALL BE USED AT 1000 mm c/c TO SEPARATE THE LAYERS OF BEAM BARS.
- CHAIRS OF APPROVED TYPE'S SHALL BE USED TO SUPPORT THE SLAB/FOUNDATION STEEL WHERE NECESSARY, AT LEAST ONE CHAIR SHALL BE USED AT EACH 1.0 m² OF FLOOR AREA.
- ALL DIMENSIONS ARE IN MILLIMETERS (mm).

SCHEDULE OF BEAM SIZE	
BEAM SIZE	BEAM NO.
300x450	PB1, B1
300x450	PB1, B2
300x825	B3

PROJECT
Modern Community Post Harvesting Facility
Paderam

CLIENT
Directorate of Fisheries, Government of Goa
Avenida 4100001, VTO 41001

PROJECT EXECUTION AGENCY
 WAPCOS LIMITED
LIFE-CYCLE MANAGEMENT
SOLUTIONS

ARCHITECTURE CONSULTANT
 SHREE PRABHJI AND ASSOCIATES
ARCHITECTS
100, BANGALORE ROAD, VASCO DA GAMA
TEL: 98221 9800
WWW.SPACONLINE.COM

IN JV PARTNERSHIP WITH
PP Project Management & Audit Engineering

STRUCTURAL CONSULTANT
 SFC
10, SHANMUKH COMPLEX
PONDICHERRY ROAD,
MADRAS APARTMENT,
MADRAS APARTMENT,
MADRAS APARTMENT,
MADRAS APARTMENT

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 - Contractor shall verify dimensions on the site and report discrepancies if any to the office.
 - Drawings are to be used as a guide only. Dimensions shall be as indicated.
 - All measurements & dimensions shall be in millimeters unless otherwise specified.
 - All the drawings are to be read in conjunction with relevant specifications & standards.
 - Site location is shown & to be checked in the field prior to start of work.
 - All necessary permits and approvals to be obtained.
 - The Engineer is not responsible for any errors or omissions.

REV	DATE	DESCRIPTION
R0	26-01-2026	DRAWING ISSUED

DRAWING TITLE
ICE FACTORY STRUCTURE
 PAPER SIZE: A1
 SCALE: 1/10
 REV NO: 01
 DRAWING NO: CK-01
 DRAWN BY: SA
 CHECKED BY: SB

RELEASED FOR
 CONTRACTOR CLIENT AS BUILT

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FINANCIAL BID
VOLUME – III

SECTION – XI

SCHEDULE OF QUANTITIES

Project Name: Development of Modern Community Post Harvesting Facility at Palolem in South Goa.

Development of Modern Community Post Harvesting Facility at Palolem in South Goa.		
Sr. No.	Description of Work	Amount in INR
1	Ice Making Factory and Fishermen Training Centre	
	Civil Works	3,19,27,266.54
	Infrastructure & Electrical Works	55,36,509.25
	Drainage & Stormwater	12,24,450.80
	Water Supply	6,34,235.00
	Fire Fightings	11,30,758.00
	Ice Making Factory Equipments & Machines with Rate Analysis	56,71,624.13
		4,61,24,843.71
2	Chilled Fish Solar Cold Storage	
	5 MT chilled fish solar cold storage	20,58,330.21
		20,58,330.21
3	Green Energy (Solar & Wind) - 40KW	90,40,000.00
		90,40,000.00
	Total excluding GST	5,72,23,173.92

Part 1:
Ice Making Factory and Fishermen Training Centre at Palolem in South Goa

SR.NO		DESCRIPTION OF ITEMS	QTY	UNIT	RATE	AMOUNT
	GSR 2023					
		CIVIL WORKS				
1.00	4,001	Clearing grass and removal of rubbish upto a distance of 50 m outside the periphery of the area	13.00	100 Sq.m	498.00	6,474.00
						-
	4,005	Earthwork in excavation by mechanical means (hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sq.m on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5m disposed earth to be leveled and neatly dressed including providing barricading, danger lighting guarding as directed in :				-
2.00	b	All types of Ordinary rock including all types of laterite rock, blasting prohibited	935.91	Cu.m	639.00	5,98,046.92
						-
3.00	4010	Extra for additional depth of 1.5 m or part thereof in:	317.00	cum	50.00	15,850.00
	c	All types of Ordinary rock including all types of laterite rock, blasting prohibited				

4.00	4,008	Earthwork in excavation in foundation pipeline trenches, drain in saturated soil upto a depth of 0.60 m lift upto 1.50 m including shoring, strutting and pumping/bailing out water stacking the excavated soil not more than 5 m. clear from the edge the excavation and returning the stacked soil in 0.15 m layers when required into plinth sides of foundation etc. consolidating each deposited layer by ramming, watering and disposing of all surplus excavated soil within a lead upto 20m	150.00	Cu.m	822.00	1,23,300.00
						-
5.00	4,012	Refilling the pipeline / foundation trenches plinth sides, foundation etc. with available excavated earth in layers not exceeding 20 cm depth consolidating each layer ramming and watering lead upto 50 M and all lifts and disposal of surplus earth as directed by Engineer in Charge.	529.05	Cu.m	245.00	1,29,616.35
						-
	4,017	Supplying and filling in plinth under floors, trenches including watering ramming consolidating, dressing, complete				-
6.00	b	Moorum	143.00	Cu.m	622.00	88,946.00
						-
7.00	5,035	Rubble packing with hard laterite stone under floors including watering ramming and consolidating etc. in pipeline trenches and other foundations complete.	327.00	Cu.m	2,211.00	7,22,997.00
						-

	6,001	Providing and laying in position cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded granitic or basaltic stone aggregate 40 m nominal size) excluding cost of centering, shuttering and finishing :				-
8.00	a	All works upto plinth level	222.00	Cu.m	6,635.00	14,72,970.00
						-
	6,069	Providing and laying in position ready mixed concrete (RMC) with usage of Ordinary Portland Cement manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C., from the transit mixer to the site of laying, excluding the cost of centering, shuttering, finishing and reinforcement including the cost of admixtures in recommended proportions as per IS : 9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per the directions of the engineer-in-charge. All works upto floor V level				-
9.00	iv	M-25 grade of concrete	511.43	Cu.m	8,440.00	43,16,473.45
						-
	6,045	Centering & shuttering including Strutting, Propping & removal of forms for :				-
10.00	i	Foundations, Footings, Bases for columns	431.00	Sq.m	407.00	1,75,417.00
11.00	ii	Vertical surfaces such as retaining walls, return walls, Partitions, walls (any thickness) including attached Pilasters, Buttresses, Plinth and string courses, Fillets and the like	208.00	sqm	479.00	99,632.00

12.00	iii	Columns, Piers, Pillars, Aburments, Posts and struts (square rectangle polygon in plan)	967.00	Sq.m	598.00	5,78,266.00
13.00	iv	Sides and Soffits of beams, Beam Haunchings, Cantilever, Girders, Bressumers and Lintels plinth beams not exceeding 1m in depth	941.00	Sq.m	412.00	3,87,692.00
14.00	xiii	Suspended floors, roofs landings, shelves & their supports	1,020.00	Sq.m	644.00	6,56,880.00
15.00	vi	Staircases (except spiral staircases) excluding landing	10.00	sqm	343.00	3,430.00
16.00	9,086	Vaccum dewatering of laid concrete for roads/ areas using Tremix machinery including formwork with MS channel/ angle sections on sides of concrete with proper supporting system, surface/screed & needle vibrating & levelling of concrete. Vaccum dewatering should be done using suction mats (spread on surface) & suction pump, power floating/ troweling using screen floater, manual spreading of hardening compound (if any), smooth/rough/broom finish to the required slope, camber & level, groove cutting (upto 10mm wide x50mm deep) for contraction/expansion, construction & longitudinal hoints, Providing dowel bars with sleeve/tie bars, filling two component polysuphide sealant/joint filler (Bitumen hot sealing compound: Grade A), taping with masking tape etc complete. (Concrete, reinforcement, Dowel Bar with sleeve/tie bar Reinforcement, tarpaulin sheet to be paid separately	75.00	Cu.m	1,143.00	85,725.00
						-

17.00	6,050	Providing corrosion resistant steel CRS-50 bars of (SAIL, TATA, VIZAG, JSW Steel Ltd.)(Confirming to IS 1786 if 1985) for RCC work including bending, binding & placing in position in all the floors along with factory made precast concrete cover blocks of specified sizes whose compressive strength is not less than that of surrounding concrete in the structural member	55,941.00	Kg	108.00	60,41,628.00
						-
18.00	5,038	Laterite masonry in neatly dressed stones of size as specified in cement mortar 1: 4 (1 cement : 4 coarse sand) in foundation and basement.	66.00	Cu.m	5,186.00	3,42,276.00
						-
19.00	5038+5047	Extra for laterite masonry in all sizes in superstructure from floor I level upto floor V level.	295.00	Cu.m	6,115.00	18,03,925.00
						-
20.00	11,012	20mm cement plaster 1: 4 (1 cement : 4 fine sand)	1,950.00	Sq.m	331.00	6,45,450.00
						-
21.00	11,015	6mm cement plaster to ceiling 1: 3 (1 cement : 3 fine sand)	551.00	Sq.m	182.00	1,00,282.00
						-
22.00	11,003	12mm cement plaster 1:3 (1 cement : 3 fine sand)	1,417.00	Sq.m	238.00	3,37,246.00
						-
23.00	11,119	Providing and applying white cement based putty of average thickness 1.00mm of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete	1,324.26	Sq.m	89.00	1,17,859.54

						-
24.00	11,064	Applying one coat of cement primer of approved brand and manufacture on wall surface.	1,324.26	Sq.m	53.00	70,186.02
						-
25.00	11,097	Wall painting (two or more coats) with plastic emulsion paint of approved brand and manufacture on new work to give an even shade	1,324.26	Sq.m	114.00	1,50,966.15
						-
26.00	11,117	Painting three or more coats with acrylic exterior paint of approved brand and manufacture (Such as Dulex/ Asian Paints/ Sherwin Willians) including applying one coat of cement primer and one coat of surface treatment etc. complete	1,922.72	Sq.m	208.00	3,99,926.38
						-
27.00	11,053	White washing with whiting on new work (three or more coats) to give an even shade.	49.00	Sq.m	58.00	2,842.00
						-
	9,042	Kotah stone slab flooring over 20 mm (average) thick base laid over & jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing & complete with base of cement mortar 1:4 (1 cement : 4 coarse sand)				-
28.00	a	20 mm thick.	889.00	Sq.m	1,581.00	14,05,509.00

29.00	b	Kotah stone slab flooring over 25 mm thick in risers of steps, skirtings, dado & pillars laid on 12mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) & jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing & polishing complete.	11.00	Sq.m	1,668.00	18,348.00
						-
30.00	9,066	Providing and fixing vitriified matt finished (600x600) and 10mm thick tiles in floor , treads of steps, landing on 25mm thick bed of cement mortar 1:3 and jointed with cement slurry complete	48.00	Sq.m	1,120.00	53,760.00
						-
31.00	9,067	Providing and fixing vitriified glossy finished (600x600) and 10mm thick tiles in floor, treads of steps, landing on 25mm thick bed of cement mortar 1:3 and jointed with cement slurry complete	208.00	Sq.m	912.00	1,89,696.00
						-
	9,087	Providing and fixing Vitriified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps and dados , jointing with grey cement slurry @3.3 kg per sqm, including pointing/grouting in white cement mixed with pigment of matching shade complete.				-
32.00	b	600 x 600 mm - light Shades	300.00	Sq.m	980.00	2,94,000.00
						-

33.00	9,059	Providing and laying jet black mirror polish granite flooring and dado over 20mm thick base of cement mortar 1:4 laid over and jointed with cement slurry including rubbing complete Granitic slab (jet blk with mirror polish) 20 mm thick add q0% wastage 1.00	43.00	Sq.m	3,068.00	1,31,924.00
						-
	9,046	Providing and fixing Granite stone slabs (mirror polished) 18mm thick in risers of steps, skirting, dado and pillars laid on cement paste and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete				-
34.00	a	Jet black	50.00	Sq.m	3,434.00	1,71,700.00
						-
	9,089	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Granite of any colour and shade, area of slab over 0.50 sqm				-
35.00	a	Jet Black	80.00	Sq.m	4,085.00	3,26,800.00
						-

36.00	10,086	Gypliner or equivalent ceiling which includes providing & fixing G.I. HG angle of sie 0.55 mm thick having two equal flanges of 25 mm each screw fixed to brick wall / partition with the help of nylon sleeves & screws at 610 mm c/c. Then suspending chan 12.5 mm tapered edge Gypboard (confirming to IS:2095-1982) is then fixed to channel section with 25 mm drywall screws at 230 mm centre. Screw fixing is done mechanically with drill machine and suitable attachment. Finally square and tapered edges joints of the boards are jointed and finished so as to have flush look which includes filling finishing with jointing compound, joint paper tape and two coats of Drywall top coat suitable for Gypboard (as per recomended practices of India Gypsum Limited).	208.00	Sq.m	657.00	1,36,656.00
						-

37.00	10,103	<p>Providing and fixing 15mm thick densified tingular edged eco friendly light weight Calcium Silicate false ceiling tiles (like Aerolite Brand or Equivalent) of approved texture Spintone/ Cosmos/ Fine Fissured or equivalent of size 595mm x 595mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanizing @ 120 grams per square metre. including both side) consisting of main "T" runner suitably spaced at joints to get required length and of size 24x38mm made from 0.33mm thick (minium) sheet, spaced 1200mm center to center, and cross "T" of size 24x28mm made of 0.33mm thick (Minimum) sheet to be inter locked at middle of the 1200x600mm panel to from grid of size on a Perimeter wall angle precoated steel of size 600x600mm, resting on periphery walls/ partitions (24x24x300mm) made of 0.40mm thick (minimum) sheet with the help of rawl plugs at 450mm and laying 15mm thick densified edges calcium silicate ceiling tiles of approved texture light fittings, fixture, smoke detectors etc., wherever required. Main "T" runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6mm fixed to celing using with 12.5mm dia and 50mm long dash fastners, level clips of size 85x30x0.8mm, spaced at 1200mm center to center along main "T" bottom exposed with 24mm of T-section shall be pre-painted with polyester baked paint, for all heights, as per specifications, drawings etc. complete (As Directed by Engineer in Charge)</p>	48.00	Sq.m	1,841.00	88,368.00
		<p>Note: Only Calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/ opening (cut outs) having are less than 0.30 sqm. The Calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection>85% non-combustible as per B.S.476 part IV, 100% humidity resistance and also having thermal conductivity 0.043 w/m 0 KC.</p>				-

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38.00	18,042	PVC false ceiling grid type : Providing and fixing PVC False Ceiling consisting of 600mm x 600mm, 5mm(±0.25) thick Plain PVC sheet of 600 kg/Cbm Density Manufactured by an ISO-9000 certified Company, used as panel insert in a frame work made using anodized aluminum T- section of sizes 1" x1" (25x25mm, 19 gauge or 1mm thick) in square pattern of grid sizes of 2'x2'(600x600mm). The aluminum frame work is supported from the ceiling with the help of 'J' hook and G.I. wire / 6mm M.S. rods of required sizes to maintain proper level etc. The aluminum framework is supported on side wall with the use of aluminum L-section of size 1"x1" (25x25mm) angles etc. Complete as per direction of Engineer-In-charge, manufacturer's specification & drawing.	23.00	Sq.m	1,333.00	30,659.00
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39.00	18,044	PVC insulated wall paneling : Providing & fixing Insulated PVC wall Paneling shall consist of PVC Insulated panels having wall thickness 2mm(± 0.25) PVC sheet of 700 Kg/CBM density manufactures by an ISO - 9000 certified company and the desired thickness of EPS (dependent on ther insulation required) screwed into the wall using screws of adequate length. The screw shall be placed at a distance of 150 mm and shall be 25 mm from the edge of insulated panel on all from side of the panel. The PVC strips are 4 mm (± 0.25) thick PVC sheet of width 75 mm feathered at the edges shall be stuck using solvent cement adhesive at the palces where two panels are joined ,so as to cover the screw of both the panels, using solvent cement 90 degree sheet heat bend strips of 4 mm thick PVC sheet of width 75 mm X 75 mm feathered at the edges shall be stuck at wall joints/ Pillars etc. complete as per the direction of engineer in charge, manufactures specification & drawing.	45.00	Sq.m	2,382.00	1,07,190.00
						-
	7,001	Providing woodwork in frames of doors, windows, clerestory windows trusses & other frames wrought framed and fixed in positon.				-
40.00	b	Second class Indian teak wood	1.00	Cu.m	1,67,470.00	1,67,470.00
						-
41.00	7,165	Providing & fixing Stainless Steel tubular lever D-Type mortise handles with round/Square nose, 24mm Mortise/sash lock body & Strike plate (all SS Finish), Pin cylinder 60mm with one side key and other side knob/thumb turn with necessary screws etc. complete	10.00	Each	3,889.00	38,890.00

	7,168	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type (BWP), core of block board construction with frame of 1 st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				-
42.00	a	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	20.00	Sq.m	4,307.00	86,140.00
						-
43.00	7,167	Providing and fixing 1.00mm high pressure decorative Laminates (glossy/matt) on wooden surfaces like doors, windows. The laminate should comprise of layers of specially selected paper, impregnated with melamine and phenolic resins pressed and hardened under heat and high pressure and should ensure strong bonding, resistance to boiling water and chemical and increase dimensional stability. Including cost of adhesive, nails during fixing etc. complete	40.00	Sq.m	864.00	34,560.00
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44.00	7,173	32 MM DOOR SHUTTER:- Providing & fixing 32mm door shutter Yashashri make or equivalent, made by using 31mm x 150 mm x 1.5mm upvc multi-cavity section having Tongue & Groove jointing method and boarder having 35mm x 30mm x multi-cavity section. The corners are joined by inserting polymeric corners & hardware used for fixing the door shutter is stainless steel hinges & S. S. handle & S.S. tower bolt. The average weight of 32mm door shutter is 6.30 kg per sq mtr. These Upvc sections are tested by using BS 2782 & DIN 53459 test methods.	18.00	Sq.m	3,029.00	54,522.00
						-

45.00	7,174	TURNWINDOWS:- Providing & fixing Single or multi shutter turn windows Yashashri make or equivalent, made out of upvc multi- cavity frames Sections of 60mm x 60mm x 2.5mm reinforced with G.I channel and double multi-shutters Division are made by using shash mullion having 50mm x 64mm x 2.5mm multi- cavity upvc section, reinforced with G.I. channel and shutters are made out of 50mm x 64mm x 2.5mm upvc section, Reinforced and welded in corners with EPDM Gaskets and using suitable glass bead with perfect hardware like hinges, handles, stays & 4mm clear Glass. Some portion of windows can be made fixed glass. The average weight of Turn window is 11.5 kg per sq mtr. These Upvc sections are tested by using BS 2782 & DIN 53459 test methods.	4.00	Sq.m	9,385.00	37,540.00
						-
46.00	18,064	Synthetic membrane of masterpren TPE for roof Providing and laying on a well prepared roof surface 1.2 mm Masterpren TPE of BASF make or equivalent which is modified polyolefin, in two-colour version (sand grey/black), obtained by co-extrusion, which allows it to be produced in a single layer a liner with different physical-chemical properties on the two sides. It has a polyester mesh reinforcement. The product shall have a Tear Resistance of 300 N as per DIN 53363. All scaffolding, ladders, supporting materials etc. complete. Rates shall be inclusive of all labour, materials, tools and plant ,fuse welding etc. complete. Rate shall be paid on net area covered. Liquid, cold-applied elastomeric waterproofing membrane system.	253.00	Sq.m	2,265.00	5,73,045.00
						-

47.00	10,081	Providing water proofing treatment over the new R.C.C. roofs terrace toilet by spreading cement slurry over the R.C.C. slab and laying of 10cms. Average laterite stone ballast coba with the necessary gradient for easy flow of rain water and the coba in covered with damp proof of Hindustan water proofing co. Or equivalent jointless water proofing plaster of mix 1:3 (1 cement : 3 find sand), finished smooth with wooden trowel with false marking of 30 cms square. The vertical surface of the adjoining walls are to be treated upto a height of 30cms including rounding of junction (the rate includes for complete items including labour and materials and including cost of initial treatment of roof slab as follows. The injunction of damp proof or equivalent compound with cement solution will be given as and when found necessary for filling honey comb, cracks etc. in the R.C.C. slabs). NOTE: cement consumption 25 kg/sq.m.	168.00	Sq.m	1,029.00	1,72,872.00
						-
48.00	8,007	Supplying and fixing rolling shutters of approved make, made of 80 x 1.25 mm 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 27.5cm long wire springs grade No.2 and M.S. top cover of 1.25mm thick for folling shutterstop cover and spring.	12.00	Sq.m	2,895.00	34,740.00
						-

49.00	8,051	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc.with hairline finish, including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc	917.00	Kg	670.00	6,14,390.00
						-
50.00	8,050	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) (Square Hollow Section (SHS) IS4923 /Rectangular Hollow Section (RHS) IS4923/ Circular Hollow Section (CHS) IS1161 closed Structural Steel of (SAIL, TATA. VIZAG, JSW ,APOLLO Steel Ltd.) make (Min Yeild Stress 310 Mpa)) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	12,029.00	Kg	184.00	22,13,336.00
						-
51.00	11,088	Painting (two or more coats) with synthetic enamel paint of approved brand and manufacture in all shade or new work over and under coat of suitable shade with ordinary paint of approved brand and manufacture to give an even shade	1,066.00	Sq.m	161.00	1,71,626.00
						-
52.00	12,028	Demolishing cement concrete 1:3:6 or richer mix including disposal of material within 50 m lead	21.00	Cu.m	1,122.00	23,562.00
						-
53.00	12,030	Demolishing R.C.C. work including stacking of steel bars & disposal of unserviceable within 50 mts. Lead	21.00	Cu.m	1,618.00	33,978.00

						-
54.00	12,036	Demolishing brick work in cement mortar including stacking of serviceable material & disposal of unserviceable material within 50 mts. Lead	26.00	Cu.m	958.00	24,908.00
						-
55.00	12,046	Dismantling steelwork in single sections in R.S., joists including dismembering and stacking within 50 mts. Lead	21.00	Qtl	192.00	4,032.00
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56.00	12,053	Dismantling the tile work in floors and roofs laid in cement including stacking of materials within 50 meters lead for thickness of tiles 10mm to 25mm	53.00	Sq.m	330.00	17,490.00
						-
57.00	12,055	Dismantling G.I. sheets roofing including ridges, hips valleys and gutters etc. and stacking the material within 50 meters lead	26.00	Sq.m	78.00	2,028.00
						-
58.00	DSR 8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.	889.00	Sq.m	506.70	4,50,456.30
						-
59.00	R3-CS-FL-57	Rounding the edge in half round shape of the stonework specified below including high gloss machine polishing as directed by Engineer In Charge. Shahbad stone/ Kadappa stone/ Tandur stone/ Kota stone/ Any type of marble/ Any type of Granite stone	50.00	Rmt	265.00	13,250.00

						-
60.00	R3-CS-FL-58	Champhering the edge of the stone work specified below including high gloss machine polishing as directed by Engineer In Charge. Shahbad stone/ Kadappa stone/ Tandur stone/ Kota stone/ Any type of marble/ Any type of Granite stone	30.00	Rmt	99.00	2,970.00
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	DSR 2023 13.45	Finishing walls with textured exterior paint of required shade :				-
61.00	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	1,950.00	Sq.m	189.49	3,69,508.47
						-
	DSR 2023 11.48	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.				-
62.00	11.48.2	Size of Tile 600x600 mm	556.00	Sq.m	261.91	1,45,620.17
						-
63.00	MAHA.PWD SSR 2023 33.56	Providing leather finished polishing to Granite Stone slab by continuous grinding in 4 coats of different bits to receive rough and matt finish including buffing process before laying and fixing of stone as per drawing and design, including cleaning, washing and finishing etc. complete	48.00	Sq.m	720.00	34,560.00
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64.00	MAHA.PWD SSR 2023 31.26	Providing waterproofing in W.C. and bath including brick bat coba in all position including providing and laying 12mm bedding in cement mortar 1:3 on vergin concrete slab with waterproofing compound @ 1Kilogram/per bag of cement laying brick bat coba of required thickness in cm 1:5 with waterproofing compound 1 Kilogram/bag of cement grouting and finishing the top layer with 20mm thick brick bedding in cm mortar 1:3 with waterproofing compound 1 Kilogram/per bag of cement and testing the treated portion for 48 hours by pond test and covering ten years' guarantee on requisite stamp paper including curing etc. complete.	14.00	Cu.m	6,195.00	86,730.00
						-

	<p>MAHA.PWD SSR 2023 54.08</p>	<p>Providing and fixing of factory made uPVC Sliding window & door (White Colour) complete, comprising uPVC multi-chambered frame having in-built uPVC roller track on top and uPVC sash with wall thickness of 2.3mm (+0.2 mm), duly reinforced with G.I. section 1.5 mm, wherever required. uPVC window & door profile shall be made in India & shall conform to BS EN 12608 and other standards as mentioned below:</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Name of the test Method</th> <th>Specified</th> <th>Parameter</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Tensile Impact Strength</td> <td>ISO 8256 - more than 700Kj/m2</td> <td>2 Vicat Softening Temperature</td> </tr> <tr> <td>2</td> <td>EN ISO - 306</td> <td>Shall not be < 750C</td> <td></td> </tr> <tr> <td>3</td> <td>Charpy Impact Strength</td> <td>EN ISO - 179-2</td> <td>Shall not be < 20KJ/m2</td> </tr> <tr> <td>4</td> <td>Flexural Modulus</td> <td>EN ISO - 178</td> <td>Shall not be < 2200 N/mm2</td> </tr> <tr> <td>5</td> <td>Mean Breaking Stress for welded corner</td> <td></td> <td></td> </tr> <tr> <td>(a)</td> <td>For the tensile bending test</td> <td>EN - 514</td> <td>Shall not be < 25 N/mm2</td> </tr> <tr> <td>(b)</td> <td>For the compression bending test</td> <td></td> <td>Shall not be < 30N/mm2</td> </tr> <tr> <td>6</td> <td>Heat Reversion Test</td> <td>IS:4985-2000</td> <td>Shall not be > 2.0 %</td> </tr> <tr> <td>7</td> <td>Surface Spread of flame</td> <td>BS : 476 - Part 7</td> <td>Classification 1</td> </tr> <tr> <td>8</td> <td>Ignitability Evaluation</td> <td>BS : 476 - Part 5</td> <td>'P' Not easily ignitable</td> </tr> <tr> <td>9</td> <td>Tensile modulus</td> <td>ASTM D 638</td> <td>Shall not be < 35 MPa</td> </tr> <tr> <td>10</td> <td>Shear Modulus</td> <td>ASTM D 732</td> <td>Shall not be < 220 MPa</td> </tr> <tr> <td>11</td> <td>Tensile Strength</td> <td>EN ISO 527</td> <td>Shall not be < 30 MPa</td> </tr> </tbody> </table> <p>All corners of frame and sash will be fusion welded. After placing 5 mm Float Annealed glass in the sash, uPVC glazing bead, interlock, EPDM / TPE gasket, brush shall be provided including touch lock and rollers & proper drainage system shall be provided. Window / Door will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge. uPVC Window and Door Profiles are warranted for a period of ten (10) years against non-uniform discoloration, wrapping and rotting under general use.</p>	S.No.	Name of the test Method	Specified	Parameter	1	Tensile Impact Strength	ISO 8256 - more than 700Kj/m2	2 Vicat Softening Temperature	2	EN ISO - 306	Shall not be < 750C		3	Charpy Impact Strength	EN ISO - 179-2	Shall not be < 20KJ/m2	4	Flexural Modulus	EN ISO - 178	Shall not be < 2200 N/mm2	5	Mean Breaking Stress for welded corner			(a)	For the tensile bending test	EN - 514	Shall not be < 25 N/mm2	(b)	For the compression bending test		Shall not be < 30N/mm2	6	Heat Reversion Test	IS:4985-2000	Shall not be > 2.0 %	7	Surface Spread of flame	BS : 476 - Part 7	Classification 1	8	Ignitability Evaluation	BS : 476 - Part 5	'P' Not easily ignitable	9	Tensile modulus	ASTM D 638	Shall not be < 35 MPa	10	Shear Modulus	ASTM D 732	Shall not be < 220 MPa	11	Tensile Strength	EN ISO 527	Shall not be < 30 MPa				-
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65.00	c	3 Track with Mesh-2 Glass Sash + 1 Mesh Sash (Each sash shall be half of width of window) (Big Series) Window frame of size 122 x 54 mm & Sash of size 64 x 47 mm.	46.00	Sq.m	9,760.00	4,48,960.00
						-
	MAHA.PWD SSR 202354.09	Providing and fixing of factory made uPVC casement window / Fixed Window & Casement Door (White Colour) comprising uPVC multi-chambered frame, Sash, & Mullion with wall thickness of 2.3mm (+-0.2 mm), duly reinforced with G.I. section 1.5 mm, wherever required. uPVC window & door profile shall be made in India & shall conform to BS EN 12608 and other standards as mentioned below: S.No. Name of the test Test Method Specified Parameter 1 Tensile Impact Strength ISO 8256 - more than 700Kj/m2 2 Vicat Softening Temperature EN ISO – 306 Shall not be < 750C 3 Charpy Impact Strength EN ISO – 179-2 Shall not be < 20KJ/m2 4 Flexural Modulus Elasticity EN ISO – 178 Shall not be < 2200 N/mm2 5 Mean Breaking Stress for welded corner(a) For the tensile bending test EN – 514 Shall not be < 25 N/mm2 (b) For the compression bending test Shall not be < 30N/mm2 6 Heat Reversion Test IS:4985-2000 Shall not be > 2.0 % 7 Surface Spread of flame BS : 476 - Part 7 Classification 18 Ignitability Evaluation BS : 476 - Part 5 'P' Not easily ignitable 9 Tensile modulus ASTM D 638 Shall not be < 35 MPa 10 Shear Modulus ASTM D 732 Shall not be < 220 MPa 11 Tensile Strength EN ISO 527 Shall not be < 30 MPa. All corners of frame and sash will be fusion welded. Mullion shall be welded / screwed. EPDM / TPE Gasket shall be provided in all frame, sash & mullion, wherever necessary. Thereafter, 5 mm Float Annealed glass shall be provided in the sash with the help of uPVC glazing bead and hardware, i.e., friction hinge & single point handle (in window) & 3D Hinges & Multipoint Lock (in door) shall be provided. Window / Door shall be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge. uPVC Window and Door Profiles are warranted for a period of ten (10) years against non-uniform discoloration, wrapping and rotting under general use.				-

66.00	a	Casement Window (Big Series) frame of size 67 x 62 mm & Sash / Mullion of size 67 x 78 mm.	2.00	Sq.m	10,495.00	20,990.00
						-

67.00	MAHA.PWD SSR 2023 54.11	<p>Providing and fixing of factory made uPVC Louver window (White Colour) comprising of uPVC multi-chambered with wall thickness of 2.3mm (+-0.2 mm), duly reinforced with 1.5 mm thick G. I. Section. uPVC window & door profile shall be made in India & shall conform to BS EN 12608 and other standards as mentioned below: S.No. Name of the test Test Method Specific Parameter</p> <p>1 Tensile Impact Strength ISO 8256 - more than 700Kj/m2 2 Vicat Softening Temperature EN ISO - 306 Shall not be < 750C</p> <p>3 Charpy Impact Strength EN ISO - 179-2 Shall not be < 20KJ/m2</p> <p>4 Flexural Modulus Elasticity EN ISO - 178 Shall not be < 2200 N/mm2</p> <p>5 Mean Breaking Stress for welded corner</p> <p>(a) For the tensile bending test EN - 514 Shall not be < 25 N/mm2</p> <p>(b) For the compression bending test Shall not be < 30N/mm2</p> <p>6 Heat Reversion Test IS:4985-2000 Shall not be > 2.0 %</p> <p>7 Surface Spread of flame BS : 476 - Part 7 Classification 1</p> <p>8 Ignitability Evaluation BS : 476 - Part 5 'P' Not easily ignitable</p> <p>9 Tensile modulus ASTM D 638 Shall not be < 35 MPa</p> <p>10 Shear Modulus ASTM D 732 Shall not be < 220 MPa</p> <p>11 Tensile Strength EN ISO 527 Shall not be < 30 MPa. All corners of frame shall be fusion welded. Both vertical sides of the frame, adjustable louver mechanism having one lever or fixed louver bracket shall be fitted with the of 4 mm Frosted Annealed glass. Window will be fixed to the wall with 100mm long and 8mm dia. Fasteners and complete in all respect as per direction of Engineer-In-Charge.</p> <p>uPVC Window and Door Profiles are warranted for a period of ten (10) years against non-uniform discoloration,wrapping and rotting under general use.</p> <p>a.Louver Window (Big Series) frame of size 67 x 62 mm & Mullion (if required) of size 67 x 78 mm.</p>	5.00	Sq.m	9,232.00	46,160.00
						-

68.00	R3-CS-WW-46	Providing and fixing glazing panels & doors using 12mm thk toughen clear glass (confirming to ASTM Standards C-1048) supported by channel (embedded in the floor) at the bottom & side edge and wall connecting profile at the top edge, stainless steel articulated countersunk bolts threaded bolts, chemical fasteners, etc., glass panel size as per design and drawing including applying colourless sealant of joint incl. required edge polish, making glazing water tight etc. Destructive joint test reports to be submitted for establishing the safety factor, including operating hardware, SS patch fittings, fabricated long length satin finish SS 304 handles, patchlock, floor springs etc., complete as directed by the architect for frameless patch doors, single or twin leaf shutters with fixed panel on top. Hardware-Droma BTS 80 Floor Spring.	5.00	Sq.m	12,674.00	63,370.00
						-
69.00	MAHA.PWD SSR 2023 51.04	Providing & Fixing in position, Acoustical Panelling made from 12mm wp Ply wood & 1.5mm laminate on, 50 x 50 mm Sal-wood frame of 600 x 600 c to c having wooden supports from wall of required length, in front of 1000 Gsm synthetic wool 50 mm thick with chicken mesh on wall side, including cost of required Cut-Outs, decorative mouldings / finishing-items / paint & Scaffolding, as per Architectural & Acoustical Design & Instructions & Complete in all aspects including all materials labour, finishing etc complete	102.00	Sq.m	5,090.00	5,19,180.00
						-

70.00	DSR 2023 16.69	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured to calculate volume for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge)	11.00	Cu.m	8,574.24	94,316.61
						-
71.00	DSR 2023 1.1.18	Disposal of moorum/building rubbish/ malba/ similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead upto 10 km for all lifts, complete as per directions of Engineer-in-charge.	350.00	Cu.m	418.73	1,46,555.08
72.00	MR	Providing & laying of monier tiles in cement mortar in 1:4 in roofing over MS frame structure (payments for the frame work to be paid separately) including finishing etc. complete in all respect as per the directions of Engineer incharge.	378.00	Sqm	1,953.78	7,38,530.69

73.00	MAHA PWD SSR 2022-23 51.67	Directional signage Design, supply, fabrication and fixing acrylic multilingual Braille (raised dots) directional signboards of size 6" x 9" designed as per accessibility standards and having 4mm thick acrylic base plate with Upper Case San Serif words made of white acrylic non glare cut out letters of height 15mm raised not less than 0.8mm above base plate and the equivalent word written in Hindi with Devnagri non glare acrylic letters of height 15mm raised not less than 0.8mm above base plate and having a non glare acrylic cut arrow pointing in the required direction. Each signboard to be fixed as per manufacturers specifications on the wall at the approved location and at a height of 1200mm from FFL and as per the directions by the engineer in charge.	22.00	NOS	1,633.00	35,926.00
74.00	R3-CS-RM- 142-a	Providing & Fixing signage made of 15 mm thick solid white acrylic laser cut out letters for height up to 25" etc complete.	1,040.00	R.INCH	491.00	5,10,640.00
75.00	6,021.00	Providing & laying damp proof course 50 mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone agg. 20 mm nominal size).	231.00	SQM	387.00	89,397.00
76.00	6,023.00	Applying a coat of hot bitumen (maxphalt 80/100 or equivalent) using 1.5 kg/sq.m. on damp proof course after cleaning the surface with brushes and finally with a piece of cloth light soaked in bitumen.	231.00	SQM	177.00	40,887.00
		Horticulture Work				

77.00	13,001	Supplying and stacking of good earth at site including royalty and carriage upto 1 km. (earth measured in stacks will be reduced by 20% for payment).	152.00	cum	578.00	87,856.00
78.00	DSR 2020 2.34	Providing & laying Selection no. 1 doob grass turf with earth 50mm to 60mm thickness of existing ground prepared with proper level and ramming with required tools wooden and than rolling the surface with light roller make the surface smoothen and light watering the same maintenance for 30 days or more till the grass establish properly,as per direction of officer in charge	506.00	Per sqm	87.50	44,275.00
79.00	13,003	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in ratio of 2: 1 by volume (2 parts or stacked volume of earth after reduction by 20% and 1 part of stacked volume of manure after reduction by 40%) flooding with water, dressing including removal of rubbish & surplus earth if any with all leads & lifts (cost of manure or sludge of extra good earth if needed to be paid for separately)	28.00	Each	550.00	15,400.00
80.00	DSR 2020 7.26	Providing and stacking of Ficus benjamina (green) of height 120-135 cm. with 6-8 branches and lush green foliage in g. bags of size 25 cm as per direction of the officer-in-charge.	11.00	Each	170.00	1,870.00
81.00	DSR 2020 7.71	Supply and stacking of Plumeria alba dwarf plant dwarf of height 90-105 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge.	17.00	Each	750.00	12,750.00
82.00	8,003.00	Steel work welded (SAIL, TATA, VIZAG & using electrodes of Ador or ES4B or Deh Secheron make only)in built up sections trusses and framed work including cutting, hoisting, fixing in position and applying priming coat of red lead paint.				

	b	In tees, angles, flats and channels	39.00	Qtl	13,023.00	5,07,897.00
83.00	15,704.00	Making soak pit. 2.5 m dia 3 m deep with 45x45 cm dry brick honey comb shaft and S.W. drain pipe 100 mm diameter, 1.8 m long complete filled with laterite stone aggregate 125 to 180 mm surrounded by laterite stone aggregate of 40 mm and down gauge as per standard design.	1.00	EACH	36,210.00	36,210.00
84.00	R3-CS-WP-34	Providing water proofing treatment to existing RCC overhead tank,basements, lift-pits and other underground structures. The treatments shall be done by giving INJECTIONS wherever necessary with waterproofing compound and cement solution as per tenderer's specifications into the floor & walls upto the full height of structures. All inherent holes, cavities, voids & honeycomb shall be filled up to make the structure consistent, homogenous resistant to water breakages, seepage, dampness and moisture etc. The floor shall then be treated with waterproofing metal coba of 30 mm to 35 mm thick in 1:4 C.S. mortar and walls with first coat of waterproofing plaster as per tenderer's specifications. Finally both floor and walls shall be finished smooth with jointless waterproofing plaster 1:3 C.S. 12 mm to 15 mm thick with water proofing materials as per tenderer's specifications in cement or finished rough to receive tile pavement or dado. The thickness of the treatment shall not be less than 50 mm to 60 mm for floors and 25 mm for walls. (The actual area of the	30.00	sqm	1,609.00	48,270.00

85.00	R3-CS-WP-33	Providing waterproofing treatment from outside to basement lift-pits and other under ground structures during construction. The treatment shall be started after the P.C.C. bedding for the base slab or raft slab is laid. On the P.C.C. bedding a waterproofing layer based on cement with rough shahabad stones of 20 to 25 mm thick well pointed in the joints with 1:3 C.S. 40 mm thick for floors and 20 mm thick for sides with cement float and water proofing compound as per specifications shall be laid. Then the surface shall be superimposed by regular R.C.C. raft or base slab as per design. After completion of the raft / base slab and side walls the treatment of waterproofing layer shall be continued along the outer surface of the walls upto a height of 30 cm above the adjacent ground level. (The excavation of the side around the walls shall be filled with soft earth by the contractor). The total thickness of the treatment shall be 65 mm to 75 mm for floors and 32 mm to 38 mm for walls.	36.00	sqm	1,601.00	57,636.00
86.00	15759	Proving and fixing white vitreous china Wall Hung type (European Type) water closet with seat and lid with C.I. brass hinges and rubber fittings with flush valve nelson/ similar fully chromium plated with stop cock, wall flanges, flush pipe or elbow and vaccum breaker coupling etc. including chair bracket/rag bolts, cutting & making good the walls and floors where required and concealed seat support - W.C. Pan with white plastic seat and lid	9.00	no	10,482.00	94,338.00

87.00	15760	Providing and fixing white vitreous china flat back Large lipped front urinal basin of 590x375x390mm size with Urinal Valve Auto closing system with built in control cock & wall flange with fittings, spreader, R.S. or C.I. brackets, standard size C.P. Brassl flush pipe and spreaders with C. P. brass unions & C. P. Brass clamps with waste fitting as per IS 2556, PVC trap with outlet grating and other couplings in CP Brass complete, including painting, fittings, cutting and making good the walls and floors where required. - Range of one urinal basin	3.00	no	9,243.60	27,730.80
88.00	15606	Providing and fixing vitreous china wash basin with RS or C.I. brackets painted white, 15 mm C.P. brass pillar taps C.P. brass chain with rubber plug 32 mm C.P. brass waste of pattern, 32 mm diameter M.I. or C.P. brass trap and union complete, including cutting and making good the walls where required				-
		d) Flat back wash basin size 550 x 400mm with a single 15 mm C.P. brass pillar taps	9.00	no	6,146.40	55,317.60
89.00	15762	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 including cutting of stone and making good the walls wherever required. Kitchen sink without drain board. with coupling & all accessories complete with choke stop strainer, Plain type having flat borders for correct sandwithing between the plaform top and bottom slabs complete.				-
		Overall size 535mmx460mm (21"x18") bowl size 460mmx380mmx200mm (18"x 15"x 8") depth 200 mm. Glossy. 1.0mm thk.	1.00	no	5,986.80	5,986.80
90.00	15761	Providing & fixing bevelled edge mirror of superior glass (5mm thk) of approved Quality, shape & size complete with CP brass screws and washers, Cleats, CP studs etc Complete.	5.00	sqm	4,260.00	21,300.00
91.00	15634	Providing & fixing c.p. brass towel rail complete with C.P. brass brackets fixed to wooden cleats with C. P. brass screws				-
		a) 750 x 20 mm size	9.00	no	1,846.80	16,621.20

92.00	MR	SCALA 30 GLUEDOWN (2.0 mm) LVT Flooring : Providing and laying of synthetic decorative flexible antistatic Luxury Vinyl Tile (LVT) flooring, SCALA 30 Gluedown type, in tiles/planks with micro-beveled edges, manufactured under high pressure with a 0.30 mm transparent wear layer, design film and compact backing, having overall thickness of 2.0 mm, and abrasion group T. The flooring shall be European Classification EN ISO 10582 (EN 649): 23/31, Fire rating Bfl-s1, Slip resistance R10, Binder content Type 1, and Impact sound insulation 4 dB. Flooring shall be treated with PUR+ surface treatment ensuring excellent scratch resistance and ease of cleaning. Product shall be 100% recyclable, 100% REACH compliant, and meet TVOC <100 µg/m ³ (after 28 days as per ISO 16000-6). Floorscore certified and compliant with CE (EN 14041). Installation shall be completed using manufacturer-recommended adhesive over smooth, even, and dry substrate including surface preparation, cleaning, rolling, cutting, finishing and protection of completed work, all as per manufacturer's specifications and direction of Engineer-in-Charge. 10 years manufacturer's product warranty.	42.05	sqm	3,000.00	1,26,150.00
93.00	PWD SSR 51.32	Conference Table @ 1800 x 900 x 750 mm Ht. Providing & Fixing of Main Table @ 1800Lx900Dx750HT - made up of 18+18mm Thick MDF top with PVC Membrane finish and waterfall edge profile. Aluminium Anodized finish beeding of 4mm thick is running all over the table top edge. Gable ends is Aerofoiled Shape with front edges in PVC Membrane finish and rest in Prelaminated MDF with batton structure. Gable ends should be hollow from inside for the provision of passing electrical and Data wiring. , MODESTY PANEL:- to be made of 18 mm thick Prelaminated particle board with PVC edge band Access Flap:- For Wire manager 1 Nos.	1.00	No	99,105.00	99,105.00
94.00	PWD SSR 51.42	Providing & Arrangemnt of Mid Back, Normal Syncro Mechanism , Fixed Armrest , Gaslift for Seat height adjustment, Standard 5-prong/Nylon Base with Leather Upholstery	8.00	No	9,563.00	76,504.00
		TOTAL				3,19,27,266.54

PALOLEM ICE FACTORY & INFRA

BOQ FOR ELECTRICAL WORK - PALOLEM ICE FACTORY

Sr. No.	GSR REFERENCE	Item Description	Unit	Qty	Rate	Amount
1	MR	LT PANEL: Supply, installation, testing & commissioning of free standing, floor mounting compartmentalized panels fabricated out of CRCA sheet steel sections after carrying out 7 tank cleaning process and duly powder coated using Siemens Grey Shade No. RAL 7032. The frame structure, doors and gland plates shall have 2.0 mm thick sheets and partitions shall be with 1.6 mm thick CRCA sheet. Base channel size 75 x 40 x 6 mm of ISMC shall be provided. The panel shall be dust and vermin proof with neoprene gasket. The doors shall be provided with concealed hinges and with brazing wherever required to avoid deformation and shall be earthed. The bus bar shall be of tinned Copper / Alluminium with epoxy supports and shall be insulated with colour coded heat shrink sleeves. The control wiring min. 2.5 Sq.mm shall be FRLS type. The Panel shall be provided with CTs, phase indication lamps, meters, relays and all switchgear, etc. as per the SLD. The panel shall be complete in all aspects as per the final approval of the Consultant. All componants for Switchgears shall be Legrand/ABB/Schneider or Equivalent				
		Providing & installing LT PANEL as per SLD & Spec. For detail refer SLD.	Each	1	2,15,600.00	2,15,600.00
2	16104	Supply, installation, testing and commissioning of electronic type three phase energy meter (KWh), 4 wire, ISI marked, in polycarbonate or sheet steel body (base mounting type) with counter display/LCD display, with ELT, in Class 1.0, 50 Hz, 240 V. AC duly tested by MRT along with Test Certificates, complete as required of following capacity of make L & T only.				
	16104(C)	50 to 100 A	Each	1	10,598.00	10,598.00

3	16103	Supply, installation, testing and commissioning of electronic type single phase energy meter (KWh), ISI marked, in polycarbonate or sheet steel body (base mounting type) with counter display/LCD display, with ELT, in Class 1.0, 50 Hz, 240 V. AC duly tested by MRT along with Test Certificates, complete as required of following capacity of make L & T only.				
	16103(b)	10 to 40 A	Each	1	2,198.00	2,198.00
4	7112	Supplying and fixing 6 A to 32 A, C series MCB suitable for lighting and other loads of following poles in the existing MCB DB complete with connections testing and commissioning etc as required				
	7112(A)	SP, Cat A	Each	25	433.00	10,825.00
	7112(C)	DP, Cat A	Each	15	1,324.00	19,860.00
5	7002	Supplying and fixing following way SPN sheet steel MCB distribution board Consumer Unit 240 V on surface/ recess complete with tinned copper busbar neutral busbar earth bar dinnbar hinged front acrylic cover for the MCB knobs detachable gland plate interconnections phosphotized and powder painted including earthing etc. as required (but without MCB/RCCB/Isolator)				
	7002(b)	2 + 8 way Cat A	Each	1	4,325.00	4,325.00
6	7003	Supplying and fixing following way TPN sheet steel, single door, Horizontal type MCB distribution board 415 V on surface/ recess complete with tinned copper busbar neutral busbar earth bar dinnbar detachable gland plate interconnections phosphotized and powder painted including earthing etc. as required (but without MCB/RCCB/Isolator)				
	7003(C)	6 way (8 + 18) single door horizontal type Cat A	Each	2	6,635.00	13,270.00
7	1001	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 steel conduit (medium) with piano type marking switch, 3mm thick phenolic laminated sheet suitable size MS/GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	Point	95	1,328.00	1,26,160.00
8	1007	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor single core cable in the independent surface steel conduit (medium) of appropriate size as required.				
	1007(b)	2 x 2.5 sq.mm + 1 x 2.5 sq.mm earthwire (20mm Conduit)	Mtr	540	499.00	2,69,460.00
	1007(c)	2 x 4 sq.mm + 1 x 4 sq.mm earthwire (20mm Conduit)	Mtr	350	569.00	1,99,150.00

9	4009	Supplying and fixing suitable size modular GI box with modular plate and cover in front on surface or in recess including providing and fixing 3 pin 5/6 A modular socket outlet and 5/ 6 A modular switch connection painting etc. as required.	Each	24	836.00	20,064.00
10	4006	Supplying and fixing suitable size modular GI box with modular plate and cover in front on surface or in recess including providing and fixing 6 pin 15/16 A and 5/6 A modular socket outlet modular socket outlet and 15/16 A modular switch connection painting etc. as required.	Each	12	1,216.00	14,592.00
11	11004	Supply of 3 core armoured PVC/XLPE insulated, PVC sheathed aluminium conductor cable of 1.1 KV grade with ISI mark conforming to IS:1554(Part I) ,IS:7098(Part I) with latest amendments of following size.				
	11004(2)	3 Core 4 sq.mm	Mtr	20	136.00	2,720.00
12	MSOR Electrical 2-1-5	Supplying and erecting LED circular 18W down lighter having pressure die-cast aluminum housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete	Each	47	1,916.25	90,063.75
13	11005	Supplying & erecting 4 feet 36/40 W Single Box type Fluorescent luminaire Cat A .	Each	28	1,181.00	33,068.00
18	11103	Supplying and erecting 56 inch, (1400 mm sweep) ceiling fan cat B with SITC of step type fan regulator of approved make complete with all accessories like hanging rod , anchor fastner etc.	Each	22	5,699.00	1,25,378.00
19	11111	Supplying and erecting 9 inch, (225/230mm sweep), Exhaust Fan Cat A	Each	8	1,899.00	15,192.00
20	11007	Supply of 4 core armoured PVC/XLPE insulated, PVC sheathed aluminium conductor cable of 1.1 KV grade with ISI mark conforming to IS:1554(Part I) ,IS:7098(Part I) with latest amendments of following size.				
		4 Core 10 sq.mm	Mtr	40	206.00	8,240.00
		4 Core 25 sq.mm	Mtr	20	373.00	7,460.00
		4 Core 120 sq.mm	Mtr	50	1,339.00	66,950.00
21	8012	Supplying and laying 25 mm x 6 mm GI strip at 0.5 m below ground as strip earth electrode including soldering etc. as required	Mtr	30	252.00	7,560.00

22	8002	Earthing with GI earth pipe 2 mts long 40 mm dia medium class with ISI mark,of approved brands, including accessories and providing masonry enclosure with CI/RCC cover having locking /lifting arrangement and watering pipe etc. with charcoal or coke and salt) as required as per the Earthing Drawing provided by the Engineer-Incharge.The scope of work includes the following: a) Excavation of pit of size 1.0x1.0x 2.0 mtrs(min) and disposal of excavated soil. b) Class B GI pipe, 40mm diameter as per specifications. c) Charcoal/salt as per specs (paid seperately). d) Refilling the pit of size 1.0x1.0x 2.0 mtrs(min) with soft black soil of minimum resistivity i/c transportation. e)Masonry chamber with proper foundation, cover plate and locking arrangement. f) Testing of earth value with earth megger and certifications of its value. Aluminium tag with embossed earthing value to be attached to the pipe.				
	8002(a)	In soily strata	Each	6.00	6,909.00	41,454.00
23	8006	Earthing with copper earth plate 600 mm x 600 mm x 3 mm thick including accessories and providing masonry enclosure with CI/RCC cover having locking/lifting arrangement and watering pipe etc. (but without charcoal or coke and salt) as required as per the Earthing Drawing provided by the Engineer-Incharge.The scope of work includes the following: a) Excavation of pit of size 1.0x1.0x 3.0 mtrs(min) and disposal of excavated soil. c)Watering GI pipe, 20 mm Class B, with funnel as per specs. d) Charcoal/salt as per specs (paid seperately). e) Refilling the pit of size 1.0x1.0x 3.0 mtrs(min) with soft black agriculture soil of minimum resistivity i/c transportation. e)Masonry chamber with proper foundation, cover plate and locking arrangement. f) Testing of earth value with earth megger and certifications of its value. g)watering arrangement (plumbing will be paid seperately).				
	8006 (A)	In soily strata	Each	4.00	17,694.00	70,776.00

24	MSOR Electrical 10-2-16	Supplying, installing, testing & commissioning 3 phase, 22/0.433 kV, 50 Hz., 200 kVA, Mineral oil immersed and naturally cooled outdoor type, copper wound, without gas cushioning , hermetically Sealed transformer, delta/star connected with additional neutral brought out on load side, temperature rise should not exceed 40°C by thermometer in oil and 45°C by the resistance method in winding at full load rating, using type A winding insulation (kraft paper), with HV tapping (with off load tap changer) off load +2.5 to -5 in steps of 2.5%, having 4 number of tap positions, with standard accessories complete with test certificate with losses below 819 Watts at 50% load, 2415 Watts at 100% load as per IS:1180 (part 1) : 2014 with necessary permissions of Electrical Inspector, as per specification no SS- TR-SL	Each	1	8,55,276.25	8,55,276.25
25	MSOR Electrical 17-1-1	SITC of Electric Traction Passenger Lift with <ul style="list-style-type: none"> · Rated capacity :- 4 Passenger/272Kg · Floors :- G+1 floor (2 Stops/2 Landings) · Travel :- 3 to 4.2 mtrs · Location of Lift Machine:- MRL · Rated speed :- 1.0mps VS · Car/Landing door clear opening of 700 mm wide x 2000mm high · Clear Car size of 1000 mm wide x 1100mm deep x 2250mm high · Lift shaft available having clear size of 2100mm wide x 2000mm deep, 1600mm Pit depth, 1900mm Overhead. · Doors type :- COPO/TOPO Doors with frame made from SS 304 grade solid(non-cladded) sheet of 1.5mm thick in hairline finish for car and all landing doors with SS door architraves/frames The lift doors shall have minimum 1 hour fire rating (with submission of necessary valid test certificate issued by NABL accredited or Independent test laboratory). · Lift car enclosure made from SS 304 grade solid (non-cladded) sheet of 1.5mm, thick with hairline finish with frame made from MS girders, bracing of adequate size with minimum safety factor of 5, with Toe Guard Apron, with necessary false ceiling with adequate LED lights, blower/fan for ventilation & SS chequered plate flooring, handrails, mirror, emergency light etc. The lift car interior design shall be done as per the directions of engineer in charge. · COP with SS face plate having metallic push buttons with Braille code & luminous indicator around button with FPI, scrolling UP/DN LED indicator & with / without attendant key switch, OWD with audio-visual 	Job	1	12,25,782.50	12,25,782.50

alarm, VAS in Marathi, Hindi & English with intercom system with telephone instrument in Lift car, LMR & FCC/ground floor.

- LOP with SS face plate having recess/surface push button box for all landings with scrolling UP/DN LED indicator having metallic push buttons with Braille code & luminous indicator around button with CPI, Lift car arrival & next travel direction audio-visual indication at all landings.
- Lift controller based on microprocessor/ PLC with VVVF Drive having closed loop control system, with IBMS compatible having necessary port. The controller shall have necessary protections such as overcurrent, overvoltage, over speed, overheat for all devices including lift motor and travel direction protection, protection for phase loss at input or output etc. various operation modes such as maintenance, change direction by attendant, full load bypass, VIP call operation, self levelling operation, call cancel facility, auto return to home landing, fireman evacuation operation, earthquake operation, door open/close operation from COP etc. The system can record information for minimum 30 latest faults, with real-time clock management and handheld keypad with LCD screen for view and setting of parameters. The control panel duly wired with proper size & strength, copper wire for power & control circuit, with provision for addition of floor/control card & allied accessories control panel having enclosure of 1.5mm CRCA sheet with powder coating with IP54 Protection class.
- ARD complete with necessary SMF VRLA batteries.
- Fireman controller having fireman switch at fire Landing.
- CCTV surveillance system comprises of 2 nos minimum 2.0 MP FHD IP based vandal proof Dome camera in lift car & in LMR/inside lift shaft top aimed on Lift machinery & controller with NVR kept in LMR/FCC with HDR data backup for min. 90 days with min. 18" FHD TV monitor, to be kept in FCC/LMR as directed by Engineer In Charge.
- Lift Machine of Gearless PMSM of suitable kW with duty cycle of minimum 120 starts/hr (with submission of necessary valid test certificate issued by NABL accredited or Independent test laboratory), with Traction pulley, OSG, electromagnetic brakes, entire assembly mounted on adequate size girders duly fixed on LMR floor/ shaft walls complete with main/diverter traction sheaves, suspension wire ropes/belts of adequate size & strength.

	<ul style="list-style-type: none"> · Other mechanical parts such as "I" section adequate size guide rails for car & counter weight with brackets fasteners, counter weight frame with necessary blocks, buffers with necessary support arrangement, MS pit ladder etc. erected with necessary steel work. · Minor civil work such as alteration work if any necessary for erection of landing door frames and it's accessories e.g. sill, header, hole pass etc complete with plaster finish, civil work for erection buffers, erection of lift machinery, adequate size core cuts if required & scaffolding for erecting guide rails, providing and fixing steel girders/RCC work having adequate strength for mounting and hoisting lift machine etc. complete as per specification no. LFT. · General: - Job includes entire procedure of obtaining all necessary erection permissions & "License to Work the Lift" from Electrical Inspector(Lifts) with submission to the Engineer In Charge. · The above rate includes Fully Comprehensive AMC for one year from the date of commissioning. 				
	STREET LIGHTING				

26	MR	<p>Supply of all-in-one integrated LED solar streetlight consists of solar photovoltaic module, battery, battery management system, control electronics, LED driver, inter-connecting cables and pole mounting piece integrated into the luminaire as a single unit. Solar streetlight with IP65 ingress protection having a system wattage of 17W with 3000 lumen output, 35Wp high efficiency monocrystalline solar panel, highly efficient MPPT based charge controller and 12.8 V, 20 Ah IP68 Lithium Ferro Phosphate (LiFePO4) battery with proper battery management system. LED lumen efficacy shall be at least 175lm/W and LED driver should have >90% efficiency. Typical correlated colour temperature should be 3000K with CRI>70. It should ensure 100% light output from dusk to dawn. The luminaire shall have inbuilt Hybrid power supply option that can charge the battery during non-sunny days automatically from the grid. The luminaire should be housed in IK 08 impact resistance certified aluminium pressure diecast housing with anti-corrosive coating and must have a UV stabilized polycarbonate cover. The luminaire shall have a specially designed pole mounting piece that enables lateral as well as post top mounting and installation at varying tilts from 0 to 15 degrees for optimal light distribution. Should be approved of following standard compliances:• IEC 60598-2-3: Safety of Luminaire for Road and Street Lighting• IEC 62109-1: Safety of Power Converters used in solar Panel Equipment • EN 50530: Performance Evaluation of Maximum Power Point Tracking (MPPT) • IEC 61547: EMC immunity requirements • CISPR 15: Radio disturbance characteristics Similar to Philips BRP710 LED30 WW MR HY SOLAR.</p>	Each	10	25,300.00	2,53,000.00
27	MR	<p>Supply of 6m octagonal Pole with single arm. Material for pole section: Hot rolled product of non alloy structural steel grade S355, Other parts: MS as per IS 2062. Material as per BS EN 10025 equivalent to Indian standard.. Bottom (O.A.F.) 130mm and top (O.A.F.) 70mm. Size of Base Plate: 220 SQ, thickness of base plate should be minimum 16mm, hole PCD 220, hole dia 24mm. Tolerance on material thickness as per IS:2629. Pole shall be hot dip galvanized with coating thickness of 75 microns average as per IS: 2629. As per GA diagram attached in tender.</p>	Each	10	18,560.00	1,85,600.00

28	MSOR Electrical 9-1-3	Providing pipe type earthing with 40mm. dia. G.I. pipe or 20 mm dia. G.I. Rod complete	Each	10	1,875.00	18,750.00
29	5310	Unarmoured PVC/XLPE 1100 V cable 3 core 2.5 sq.mm copper	Metre	120	167.00	20,040.00
30	7001	Supplying, erecting SP MCB, 6 A to 32 A, 10 KA, B series, Cat A (for street lighting)	Each	10	336.00	3,360.00
31	11007	Supply of 4 core armoured PVC/XLPE insulated, PVC sheathed aluminium conductor cable of 1.1 KV grade with ISI mark conforming to IS:1554(Part I) ,IS:7098(Part I) with latest amendments of following size.				
		4 Core 16 sq.mm	Metre	175	279.00	48,825.00
32	MSOR Electrical 5-2-5	Supplying & erecting three phase, 415V, street light control panel up to the max load of 6kW, TPN MCB 40A, powder coated CRCA 14 SWG sheet, outdoor type, having IP54,IK10 protection, suitable rating contactor, 24 hrs. astronomical time switch with minimum 5 years battery back up, auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc. for automatic operation, with overcurrent, short circuit, earth fault protection on provided iron frame / CC foundation.	Each	1	28,423.75	28,423.75
33	6001	Providing and fixing following rating and breaking capacity adjustable 4 pole MCCB inside the existing cubicle panel board including drilling holes in cubicle panel making connections etc as required (FOR STREET LIGHT PANEL)				
		63 A 10 KA, CAT B	Each	1	3,513.00	3,513.00
34	7565	TPN MCB, 6 A to 32 A, 10 KA, C Series, Cat B	Each	10	1,800.00	18,000.00
		CCTV SYSTEM				
35	MR	Supply, Installation, Testing & Commissioning of Indoor IP Dome type based HD 1080P 4 MP , 1/3"color fixed (3.6mm) lens , CMOS Cameras auto iris Cameras(high resolution cameras/ 25 FPS) camera should be True Day/night,Motion, tamper and audio detection,WDR,Electronic shutter,White balance,BLC,DC IRIS, Anti-flicker,Vandal proof Housing, cost shall be inclusive of fixing accessories such as stand etc. Cost should be including all necessary power supply units, Adaptors etc as required for making system fully functional. Camera lens to be selected as per site location & current Viewing.	Each	12	6,400.00	76,800.00

36	MR	Supply, installation, testing and commissioning of MICROPHONE BUG.for audio recording.	Each	10	900.00	9,000.00
37	MR	NETWORK VIDEO RECORDER (NVR) Supply, installation, testing and commissioning of 16 channel Audio Input and 16 channel Video Input, Alarm input and output , 3MP @15FPS, H.264 AND H.265 compression , 4K UHD OUTPUT , 2 SATA Interface, Minimum 1 HDMI slot networkable DVR and support CVBS output. The DVR with TCP / IP connectivity, connectivity with all necessary remote viewing software along with DVR .The DVR should be capable to support motion based recording, web based monitoring & remote control monitoring software complete as per spec with valid licenses. The software should enable the user to view multiple cameras in any combination available on the network. Minimum Storage capacity of DVR shall be 1TB / 30 Days Recording whichever is higher , Vendor to provide calculation for the same. (Include Storage cost)	Each	1	41,500.00	41,500.00
38	MR	Supply, installation, testing & commissioning of (24/7) working VIDEO SURVEILLANCE Grade HARD DISK 6 TB with compatibility of whole CCTV network system of high data transferable speed, including 2 year comprehensive AMC from the date of competition of work in all respect (Make: WD/ Seagate/ Samsung)	Each	1	36,500.00	36,500.00
39	MR	Supplying and erecting LSZH armoured multimode optical fibre cable with 6 fibres, core dia 50/125 µm (OM3), suitable upto 10 GBPS, ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench	RM	425	190.00	80,750.00
40	MR	Supplying and fixing 1 m length, UTP patch cord of enhanced Cat 6 type with 4-connector channel, performance test report as per ANSI/TIA-568.2-D in position	Each	24	410.00	9,840.00
41	MR	Supplying and fixing 24 port patch panel with tool-less keystone jacks in provided U Rack complete	Each	1	16,240.00	16,240.00
42	MR	Supplying and fixing 10/100/100 24 port Network Managable Switch with L3 features used for Up-link 24port Gigabit Switch complete	Each	1	31,800.00	31,800.00
43	MR	Supplying and fixing 8 Channel SMPS For DVR	Each	1	2,450.00	2,450.00

44	MR	Supplying and fixing 15U wall mount rack (Dimension-DxWxH – 500x600x767 mm)	Each	1	32,500.00	32,500.00
45	MR	Supply and fixing of 25 mm dia ISI marked Rigid PVC conduit(Heavy) conforming to IS 9537	RM	965	58.00	55,970.00
46	MR	Supplying and erecting modular type computer Jack RJ45 with safety shutter, duly erected on provided plate and box with wiring connections complete.	Each	35	235.00	8,225.00
47	MR	Supplying and drawing of Cat - 6 UTP, 4 pair annealed tinned copper conductor PVC insulated, PVC sheathed, unarmoured data cable in existing surface/recessed steel/PVC conduit of appropriate size including connection, etc. complete as required	RM	1050	76.00	79,800.00
48	MR	Supply, installation & commissioning of wall mounted 40" LED screen with the resolution 4K Ultra HD (3840x2160), connectivity 4 HDMI ports, sound output Acoustic Multi Audio, X-balanced speaker, Dolby Atmos, 2 HDMI cable, 1 CAT- 6 cable , all required accessories, fittings, etc., complete in all respect along with Guarantee/ warranty provided by the company and its connection with existing cable/ Dish including cabling & accessories.	Each	1	72,000.00	72,000.00

49	MR	<p>Supplying, installation and commissioning of 4K SXRD Home Cinema Projector system ceiling mounted with 1,500 lumen brightness, HDR Compatible and 4K Motionflow, Display System of 4K SXRD panel - projection system; Display device - 0.74" x 3, Number of pixels 26,542,080 (4096 x 2160 x 3) pixels; Projection lens: Focus- Powered, Zoom- Powered (Approx. x2.06); Light source- High-pressure mercury lamp, 225 W type; Recommended lamp replacement time- 6,000 H (Lamp mode: Low); Screen size -60" to 300" (1,524 mm to 7,620 mm); Light output- 1,500 lm (Lamp mode: High) ; Colour light output- 1,500 lm (Lamp mode: High) ; Displayable scanning frequency: Horizontal- 19 kHz to 72 kHz, Vertical- 48 Hz to 92 Hz; Display resolution: Computer signal input- Maximum display resolution: 1920 x 1080 dots (HDMI Input only); OSD language: 18-languages; Input Output (Computer / Video / Control)- HDMI1/HDMI2, Digital (RGB/Y Pb/Cb Pr/Cr) Trigger- Minijack, DC 12 V Max. 100 mA, Remote- RS-232C, D-sub 9-pin (male), LAN- RJ45, 10Base-T/100BASE-TX, IR IN- Mini Jack, USB- DC 5 V, Max. 500 mA; Acoustic noise - 26 dB; Power requirements- AC 100 V to 240 V, 4.0 A to 1.7 A, 50/60Hz; Power consumption-390 W, Standby- 0.4 W: Networked Standby- 1.0W (LAN), Standby Mode / Networked Standby Mode Activated- after about 10 Minutes; 3D capability, 3D emitter- Built-in RD emitter, 3D glasses- TDG-BT500A; Dimensions (W x H x D) (without protrusions) 496 x 205 x 464 mm - 19 1/2 x 8 3/32 x 18 1/4 inches; Mass - Approx. 14 kg / 31 lb; Supplied accessories - RM-PJ28 Remote Commander (1), Size AA (R6) Manganese Batteries (2), Lens Cap (1), AC Power Cord (1), Operating Instructions (CD-ROM) (1), Quick Reference Manual (1), TDG-BT500A (3D glasses), 2 nos HDMI cables, 1 no. VGA cable, 1 CAT- 6 cable; Replacement lamp- LMP-H220 , etc. with all required accessories, fittings, complete in all respect . (Make: Sony VPL-VW270ES or equivalent, if preferred by client)</p>	Each	1	3,90,000.00	3,90,000.00
50	MR	<p>Supplying and fixing 120" thin Bezel 4:3 4K ultra HD ready HDTV fixed frame projector screen with slim aluminium frame. Size of the screen 120 inch diagonally and viewing area of 72" x 96", frame size 1.2cm, viewing angle 110 degree and support full HD 1080P with all accessories, fittings , completes in all respect and with 2 year warranty . (Make: VISUALAPEX F2072096FWC or equivalent)</p>	Each	1	1,20,000.00	1,20,000.00

51	MR	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 player (including 6 zone button paging station) with seamless integration facility complete as required.	Each	1	1,50,000.00	1,50,000.00
52	MR	Supplying, installation, testing & commissioning of 1.5/3/6W metal box ceiling/wall speakers complete as required.	Each	8	8,450.00	67,600.00
53	MR	Supply, installation, testing and commissioning of tabletop gooseneck conference microphone with condenser capsule, frequency response 100 Hz–12 kHz or better, SNR ≥80 dB, LED indicator, push-to-talk switch, or through conference system host, complete with mounting base, connecting cable and all accessories as required complete in all respect.	Each	10	7,500.00	75,000.00
54	MR	Supplying, installation, testing & commissioning of digital audio amplifier 75 Watt, 25V rms operating at 240 Volt AC Supply complete as required.	Each	1	1,45,000.00	1,45,000.00
TOTAL AMOUNT ELECTRICAL & CCTV WORK						55,36,509.25

BOQ - DRAINAGE AND STORM WATER DRAIN						
<i>Item No.</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>UNIT RATE</i>	<i>QTY</i>	<i>Total amount</i>	
SUPPLY OF MATERIALS						
4006 A	Earthwork in excavation by manual means in foundation pipeline trenches drain (not exceeding 1.5m in width or 10 sq. m. on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m.					
a	Ordinary soil	Cum	346	262	90652	
5035	Rubble packing with hard laterite stone under floors including watering ramming and consolidating etc. in pipeline trenches and other foundations complete.	Cum	2211	52.4	115856.4	
6005	Providing & laying cement concrete 1:4:8 (1 cement 4 : coarse sand : 8 river pebbles aggregates 40 mm. nominal size) excluding cost of centering, shuttering and finishing in:					

a	All works upto plinth level	Cum	5372	26.2	140746.4
15027	Supplying of ASTM UPVC pipe conforming to ASTM 1785 with ISO 14001 etc. complete.				
	SCH-40 (blue)/(white)				
	Dia in mm				
1	40	Metre	124	30	3720
2	75	Metre	174	25	4350
3	110	Metre	1044	30	31320
15439	Supplying, of HDPE pipes at store or site of work including loading & unloading stacking, transit insurance etc. Complete bearing ISI mark conforming to IS: 14333 - 1996 and made from PE 100 resin Class IV (6kg/cm2)				
	PE 100 PN 6				
a	160	Metre	819	128	104832
15036(A)	Supplying, of fabricated /moulded HDPE pipe fittings/specials as per required Pressure class of PVC Pipes, conforming to IS:8360 (Part I & III) and IS:8008(Part I to IX).The HDPE pipe fittings/specials shall be manufactured from virgin resin PE100 .				
	HDPE Pipe fittings/specials (fabricated/moulded)				
I	Fabricated Equal Tee of HDPE PE 100 for Butt jointing.				
b	160	Each	2321	8	18568
II	Fabricated 90 deg.bend of HDPE PE 100 for Butt jointing.				
b	160	Each	1618	6	9708
IV	Moulded End Cap of HDPE PE 100 for Butt jointing.				
b	160	Each	822	4	3288

15209	Jointing of rigid / SEL FIT PVC pipes by cleaning the pipe with solvent cement including the cost of solvent cement and hydraulic testing of joints etc. complete as per IS:7634-1975 Part 3, including hydraulic testing of joints as directed by the Engineer in-charge.				
	Outer Diameter in mm				
d	110	Each	39	26	1014
45	Providing and fixing Nahani trap 100 mm dia with SS grating complete including making connection with PVC pipe and cement mortar finishing.				
	100 mm X 100 mm	Each	399	16	6384
15025	Supply of Rigid PVC Elbow, Wye, 45 Deg Bend PN-10 dia conforming to IS 7834-1975				
	75	Each	120	25	3000
	100	Each	361	40	14440
15075	Providing at store or site work non-pressure RCC pipes of with collar joints conforming to IS:458-2003 revised as per amendment No.11 , including freight, carting, loading, unloading, stacking etc. complete.				
	NP2 Class				
	Dia in mm				
d	200	Metre	1378	160	220480
INSTALLATION OF MATERIALS					
15414	Providing and fixing square mouth S.W. gully trap grade 'A" complete with C.I. Grading brick masonry chamber and water light C.I. cover with frame 300x300mm size (inside) the weight of the cover to be not less than 4.53kg and frame to be not less than 2.72kg as per standard design.				
b	150 mmx 100mm P or Stype	Each	4445	9	40005

15415	Construction of manhole rectangular in shape including cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 20mm nominal size) foundation thickness of concrete 20cms and offset 10cms on both sides and first class brick work with bricks class designation 100kg/sq.cm (wire cut bricks) cement mortar 1:3 (1 cement : 3 coarse sand) 23cms thick including providing & fixing CI footrests conforming to IS 5445/69 or revised and whose weight shall not be less than 5.30kgs including fixing in man-hole at 30cm c / c in 20x 20x10cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) and 12mm thick plaster inside and outside with cement mortar 1:3 (1 cement : 3 coarse sand) including adding waterproofing compound of approved brand in cement mortar with a floating coat of neat cement and making channel in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20m nominal size) neatly finished complete as per standard design.				
III	Inside size 0.60x0.60m and 0.60m deep (with medium duty DI manhole cover & frame of size 0.60x 0.60m weighing 90kgs) including fixing with cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominal size and applying the frame & cover with coal tar.	Each	23371	17	397307
15209	Jointing of rigid / SEL FIT PVC pipes by cleaning the pipe with solvent cement including the cost of solvent cement and hydraulic testing of joints etc. complete as per IS:7634-1975 Part 3, including hydraulic testing of joints as directed by the Engineer in-charge.				
	Outer Diameter in mm				
a	63	Each	16	3	48
b	75	Each	20	15	300
d	110	Each	39	25	975
f	160	Each	73	9	657

15204	Conveying carefully from stack at site, 250m from both sides rolling and lowering into trenches, laying and jointing true to line and level, RCC spun pressure and non-pressure pipes of various classes, specials including collar and perfect linking of joint with jack to correct position including cost of jointing material in cement mortar 1:2, necessary hydraulic testing, curing of cement mortar etc. complete.				
	Nominal diameter in mm				
	150	Metre	105	160	16800
TOTAL					12,24,450.80

FIRE FIGHTING BOQ FOR PALOLEM ICE FACTORY

Sr. No	Item Code (as per DSR - 2023)	Item description	Unit	Total Qty	S/I/T/C Rate in INR	Total Amount in INR
A		Hydrant System (external)				
1		Providing, Fixing, testing and commissioning of the following size of flange jointed / screwed / welded, G.I pipes of Class C (heavy class) ISI marked and of approved make, hot dip galvanized to Grade 1 of IS : 4736-1968, including accessories such as GI hot dipped tees / elbows / reducers / couplings / unions / bends / flanges etc., including excavation in all kinds of soil, direct in ground to a depth of 30 cm to 1 mtr as per site condition i/c supports/anchors/thrust pads and refilling the trench alongwith disposal of malba to the nearest dumping ground, and wrapping with 1 nos. 3 mm thick polymeric corrosion protection tape conforming to IS 10221 and painting with bituminous paint after laying and testing to 13.5 Kg / Sq. cm hydraulic pressure after installation etc as per specification complete as required.				
1.2	R3-ME-15-16-i	100 mm dia	mtrs	68	1,700.00	1,15,600

2		Providing, fixing, testing and commissioning, of the following sizes of flange jointed / screwed / welded, GI pipes of Class C (heavy class) ISI marked and of approved make, hot dip galvanized to Grade 1 of IS : 4736-1968, including accessories such as MS bracket, U clamps with Anchor fasteners, GI hot dipped tees / elbows / reducers / couplings / unions / bends / flanges etc., and laying on the surface including painting with two coats of anticorrosive primer and two coats of approved red enamel paint after laying and testing to 13.5 Kg/Sq.cm hydraulic pressure after installation etc. as per specifications complete as required.				
2.3	R3-ME-15-16-h	80 mm dia	mtrs	36	1,221.00	43,956
3		Providing & fixing of G.M. Foot valve of the following sizes complete with bolts, nuts, washers and neoprene gaskets etc. as required.		-		
	R3-ME-15-4-b	b) 100 mm dia	no.	1	7,144.00	7,144
4	R3-ME-15-8-a	Supplying and fixing ISI marked Single headed Fire hydrant valve inlet complete with 63 mm dia female instantaneous outlet of gun metal conforming to type "A" of IS:5290-1977 with plastic blank cap, steel chain, adapter etc complete as required. (Threaded parts shall be sealed with "Holdtite".)	nos.	5	10,092.00	50,460
5	R3-ME-15-11-a	Supplying and fixing 63 mm dia, 15 mtr. Long RRL hose pipe with 63 mm dia Male and Female Gun metal couplings duly binded with copper wire, rivets etc. conforming to IS 636 (type-A) as required. Including Hosebox	nos.	5	12,776.00	63,880
				-		

6	R3-ME-15-18	Providing installing and commissioning of first aid hose reel equipment comprising of powder coated swinging type hose reel drum (IS: 884) wall mounting type fixing bracket, 25 mm dia GM Globe valve with 25mm stainless steel, shut off nozzle, nylon braided PVC hose of 20 mm dia x 36 mtr long with 8 mm bore as required.	nos.	5	12,215.00	61,075
				-		
7		Supplying and fixing 63 mm dia Gun metal branch pipe with 20 mm (nominal internal diameter) size Gun Metal nozzle conforming to IS 903, suitable for instantaneous connection to inter-connect hose pipe coupling as required	nos.	-		
				-		
8	R3-ME-6-16-a	Providing, fixing including testing and commissioning 150 mm dia pressure gauge of range 0 - 15 Kg / sqcm conforming to IS - 3624 having bourdon tube of stainless steel 310 in cast aluminium, stove enamelled, black, weather proof case with outer, screwed aluminium bezel and complete with necessary U-type stainless steel siphon tube and cock including providing suitably painted angle iron support to the tube etc.as per specification complete as required.	nos.	2	698.00	1,396
9		Supplying, fixing, testing and commissioning of Butterfly valve PN 1.6 , with Bronze/Gunmetal seat duly ISI marked complete with Nuts, Bolts, washers, gaskets, conforming to IS 13095, of following sizes as required.				
9.1		150 mm dia	nos.			
9.2		100 mm dia	nos.	-		
9.3	R3-ME-15-6-a	80 mm dia	nos.	3	3,860.00	11,580
9.4		65 mm dia				

10		Providing & fixing Cast steel ASTM A 216 Gr. WCB Dual Plate wafer type check valve / NRV of rating PN 20 rating including gasket, flanges, union, nuts, bolts, washers & painting, including all consumables & accessories...etc. complete in all respect.				
10.1		150 mm dia	nos.			
10.2		100 mm dia				
10.3	R3-ME-15-7-a	80 mm dia	nos.	2	9,614.00	19,228
10.4		65 mm dia				
11		Providing & fixing heavy duty double flanged flexicon rubber expansion joint (PN-20) of standard length as per manufacturers specs including rubber gaskets, flanges, nuts, bolts and washers complete as required.				
11.1		150 mm dia	nos.	-		
11.2		100 mm dia				
11.3	MR only	80 mm dia	nos.	2	6,500	13,000
11.4		65 mm dia				
12		Providing and fixing PN 16 C.I. Bucket strainer with SS 304 perforated sheet basket, 40 mesh including rubber / metal gasket, flanges, nuts, bolts and washers, including all consumables & accessories...etc. complete in all respect.				
12.1	R3-ME-15-5-c	100 mm dia	nos.	1	10,284.00	10,284
B		SPRINKLER SYSTEM		-		

13		Providing, fixing, testing and commissioning, of the following sizes of flange jointed / screwed / welded, GI pipes of Class C (heavy class) ISI marked and of approved make, hot dip galvanized to Grade 1 of IS : 4736-1968, including accessories such as MS bracket, U clamps with Anchor fasteners, GI hot dipped tees / elbows / reducers / couplings / unions / bends / flanges etc., and laying on the surface including painting with two coats of anticorrosive primer and two coats of approved red enamel paint after laying and testing to 13.5 Kg/Sq.cm hydraulic pressure after installation etc. as per specifications complete as required.		-		
13.4	R3-ME-15-15-c	80 mm dia	mtrs	4	1,400.00	5,600
13.5	R3-ME-15-15-e	50 mm dia	mtrs	18	914.00	16,452
13.6	R3-ME-15-15-d	65 mm dia	mtrs	12	1,141.00	13,692
13.7	R3-ME-15-15-f	40 mm dia	mtrs	16	678.00	10,848
13.8	R3-ME-15-15-g	32 mm dia	mtrs	14	577.00	8,078
13.9	R3-ME-15-15-h	25 mm dia	mtrs	40	507.00	20,280
14	-	Providing, fixing, testing and commissioning of 50 mm Dia Drain test assembly complete with pipe, drain valve, test valve, sight glass, union, tee, elbow etc. complete with bolts, nuts, gasket, washers etc. as per NBC.	nos.	-		-

				-		
15		Supplying, Installing, testing and commissioning of CI butterfly valves (PN 16) as per BS 5155 slim seal standard lever operated type with required flanges, nuts, bolts etc. complete.		-		
				-		
15.1		100 mm dia	nos.			
				-		
15.2	R3-ME-15-6-a	80 mm dia	nos.	2	3,860.00	7,720
				-		
16		Providing and fixing flow switches dia G.I. pipe I/C U Clamp etc as required. (wiring and Inter Locking done by other Agencies)		-		
				-		
16.1	R3-ME-15-26-c	80 mm dia	nos.	1	10,779.00	10,779
16.2		100 mm dia	nos.			
				-		
17	R3-ME-15-26-a	Providing and fixing testing and commissioning of Pendant sprinkler rated at 68/79 degree centigrade with quartzoid bulb 15 mm dia Orifice K factor 80(5.6) complete with powder coated rosette plate as per specification complete etc. as required.	nos.	26	394.00	10,244
				-		
18	R3-ME-15-26-a	Providing and fixing testing and commissioning of Sidewall Sprinkler rated at 68 / 79degree centigrade, quartzoid bulb type, K Factor 80 (5.6) and 15 mm dia orifice	nos.	6	394.00	2,364

19	R3-ME-15-30-a	Supplying and erecting D.C.P. type Fire Extinguisher 4.5 kg capacity cartridge type with Gun Metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171-1985/ IS 15683 and complete erected with necessary clamps made from 50x6 mm M.S. flat with nuts & bolts grouted in wall complete.	Nos	6	11,816.00	70,896
20	R3-ME-15-30-a	FIRE PUMPS Supplying, Fixing, testing & commissioning Diesel engine driven horizontal single outlet centrifugal pump set capable of delivering 1620 LPM at 53 M head, having cast iron casing, bronze impellers, EN-8 shaft with bronze shaft sleeves directly coupled to Engine, 1450 RPM, complete on MS channel base plate with coupling guard, Day tank, Battery starting kit, etc. complete (Diesel driven Pump) 100mm gi pipe upto terrace with aluminium cladding	Nos	1	3,40,000	3,40,000
24	R3-ME-15-3-a	Supplying, Fixing, testing & commissioning horizontal Single outlet centrifugal pump set (Split Casing) capable of delivering 450 LPM at 70 M head for having cast iron casing, bronze impellers, EN-8 shaft with bronze shaft sleeves directly coupled to 30 HP, 1450 RPM, TEFC squirrel cage induction motor having class 'F' insulation complete on MS channel base plate with coupling guard (Main Fire Hydrant Pump)	Nos	1	81,147.00	81,147
25	R3-ME-15-2-a	Supplying, Fixing testing & commissioning horizontal centrifugal pump set capable of delivering 180 LPM at 53 M head due to all causes with TEFC squirrel cage induction motor of 2900 RPM, foundation bolts, etc. complete 5 HP (joceky pumps- Main Fire Hydrant Pump)	Nos	1	95,751.00	95,751
26	R3-ME-15-23	Supplying and installing pressure switch with 12/15 mm Ø isolation valve, G.I. nipple, elbow etc. in an approved manner.	Nos	1	8,407	8,407

27	R3-ME-15-21	Supplying and installing of suitable Air Vessel of 400 mm Ø 1.2 m in height M.S. tank installed inside pump house including all accessories	Nos	1	20,838	20,838
28	R3-ME-15-19	Proving & fixing G.M. fire Brigade inlet connection head as per IS:904 specification two way tested for 20kg/sq.cm. with 63mm with built in non-return valve for fire brigade connection to underground tanks including companion flanges of Table E with nuts, bolts & washers etc. (Draw Out Connection)	Nos	1	10,059	10,059
		Note: The item with out qty will be rate only				11,30,758

BOQ-WATER SUPPLY

<i>Item no.</i>	<i>Description</i>	<i>UNIT</i>	<i>RATE</i>	<i>QTY</i>	<i>TOTAL AMOUNT</i>
15519	Development of borewell using air compressor air/back washing for a period of and less than hours until all lines are flushed out and steady discharge is attend & measuring the well discharge on 90-degree V notch or with a barrels and stop watch. tube wells by upto compressed air/back washing for a minimum period of two hours and all fines are flushed out including equipment for re-drilling and its removal after completion.	No	18584	1	18584
15523	Providing 150mm (6") dia. G.I.pipes Medium grade (Class B) conforming to IS 1239/1973 for casing pipe including seam collar coupling, etc. complete and lowering the casing pipes in the drilling holes during drilling including fixing the pipe with socket of welding etc. complete.	RM	8014	45	360630
15520	Providing and fixing threaded well cap of cast iron/G.I suitable for 150mm (6) dia casing pipes bore wells as directed.	Each	842	2	1684
15525	Supplying of centrifugal pump of following capacity at the site of work including loading unloading excluding taxes, freight, loading & etc. complete.				
2	Three Phase Monoblock Pump Sets of SYNC speed as 3000 RPM of 1.02HP	Each	17458	1	17458

NON GSR	Installation of 3 Phase Pump set 3000 RPM of 1HP motor with al necessary connection and fittings complete as per directin of Engineer in charge.	Job	10000	1	10000
UNPLASTICIZED PVC PIPES					
15027	Supplying of ASTM UPVC pipe conforming to ASTM 1785 with ISO 14001 etc. complete.				
I	SCH-40 (blue)/(white)				
	Dia in mm				
a	20	Metre	113	85	9605
b	25	Metre	165	140	23100
c	32	Metre	222	50	11100
g	75	Metre	671	20	13420
i	110	Metre	1044	25	26100
DSR 18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
18.53.1	15mm nominal bore	Each	574	25	14350
15677	Providing and fixing brass bib cock (heavy) of approved quality :	Each	516	18	9288
	15 mm nominal bore				
NON GSR	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to Eueopean type W.C. Of quality and make as approved by Engineer - in - charge.	Each	415	9	3735
UNPLASTICIZED PVC FITTINGS					
15028	Supplying at store or site of work of ASTM UPVC white fittings conforming to ASTM 2467 with ISO 14001 etc. Complete .				
I	Coupler				
	Outer Dia in mm				
b	25	Each	26	12	312
c	32	Each	37	10	370
II	Elbow 90 Degree				
	Outer Dia in mm				
a	20	Each	23	7	161
b	25	Each	39	15	585
c	32	Each	59	5	295
IV	Tee				

	Outer Dia in mm				
a	20	Each	30	5	150
b	25	Each	53	4	212
c	32	Each	77	4	308
VIII	Female Threaded Adapter				
	Outer Dia in mm				
a	20	Each	16	1	16
c	32	Each	37	2	74
IX	Reducer Bush				
	Sizes in inches				
a	20x15	Each	9	5	45
15031	Supplying at store or site of work of heavy duty adhesive cement for joining of UPVC white fittings.	Litre	719	8	5752
15074	Supply at store or site of work including railway freight, carting, loading, unloading, stacking etc.PVC ball valves in PN 16 rating with one end compression using Blue colour compression nut in polypropylene material 7 other end with female threads conforming to ISO:4422-4 .				
	Diameter -Main pipe outer diameter in mm & tapping size in inches				
a	20x1/2"	Each	221	10	2210
15681	Providing and fixing non-return valve of approved quality :				
d	50 mm nominal bore	Each	3074	3	9222
15143	Providing and fixing C.I. Strainers for Water Meters including cost of all materials and labour.				
	C.I. Strainer 'Y' type with screwed ends.				
	Sizes in mm				
d	40	Each	2403	3	7209
15687	Providing and placing on terrace roof of floor two (1 st floor roof single piece rotational moulded polythene water storage tank having I S I mark and conforming to I S 12701; 1996.				
c	1000 lit. capacity	Each	9420	3	28260

MR	Supplying and Installation of Bore-well Pump 2 HP for operating at maximum power at a discharge of 200L/Min at a head of 20 m complete in all respect as per directions of Engineer in Charge.	Nos	60000	1	60000
TOTAL					6,34,235.00

PROPOSED ICE MAKING FACTORY AND FISHERMEN TRAINING CENTRE , MODERN INTEGRATED VILLAGE PALOLEM						
BILL OF QUANTITIES						
SR.NO	GSR 2023	DESCRIPTION OF ITEMS	QTY	UNIT	RATE	RATE
1	MR- Rate Analysis	Ice Making Factory Equipemets guaranteed to give 15 Ton ice production at a design wet bulb temperature at 29.3 °C but practically it can be same work up to 34°C..... etc - As per Technical Specification	1	Nos	56,71,624.1	56,71,624.1

Part 2:
Chilled Fish Solar Cold Storage at Palolem in South Goa

SR.NO	GSR/MSOR/DSR	DESCRIPTION	QTY	UNIT	RATE	RATE
		5 MT CHILLED FISH SOLAR COLD STORAGE				
1	MR- Rate Analysis	Design, supply, installation, testing and commissioning of 5 MT Solar Cold Storage – Details as per Technical Specification	1	No	20,58,330.21	20,58,330.21

Part 3:
Green Energy (Solar & Wind) – 40 KW at Palolem in South Goa

SR.NO	GSR/MSOR/DSR	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
		(Solar Energy & Wind Energy) – 40 KW				
1	MR	<p>Providing, supplying, installation, testing and commissioning of a total 40 kW Green Energy System Comprising Wind Energy and Solar Energy components, which may be configured either as (i) two independent systems, namely a standalone Wind Energy System and a standalone Solar Photovoltaic (PV) System, or (ii) an integrated Wind–Solar Hybrid System combining both energy sources within a single unified setup, complete in all respects.</p> <p>Out of the total installed capacity, the Wind Energy System shall mandatorily contribute 65% (Minimum) of the total capacity, i.e., about 26.66 kW, while the Solar PV System shall contribute the remaining 35%(Maximum), i.e., 13.34 kW, strictly in accordance with tender requirements. The contractor shall design and deploy the system accordingly to meet the specified capacity distribution and performance criteria.</p> <p>The Wind Energy component shall consist of Omni-directional Vertical Axis Wind Turbines (VAWT) of individual unit capacity not less than 2.5 kW (with peak output up to 3.0 kW), having multiphase, multivoltage configuration suitable for both off-grid (12V / 24V / 48V DC) and on-grid applications (33–380 VAC). The turbines shall be capable of efficient operation without the requirement of a yaw mechanism and shall be fabricated using high-quality Fibre Reinforced Plastic (FRP) blades mounted on corrosion-resistant structural supports. The system shall include brushless Permanent Magnet Generators (PMG), controllers, and all associated components. Multiple turbine units shall be installed in suitable layout (such as staggered or delta formation) to achieve the total wind capacity of about 26.66 kW.</p> <p>The Solar PV component shall consist of high-efficiency photovoltaic modules of total installed capacity 13.34 kW,</p>	1	Job	90,40,000.00	90,40,000.00

SR.NO	GSR/MSOR/DSR	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
		<p>mounted on suitable corrosion-resistant structures with optimal tilt and orientation to maximize energy generation. The system shall include inverters, module mounting structures, DC/AC cabling, junction boxes, earthing, lightning protection, and all required Balance of System (BoS) components.</p> <p>In case of a Hybrid System, both wind and solar components shall be integrated through a common power conditioning and management system including hybrid inverters/controllers to ensure efficient and seamless operation. In case of separate systems, both shall be independently complete and capable of synchronized or standalone operation as required.</p> <p>The scope shall include design, supply, transportation, loading/unloading, erection of poles/towers for wind turbines, foundation works, complete cabling, grid connectivity (where applicable), testing, commissioning, and handing over of the system. The contractor shall also provide insurance coverage during transit, storage, erection, and commissioning phases, and facilitate necessary statutory approvals for grid connection.</p> <p>The system shall be designed for low noise, minimal vibration, and high durability suitable for coastal and outdoor environmental conditions. All materials shall be corrosion-resistant and conform to relevant MNRE guidelines and applicable IS/IEC standards.</p> <p>The make, model, and detailed technical specifications (including turbine model up to 3 kW capacity such as Eco-Wind VAWT-3.0 or equivalent) shall be submitted for approval of the Engineer-in-Charge prior to procurement. The work shall be executed complete in all respects as per specifications and directions of the Engineer-in-Charge.</p>				

Volume-III

FINANCIAL BID

**Letter of Transmittal for Financial Bid
(On Original Letter Head of Bidder)**

Dated:

To,

Deputy Chief Engineer
C&C Division
WAPCOS Limited
76-C, Institutional Area, Sector - 18
Gurugram-122015, Haryana
Email: ccm@wapcos.co.in

Sub: Financial Bid for the work “Development of Modern Community Post Harvesting Facility at Palolem in South Goa”

Dear Sir,

With reference to your NIT document dated I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid Project. The Bid is unconditional and unqualified.

1. I / We acknowledge that the WAPCOS will be relying on the information provided in the BID and the documents accompanying the BID for selection of the Contractor for the aforesaid Project, and we certify that all information provided in the Bid are true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the BID are true copies of their respective originals.
2. The BID Price has been quoted by me / us after taking into consideration all the terms and conditions stated in the NIT, draft Agreement, our own estimates of costs and after a careful assessment of the site and all own the conditions that may affect the project cost and implementation of the project.
3. I/ We acknowledge the right of the Authority to reject our BID without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
4. In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the BID Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.
5. I / We shall keep this offer valid as period specified in the NIT.
6. I / We hereby submit our financial BID and offer BID Price excluding GST as filled in excel format file for undertaking the aforesaid Work in accordance with the Bidding Documents and the Agreement.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

**Financial Bid for
Development of Modern Community Post Harvesting Facility at Palem in South Goa
(To be Quoted Online only as per CPP Portal Format)**

Percentage BoQ						
Tender Inviting Authority:						
Name of Work: Development of Modern Community Post Harvesting Facility at Palem in South Goa						
Contract No: WAPI/GOA/Fisheries/CCMI2026/01						
Name of the Bidder/ Bidding Firm / Company:						
PRICE SCHEDULE						
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns. Also the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Prices only.)						
Sl. No.	Item Description	Quantity	Unit	Estimated Price	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT in Words
1	Ice Making Factory and Fishermen Training Centre					
1.01	Civil Works	1.00	Noz	31927266.54	31927266.54	INR Three Crore Nineteen Lakh Twenty Seven Thousand Two Hundred Sixty Six & Paise Fifty Four Only
1.02	Infrastructure & Electrical Works	1.00	Noz	53650.00	53650.00	INR Fifty Three Thousand Six Hundred Five & Paise Twenty Five Only
1.03	Drainage & Stormwater	1.00	Noz	22445.80	22445.80	INR Twenty Two Thousand Four Hundred Fifty & Paise Eighty Only
1.04	Water Supply	1.00	Noz	634235.00	634235.00	INR Six Lakh Thirty Four Thousand Two Hundred Thirty Five & Paise Zero Only
1.05	Fire Fightings	1.00	Noz	1130758.00	1130758.00	INR Eleven Lakh Thirty Thousand Seven Hundred Fifty Eight & Paise Zero Only
1.06	Ice Making Factory Equipments & Machines	1.00	Noz	5671624.13	5671624.13	INR Fifty Six Lakh Seventy One Thousand Six Hundred Twenty Four & Paise Thirteen Only
2	Chilled Fish Solar Cold Storage					
2.01	5 MT chilled fish solar cold storage	1.00	Noz	2056330.21	2056330.21	INR Twenty Lakh Fifty Eight Thousand Three Hundred Thirty & Paise Twenty One Only
3	Green Energy (Solar & Wind) - 40KW	1.00	Noz	3040000.00	3040000.00	INR Ninety Lakh Forty Thousand & Paise Zero Only
Total in Figures					57223173.93	INR Five Crore Seventy Two Lakh Twenty Three Thousand One Hundred Seventy Three & Paise Ninety Three Only
Quoted Rate in Figures			Select		0.00	INR Zero Only
Quoted Rate in Words						INR Zero Only

Note:

- The percentage rate (only upto 2 decimal places) shall be quoted Above/ below the Estimated cost in the BoQ. The. The quoted percentage rate shall be applicable to all the items mentioned in the Detailed Abstract of Cost enclosed under Section XI: Schedule of Quantities of the Tender Document.
- The quoted Percentage rate filled in Summary of Cost/Financial Bid (as per the format of CPPP portal in excel), should include all associated costs with the project including any out of pocket / mobilization expenses, taxes (excluding GST) if any applicable as per Govt. terms, shall be paid by the Contractor.
- It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST) shall be reimbursed to the Agency on submission of proof of Deposition of GST.
 - The company shall be performing all its duties of deduction TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly / amended introduced during the execution of the Contract.

Important Note for submission of online tender:

- DO NOT FILL ABOVE TABLE OF SUMMARY OF COST AT THE TIME OF SUBMISSION OF TECHNICAL BID.
- THE ABOVE FINANCIAL PROPOSAL IS TO BE FILLED BY BIDDER IN THE BOQ FILE ATTACHED IN E-PORTAL and shall be submitted under Financial Bid Only.