



Request for Proposal (RFP)

**For
REDEVELOPMENT OF TOWN HALL IN BHAGALPUR, BIHAR WITH
OPERATION & MAINTAINANCE FOR A PERIOD OF FIVE YEARS**

Under

SMART CITY MISSION (SCM) ON ITEM RATE CONTRACT

in Bhagalpur, Bihar

Issued By:

Chief Executive Officer,

Bhagalpur Smart City Limited

DISCLAIMER

The information contained in this Request for Proposal (“RFP”) document or subsequently provided to bidders, verbally or in documentary or any other form by or on behalf of the Bhagalpur Smart City Limited (here forth referred to as BSCL in this document) or any of its employees or advisers, is provided to bidders on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is not an invitation by the Employer to the prospective Consultants or any other person. The purpose of this RFP is to provide interested bidders with information that may be useful to them in the formulation of their Proposals pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the Employer in relation to the Consultancy. Such assumptions, assessments and statements do not purport to contain all the information that each bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the Employer, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources. Information provided in this RFP to the bidder (consultant/contractor/developer/Manufacturer/Supplier etc.) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Employer accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

The BSCL and its employees and advisers make no representation or warranty and shall have no liability to any person including any bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

The BSCL also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any bidder upon the statements contained in this RFP. The BSCL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP. The issue of this RFP does not imply that the Employer is bound to select a bidder or to appoint the selected bidder, as the case may be, for the Consultancy and the BSCL reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The bidder shall bear all its costs associated with or relating to the preparation and

submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the BSCL or any other costs incurred in connection with or relating to its Proposal.

All such costs and expenses will remain with the bidder and the BSCL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

Sd/

Chief Executive Officer
Bhagalpur Smart City Limited

**INSTRUCTIONS TO BIDDERS
AND
QUALIFICATION INFORMATION**

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VOLUME-I

SECTION 1

INVITATION FOR BID (IFB)

NIT No:		BSCL/Town Hall/2020/28
1.	(a) Name of the work	Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract.
	(b) Scope of Work	<p>Construction of</p> <ol style="list-style-type: none"> 1. State of the Art Auditorium with 1000 pax. Seating capacity 2. Shall be Green Building with Green ratings 3. Centrally air-conditioned building 4. Presence of modern equipment's for projection, sound system 5. Complete Acoustic solution implementation of international standards 6. Lecture hall for conducting vocational training and workshops 7. Ample green spaces 8. Dedicated Parking on the surface and adjacent areas 9. Iconic Design, Building Façade to emphasize on tangible and intangible heritage of Bhagalpur region and representation of local arts and crafts of Bhagalpur region 10. Green building style to mitigate weather challenges through material and building orientation. 11. Operation and Maintenance of Town Hall for Five years including defect liability period.
2.	Mode of Bid Submission	e-tendering (http://www.eproc.bihar.gov.in)
3.	Estimated Cost inclusive of all taxes and GST (Rs.)	Rs. 26,82,00,000/- (Rupees Twenty-Six Core Eighty-Two Lacs) only
4.	Online Tender Fee	As per eproc norms. https://www.eproc.bihar.gov.in/
5.	EMD/Bid Security	As per NIT. (The EMD/Bid Security should be submitted in the form of Demand Draft/Bank Guarantee drawn in favour of “Chief Executive Officer, Bhagalpur Smart City Limited” payable at Bhagalpur.)
6.	Tender Document Fee	As per NIT
7.	Date / Time of Publication of Tender on e-Proc Website	As per NIT
8.	Last Date / Time of for Bid Submission	As per NIT
9.	Last Date / Time of Submission of Tender Fee & EMD	As per NIT
10.	Date of Bid Opening	As per NIT
11.	Bid Submission Address	Bhagalpur Smart City Limited, Municipal Corporation, Court Compound, Bhagalpur – 812001

Note: Only e-Tenders shall be accepted.

Further details are available on Bihar Government e-Procurement website and select Bhagalpur Smart City and can be seen on the website <http://www.eproc.bihar.gov.in>

Sd/-
Chief Executive Officer
BSCL, Bhagalpur

Instructions to Bidders for Online Submission of Bids

Detailed instructions & documents to be furnished for online bidding:

1. Guidelines for online submission of bids can be downloaded from the website <http://www.eproc.bihar.gov.in>
2. Bidders in order to participate in the online bidding process have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000. This Certificate will be required for digitally signing the bid. Bidders can get the above-mentioned digital signature certificate from any vendor approved by Controller of Certifying Authorities (CCA). Bidders, who already possess valid Digital Certificates, need not procure new Digital Certificate.
3. Bidders should submit their bids online in electronic format with digital signature. Bids without Digital Signature will not be accepted. No proposal will be accepted in physical form.
4. Bids will be opened online as per time schedule mentioned in the Invitation for Bids (IFB).
5. Bidders should be ready with the scanned copies of cost of documents & bid security as specified in the tender document. Before submission of bids online, bidders must ensure that scanned copies of all the necessary documents have been attached with the bid.
6. Bidders should produce original Demand Draft /Bank Guarantee towards tender fee & bid security as mentioned in the Invitation for Bids (IFB) to the BSCL, Bhagalpur office during the period & time as mentioned in the IFB, failing which bid will not be accepted. The details of cost of documents, bid security specified in the tender documents should be the same as submitted online (scanned copies), otherwise bid will summarily be rejected.
7. The Department will not be responsible for delay in online submission of bids due to any reason, whatsoever.
8. All required information for bid must be filled and submitted online.
9. Other details can be seen in the bid documents.
10. Only online withdrawal or modification of bids, if any, in pursuance of relevant clauses of the SBD is acceptable.
11. Details of documents to be furnished for online bidding:
(Scanned copies of the following documents to be up-loaded in pdf format on the website <https://www.eproc.bihar.gov.in> in technical bid folder).
 - i. Demand Draft towards Tender fee.
 - ii. Bid security (Bank Guarantee) in the form specified in Section-10 of SBD.

- iii. Qualification information and supporting documents, as specified in Section-3. of SBD.
 - iv. Certificates, undertakings, affidavits as specified in Section-3 of SBD.
 - v. Any other information pursuant to Clause-4.3 of Section-2 ITB.
 - vi. Undertakings that the bid shall remain valid for the period specified in Clause-15.1 of Section-2 ITB.
12. Scanned copies of the following documents are required to be uploaded on the website <http://www.eproc.bihar.gov.in> in financial bid folder:
- i. Form of bid as specified in Section-8 of SBD in pdf format.
 - ii. Duly filled Price Bid.
13. Uploaded documents of successful bidder will be verified with the original before signing of the agreement. The successful bidder should provide the originals to the concerned authority on receipt of such a letter in this regard, which will be sent through registered post or speed post or by e-mail or delivered by hand.
14. Each uploading shall be digitally signed by the bidder.

Sd/-
Chief Executive Officer
BSCL, Bhagalpur

INVITATION FOR BIDS (IFB)

NATIONAL COMPETITIVE BIDDING

NIT No. BSCL/Town Hall/2020/28

The undersigned, on behalf of the BSCL, Bhagalpur invites item rate bids for the work mentioned in table below through e-Procurement from eligible Contractors, registered in appropriate class with Central/State Govt. Departments/CPSU/CPSE/State PSU's/Autonomous Bodies, Govt. of Bihar/Govt. of India or an entity incorporated under Indian Companies act or any appropriate law engaged in construction and operation & maintenance of urban infrastructure (Town Hall/ Auditorium/ Convention Centre/ Community Hall/ Similar Building with advanced Audio Visual equipments' with seating capacity of at least 500 persons etc.) or any public sector undertaking either of central or of state engaged in construction and operation & maintenance of urban infrastructure (Town Hall/ Auditorium/ Convention Centre/ Community Hall/ Similar Building with advanced Audio Visual equipments' with seating capacity of at least 500 persons etc.)can also participate. The bid shall be submitted online in the website <http://www.eproc.bihar.gov.in>. The bidder(s) should have necessary portal enrolment with their own Digital Signature Certificate:

Sl. No.	Name of the work	Estimated Cost of work inclusive of all taxes and GST (Rs.)	Bid Security* (Rs.)	Cost of Document	Period of Completion
1	2	3	4	5	6
1	Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract.	Rs. 26,82,00,000/- (Rupees Twenty-Six Core Eighty-Two Lacs) only	As per NIT	As per NIT	15 Months

2. Scope of work:

1.0 The site planning needs re-planning and re-development to meet the requirement of a modernized town hall as a State-of-the-Art Convention Arena and an Urban Haat with requisite seating capacity, open spaces, open seating, walkable space and sufficient parking.

A complete redevelopment of the site with a newly designed auditorium along with meticulously designed spaces to address the requirement of BSCL, further depicting culture, art, heritage, traditions, handicraft and artisans of the region in its design form, spaces is recommended. The New development shall be designed in accordance with green building concept aimed at obtaining requisite green ratings of highest standards. The facility shall be equipped with all advanced Audio Visual equipments', smart building systems in Bhagalpur with Operation & Maintenance in defect liability period of five years on item rate basis. Broader scope of work not limited to include the following

Construction of

1. State of the Art Auditorium with 1000 pax. Seating capacity
2. Shall be Green Building with Green ratings
3. Centrally air-conditioned building
4. Presence of modern equipment's for projection, sound system
5. Complete Acoustic solution implementation of international standards
6. Lecture hall for conducting vocational training and workshops
7. Ample green spaces
8. Dedicated Parking on the surface and adjacent areas
9. Iconic Design, Building Façade to emphasize on tangible and intangible heritage of Bhagalpur region and representation of local arts and crafts of Bhagalpur region
10. Green building style to mitigate weather challenges through material and building orientation.
11. Operation and Maintenance of Town Hall for Five years including defect liability period.
12. Dismantling Work of existing Town Hall Building. The dismantling materials should be clear from the site with prior approval of BSCL.

For detailed Architectural design and drawings, Structural design and Drawings, Electrical layout plans, working drawings, Plumbing layout plans and other concerned design and execution drawings please refer to Volume IV, Section II, Drawings. Though structural design and drawings are given in this RFP document, the selected bidder/ contractor has to carry out own geo technical investigation for structural design. Selected bidder/ contractor/ nominated sub-contractor has to prepare the detail working drawings for HVAC with in the estimated budget and has to submit BSCL for further approval.

1.1 INTRODUCTION

1.2 About BSCL

Bhagalpur Smart City Limited (BSCL) is the special purpose vehicle created under the Bhagalpur Municipal Corporation to deliver several Pan City and Area Based

Development initiatives with a focus on both infrastructure and ICT advancements in the city and at strategic locations.

1.3 Introduction to Bhagalpur Smart City Project

The Ministry of Housing and Urban Affairs (MoHUA), Government of India (GoI) has initiated Smart Cities Mission (SCM), under which selected cities will be developed as smart cities with a focus on improving citizen services with ICT intervention. Smart Cities Mission is an urban renewal and retrofitting programme by the Government of India with a mission to develop 100 cities all over the country making them citizen friendly, sustainable and investment destination. Under the Smart City Scheme, Government has emphasized to improve the basic civic amenities of the cities on one hand and the provision of modern technological advances for ease of living on the other hand.

The Smart City Proposal for Bhagalpur envisions to implementing a number of projects categorized into Area Based Development (ABD) projects and Pan City components. The ABD projects focuses on physical infrastructure components, whereas the Pan City components focuses on the ICT interventions in the city. To achieve Bhagalpur 's vision for a smart city, large numbers of measures are required to be implemented. Considering the priorities echoed by city stakeholders during the consultative process and practical feasibility, the main project umbrella initiatives shortlisted are:

- SUSHHAASIT BHAGALPUR (Smart and Quality Governance)
- SAMRUDH BHAGALPUR (Promoting Tourism in Silk City of India)
- GATIMAAN BHAGALPUR (Enhanced public transport)
- SUDRID BHAGALPUR (A well-functioning, smart, and efficient city)
- SARVABHOUMIKVIKAS (Socially Inclusive Growth)

To bridge the gap and provide a society in line with the vision of inclusive growth the Smart City mission has been launched in India. The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes. Area based development will transform existing areas (retrofitting and redevelopment), including slums into better planned ones, thereby improving livability of the whole City. New areas (Greenfield) will be developed around city to accommodate the expanding population in urban areas. Pan-city development is oriented towards application of selected Smart Solutions to the existing city-wide infrastructure. Application of Smart Solutions will involve the use of technology, information and data to make infrastructure and services better and befitting with demand coming up in the next decades.

SUSHHAASIT BHAGALPUR

Bhagalpur Municipal Corporation recognizes the importance of addressing the

needs of a growing population and an expanding city. It would strive to make Bhagalpur ‘a city for people’ where continuous engagement of local government with citizens is institutionalized in the decision-making architecture. It would provide safe, accessible, and lively public spaces the city living experience and the river bank. Bhagalpur Municipal Corporation is committed to excellence in every sector, providing its staff opportunities of growth by learning and adopting state of the art technologies and methods to better their performance in every way. Its goal is to become financially self-sufficient and sustainable moving towards increased private investments and partnerships.

SAMRUDH BHAGALPUR

Promoting Tourism in Silk City of India: A historically and culturally significant city with ever- growing number of visitors, Bhagalpur Municipal Corporation is committed to preserve and promote its multi-faceted built heritage ranging from ancient Hindu rock-cut sculptures to Jain pilgrimage sites to archaeological remains of one of the biggest universities of Buddhist times to architecture from Mughal and British periods. Bhagalpur’s identity and image as a culturally and historically significant place will be promoted on regional, national and international level. The city will support regular religious festivals and celebrations and also design new city level events for residents and tourists. Bhagalpur will be the most visited place in Bihar in the years to come.

GATIMAAN BHAGALPUR

A well-connected city with enhanced public transport, BMC will develop multi-modal transport system and provide more intra and inter-city roadways and buses to ease people’s arrival to the city. It will improve vehicular movement and decongest roads. It will encourage NMT and pedestrian safety. Intelligent Transport System to be adopted to improve mobility especially of public transport and IPT. The city will have greens links connecting places of different land use to enhance walk-ability.

SUDRID BHAGALPUR

A well-functioning, smart, and efficient city: Bhagalpur Municipal Corporation recognizes the current gaps in services especially Water supply, sanitation, SWM, and public transport. For a smoothly functioning city, new technology and ICT will be adopted. The power infrastructure will be robust and promote energy efficiency and use of renewable energy. The sub-goals are –

(i) Bhagalpur will not stop moving due to traffic jams; (ii) every resident and visitor to Bhagalpur will have access to clean drinking water; (iii) All streets will be clean and municipal waste will be treated and disposed scientifically; (iv) Every household will be connected to a functional sanitation system; (v) city will have robust IT enabled infrastructure; (vi) All power cables to be underground.

SARVABHOUMIKVIKAS

Socially Inclusive Growth: Bhagalpur will be more sensitive towards social infrastructure by improving quality of Health, Education, and Safety. All sections of society of Bhagalpur especially the old, children and differently-abled will be taken care of in design and development of projects. The city will put in efforts to alleviate urban poverty and increase livelihood opportunities. The city will provide liveable conditions for slum dwellers by up gradation of physical infrastructure. The informal sector will be regularized by providing basic infrastructure and facilities and formal vending zones.

2. Period of availability of tenders online/date & time of bidding on-line/last date of seeking clarification/date of opening of tender papers are as given below –

Sl. No.	Procurement Officer	Place of Opening	Availability of tender on- line for bidding		Date & Time of opening of technical bid
			From	To	
1	2	3	4	5	6
1	Chief Executive Officer, BSCL, Bhagalpur	Bhagalpur Smart City Limited, Municipal Corporation, Court Compound, Bhagalpur -812001	As per NIT	As per NIT	As per NIT

3. Cost of bidding document for a non-refundable fee as indicated shall be in the form of Demand Draft of any **Nationalized or Scheduled Indian Bank**, payable at Bhagalpur in favour of “Chief Executive Officer”, Bhagalpur Smart City Limited.
4. Bids must be accompanied by Security amount specified for the work in the table, payable at Bhagalpur and drawn in favour of “Chief Executive Officer”, Bhagalpur Smart City Limited. Bid Security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.
5. Cost of bidding document and Bid Security shall be deposited in the office of the Chief Executive Officer, **BSCL, Municipal Corporation, Court compound, Bhagalpur, Bihar - 812001, on the time & date mentioned as per NIT/Corrigendum by post / hand**. Only those applications will be entertained whose cost of bidding document and bid security is received on or before time & date mentioned as per NIT/Corrigendum. BSCL will not be held responsible for postal delay, if any, in the delivery of the document or non-receipt of the same in BSCL.
6. Tenderer(s) shall upload Scanned copy in pdf format/Digitally Signed copy of his/her Valid DD, Bid Security, Credit Facility, GST, PAN, Five Years Audited Turnover, Five Years Income Tax Return, Work Experience, Partnership Deed or Article of Association

/ Memorandum, Undertakings, Affidavits, labour license, EPF and ESI registration failing which the bid shall be rejected. Bidder has to submit Demand Draft/Bank Guarantee, JV, Power of Attorney, Undertaking & Solvency Certificate in Original as per eproc guideline.

7. Uploaded documents of successful bidder will be verified with the original before signing the agreement. The successful bidder has to provide the originals to the concerned authority on receipt of such a letter, which can be sent through registered post or speed post or can be delivered by hand or email.
8. Bidders in order to participate in the bidding process have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000 to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get the above-mentioned digital Signature certificate from any approved vendors (CCA). Bidders, who already possess valid Digital Certificates, need not procure new Digital Certificate.
9. Bidders have to submit their bid online in electronic format with Digital Signature. Bids without Digital Signature will not be accepted.
10. The work shall have to be completed in time, failing which penalty for non-completion of work in time shall be imposed, as stated in the Bid Document. Please note that there is a provision of Bonus for early completion of work.
11. Bidders who have rescind work in any department / PSU shall not be eligible to participate in the bidding process.
12. Bidders shall provide their Banker's contact details, so that BSCL can contact the Bank, if required.
13. If any work is awarded to a bidder after submission of bid to BSCL, his bid capacity shall be reduced by that bid amount as indicated in Para 1.4 of Qualification Information & Other Forms (Section-3 of ITB).
14. Successful bidder shall have to take all necessary approvals and clearances from the competent authority such as Ministry of Environment and Forest (MoEF)/ Central Pollution Control Board/ State Pollution Control Board etc.
15. Deleted
16. Other details can be seen in the bidding documents.

Sd/-
Chief Executive Officer
BSCL, Bhagalpur

SECTION 2

INSTRUCTIONS TO BIDDERS

(ITB)

Instructions to Bidders

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A. GENERAL

1. Scope of Bid

- 1.1 The Employer (named in appendix to ITB) invites bids for the construction of works (as defined in these documents and referred to as “the works”) detailed in the table given in IFB. The bidders need to submit bids for entire work detailed in the table given in IFB.
- 1.2 In this project, cost of the project given in the documents is only indicative and bidders should submit their bid amount with regard to the entire work including construction and operation & maintenance as per the scope as indicated above complete in all respect internal and external finish etc., approval of the same from competent authorities (BSCL) for the entire project.
- 1.3 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.
- 1.4 Throughout these bidding documents, the terms ‘bid’ and ‘tender’ and their derivatives (bidder/ tenderer, bidding/tendering, etc.) are synonymous.

2. Source of Funds

The expenditure on this project will be met from fund allocated to Bhagalpur Smart City Limited from Govt. of Bihar & Govt. of India under Smart City Mission.

3. Eligible Bidders

- 3.1 This invitation for Bids is open to all bidders as mentioned in IFB.
- 3.2 All bidders shall provide in Section 3, Forms of Bid and Qualification Information, a statement in para 1.12, that the Bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the tender design, specifications and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

4. Qualification of the Bidder

- 4.1 All bidders shall provide in Section 3, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include programme of construction along with operation and maintenance duly supported with quality assurance procedures proposed to be adopted justifying their capability of execution and

completion of work as per technical specifications, within stipulated period of completion.

4.2 Deleted.

4.3 All bidders shall include the following information and documents with their bids in Section 3:

- a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
- b) Total value of similar nature of work performed for each of the last five years (presently between 2014-2015 and 2018-2019).
- c) The Contractor/firm must have achieved a minimum annual financial turnover equal to 50% of estimated cost in any one financial year during last five completed financial years (presently between 2014-15 to 2018-19) up to the time of submission of bid in the current financial year.
- d) The contractor /firm must have satisfactorily completed as a prime contractor at least one similar work of value not less than 50% of estimated value of contract during last five completed financial years between 2014-15 and 2018-19 (works of 90% or more of contract value executed will be taken as completed work).
- e) **Experience in similar works means:**
Construction of Town Hall/ Auditorium/ Convention Centre/ Community Hall/ Similar Building with advanced Audio Visual equipments' with seating capacity of at least 500 persons.
- f) Qualifications and experience of key site management and technical personal proposed for Contract.
- g) Warranty (The units supplied and installed by the bidder should be guaranteed throughout the period of operation & maintenance including defect liability period against defective material, design, workmanship, operation or manufacture. The warranty period will commence only from the date on the commissioning of electronic items) of spare parts to be maintained wherever applicable.
- h) Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the last five years, income tax return (ITR) details for the last five years (presently between 2014-2015 and 2018-2019);
- i) Evidence of access to line (s) of credit and availability of other financial resources facilities (10% of contract value), certified by the approved Bankers (not more than 3 months old).
- j) Undertaking that the bidder will be able to invest a minimum cash

up to 25% of contract value of work, during implementation of work.

- k) Authority to seek references from the Bidders' bankers;
- l) Self-attested copy of information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties' concerned, and disputed amount;
- m) The bidder should not outsource the whole contract to the sub-contractor. An undertaking from the bidder to be submitted.
- n) The proposed work programme and methodology of construction with Operation & Maintenance in defect liability period of five years required to be furnished, quality control procedures proposed to be adopted, justifying their capability of supply, installation and commissioning of the work as per scope within the stipulated period of completion as per milestones.

4.4 Joint ventures are not acceptable.

- a. The sole contractor/firm must have *experience in similar works means:*

Construction of Town Hall/ Auditorium/ Convention Centre/ Community Hall/ Similar Building with advanced Audio Visual equipments' with seating capacity of at least 500 persons.

Even though the bidder meets the above qualifying criteria, he is subject to be disqualified, if he has made a misleading or false representation(s) in the forms, statements and attachments in proof of the qualifying requirements.

- b. The contractor or his identified sub-contractor should possess required valid electrical license for executing the electrification works and should have executed any electrical works for a minimum amount of 6% of estimated cost in any one year between 2014-15 to 2018-19.
- c. The contractor or his identified sub-contractor should have executed any water supply/sanitary Engineering works for a minimum for a minimum amount of 6% of estimated cost in any one year between 2014-15 to 2018-19.

B. Each bidder should further demonstrate

- a) Availability (either owned or by procurement against mobilization advances) of the key and critical equipment for this work given in Annexure-I of section-2 which is indicated the studies, carried out by client equipment to attain the completion of works in accordance with the prescribed work schedule.

The bidders should, however, undertake their own studies and furnish with their bid, a detailed planning and methodology as per their experience provided in clause 4.3(C) above in order to allow the employer to review their proposals. The numbers, types and capacities of each equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- b) Availability of personnel/ service engineer for this work with adequate experience as required; as per Annexure-II of Section-2.
- c) Liquid assets and/or availability of credit facilities of no less than amount indicated in para 5 of Appendix to ITB (Section-2) (credit lines/letter of credit/certificates from Banks for meeting the funds requirements etc.- usually the equivalent of the estimated cash flow for 3 months period.)

C. Deleted

4.5 Deleted

4.6 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Available Bid capacity} = (A * 3 * N - B)$$

where,

A = Maximum value of similar nature of works executed in any one year during the last five financial years between 2014-15 and 2018-19 (updated to the price level of the year indicated in para 15 of Appendix to ITB) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited up to two places of decimals.

B = Value (updated to the price level of the year as indicated in para 15 of Appendix to ITB) of existing commitments and ongoing works to be completed during the next 12 months.

Note:

1. The statements showing the value of existing commitments and on-going works as well as the stipulate period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of Executive Engineer or equivalent.
2. Escalation factor (for computing common base value for works completed) is given in para 15 of Appendix to ITB.

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

- made misleading or false representations in the forms, statements and attachments in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

5. One Bid per Bidder

5.1. Each bidder shall submit only one bid for one package. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

7. Site Visit

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for supply, installation, commissioning and operation & maintenance of the works. The costs of visiting the Site shall be at the Bidder's own expense.

7.2 General Terms and Conditions for E-tendering:

- a) The detail tender notice and Tender Document can be seen on website: <https://www.eproc.bihar.gov.in> and downloaded online from the Portal: <https://www.eproc.bihar.gov.in> by the Firms / Individual registered on the Portal.
- b) As the proposals are to be submitted online and are required to be encrypted and digitally signed, the Bidders are advised to obtain Digital Signature Certificate (DSC) at the earliest.
- c) The payment for Tender Document Fee shall be made by the bidder in the mode of Demand Draft in favour of "**Chief Executive Officer, BSCL**" and EMD shall be submitted in the form of DD/Bank Guarantee drawn in favour as mentioned above through the Nationalized/Scheduled bank only.
- d) The undersigned reserves the right to reject any or all the tenders without assigning any reason what so ever and no conditional and postal tenders will be accepted.
- e) If the date on which the tenders are to be received is declared a public holiday, the tender will be received on the next working day.
- f) The offer will remain valid up to 120 days from the due date of submission of tenders.
- g) Any amendment to a tender after opening of tender made by the tenderer according

to his own will is liable to be ignored altogether and such tenderer will be debarred from tendering for a period of six months

**Chief Executive Officer
Bhagalpur Smart City Limited
Bhagalpur (Bihar)**

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

8.1 The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 10:

Section	Particulars	Volume No.
1	Invitation for Bids (IFB) including Instructions to Bidders for Online Submission of Bids	
2	Instruction to Bidders	I
3	Qualification Information and other forms	
4	General Conditions of contract – General and Special Conditions of Contract	
5	Special Conditions of Contract & Additional Conditions of Contract	
6	Contract Data	
7	Technical Specifications	II
8	Form of bid	III
9	Price Bid	
10	Securities and other forms	
11	Drawings	IV
12	Documents to be furnished by bidder	V

8.2 Documents to be furnished by the bidder in compliance to Section 2 will be prepared by him in two parts viz Part 1 – Technical Bid, Part 2- Financial Bid and furnished as Volume- V in two parts (refer clause 12).

8.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms/ terms, technical specifications, price bid form, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 26 hereof, bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

9. Clarification of Bidding Documents

9.1 Clarification of Bidding Refer to sub Clause 9.2 of IFB

9.2 Pre-bid meeting

9.2.1 The bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as mentioned in NIT/ Corrigendum.

9.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.2.3 The bidder may request a clarification on any clause of the RFP documents up

to the Prebid query submission date and time indicated in the NIT/Corrigendum. Clarification should be submitted in the following table in excel format otherwise the queries shall not be entertained:

Sr. No.	RFP Page No.	Clause No.	Description as per RFP	Queries/ Suggestions

9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in sub-Clause 8.1 which may become necessary as a result of the pre- bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.

9.2.5 Non-attendance at the pre-bid meeting will not be a clause for disqualification of a bidder.

10. Deleted

11. Amendment of Bidding Documents

11.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda/corrigenda.

11.2 Any addendum/corrigendum thus issued shall form part of the bidding documents and shall be communicated in writing or by cable to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing or by cable to the Employer. The Employer will assume no responsibility for postal delays.

11.3 To give prospective bidders reasonable time to take appropriate action in accordance to the addendum/corrigendum while preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. PREPARATION OF BIDS

12. Language of the Bid

12.1 All documents relating to the bid shall be in English language.

13. Documents Comprising the Bid

13.1 The bid to be submitted by the bidder will be as Volume V of the bid document (refer Clause 8.1) and shall be in two separate parts viz part I and part II detailed below:

Part I shall be “Technical Bid” and shall comprise

- i. Bid security (Bank Guarantee etc.) in the form specified in Section 10.
- ii. Qualification Information and supporting documents as specified in Section 3.
- iii. Certificates, undertaking, affidavits as specified in Section 3.
- iv. Any other information pursuant to Clause 4.3 of these instructions.
- v. Undertakings that the bid shall remain valid for the period specified in Clause 15.1 of section -2

Part II shall be “Financial Bid” and shall comprise

- vi. Form of Bid as specified in Section 8.
- vii. Price Bid as specified in Section 9

13.2 Priced Bid for whole work as specified in Section 9, read together with clause 19.

The bidder shall submit bid online in the correct slot prescribed in the e-Procurement website by using digital signature.

13.3 Following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section	Particulars		Volume No.
1.	Invitation for Bids (IFB)		
2.	Instruction to Bidders		
3.	Qualification Information and other forms		
4 & 5.	Conditions of Contract (General and Special Conditions of Contract)		I
6.	Contract Data		
7.	Technical Specifications		II
8.	Form of Bid		III
9.	Price Bid		
10.	Securities and other forms		
11.	Drawings		IV
12.	Documents to be furnished by bidder		V

13.4 Bidders have to submit their bids as per below instructions otherwise it may result in the rejection of the Bid;

Name of Documents	Content	Mode of Submission
RFP Document fee & Bid Security/ Earnest Money Deposit (EMD)	RFP Document Fee receipt Bid Security/Earnest Money Deposit (EMD) receipt in Original.	Both Online and Hard Copy
All Declarations / Affidavit / Agreements / Authorisation	All Declarations / Affidavit / Agreements / Authorisation in Original.	Both Online and Hard Copy
Qualification Bid	All the documents for Submission of the Qualification Bid, its sub sections and any other applicable documents as per RFP.	Online Only
Technical Bid	All the documents for Submission of the Technical Bid, its sub sections and any other applicable documents as per RFP.	Online only
Financial Bid	All the formats for Submission of the Commercial Bid, its sub sections and any other applicable documents as per RFP.	Online Only

14. Bid Prices

- 14.1 The contract shall be for the whole works as described in Sub-Clause 1.1. and table given in IFB (Section-1) as per the price bid.
- 14.2 The bidder shall fill in rates both in figure and words. In case of any difference, the rate quoted in words will be taken as the quoted rate.
- 14.3 All taxes including GST payable by the contractor under the contract, or for any other cause shall be included in Bid Price submitted by the Bidder.
- 14.4 The prices quoted by the bidder shall not be changed up to 5% variation of quantity and beyond that contractor may claim for extra item after approval by client as this is a item rate contract to be completed in a time bound manner.

15. Currencies of Bid and Payment

- 15.1 14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payment shall be made in Indian Rupees.

16. Bid Validity

- 16.1 Bids shall remain valid for a period not less than 120 days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. In case of discrepancy in bid validity period between that given in the undertaking pursuant to clause 12.1 (indicated as sl.no v of Part 1- Technical Bid) and the Form of Bid submitted by the bidder, the latter shall be deemed to stand corrected in accordance with the former and the bidder has to provide for any additional security that is required.
- 16.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.
- 16.3 Bid evaluation will be based on the bid prices.

17. Bid Security

The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This bid security shall be in favour of Employer as named in Appendix and may be in one of the following forms:

- a) Receipt in challan of cash deposit in the Government Treasury in India.
- b) Demand Draft from any Nationalized/ Scheduled Indian Bank from any of the branches Nationalized / Scheduled Bank situated **within India, approved by the Reserve Bank of India.**
- c) Indian Post Office/Fixed Deposit/National Savings Certificates duly endorsed by the competent Postal Authority in India.
- d) Bank Guarantee from any from any Scheduled Indian Bank from any of the branches Nationalized / Scheduled Bank situated **within the territory of India** in the form given in Section 9.
- e) Fixed deposit receipt, a certified cheque or an irrevocable letter of credit, issued by any Nationalized/ Scheduled Indian Bank approved by the Reserve Bank of India.

17.1 Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall **be valid for 45 days beyond the validity of the bid.**

17.2 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non- responsive.

17.3 The Bid security of unsuccessful bidders will be returned within 30 days of the end validity period specified in sub-Clause 15.1.

17.4 The Bid security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

17.5 The Bid security may be forfeited

- a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
- b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
- c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - i) sign the Agreement; or
 - ii) Furnish the required Performance Security.

18. Alternative Proposals by Bidders

18.1 Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract (including mobilization advance or time for completion), basic technical design as

indicated in the drawing and specifications. **Conditional offer or alternative offers will not be considered further in the process of tender evaluation.**

19. Format and Signing of Bid

- 19.1 The bidder shall submit the bids as per “Instructions to Bidders for Online Submission of Bids”.
- 19.2 Instruction to Bidders to be followed. Bids submitted online should be digitally signed by the bidder.
- 19.3 Bidders shall follow the Method of submission of bid as mentioned in Instruction to Bidders and Instructions to Bidders for Online Submission of Bids.

D. SUBMISSION OF BIDS

20. Method of Submission

- 20.1 Bidders shall follow the Method of submission as per Instructions to Bidders for Online Submission of Bids given in Section-1 (IFB) in so far this bid is considered whose identification is given in item no. 10 Appendix to ITB.

21. Deadline for Submission of the Bids

- 21.1 Bidders shall follow the Method of online submission of bid as mentioned in Instruction to Bidders in section-1 and the bid should be submitted online latest by the date and time given at item 12 Appendix to ITB.
- 21.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

22. Late Bids

- 22.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned to the bidder.

23. Modification and Withdrawal of Bids

- 23.1 Bidders may modify or withdraw their bid(s) before the deadline prescribed in Clause 20 or pursuant to Clause 23.
- 23.2 Bidders shall follow the Method of submission modification & withdrawal of bid as mentioned in Instruction to Bidders (for SBD contract).
- 23.3 No bid may be modified after the deadline for submission of Bids except in pursuance of Clause 23.
- 23.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

E. BID OPENING AND EVALUATION

24. Bid Opening

24.1 The Employer will open all the Technical Bids submitted online including modification made pursuant to Clause 22, in the manner specified in Clause 20 and 23.3. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day. A notice for the same shall be posted on the website.

24.2 Evaluation of Bid

- i. Subject to confirmation of the bid security by the issuing bank, the bids accompanied with valid security will be taken up for evaluation with respect to the Qualification Information and other information furnished in Part I of the bid pursuant to ITB clause 12.1.
 - ii. After receipt of confirmation of the bid security, the bidder will be asked in writing/ e-mail (usually within 10 days of opening of the Technical Bid) to clarify his technical bid, if necessary, with respect to any rectifiable defects.
 - iii. The bidders will respond by e-mail in not more than 7 days of issue of the clarification letter, which will also indicate the date, time and venue of opening of the Financial Bid (usually on the 21st day of opening of the Technical bid)
 - iv. Immediately (usually within 3 or 4 days), on receipt of these clarifications the Evaluation Committee will finalize the list of responsive bidders whose financial bids are eligible for consideration.
- 24.3 After the technical evaluation, these will be put to the Employer, which will find technically responsive bids. The financial of those bids will be opened who are found technically responsive. The financial bids of remaining bidders will remain unopen.
- 24.4 In case bids are invited in more than one package, the order for opening of the “Financial Bid” shall be that in which they appear in the “Invitation for Bid”.
- 24.5 The Employer shall prepare disclose information regarding bid opening to those present.
- 24.6 The Employer shall open the bid and the information regarding bid opening may be disclosed to those present as representative of the bidder.

25. Process to be Confidential

- 25.1 Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his Bid.

26. Clarification of Financial Bids

- 26.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, justification, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price of substance of the Bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with ITB Clause-27.
- 26.2 Subject to ITB sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.
- 26.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

27. Examination of Bids and Determination of Responsiveness

- 27.1 During the detailed evaluation of 'Technical Bids', the Employer will determine whether each Bid:
- 27.1.1 meets the eligibility criteria defined in ITB Clause 3 and 4;
 - 27.1.2 has been properly signed digitally;
 - 27.1.3 is accompanied by the required securities; and
 - 27.1.4 is substantially responsive to the requirements of the bidding documents.
- During the detailed evaluation of the 'Financial Bid' the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e. price bid, technical specifications, and drawings.
- 27.2 A substantially responsive 'Financial Bid' is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under

the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

27.3 If a 'Financial Bid' is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

28. Correction of Errors

28.1 'Financial Bids' determined to be substantially responsive will be checked by the Employer for any arithmetical errors. Errors will be corrected by the Employer as follows:

- (a) where there is a discrepancy between the rates in figures and in word, the rate in words will govern; and
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

28.2 The amount stated in the 'Financial Bid' will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner:

- i. If the Bid price increases as a result of these corrections, the amount as stated in the bid will be the 'bid price' and the increase will be treated as rebate;
- ii. If the bid price decrease as a result of the corrections, the decreased amount will be treated as the 'bid price'. Such adjusted bid price shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid Security shall be forfeited in accordance with ITB Sub-clause 16.6(b).

29. Evaluation and Comparison of Financial Bids

29.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.

29.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- a) making any corrections for errors pursuant to clause 27; or
- b) making an appropriate adjustment for any other acceptable variations, deviations

- c) In case lowest quote is made by more than one bidder, then the bidder who has successfully completed and attached completion certificate while submitting online bid for more number of similar projects in the last 3 years would be awarded the work. Still, if there is a tie, lottery system will be followed to award the contract.

F. AWARD OF CONTRACT

30. Award Criteria

30.1 Subject to Clause 30, the Employer will award the Contract to the Bidder whose Bid has been determined

- i. to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid Price; and
- ii. to be within the available bid capacity adjusted to account for his bid price which is evaluated the lowest in any of the packages opened earlier than the one under consideration. In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at the L1 cost if accepted by next lowest bidder otherwise tender stands cancelled.

31. Employer's Right to Accept or Reject any Bid

31.1 Notwithstanding Clause 29, the Employer reserves the right to accept or reject any Bid, to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

31.2 After Award of contract, if the Bidder is found to have concealed any fact relevant to projects, the employer may blacklist the Bidder or Bidders within 180 days, with due process as -

- i. 3 Years Blacklisting for the Project Cost Rs. 1.00 Crore to Rs. 10.00 Crore
- ii. 5 Years Blacklisting for the Project Cost above Rs. 10.00 Crore to Rs. 100.00 Crore
- iii. 10 Years Blacklisting for the Project Cost above Rs. 100.00 Crore

32. Notification of Award and Signing of Agreement

32.1 The Bidder whose Bid has been accepted will be notified of the award by the employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by letter. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the contractor in consideration of the execution, completion, and maintenance of the Works by the contractor as prescribed by the contract (hereinafter and in the contract called the "Contract Price").

322 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 32.

323 The Agreement will incorporate all agreements between the Employer and the successful Bidder. This agreement will be signed only after furnishing of the performance security by the successful bidder but within 14 days of issue of Letter of Acceptance. The Employer will promptly notify the other bidders that their Bids have been unsuccessful.

33. Performance Security

33.1 Within 14 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance security in any of the forms given in 32.2 for an amount equivalent to 2% of the Contract price.

33.2 A bank guarantee from any of the branches of Nationalized/Scheduled Bank situated within territory of India in the form given in Section 10; or Certified Cheque / Bank Draft payable to employer as indicated in item no. 16 Appendix to ITB.

33.3 If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued from any of the branches of Nationalized/Scheduled Bank situated within the territory of India.

33.4 Failure of the successful Bidder to comply with the requirements of Sub-Clause 32.1 shall constitute grounds for cancellation of the award and forfeiture of the Bid Security.

32.5 The validity of the performance security is 28 days beyond the defect liability period.

34. Advance Payment and Security

The Employer will provide contractor an interest-bearing mobilization advance (as per CVC guidelines in this regard) on the Contract Price in two stages of 5 % each subject to maximum amount of 10% of contract price.

35. Corrupt or Fraudulent Practices

The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract with BSCL, UD & HD, Government of Bihar, and any other state agencies, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contract, or in execution of the work related to contract.

36. Dispute Resolution

The dispute arising between the employer and the contractor, if not resolved amicably shall be referred to appointed expert mediator of Bihar State Legal Services Authority (BSLSA). If the matter does not get resolved it will finally go for arbitration. Arbitration in such a case will be done in accordance to Indian Arbitration and Conciliation Act, 1996 and amended provisions thereof. The place of arbitration shall be Bhagalpur and the language of arbitration shall be English. This may be read in conjunction with clause 20.2 of Condition of Contract.

APPENDIX to ITB

S. No.	Description	Clause Reference with respect to Section- 2
1.	Name of the Employer is Chief Executive Officer, Bhagalpur Smart City Limited, Bhagalpur	[C1. 1.1]
2.	The last five years	[Cl. 4.5 A (a)]
	2014 – 2015	
	2015 – 2016	
	2016 – 2017	
	2017 – 2018	
	2018 – 2019	
3.	Minimum annual financial turnover amount is Rs 13, 41, 00, 000/- (Rupees Thirteen Crore Forty One Lacs Only) (all class of similar nature of work as defined in last five years)	[C1.4.5A(a)]
4.	Minimum work Completion Experience	[C1.4.5A(b)]
5.	Liquid assets and/or availability of credit facilities is 25 % of the estimated project cost.	[C1.4.5B(c) & Cl.4.3 (h)]
6.	Price level of the financial year 2019-20	[C1. 4.7]
7.	The pre-bid meeting will take place at – BSCL Office, Municipal Corporation, Court Compound, BSCL, Bhagalpur	[C1. 9.2.1]
8.	The Technical bid will be opened at BSCL Office, Bhagalpur	[C1 .23.1.]

9.	Address of the Employer: Bhagalpur Smart City Limited, Municipal Corporation, Court Compound, Bhagalpur		
10.	Submission of Bid:		[Cl. 19]
	Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract.		
11.	NIT No.		BSCL/Town Hall/2020/28
12.	The bid should be submitted online		[C1. 20.1]
13.	The bid will be opened at the time, date and venue mentioned in NIT		[C1.23.1]
14.	The Bank draft shall be in favor of Chief Executive Officer, Bhagalpur Smart City Limited Payable at - Bhagalpur		[C1.32.2]
15.	Escalation factors (For bringing the cost of works executed in different financial year to a common base value)		
	Years before	Multiply factor	
	2014-15	1.61	
	2015-16	1.46	
	2016-17	1.33	
	2017-18	1.21	
	2018-19	1.10	

ANNEXURE – I

List of Indicative Equipment to be supplied and installed on Contract work

[Reference C1. 4.5 (B) (a)]

1. Indicative list of equipment to be deployed

Sl.	Type of Equipment (leased or owned)	Maximum age as on 01.01.2019 (in Years)	Minimum no. of Equipment required
1.	Dozer	5	1
2.	Front end Loader	5	1
3.	Smooth Wheeled Roller	5	1
4.	Water Tank	5	1
5.	Bar Cutting Machine	5	4
6.	Bar Bending Machine	5	2
7.	Welding Machine	5	4
8.	Vibrator (Needle)	5	4
9.	Well-equipped Laboratory facility for quality test		One
10.	Transit Mixer with pumping arrangement	5	1
11.	Steel Prop	5	For 1000 Sqm
12.	Concrete Batching Plant (10 cum / hour)	5	1
13.	Steel Plate with fitting	5	For 1000 Sqm
14.	Staging pipe with fitting	5	For 1000 Sqm
15.	Cube Testing Machine (UTM)	5	1
16.	Cube Mould	5	50

ANNEXURE – II

List of Minimum Key Personal to be deployed on Contract Work by the Contract Agency:

[Reference C1.4.5 (B) (b)]

1. During Construction Period

Srl No	Role	Numbers	Minimum Qualification and experience
1	Project Manager	One	B.E/B.Tech/B.Sc. in Civil Engineering or equivalent with 15 Years Exp. (5 years as Project Manager)
2	Site Engineers	Two	B.E/B.Tech/Bsc. in Civil Engineering with 5 Years Exp. (including 3 years in Building Construction) or Diploma Civil with 10 Years Exp. (including 5 years in Building Construction)
3	Electrical Engineer cum HVAC Expert	One	B.E. Electrical + 5 Years Exp. Or Diploma in Electrical + 10 years Exp. Exposure in HVAC work of at least two projects
4	Acoustics Expert	One	B.E. Civil/ B.Arch + 7 Year Experience (including 2 years' experience in acoustics for audio Visual unit Establishment)
5	Quantity Surveyor	One	B.E/B.Tech/Bsc. in Civil Engineering with 5 Years Exp. Or Dip. Civ. + 7 years Exp.
6	Architect	One	B.Arch/ Bachelor in Town or Regional Planning with 3 Years' Experience.
7	Soil & Material Engineer and Quality Control Engineer	One	B.E/B.Tech/Bsc. in Civil Engineering with 5 years' experience in Quality Control Works

2. During Operation & Maintenance (O&M) Period

Srl No	Role	Numbers	Minimum Qualification and experience
1	Project Manager	One	<ul style="list-style-type: none"> • B.E. / B. Tech / B.Sc (Engg.) in any discipline + Master in Environmental Engineering or Equivalent (preferable) • 10 Years of Experience; with 2+ years of Experience as Project Manager •
2	Site Engineer	One	Graduate /Diploma Holders with experience of 2 years in Civil Works.
3	Electrical Engineer cum HVAC Expert	One	Graduate /Diploma Holders with experience of 2 years in Electrical Works. Exposure in HVAC work of at least two projects will be an added advantage
3	Mechanical Engineer	One	Graduate /Diploma Holders with experience of 2 years in mechanical works.

7	Support Staff	Eight	As per practice
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All the bio data of the proposed staffs shall be duly signed by the Authorized Signatory of the bidder.

SECTION 3

QUALIFICATION INFORMATION

&

OTHER FORMS

QUALIFICATION INFORMATION

The information to be filled in by the bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

1.1. Constitution or legal status of Bidder [Attach copy]

Place of registration:

Principal place of business:

Power of attorney of signatory of Bid [Attach]

1.2. Total value of similar nature of work performed in the last five financial years (in Rs. Lakhs)**

2014-15	
2015-16	
2016-17	
2017-18	
2018-19	

- 1.3. Work of similar nature performed as prime contractor, work performed in the past as a nominated sub- contractor will also be considered provided the sub-contract involved supply, installation, commissioning and operation & maintenance of all works which comes under similar projects, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature over the last five financial years (2014-15 to 2018-19) and the current financial year till date.

Project Name	Name of the Employer*	Description of Work	Contact Number	Value of Contract (Rs. Crore) (β)	Date of issue of Work Order	Period of Completion	Actual Time of Completion*	Remarks Explaining Reasons for Delay and Work Completed

* Attach certificate(s) from the Engineer(s)-in-Charge/EE/Employer. β Attached certificate from Chartered Accountant (CA)

In case lowest quote is made by more than one bidder, then the bidder who has successfully completed and attached completion certificate while submitting online bid for more number of similar projects in the last 3 years would be awarded the work. Still, if there is a tie, lottery system will be followed to award the contract.

1.4 Information on Bid capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A). Existing commitments and on-going works:

Description of works	Place & State	Contract No.	Name & Address of Employer	Value Contract (Rs Lakh)	Period of Completion	Value of Works* Of remaining To be completed (Rs Lakh)	Anticipated date of completion
1	2	3	4	5	6	7	8

* Attach certificate(s) from the Engineer(s)-in-Charge/EE/Employer. The item of work for which data is requested should tally with that specified in ITB clause 4.7.

(B). Works for which bids already submitted:

Description of work	Place & State	Name & Address of Employer	Estimated value of works (Rs Lakh)	period of completion	Date when decision is expected	Remarks If any
1	2	3	4	5	6	7

1.5 Availability of key items of Contractor's Equipment essential for carrying out the Works [ref. Clause 4.5(B)(a). The Bidder should list all the information requested below. Refer also to Sub Clause 4.3(d) of the Instructions to Bidders.

Item of Equipment	Requirement		Availability Proposals			Remarks (from whom to be purchased)
	No.	Capacity	To be procured	Nos. / Capacity	Age/ Condition	

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1.6 Qualifications and experience of key personnel required for administration and execution of the Contract [Ref. Clause 4.5(B)(b)]. Attach biographical data. Refer also to sub Clause 4.3 (e) of Instructions to Bidders.

Position	Name	Qualification	Years of Professional Experience	Years of experience in Proposed position

1.7 Proposed sub-contracts and firms involved. [Refer ITB Clause 4.3(k)]

Sanctions of the works	Value of Sub-contract	Sub-contractor (Name & Address)	Experience in similar Work

Attach copies of certificates on possession of valid license for electrification / [Reference Clause 4.5A(c) of ITB].

1.8 Financial reports for the last five financial years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies. (Attach certificate from Chartered Accountant)

1.9 Evidence of access to financial resources to meet the qualification requirements:

Cash in hand, lines of credit, etc. List them below and attach copies of

support documents.

1.10 Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.11 Information on litigation history of Past 7 financial years starting 2013-14 in which the Bidder is involved.

Other Party(ies)	Employer	Cause of Dispute	Amount involved	Remarks showing Present Status

1.12 Statement of compliance under the requirements of Sub Clause 3.2 of the Instructions to Bidders. (Name of Consultant engaged for project preparation is)

1.13 Proposed work methods and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 & 4.3 (a)]

1.14 Programme

1.15 Quality Assurance Programme

2. Additional Requirements.

2.1. Affidavit as provided in Section 3 of ITB

2.2. Undertaking as provided in Section 3 of ITB

2.3. Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.

2.4. Copy of letter of association in the form of agreement with subcontractor for the work defined or for any specialize /Engineering methodology work.

2.5. Note: Even though the bidder meets the above qualifying criteria, he is subject to be disqualified, if he has made a misleading or false representation(s) in the forms, statements and attachments in proof of the qualifying requirements.

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR
AVAILABILITY OF CREDIT FACILITIES**

(Clause 4.3 (g) OF ITB)

BANK CERTIFICATE

This is to certify that M/s. _____ is a reputed
Company with a good financial standing.

If the contract for the work, namely _____ is
awarded to the above firm, we shall be able to provide overdraft/credit facilities
to the extent of Rs. _____ to meet their working capital requirements for
executing the above contract during the contract period.

(Signature) Name of Bank

Senior Bank Manager
Address of the Bank

AFFIDAVIT

Also refer qualification information format para 2.1 in the same Section

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our firm M/S_____ have abandoned any work of **Bhagalpur Smart City Limited** or any contract awarded to us for such work have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department/Project implementing agency.

(Signed by an authorized Officer of the Firm)

Title of officer

Name of Firm

Date

UNDERTAKING

Also refer qualification information format para 2.2 in the same Section

I, the undersigned do hereby undertake that our firm M/s

would invest a minimum cash up to 25% of the value of the work during implementation of the Contract.

(Signed by an authorized Officer of the Firm)

Title of officer

Name of Firm

Date

SECTION 4

GENERAL CONDITIONS OF CONTRACT

General Conditions of Contract

ARTICLES

1. Definitions of Interpretation
2. Scope of Work
3. Obligation of the Contractor
4. Obligation of the Authority
5. Representation & Warranties
6. Disclaimer
7. Performance Security
8. Site of Project
9. Utilities & Trees
10. Design & Construction of the Project
11. Quality Assurance, Monitoring & Supervision
12. Completion Certificate
13. Change of Scope
14. Traffic Regulation
15. Defects Liability
16. Authority's Engineer
17. Financial Covenants
18. Insurance
19. Force Majeure
20. Suspension of Contractor's Rights
21. Termination
22. Assignment & Charges
23. Liability & Indemnity
24. Dispute Resolution
25. Miscellaneous
26. Definition

ARTICLE 1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 26) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- a. references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- b. references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- c. references to a “**person**” and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- d. the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- e. the words “**include**” and “**including**” are to be construed without limitation and shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- f. references to “construction” include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation,

installation, processing, fabrication, testing, and commissioning of the Project, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and “**construct**” or “**build**” shall be construed accordingly;

- g. references to “**development**” include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto during the Construction Period, and “develop” shall be construed accordingly;
- h. any reference to any period of time shall mean a reference to that according to Indian standard time;
- i. any reference to day shall mean a reference to a calendar day;
- j. reference to a “**business day**” shall be construed as reference to a day (other than a Sunday) on which banks in the State are generally open for business;
- k. any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- l. references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- m. any reference to any period commencing “from” a specified day or date and “**till**” or “**until**” a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- n. the words importing singular shall include plural and vice versa;
- o. references to any gender shall include the other and the neutral gender;
- p. “**lakh**” means a hundred thousand (100,000) and “**crore**” means ten million (10,000,000);
- q. “**indebtedness**” shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- r. references to the “**winding-up**”, “**dissolution**”, “**insolvency**”, or “reorganization” of a company or corporation shall be construed so as to

include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors;

- s. save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, licensee or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub-clause (s) shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;
- t. any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Authority's Engineer shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party or the Authority's Engineer, as the case may be, in this behalf and not otherwise;
- u. the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- v. references to Recitals, Articles, Clauses, Sub-clauses, Provisos or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses, Provisos and Schedules of or to this Agreement; reference to an Annex shall, subject to anything to the contrary specified therein, be construed as a reference to an Annex to the Schedule in which such reference occurs; and reference to a Paragraph shall, subject to anything to the contrary specified therein, be construed as a reference to a Paragraph of the Schedule or Annex, as the case may be, in which such reference appear;

the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "**Damages**"); and

- w. time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.

1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation

required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in three copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.

1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.

1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.

1.3 Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

1.4 Priority of agreements and errors/discrepancies

1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

1. this Agreement; and

all other agreements and documents forming part hereof or referred to herein;
i.e. this Agreement at (a) above shall prevail over the agreements and documents at (b).

1.4.2 Subject to the provisions of Clause 1.4.1, in case of ambiguities or discrepancies within this Agreement, the following shall apply:

- i. between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
- ii. between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- iii. between any two Schedules, the Schedule relevant to the issue shall prevail;
- iv. between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- v. between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
- vi. between any value written in numerals and that in words, the latter shall prevail.

1.5 Deleted

Part II

Scope of the Project

ARTICLE 2

SCOPE OF THE PROJECT

2.1 Scope of the Project

- i. Under this Agreement, the scope of the Project (the “**Scope of the Project**”) shall be defined as scope of work as indicated in Invitation for Bids (IFB) with the Specifications and Standards set forth in RFP.
- ii. Performance and fulfillment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.

ARTICLE 3

OBLIGATIONS OF THE CONTRACTOR

3.1 Obligations of the Contractor

- 3.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, and construction of the Project and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 3.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.
- 3.1.3 Save and except as otherwise provided in this Agreement or Applicable Laws, as the case may be, the Contractor shall, in discharge of all its obligations under this Agreement, conform with and adhere to Good Industry Practice at all times.
- 3.1.4 The Contractor shall remedy any and all loss or damage to the Project, occurring on or after the Appointed Date and until the date of Provisional Certificate, with respect to the Works completed prior to the issuance of the Provisional Certificate and/or Completion Certificate, with respect to the Works referred to in the Punch List, at its own cost, save and except to the extent that any such loss or damage shall have arisen from any default of the Authority or on account of a Force Majeure Event in which case the provisions of Clause 19 shall apply.
- 3.1.5 The Contractor shall remedy any and all loss or damage to the Project during the Defects Liability Period at its own cost, to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 15.3.
- 3.1.6 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:
- a. make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth and obtain and keep in force and effect such Applicable Permits in conformity with Applicable Laws;
 - b. procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes, know-how and systems used or incorporated into the Project;
 - c. make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;

- d. ensure and procure that its Sub-contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;
- e. always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner be violative of any of the provisions of this Agreement;
- f. support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;
- g. ensure that the Contractor and its Sub-contractors comply with the safety and welfare measures for labour in accordance with Applicable Laws and Good Industry Practice;
- h. keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, and Change of Scope Orders and other communications sent under this Agreement, and provide access to all these documents at all reasonable times to the Authority's Engineer and its authorised personnel;
- i. cooperate with other contractors employed by the Authority and personnel of any other public authority; and
- j. not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all the existing facilities within the Right of Way, irrespective of whether they are public or in the possession of the Authority or of others.

3.1.7 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.

3.2 The bidder should not outsource the whole contract to the sub-contractor. An undertaking from the bidder to be submitted.

3.3 Obligations relating to employment of foreign nationals

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/or its Sub-contractors and their sub-contractors shall be subject to grant of requisite regulatory permits and approvals including employment/residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor or any of its Sub-contractors or their sub-contractors shall not constitute Force Majeure Event, and shall not in any manner excuse the Contractor from the performance and

discharge of its obligations and liabilities under this Agreement.

3.4 Obligations relating to Contractor's personnel

- 341 The Contractor shall ensure and procure that the personnel engaged by it or by its Sub-contractors for performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Applicable Laws and Good Industry Practice.
- 342 The Authority's Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-contractor's personnel from the Project. Provided that any such direction issued by the Authority's Engineer shall specify the reasons for the removal of such person.
- 343 The Contractor shall, on receiving a direction from the Authority's Engineer under the provisions of Clause 3.4.2, ensure and procure the removal of such person or persons from the Project with immediate effect. The Contractor shall further ensure that such persons have no further connection with the Project.

3.5 Obligations relating to advertisement on Project

The Contractor shall not use the Project or any part thereof in any manner for branding or advertising purposes including for advertising any commercial product or services or companies.

3.6 Obligations relating to Contractor's care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of Works, and of Materials, goods and equipment for incorporation therein, on and from the Appointed Date and until the date of Provisional Certificate, with respect to the Works completed prior to the issuance of the Provisional Certificate, and/or Completion Certificate, with respect to the Works referred to in the Punch List, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

3.7 Obligations relating to electricity, water and other services

The Contractor shall be responsible for procuring of all power, water and other services that it may require for the Project.

3.8 Unforeseeable difficulties

Except as otherwise specified in the Agreement:

- a. the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;
- b. the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and
- c. the Scheduled Completion Date shall not be adjusted to take account of

any unforeseen difficulties or costs.

For the purposes of this Clause, unforeseeable difficulties include physical conditions like man-made or natural physical conditions including sub-surface and hydrological conditions which the Contractor encounters at the Site during execution of the Works.

ARTICLE 4

OBLIGATIONS OF THE AUTHORITY

4.1 Obligations of the Authority

- 4.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 4.1.2 The Authority shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for Testing of the completed Works.
- 4.1.3 The Authority shall, upon receiving the Performance Security under Clause 7.1.1, provide to the Contractor:
- a. the land for construction in accordance with the provisions of Clauses 8.2 and 8.3, within a period of 15 (fifteen) days from the date of this Agreement.
 - b. approval of the general arrangement drawings (the “**GAD**”) from BSCL authorities to enable the Contractor to start construction of Project in accordance with the Specifications and Standards, and subject to the terms and conditions specified in such approval, within a period of 30 (thirty) days from the Appointed Date; and
 - c. all environmental and forest clearances as required under Clause 4.3.
- 4.1.4 Deleted.
- 4.1.5 Notwithstanding anything to the contrary contained in this Agreement, the Parties expressly agree that the aggregate Damages payable under Clauses 4.1.4, 8.3 and 9.2 shall not exceed 3% (three percent) of the Contract Price. For the avoidance of doubt, the Damages payable by the Authority under the aforesaid Clauses shall not be additive if they arise concurrently from more than one cause but relate to the same part of the Project.
- 4.1.6 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and Applicable Laws, the following:
- d) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;
 - e) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favorable than those generally available to commercial customers receiving substantially equivalent services;

- f) procure that no barriers that would have a material adverse effect on Works are erected or placed on or about the Project by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security or law and order;
- g) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- h) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and
- i) upon written request from the Contractor and subject to the provisions of Clause 3.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor or its Sub-contractors to obtain applicable visas and work permits for the purposes of discharge by the Contractor or its Sub-contractors of their obligations under this Agreement and the agreements with the Sub-contractors.

4.2 Deleted

4.3 Obligations relating to Environmental and Forest Clearances

All the clearances shall be taken by selected bidder from the competent authority such as Ministry of Environment and Forest (MoEF)/ Central Pollution Control Board/ State Pollution Control Board etc.

ARTICLE 5

REPRESENTATIONS AND WARRANTIES

5.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

- a) it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- b) it has taken all necessary corporate and other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would

adversely affect the performance of its obligations under this Agreement;

- i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith;
- l) all information provided by the {selected bidder} in response to the Request for Qualification and Request for Proposals or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects;
- m) all undertakings and obligations of the Contractor arising from the Request for Qualification and Request for Proposals or otherwise shall be binding on the Contractor as if they form part of this Agreement; and
- n) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-contractors, designers, consultants or agents of the Contractor.

5.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

- a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- b) it has taken all necessary actions under Applicable Laws to authorize the execution, delivery and performance of this Agreement;
- c) it has the financial standing and capacity to perform its obligations under this Agreement;
- d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement:

- f) it has complied with Applicable Laws in all material respects;
- g) it has good and valid right to the Site and has the power and authority to grant the site in respect thereof to the Contractor; and
- h) it shall have procured, as on the Appointed Date, site so that the Contractor can commence.

5.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

ARTICLE 6

DISCLAIMER

6.1 Disclaimer

- 61.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Qualification, Request for Proposals, Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 4.1.2 and Clause 5.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.
- 61.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 61.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 61.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above shall not vitiate this Agreement, or render it voidable.
- 61.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 6.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 61.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof.

ARTICLE 7

PERFORMANCE SECURITY

7.1 Performance Security

7.1.1 The Contractor shall, for the performance of its obligations hereunder, provide to the Authority, within 21 (twenty one) days of the date of this LoI/LoA, an irrevocable and unconditional guarantee, for an amount equal to 2% (two percent) of the Contract Price, from a Bank in the form set forth in Annex-I of Schedule-F (the “**Performance Security**”). The Performance Security shall be valid until 28 (twenty eight) days of the expiry of the Defects Liability Period specified in Clause 15.1.1. Until such time the Performance Security is provided by the Contractor pursuant hereto and the same comes into effect, the Bid Security shall remain in force and effect, and upon such provision of the Performance Security, the Authority shall release the Bid Security to the Contractor. For the avoidance of doubt, the Parties expressly agree that the Contractor shall provide, no later than 30 (thirty) days prior to the expiry of the Performance Security for the Defects Liability Period specified in Clause 15.1.1, a Performance Security in respect of the extended Defects Liability Period, as specified in Clause 15.1.2, for an amount equal to 2% (two percent) of the contract price.

7.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of Clause 7.1.1 and within the time specified therein or such extended period as may be provided by the Authority, in accordance with the provisions of Clause 7.1.3, the Authority may encash the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.

7.1.3 In the event the Contractor fails to provide the Performance Security within 21 (twenty one) days of the date of this Agreement, it may seek extension of time for a period not exceeding a further 15 (fifteen) days on payment of Damages for such extended period in a sum calculated at the rate of 0.05% (zero point zero five percent) of the Contract Price for each day until the Performance Security is provided.

7.2 Extension of Performance Security

The Contractor may initially provide the Performance Security for a period of 15 months; provided that it shall procure the extension of the validity of the

Performance Security, as necessary, at least 2 (two) months prior to the date of expiry thereof. Upon the Contractor providing an extended Performance Security, the previous Performance Security shall be deemed to be released and the Authority shall return the same to the Contractor within a period of 7 (seven) business days from the date of submission of the extended Performance Security.

7.3 Appropriation of Performance Security

73.1 Upon occurrence of a Contractor Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate from the Performance Security the amounts due to it as Damages for the Contractor's Default.

73.2 Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Authority shall be entitled to terminate the Agreement in accordance with Article 21. Upon such replenishment or furnishing of a fresh Performance Security, as the case may be, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor Default, and in the event of the Contractor not curing its default within such Cure Period, the Authority shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 21.

7.4 Release of Performance Security

The Authority shall release the Performance Security within 60 (sixty) days of the expiry of the Defects Liability Period or the extended Defects Liability Period, as the case may be, under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the Performance Security until all Defects identified during the Defects Liability Period or the extended Defects Liability Period, as the case may be, have been rectified.

7.5 Retention Money

75.1 From every payment for Works due to the Contractor in accordance with the provisions of Clause 17.5, the Authority shall deduct 9% (nine percent) thereof as guarantee money for performance of the obligations of the Contractor during the Construction Period (the "**Retention Money**") subject to the condition that the maximum amount of Retention Money shall not exceed 8% (eight percent) of the Contract Price.

75.2 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the

relevant amounts from the Retention Money as Damages for such Contractor's Default.

- 753 On completion of the whole work half of the total retention money shall be released to the contractor and balance half will be paid after completion of Defect Liability period provided that all defects notified by Engineer as rectified by Contractor and Engineer has issued certificate for the same (Annex-II of Schedule-F).
- 754 Within 15 (fifteen) days of the date of issue of the Completion Certificate, the Authority shall discharge the bank guarantees, if any, furnished by the Contractor under the provisions of Clause 7.5.3 and refund the balance of Retention Money remaining with the Authority after adjusting the amounts appropriated under the provisions of Clause 7.5.2 and the amounts refunded under the provisions of Clause 7.5.3.
- 755 The Parties agree that in the event of Termination of this Agreement, the Retention Money and the bank guarantees specified in this Clause 7.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 21.6.

ARTICLE 8
SITE OF PROJECT

8.1 The Site

The site of the Project (the “**Site**”) shall comprise the site described in respect of which the land shall be provided by the Authority to the Contractor. The Authority shall be responsible for acquiring and providing land on the Site in accordance with the [alignment] finalized by the Authority, free from all encroachments and encumbrances, and free access thereto for the execution of this Agreement.

8.2 Deleted

8.3 Deleted.

8.4 Deleted.

8.5 Deleted.

8.6 Deleted

8.7 Deleted

8.8 Geological and archaeological finds

It is expressly agreed that mining, geological or archaeological rights do not form part of this Agreement with the Contractor for the Works, and the Contractor hereby acknowledges that it shall not have any mining rights or interest in the underlying minerals, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Site shall vest in and belong to the Authority or the concerned Government Instrumentality. The Contractor shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Authority forthwith of the discovery thereof and comply with such instructions as the Authority or the concerned Government Instrumentality may reasonably give for the removal of such property. For the avoidance of doubt, it is agreed that any reasonable expenses incurred by the Contractor hereunder shall be reimbursed by the Authority. It is also agreed that the Authority shall procure that the instructions hereunder are issued by the concerned Government Instrumentality within a reasonable period so as to enable the Contractor to continue its Works with such modifications as may be deemed necessary.

ARTICLE 9
UTILITIES AND TREES

9.1 Deleted.

9.2 Deleted.

9.3 New utilities

931 The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct the Project in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.

932 In the event the construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Authority's Engineer in accordance with the provisions of Clause 10.4.

933 The Authority may, by notice, require the Contractor to connect any adjoining road to the Project, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Authority's cost in accordance with Article 10.

934 Deleted.

9.4 Felling of trees

The Authority shall assist the Contractor in obtaining the Applicable Permits for felling of trees to be identified by the Authority for this purpose if and only if such trees cause a Material Adverse Effect on the construction of the Project. The cost of such felling and of the compensatory plantation of trees, if any, shall be borne by the Selected Bidder. In the event of any delay in felling thereof for reasons beyond the control of the Contractor; it shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. The Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate. For the avoidance of doubt, the Parties agree that if any felling of trees result any period of delay in providing the Applicable Permits, the Contractor shall be entitled to Time Extension.

ARTICLE 10

CONSTRUCTION AND OPERATION MAINTENANCE OF THE PROJECT

10.1 Obligations prior to commencement of Works

10.1.1 Within 20 (twenty) days of the Appointed Date, the Contractor shall:

- i) appoint its representative, duly authorised to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;
- ii) appoint a service engineer (the “**Service Engineer**”) who will head the Contractor’s supply, installation and commissioning unit and shall be responsible for supply, installation and commissioning;
- iii) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, Applicable Laws and Applicable Permits; and
- iv) make its own arrangements for quarrying of materials and procurement needed for the Project under and in accordance with Applicable Laws and Applicable Permits.

10.1.2 The Authority shall, within 15 (fifteen) days of the date of this Agreement, appoint an engineer (the “**Authority’s Engineer**”) to discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address and the date of appointment of the Authority’s Engineer forthwith.

10.1.3 Within 30 (thirty) days of the Appointed Date, the Contractor shall submit to the Authority and the Authority’s Engineer a programme (the “**Programme**”) for supply, installation and commissioning works and giving the following details:

Part I Contractor’s organization for the Project, the general methods and arrangements for construction, environmental management plan, Quality Assurance Plan including design quality plan, traffic management and safety plan covering safety of users and workers during construction, Contractor’s key personnel, and equipment.

Part II Programme for completion of all stages of construction and Project Milestones of the Works as specified in Project Completion Schedule set forth in Schedule-I. The Programme shall include:

- i. the order in which the Contractor intends to carry out the Works, including the anticipated timing of design and stages of Works;
- ii. the periods for reviews under Clause 10.2; and

- iii. the sequence and timing of inspections and tests specified in this Agreement.

The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations.

Part III Monthly cash flow forecast for the Project.

For the avoidance of doubt, the Contractor acknowledges and agrees that the Authority may, within a period of 15 (fifteen) days of receipt of the Programme, convey its comments to the Contractor stating the modifications, if any, required for compliance with the provisions of this Agreement, and the Contractor shall carry out such modifications, to the extent required for conforming with the provisions of this Agreement.

10.1.4 The Contractor shall compute, on the basis of the Drawings prepared in accordance with Clause 10.2.7, and provide to the Authority's Engineer, the length, area and numbers, as the case may be, in respect of the various items of work specified and comprising the Scope of the Project. The Parties expressly agree that these details shall form the basis for estimating the interim payments for the Works in accordance with the provisions of Clause 17.3. For the avoidance of doubt, the sum of payments to be computed in respect of all the items of work shall not exceed the Contract Price, as may be adjusted in accordance with the provisions of this Agreement.

10.1.5 The Contractor shall appoint a safety consultant (the "**Safety Consultant**") to carry out safety audit at the design stage of the Project in accordance with Applicable Laws and Good Industry Practice. The Safety Consultant shall be appointed after proposing to the Authority a panel of 3 (three) names of qualified and experienced firms from which the Authority may choose 1 (one) to be the Safety Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of 3 (three) names for obtaining the consent of the Authority. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant. For the avoidance of doubt, the Parties agree that no firm or person having any conflict of interest shall be engaged hereunder. The Parties further agree that any assignments completed at least 3 (three) years prior to the appointment hereunder shall not be reckoned for the purposes of conflict of interest.

10.1.6 The safety audit pursuant to Clause 10.1.5 shall be carried out by the Safety Consultant in respect of all such design details that have a bearing on safety of Users as well as pedestrians and animals involved in or associated with accidents. The recommendations of the Safety Consultant shall be incorporated in the design of the Project and the Contractor shall forward to the Authority's Engineer a certificate to

this effect together with the recommendations of the Safety Consultant. In the event that any works required by the Safety Consultant shall fall beyond the scope, the Contractor shall make a report thereon and seek the instructions of the Authority for Change in Scope. For the avoidance of doubt, the Safety Consultant to be engaged by the Contractor shall be independent of the design and implementation team of the Contractor.

10.2 Deleted

10.3 Construction of the Project

10.3.1 The Contractor shall construct the Project in conformity with the Specifications and Standards set forth in this RFP. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works. The 15 months from the Appointed Date shall be the scheduled completion date (the “**Scheduled Completion Date**”) and the Contractor agrees and undertakes that the construction shall be completed on or before the Scheduled Completion Date, including any extension thereof.

10.3.2 The Contractor shall construct the Project in accordance with the Project Completion Schedule set forth in Schedule-I. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date within a period of 30 (thirty) days from the date set forth in Schedule-I, unless such failure has occurred due to Force Majeure or for reasons attributable to the Authority, it shall pay Damages to the Authority in a sum calculated at the rate of 0.05% (zero point zero five per cent) of the Contract Price for delay day reckoned from the date specified in Schedule - I and until such Project Milestone is achieved or the Works are completed; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-I shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-I has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, the Damages paid under this Clause 10.3.2 shall be refunded by the Authority to the Contractor, but without any interest thereon. For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 10.3.2 shall be without prejudice to the rights of the Authority under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected Works as specified in Clause 10.4.2.

10.3.3 The Authority shall notify the Contractor of its decision to impose Damages in pursuance of the provisions of this Clause 10.3. Provided, however, that no deduction on account of Damages shall be effected by the Authority without taking into consideration the representation, if any, made by the Contractor within 20 (twenty) days of such notice. The Parties expressly agree that the total amount of

Damages under Clause 10.3.2 shall not exceed 5% (five percent) of the Contract Price.

10.4 Extension of time for completion

10.4.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the “**Time Extension**”) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

- a) delay in providing site, environmental clearances specified in Clause 4.1.4;
- b) Change of Scope, unless an adjustment to the Scheduled Completion Date has been agreed under Article 13;
- c) occurrence of a Force Majeure Event;
- d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority’s personnel or the Authority’s other contractors on the Site; and
- e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.4.2 The Contractor shall, no later than 15 (fifteen) business days from the occurrence of an event or circumstance specified in Clause 10.4.1, inform the Authority’s Engineer by notice in writing, with a copy to the Authority, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected thereby.

10.4.3 In the event of the failure of the Contractor to issue to the Authority’s Engineer a notice in accordance with the provisions of Clause 10.4.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right to any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this Clause 10.4.3, the

Authority shall be discharged from all liability in connection therewith.

10.4.4 The Authority's Engineer shall, on receipt of a claim in accordance with the provisions of Clause 10.4.2, examine the claim expeditiously within the time frame specified herein. In the event the Authority's Engineer requires any clarifications to examine the claim, the Authority's Engineer shall seek the same within 15 (fifteen) days from the date of receiving the claim. The Contractor shall, on the receipt of the communication of the Authority's Engineer requesting for clarification, furnish the same to the Authority's Engineer within 10 (ten) days thereof. The Authority's Engineer shall, within a period of 30 (thirty) days from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension. For the avoidance of doubt, the Parties agree that the Authority's Engineer shall, in accordance with the provisions of this Agreement, notify the Contractor of the aforesaid Time Extension no later than 60 (sixty) days from the date of receipt of the Contractor's claim for Time Extension.

Provided that when determining each extension of time under this Clause 10.4, the Authority's Engineer shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

10.4.5 If the event or circumstance giving rise to the notice has a continuing effect:

- f) the detailed claim shall be considered as interim;
- g) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Authority's Engineer may reasonably require; and
- h) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Authority's Engineer shall examine and determine the same in accordance with the provisions of Clause 10.4.4 within a period of 60 (sixty) days of the receipt thereof.

10.5 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavour to complete the balance work expeditiously and shall pay Damages to the Authority in accordance with the provisions of Clause 10.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination under Clause 21.1.

ARTICLE 11

QUALITY ASSURANCE, MONITORING AND SUPERVISION

11.1 Quality of Materials and workmanship

- 11.1.1 The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.
- 11.1.2 The Contractor warrants that all Materials shall be new, unused, not reconditioned and in conformity with Specification and Standards, Applicable Laws and Good Industry Practice, and that the Contractor shall not use any materials which are generally recognized as being deleterious under Good Industry Practice.

11.2 Quality control system

- 11.2.1 The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the “**Quality Assurance Plan**” or “**QAP**”).
- 11.2.2 The Contractor shall, within 30 (thirty) days of the Appointed Date, submit to the Authority’s Engineer its Quality Assurance Plan which shall include the following:
- i) organization, duties and responsibilities, procedures, inspections and documentation;
 - ii) quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications and Standards and Good Industry Practice; and
 - iii) internal quality audit system.
- The Authority’s Engineer shall convey its comments to the Contractor within a period of 21 (twenty-one) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 11.2.
- 11.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets, Materials and workmanship in accordance with the Quality Assurance Plan.
- 11.2.4 The cost of testing of Construction, Materials and workmanship under this Article 11 shall be borne by the Contractor.

11.3. Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of work, submit to the Authority’s Engineer for review the methodology proposed to be adopted for

executing the Works, giving details of equipment to be deployed, traffic management and measures for ensuring safety. The Authority's Engineer shall complete the review and convey its comments, if any, to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

11.4. Inspection and technical audit by the Authority

The Authority or any representative authorized by the Authority in this behalf may inspect and review the progress and quality of the Works and issue appropriate directions to the Authority's Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

11.5 External technical audit

At any time during construction, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority's Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 11.5, the external technical audit shall not affect any obligations of the Contractor or the Authority's Engineer under this Agreement.

11.6 Inspection of construction records

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

11.7 Monthly progress reports

During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Authority and the Authority's Engineer a monthly report on the progress of Works and shall promptly give such other relevant information as may be required by the Authority's Engineer.

11.8 Inspection

11.8.1 The Authority's Engineer and its authorized representative shall at all times:

- iv) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and
- v) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

11.8.2 The Contractor shall give the Authority's Engineer and its authorized agents access, facilities and safety equipment for carrying out their obligations under this Agreement.

11.8.3 The Authority's Engineer shall submit a monthly inspection report (the "**Inspection**

Report”) to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Authority’s Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

11.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Authority’s Engineer for review:

- vi) manufacturer’s test reports and standard samples of manufactured Materials; and
- vii) samples of such other Materials as the Authority’s Engineer may require.

11.10 Tests

11.10.1 For determining that the Works conform to the Specifications and Standards, the Authority’s Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The Contractor shall, with due diligence, carry out all the tests in accordance with the Agreement and furnish the results thereof to the Authority’s Engineer. Of the total tests for each category or type to be undertaken by the Contractor under the provisions of this Agreement and Good Industry Practice, the Authority’s Engineer shall (a) carry out or cause to be carried out, test checks equal to about 10% (ten percent) of the number of the tests required to be undertaken by the Contractor; and (b) witness or participate in at least 10% (ten percent) of the number of such tests conducted or caused to be conducted by the Contractor.

11.10.2 In the event that results of any tests conducted under this Clause 11.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Authority’s Engineer in this behalf. The Authority’s Engineer shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and the remedial measures in pursuance thereof shall be solely borne by the Contractor.

11.11 Examination of work before covering up

In respect of the work which the Authority’s Engineer is entitled to examine, inspect, measure or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Authority’s Engineer whenever any such work is ready and before it is covered up. The Authority’s Engineer shall then either carry out the examination, inspection or testing without

unreasonable delay, or promptly give notice to the Contractor that the Authority's Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Authority's Engineer to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Authority's Engineer within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Authority's Engineer, the Contractor shall be entitled to assume that the Authority's Engineer would not undertake the said inspection.

11.12 Rejection

- 11.12.1 If, as a result of an examination, inspection, measurement or testing, any Plant, Material, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Authority's Engineer may reject such Plant, Material, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.
- 11.12.2 If the Authority's Engineer requires the Plant, Material, design or workmanship to be retested, the tests shall be repeated on the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such costs shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.
- 11.12.3 The Contractor shall not be entitled to any extension of time on account of rectifying any Defect or retesting as specified in this Clause 11.12.
- 11.12.4 No examination, inspection, measurement or testing of any Plant, Material, design or workmanship by the Authority's Engineer or its failure to convey its observations or to examine, inspect, measure or test shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority be liable for the same in any manner.

11.13 Remedial work

- 11.13.1 Notwithstanding any previous test or certification, the Authority's Engineer may instruct the Contractor to:
1. remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
 2. remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
 3. execute any work which is urgently required for the safety of the Project, whether because of an accident, unforeseeable event or otherwise; provided

that in case of any work which is required on account of a Force Majeure Event, the provisions of Clause 19.6 shall apply.

11.13.2 If the Contractor fails to comply with the instructions issued by the Authority's Engineer under Clause 11.13.1, within the time specified in the Authority's Engineer's notice or as mutually agreed, the Authority's Engineer may advise the Authority to have the work executed by another agency. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.14 Delays during construction

Without prejudice to the provisions of Clause 10.3.2, in the event the Contractor does not achieve any of the Project Milestones within the time period stipulated in Schedule I or the Authority's Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Project is not likely to be achieved by the end of the Scheduled Completion Date, it may notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Authority's Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

11.15 Quality control records and Documents

The Contractor shall hand over to the Authority's Engineer a copy of all its quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2.

11.16 Video recording

During the Construction Period, the Contractor shall provide to the Authority for every calendar quarter, a video recording, which will be compiled into a 3 (three) hour digital video disc or any substitute thereof, covering the status and progress of Works in that quarter. The video recording shall be provided to the Authority no later than 15 (fifteen) days after the close of each quarter after the Appointed Date.

11.17 Suspension of unsafe Construction Works

11.17.1 Upon recommendation of the Authority's Engineer to this effect, or on its own volition in cases of emergency or urgency, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Authority's Engineer or the Authority, as the case may be, such work threatens the safety of the Users and or other persons on or about the Project. Provided, however, that in case of an emergency, the Authority may *suo moto* issue the notice referred to hereinabove.

11.17.2 The Contractor shall, pursuant to the notice under Clause 11.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by

the Authority and thereupon carry out remedial measures to secure the safety of suspended works, the Users, other persons and vehicles on or about the Project including pedestrians. The Contractor may by notice require the Authority's Engineer to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Authority's Engineer, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 11.17 shall be repeated until the suspension hereunder is revoked.

11.17.3 Subject to the provisions of Clause 19.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the "Preservation Costs"), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.

11.17.4 If suspension of Works is for reasons not attributable to the Contractor, the Authority's Engineer shall determine any Time Extension to which the Contractor is reasonably entitled in accordance with the provisions of Clause 10.4.

ARTICLE 12

COMPLETION CERTIFICATE

12.1 Tests on completion

12.1.1 No later than 30 (thirty) days prior to the likely completion of the Project, or a Section thereof, the Contractor shall notify the Authority's Engineer of its intent to subject the Project or a Section thereof, to Tests. The date and time of each of the Tests shall be determined by the Authority's Engineer in consultation with the Contractor, and notified to the Authority who may designate its representative to witness the Tests. The Contractor shall either conduct the Tests as directed by the Authority's Engineer or provide such assistance as the Authority's Engineer may reasonably require for conducting the Tests. For the avoidance of doubt, the Parties agree that in the event of the Contractor and the Authority's Engineer failing to mutually agree on the dates for conducting the Tests, the Contractor shall fix the dates by giving not less than 10 (ten) days' notice to the Authority's Engineer, and in the event the Authority's Engineer delays the Tests hereunder, the Authority shall impose exemplary penalties on the Authority's Engineer and shall ensure that Tests are completed in time either by the Authority's Engineer or any substitute thereof.

12.1.2 All Tests shall be conducted in accordance with Schedule-J at the cost and expense of the Contractor. The Authority's Engineer shall observe, monitor and review the results of the Tests to determine compliance of the Project or a Section thereof, with Specifications and Standards and if it is reasonably anticipated or determined by the Authority's Engineer during the course of any Test that the performance of the Project or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify any Defect or deficiency. Upon completion of each Test, the Authority's Engineer shall provide to the Contractor and the Authority copies of all Test data including detailed Test results. For the avoidance of doubt, the Parties expressly agree that the Authority's Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project or Section thereof with the Specifications and Standards.

12.2 Provisional Certificate

12.2.1 Subject to the provisions of Clause 12.2.5, upon completion of all Works forming

part of the Project, save and except the Works for which Time Extension has been granted under Clause 10.5, the Authority's Engineer shall, at the request of the Contractor, issue a provisional certificate of completion substantially in the form set forth in Schedule-K (the "**Provisional Certificate**") if the Tests for and in respect of the completed Works are successful. The Provisional Certificate shall have appended thereto a list of outstanding items of work (the "**Punch List**") that need to be completed in accordance with the provisions of this Agreement. The Contractor undertakes to complete the minor outstanding items of works in respect of those Sections of the Project for which the Provisional Certificate has been issued, within a period of 30 (thirty) days of the date of Provisional Certificate, and those parts of the Works in respect of which Time Extension has been granted, within the extended period thereof. For the avoidance of doubt, the Parties agree that the Punch List shall include all Works for which Time Extension has been granted and shall also include any minor outstanding items of work forming part of the completed Sections if such works do not materially affect the use of the completed Sections for their intended purpose. The Parties further agree that Provisional Certificate shall not be issued if the completed Works cannot be safely and reliably placed in service of the Users thereof.

- 12.2.2 Upon issue of Provisional Certificate, the provisions of Article 15 shall apply to the completed parts of the Project and the property and ownership of all such completed Works shall vest in the Authority.
- 12.2.3 If the Authority's Engineer determines that the Project or any completed part thereof does not conform to the provisions of this Agreement and cannot be safely and reliably placed in operation, it shall forthwith make a report in this behalf and send copies thereof to the Authority and the Contractor and withhold issuance of the Provisional Certificate until the Defects or deficiencies are rectified by the Contractor and Tests are successful in accordance with this Article 12.
- 12.2.4 Notwithstanding anything to the contrary contained in Clause 12.2.3, the Authority may, at any time after receiving a report from the Authority's Engineer under that Clause, direct the Authority's Engineer to issue a Provisional Certificate under Clause 12.2.1 and such direction shall be complied forthwith.
- 12.2.5 No Provisional Certificate shall be issued under the provisions of this Clause 12.2 until the Contractor has submitted valid claims for payment of at least 80% (eighty percent) of the amount arrived at after reducing the lump sum price specified in Clause 17.1.1 by the amount attributable to works which have been withdrawn under the provisions of Clause 8.3.3. For the avoidance of doubt and by way of illustration, the Parties agree that if the Contract Price specified in Clause 17.1.1 is Rs.105 cr. (Rs. one hundred and five crore) and the works withdrawn under Clause 8.3.3 have a value of Rs.5 cr. (Rs. five crore), a Provisional Certificate shall not be issued until valid claims for payment of an amount of Rs.80 cr. (Rs. eighty crore) have been submitted by the Contractor in accordance with the provisions of this Agreement. It

is further agreed that all price adjustments made in pursuance of Clause 17.10 shall not be reckoned for computation of the claims for payments referred to in this Clause 12.2.5. It is also agreed that any Change of Scope effected within 30 (thirty) days of the Appointed Date shall be reckoned for the purposes of determining the Contract Price hereunder.

12.3 Completion of remaining Works

All items in the Punch List shall be completed by the Contractor in accordance with the provisions of this Agreement. For any delay in their completion other than for the reasons attributable to the Authority or due to Force Majeure, the Authority shall be entitled to recover Damages from the Contractor in accordance with the provisions of Clause 10.3.2 of this Agreement.

12.4 Completion Certificate

12.4.1 Upon completion of all Works, including the items specified in the Punch List, and the Authority's Engineer determining the Tests to be successful, it shall forthwith issue to the Contractor and the Authority a certificate substantially in the form set forth in Schedule-K (the "**Completion Certificate**").

12.4.2 Upon receiving the Completion Certificate, the Contractor shall remove its equipment, materials, debris and temporary works from the Site within a period of 30 (thirty) days thereof, failing which the Authority may remove or cause to be removed, such equipment, materials, debris and temporary works and recover from the Contractor an amount equal to 120% (one hundred and twenty percent) of the actual cost of removal incurred by the Authority.

12.4.3 Without prejudice to the obligations of the Contractor specified in Article 15, the property and ownership of all the completed Works forming part of the Project shall vest in the Authority.

12.5 Rescheduling of Tests

If the Authority's Engineer certifies to the Authority and the Contractor that it is unable to issue the Completion Certificate or Provisional Certificate, as the case may be, because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Contractor shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

ARTICLE 13
CHANGE OF SCOPE

13.1 Change of Scope

13.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications or alterations to the Works (“**Change of Scope**”) before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article 13.

13.1.2 Change of Scope shall mean:

- 1) change in specifications of any item of Works;
- 2) omission of any work from the Scope of the Project except under Clause 8.3.3; provided that, subject to Clause 13.5, the Authority shall not omit any work under this Clause in order to get it executed by any other entity; or
- 3) any additional work, Plant, Materials or services which are not included in the Scope of the Project, including any associated Tests on completion of construction.

13.1.3 If the Contractor determines at any time that a Change of Scope will, if adopted,

(i) accelerate completion, (ii) reduce the cost to the Authority of executing, maintaining or operating the Project, (iii) improve the efficiency or value to the Authority of the completed Project, or (iv) otherwise be of benefit to the Authority, it shall prepare a proposal with relevant details at its own cost. The Contractor shall submit such proposal, supported with the relevant details including the amount of reduction in the Contract Price, if any, to the Authority to consider such Change of Scope. The Authority shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefor in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision. For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without a Change of Scope Order being issued by the Authority, save and except any Works necessary for meeting any Emergency.

13.2 Procedure for Change of Scope

13.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Authority’s Engineer to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated thereunder (the “**Change of Scope Notice**”).

13.2.2 Upon receipt of a Change of Scope Notice, the Contractor shall, with due diligence,

provide to the Authority and the Authority's Engineer such information as is necessary, together with preliminary documentation in support of:

- a) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the works or services are required to be carried out during the Construction Period; and
- b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including the following details:
- c) break down of the quantities, unit rates and cost for different items of work;
- d) proposed design for the Change of Scope; and
- e) proposed modifications, if any, to the Project Completion Schedule of the Project. For the avoidance of doubt, the Parties expressly agree that, subject to the provisions of Clause 13.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of Change of Scope.

13.2.3 The Contractor's quotation of costs for the Change of Scope shall be determined on the following principles:

- a) For works of similar nature compared to the Works being executed, the quotation shall be based on the rate for the work inclusive of all labour, Materials, equipment, incidentals, overheads and profit derived in accordance with the provisions of Clause 17.3; and the price adjustment in accordance with Clause 17.8 shall apply to the rates so worked out.
- b) For works not similar in nature to the Works being executed, the cost of work shall be derived on the basis of Bihar SOR Standard Data Book.

13.2.4 Upon reaching an agreement, the Authority shall issue an order (the "**Change of Scope Order**") requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Authority may:

- c) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with Article 24; or
- d) proceed in accordance with Clause 13.5.

13.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works undertaken by the Contractor under this Article 13.

13.3 Payment for Change of Scope

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

13.4 Restrictions on Change of Scope

- 13.4.1 No Change of Scope shall be executed unless the Authority has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.
- 13.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 10% (ten percent) of the Contract Price.
- 13.4.3 Notwithstanding anything to the contrary in this Article 13, no change arising from any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

13.5 Power of the Authority to undertake works

- 13.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 13.2, the Authority may, after giving notice to the Contractor and considering its reply thereto, award such works or services to any person on the basis of open competitive bidding from amongst bidders who are pre-qualified for undertaking the additional work; provided that the Contractor shall have the option of matching the first ranked bid in terms of the selection criteria, subject to payment of 2% (two percent) of the bid amount to the Authority, and thereupon securing the award of such works or services. For the avoidance of doubt, it is agreed that the Contractor shall be entitled to exercise such option only if it has participated in the bidding process and its bid does not exceed the first ranked bid by more than 10% (ten per cent) thereof. It is also agreed that the Contractor shall provide assistance and cooperation to the person who undertakes the works or services hereunder, but shall not be responsible for rectification of any Defects in works carried out by other agencies. For the avoidance of doubt, the Authority acknowledges and agrees that it shall not undertake any works or services under this Clause 13.5.1 if such works or services cause a Material Adverse Effect on the Contractor.
- 13.5.2 The works undertaken in accordance with this Clause 13.5 shall conform to the Specifications and Standards and shall be carried out in a manner that minimises disruption to the Project. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works carried out under this Clause 13.5.

ARTICLE 14 - Deleted

ARTICLE 15

DEFECTS LIABILITY

15.1 Defects Liability Period

The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project or any Section thereof, till the expiry of operation & maintenance period of five (05) years from the date of commencement (the “Defects Liability Period”).

15.1.1 Deleted.

15.2 Remedy and rectification of Defects and deficiencies

Without prejudice to the provisions of Clause 15.2 the Contractor shall repair or rectify all Defects and deficiencies observed by the Authority’s Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Authority’s Engineer in this behalf, or within such reasonable period as may be determined by the Authority’s Engineer at the request of the Contractor, in accordance with Good Industry Practice.

15.3 Cost of remedying Defects

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 15.2, including any additional tests, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

- a) the design of the Project;
- b) Works, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- c) improper maintenance during construction of the Project by the Contractor; or
- d) failure by the Contractor to comply with any other obligation under this Agreement.

15.4 Contractor’s failure to rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 15.2, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor’s cost so as to make the Project conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be determined by the Authority’s Engineer. The cost so determined, and an amount equal to 20% (twenty percent) of such cost as Damages, shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

15.5 Contractor to search cause

15.5.1 The Authority’s Engineer may instruct the Contractor to examine the cause of any

Defect in the Works or part thereof before the expiry of the Defects Liability Period.

15.5.2 In the event any Defect identified under Clause 15.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Authority's Engineer, and shall bear the cost of the examination and rectification of such Defect.

15.5.3 In the event such Defect is not attributable to the Contractor, the Authority's Engineer shall, after due consultation with the Authority and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Authority, and the Contractor shall be entitled to payment of such costs by the Authority.

15.6 Extension of Defects Liability Period

15.6.1 The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 15.2 have been remedied.

15.6.2 Any Materials or Works with Defects identified under Clause 15.2 and replaced or repaired during the Defects Liability Period or the extended Defects Liability Period, as the case may be, would be further warranted for a period of twelve (12) months from the date of completion of such repair or replacement.

15.6.3 The Contractor shall upon termination or expiry of this Agreement, or upon expiry of the Defects Liability Period, assign any outstanding benefit in respect of any subcontract or any warranty from any subcontractor, to the Authority or to such other person as the Authority may direct.

ARTICLE 16

AUTHORITY'S ENGINEER

16.1 Appointment of the Authority's Engineer

- 16.1.1 The Authority shall appoint a consulting engineering firm substantially in accordance with the selection criteria set forth in Schedule-L, to be the engineer under this Agreement (the “**Authority's Engineer**”).
- 16.1.2 The appointment of the Authority's Engineer shall be made no later than 15 (fifteen) days from the date of this Agreement. The Authority shall notify the appointment or replacement of the Authority's Engineer to the Contractor forthwith.
- 16.1.3 The staff of the Authority's Engineer shall include suitably qualified engineers and other professionals who are competent to assist the Authority's Engineer to carry out its duties.

16.2 Duties and functions of the Authority's Engineer

- 16.2.1 The Authority's Engineer shall perform its duties and discharge its functions in accordance with the provisions of this Agreement, and substantially in accordance with the terms of reference (“**Terms of Reference**” or “**TOR**”) set forth in Annex 1 of Schedule L, but subject to obtaining prior written approval of the Authority before determining:
- a) any Time Extension;
 - b) any additional cost to be paid by the Authority to the Contractor;
 - c) the Termination Payment; or
 - d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 5,00,000 (Rs. five lakh).
- 16.2.2 No decision or communication of the Authority's Engineer shall be effective or valid unless it is accompanied by an attested true copy of the approval of the Authority for and in respect of any matter specified in Clause 16.2.1.
- 16.2.3 The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month. For the avoidance of doubt, the Authority's Engineer shall include in its report compliance of the recommendations of the Safety Consultant.
- 16.2.4 A true copy of all communications sent by the Authority to the Authority's Engineer and by the Authority's Engineer to the Authority shall be sent forthwith by the Authority's Engineer to the Contractor.
- 16.2.5 A true copy of all communications sent by the Authority's Engineer to the Contractor

and by the Contractor to the Authority's Engineer shall be sent forthwith by the Authority's Engineer to the Authority.

16.3 Authorized signatories

The Authority shall require the Authority's Engineer to designate and notify to the Authority and the Contractor up to 2 (two) persons employed in its firm to sign for and on behalf of the Authority's Engineer, and any communication or document required to be signed by the Authority's Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Authority's Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.

16.4 Instructions of the Authority's Engineer

- 1641 The Authority's Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Authority's Engineer only.
- 1642 The instructions issued by the Authority's Engineer shall be in writing. However, if the Authority's Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) working days of issuing such oral instructions.
- 1643 In case the Contractor does not receive the confirmation of the oral instructions within the time specified in Clause 16.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Authority's Engineer and shall obtain acknowledgement from the Authority's Engineer of the communication seeking written confirmation. In case of failure of the Authority's Engineer to reply to the Contractor within 2 (two) days of the receipt of the communication from the Contractor, the Contractor may not carry out the instruction.

16.5 Determination by the Authority's Engineer

- 1651 The Authority's Engineer shall consult with each Party in an endeavour to reach agreement wherever this Agreement provides for the determination of any matter by the Authority's Engineer. If such agreement is not achieved, the Authority's Engineer shall make a fair determination in accordance with this Agreement having due regard to all relevant circumstances. The Authority's Engineer shall give notice to both the Parties of each such agreement or determination, with supporting particulars.
- 1652 Each Party shall give effect to each agreement or determination made by the Authority's Engineer in accordance with the provisions of this Agreement. Provided, however, that if any Party disputes any instruction, decision, direction or determination of the Authority's Engineer, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

16.6 Remuneration of the Authority's Engineer

The remuneration, cost and expenses of the Authority's Engineer shall be paid by the

Authority.

16.7 Termination of appointment of the Authority's Engineer

- 16.7.1 The Authority may, in its discretion, replace the Authority's Engineer at any time, but only upon appointment of another Authority's Engineer in accordance with Clause 16.1.
- 16.7.2 If the Contractor has reasons to believe that the Authority's Engineer is not discharging its duties and functions in accordance with the provisions of this Agreement, it may make a written representation to the Authority and seek termination of the appointment of the Authority's Engineer. Upon receipt of such representation, the Authority shall hold a tripartite meeting with the Contractor and Authority's Engineer and make best efforts for an amicable resolution of the Dispute. In the event that the appointment of the Authority's Engineer is terminated hereunder, the Authority shall appoint forthwith another Authority's Engineer in accordance with Clause 16.1.

16.8 Interim Arrangement

In the event that the Authority has not appointed an Authority's Engineer, or the Authority's Engineer so appointed has relinquished its functions or defaulted in discharge thereof, the Authority may, in the interim, designate and authorize any person to discharge the functions of the Authority's Engineer in accordance with the provisions of this Agreement, save and except that such person shall not exercise any functions relating to review, comment, approval or inspection as specified in this Agreement for and in respect of the Authority's Engineer, and such functions shall be discharged as and when an Authority's Engineer is appointed in accordance with the provisions of this Agreement. Provided, however, that nothing contained in this Clause 16.8 shall in any manner restrict the rights of the Authority to enforce compliance of the provisions of this Agreement.

Part IV

Financial Covenants

ARTICLE 17

PAYMENTS

17.1 Contract Price

- 17.1.1 The Authority shall make payments to the Contractor for the Works on the basis of the item rate accepted by the Authority in consideration of the obligations specified in this Agreement for an amount of Rs. ***** (Rs. *****) (the “**Contract Price**”), which shall be subject to adjustments in accordance with the provisions of this Agreement. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of Completion Certificate.
- 17.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor’s equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the Works undertaken under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.
- 17.1.3 The Contract Price shall not be adjusted for any change in duties, taxes etc. specified in Clause 17.1.2 above, save and except as specified in Clauses 17.8 and 17.13.
- 17.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.
- 17.1.5 Unless otherwise specified in this Agreement, the Contract Price covers all the Contractor’s obligations for the Works under this Agreement and all things necessary for the Construction thereof and for the rectification of any Defects in the Project.
- 17.1.6 All payments under this Agreement shall be made in Indian Rupees.

17.2 Advance Payment

- 17.2.1 The Authority shall make an advance payment (the “**Advance Payment**”), equal to 10% (ten percent) of the Contract Price, for mobilization expenses and for acquisition of equipment. The Advance Payment shall carry simple interest at the rate of 8% (eight per cent) per annum and shall be made in two equal installments.
- 17.2.2 The Contractor may apply to the Authority for the 1st (first) installment of the Advance Payment at any time after the Appointed Date, along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such installment, substantially in the form provided at Annex-III of Schedule-F, to remain effective till the complete and full repayment of such installment and any interest thereon.
- 17.2.3 At any time, after 30 (thirty) days from the Appointed Date, the Contractor may apply to the Authority for the 2nd (second) installment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount

equivalent to 110% (one hundred and ten per cent) of such installment, substantially in the form provided at Annex-III of Schedule-F, to remain effective till the complete and full repayment of such installment and any interest thereon.

17.2.4 The installments of Advance Payment shall be paid by the Authority to the Contractor within 15 (fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 17.2.

17.2.5 The Advance Payment shall be recovered through proportionate deductions to be made in the Interim Payments Certificates issued in accordance with the provisions of Clause 17.5.2. Deductions of Advance Payment shall commence from the Interim Payment Certificate in which the cumulative interim payments certified shall have reached 20% (twenty percent) of the Contract Price. The total amount recovered in each Interim Payment Certificate shall not exceed 20% (twenty percent) of the amount due and payable under such Interim Payment Certificate, which shall include interest on the amount being recovered hereunder. For the avoidance of doubt, the Parties agree that in the event the total payment specified in any Interim Payment Certificate exceeds the limit of 20% (twenty percent) of the Contract Price, the proportion of recovery hereunder shall be restricted to the amount exceeding 20% (twenty per cent) of the Contract Price. By way of illustration, the Parties agree that if the first recovery of say, Rupees 'x' is made after 20 (twenty) months from the date of 1st (first) installment of the Advance Payment, interest on Rupees 'x' shall be due and payable for a period of 20 (twenty) months; and when the next recovery is made in the following month for say, Rupees 'y', interest on Rupees 'y' shall be due and payable for a period of 21 (twenty one) months. The Parties further agree that no payments in excess of 90% (ninety per cent) of the Contract Price shall be released to the Contractor until the Advance Payment, including interest thereon, has been fully recovered.

17.2.6 If the Advance Payment has not been fully repaid prior to Termination under Clause 19.7 or Article 21, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Authority. In the event of Termination for Contractor Default, the Advance Payment shall be deemed to carry interest at an annual rate of 3% (three per cent) above the Bank Rate from the date of Advance Payment to the date of recovery thereof. For the avoidance of doubt, the aforesaid interest shall be payable on each installment of the Advance Payment, regardless of whether the installment or any part thereof has been repaid to the Authority prior to Termination.

17.3 Procedure for estimating the payment for the Works

17.3.1 The Authority shall make interim payments to the Contractor, as certified by the Authority's Engineer on completion of a stage.

17.3.2 The Contractor shall make its claim for interim payment for the stages completed till

the end of the month for which the payment is claimed, valued in accordance with Clause 17.3.1, and supported with necessary particulars and documents in accordance with this Agreement.

- 17.3.3 Any reduction in the Contract Price arising out of Change of Scope or the Works withdrawn under Clause 8.3, as the case may be, shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal.

17.4 Stage Payment Statement for Works

The Contractor shall submit a statement (the “**Stage Payment Statement**”), in 3 copies, by the 7th (seventh) day of a month to the Authority’s Engineer in the form set forth in Schedule-M, showing the amount calculated in accordance with Clause 17.3 to which the Contractor considers itself entitled for the completed stage(s) of Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work. In the event that there is no claim for a month in accordance with the provisions of this Clause 17.4, the Contractor shall submit a ‘Nil’ claim to the Authority’s Engineer.

17.5 Stage Payment for Works

- 17.5.1 Within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 17.4, the Authority’s Engineer shall broadly determine the amount due to the Contractor and recommend to release of 70% (seventy per cent) of the amount so determined as part payment against the Stage Payment Statement, pending issue of the Interim Payment Certificate by the Authority’s Engineer. Within 10 (ten) days of the receipt of recommendation of the Authority’s Engineer, the Authority shall make an electronic payment thereof directly to the Contractor’s bank account.
- 17.5.2 Within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 17.4, the Authority’s Engineer shall determine and shall deliver to the Authority and the Contractor an IPC certifying the amount due and payable to the Contractor, after adjusting the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the IPC shall specify all the amounts that have been deducted from the Stage Payment Statement and the reasons therefore.
- 17.5.3 In cases where there is a difference of opinion as to the value of any stage, the opinion of the Authority’s Engineer shall prevail and interim payments shall be made to the Contractor on that basis; provided that the foregoing shall be without prejudice to the Contractor’s right to raise a Dispute.
- 17.5.4 The Authority’s Engineer may, for reasons to be recorded, withhold from payment:

- a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and in respect of which the Authority's Engineer had notified the Contractor; and
- b) the estimated cost of rectification of any Works which have not been constructed in accordance with this Agreement.

17.5.5 Payment by the Authority hereunder shall be deemed to be provisional and shall not be construed as the Authority's acceptance, approval, consent or satisfaction with the work done.

17.5.6 In the event the amounts released by the Authority under Clause 17.5.1 exceed the amount finally determined by the Authority's Engineer pursuant to Clauses 17.5.2 to 17.5.4, the difference thereof shall be accounted for in the next IPC.

17.6 Payment of Damages

17.6.1 The Contractor may claim Damages due and payable to it in accordance with the provisions of this Agreement.

17.6.2 The Authority's Engineer shall issue the IPC within 15 (fifteen) days of the receipt of the claim under Clause 17.6.1, after making adjustments in accordance with the provisions of this Agreement. The Authority shall pay to the Contractor the amount due under such IPC within a period of 30 (thirty) days from the date of the submission of the claim under this Clause 17.6.

17.7 Time of payment and interest

17.7.1 The Authority shall pay to the Contractor any amount due under any payment certificate issued by the Authority's Engineer in accordance with the provisions of this Agreement as follows:

Payment shall be made no later than 30 (thirty) days from the date of submission of the Stage Payment Statement by the Contractor to the Authority's Engineer for certification in accordance with the provisions of Clause 17.4 for an IPC; provided, however, that in the event the IPC is not issued by the Authority's Engineer within the aforesaid period of 30 (thirty) days, the Authority shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be adjusted in the next payment certificate; and payment shall be made no later than 30 (thirty) days from the date of submission of the Final Payment Certificate for Works along with the discharge submitted to the Authority's Engineer for certification in accordance with the provisions of Clause 17.12.

17.7.2 Deleted.

17.8 Deleted

17.9 Deleted.

17.10 Final Payment Statement

17.10.1 Within 60 (sixty) days of receiving the Completion Certificate under Clause 12.4,

the Contractor shall submit to the Authority's Engineer six copies of a final payment statement (the "**Final Payment Statement**"), with supporting documents, in the form prescribed by the Authority's Engineer in respect of:

- a) the summary of Contractor's Stage Payment Statements for Works as submitted in accordance with Clause 17.4;
- b) the amounts received from the Authority against each claim; and
- c) any further sums which the Contractor considers due to it from the Authority.

17.10.2 If the Authority's Engineer disagrees with or cannot verify any part of the Final Payment Statement, the Contractor shall submit such further information as the Authority's Engineer may reasonably require.

17.10.3 The Authority's Engineer shall deliver to the Authority:

- 1) an IPC for those parts of the Final Payment Statement which are not in dispute, along with a list of disputed items which shall then be settled in accordance with the provisions of Article 24; or
- 2) a Final Payment Certificate in accordance with Clause 17.15, if there are no disputed items.

17.10.4 The Authority's Engineer does not prescribe the form referred to in Clause 17.10.1 within 15 (fifteen) days of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

17.11 Discharge

Upon submission of the Final Payment Statement under Clause 17.10, the Contractor shall give to the Authority, with a copy to the Authority's Engineer, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 17.12.

17.12 Final Payment Certificate

17.12.1 Within 30 (thirty) days after receipt of the Final Payment Statement under Clause 17.10, and the written discharge under Clause 17.11, and there being no disputed items of claim, the Authority's Engineer shall deliver to the Authority, with a copy to the Contractor, a final payment certificate (the "**Final Payment Certificate**") stating the amount which, in the opinion of the Authority's Engineer, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Authority's Engineer shall ascertain from the

Authority all amounts previously paid by the Authority, all sums due to the Authority, and the balance, if any, due from the Authority to the Contractor or from the Contractor to the Authority, as the case may be.

17.12.2 The Authority shall, in accordance with the provisions of Clause 17.7, pay to the Contractor the amount which is specified as being finally due in the Final Payment Certificate.

17.13 Change in law

17.13.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in costs, notify the Authority with a copy to the Authority's Engineer of such additional costs due to Change in Law.

17.13.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in costs, notify the other Party with a copy to the Authority's Engineer of such reduction in costs due to Change in Law.

17.13.3 The Authority's Engineer shall, within 15 (fifteen) days from the date of receipt of notice from the Contractor or the Authority, as the case may be, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

17.14 Correction of Interim Payment Certificates

The Authority's Engineer may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Authority's Engineer.

17.15 Authority's claims

If the Authority considers itself to be entitled to any payment from the Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 20 (twenty) days before making the recovery from any amount due to the Contractor, and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

17.16 Bonus for early completion

In the event that the Project Completion Date occurs prior to the Scheduled Completion

Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 0.03% (zero point zero three per cent) of the Contract Price for each day by which the Project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 3% (three per cent) of the Contract Price. Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Completion Certificate. For the avoidance of doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the Contract Price shall always be deemed to be the amount specified in Clause 17.1.1, and shall exclude any revision thereof for any reason.

ARTICLE 18

INSURANCE

18.1 Insurance for Works

18.1.1 The Contractor shall effect and maintain at its own cost the insurances specified in Schedule-N and as per the requirements under Applicable Laws.

18.1.2 Subject to the provisions of Clause 19.6, the Contractor shall, in accordance with the provisions of this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 18 or cannot be recovered from the insurers.

18.1.3 Save and except as provided in Clause 18.1.4, the Contractor shall fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:

- I. the death of or injury to any person; or
- II. the loss of or damage to any property,

that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.

18.1.4 Notwithstanding anything in Clause 18.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to

- a) the use or occupation of land or any part thereof by the Authority;
- b) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and
- c) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided, however, that in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent as proportionate to the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

18.1.5 Without prejudice to the provisions of Clauses 18.1.3 and 18.1.4, the Contractor shall maintain or effect such third party insurances as may be required under Applicable Laws.

18.1.6 The Contractor shall provide to the Authority, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design engineer and/or consultants to cover the risk of professional negligence in the design of

Works. The professional liability cover shall be for a sum of not less than [3% (three per cent)] of the Contract Price and shall be maintained until the end of the Defects Liability Period.

18.2 Notice to the Authority

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

18.3 Evidence of Insurance Cover

18.3.1 All insurances obtained by the Contractor in accordance with this Article 18 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10 (ten) days from the Appointed Date, the Contractor shall furnish to the Authority notarized true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Authority.

18.3.2 The Contractor shall procure and ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.

18.4 Remedy for failure to insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premia and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor.

18.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 18 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

18.6 Contractor's waiver

The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

18.7 Cross liabilities

Any such insurance maintained or effected in pursuance of this Article 18 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.

18.8 Accident or injury to workmen

Notwithstanding anything contained in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

18.9 Insurance against accident to workmen

The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project from and against any liability incurred in pursuance of this Article 18 Provided that for the purposes of this Clause 18.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its personnel. Provided further that in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause

18.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.

18.10 Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project and the provisions of this Agreement in respect of construction of Works shall apply *mutatis mutandis* to the Works undertaken out of the proceeds of insurance.

18.11 Compliance with policy conditions

The Contractor hereby expressly agrees to fully indemnify the Authority from and against all losses and claims arising from the Contractor's failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

Part V

Force Majeure and Termination

ARTICLE 19

FORCE MAJEURE

19.1 Force Majeure

As used in this Agreement, the expression “**Force Majeure**” or “**Force Majeure Event**” shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 19.2, 19.3 and 19.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the “**Affected Party**”) of its obligations under this Agreement and which act or event (a) is beyond the reasonable control of the Affected Party, and the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (c) has Material Adverse Effect on the Affected Party.

19.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- ☐ act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- ☐ strikes or boycotts (other than those involving the Contractor, Sub-contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 19.3;
- ☐ any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;
- ☐ any judgement or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority; or (v) breach of its obligations by the Contractor under its sub-contracts;
- ☐ the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- ☐ any event or circumstances of a nature analogous to any of the foregoing.

19.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- a. an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- b. industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- c. any civil commotion, boycott or political agitation which prevents construction of the Project by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- d. failure of the Authority to permit the Contractor to continue with its Construction Works, with or without modifications, in the event of stoppage of such work after discovery of any geological or archaeological finds;
- e. any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;
- f. any Indirect Political Event that causes a Non-Political Event; or
- g. any event or circumstances of a nature analogous to any of the foregoing.

19.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- d) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 17.13;
- e) compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub-contractors;
- f) unlawful or unauthorized or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, license, permit, authorization, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, license, authorization, no objection certificate, exemption, consent, approval or permit;
- g) any failure or delay of a Sub-contractor but only to the extent caused by

another Political Event; or

h) any event or circumstances of a nature analogous to any of the foregoing.

19.5 Duty to report Force Majeure Event

19.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- i) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 19 with evidence in support thereof;
- j) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
- k) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- l) any other information relevant to the Affected Party's claim.

19.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

19.5.3 For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 19.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

19.6 Effect of Force Majeure Event on the Agreement

19.6.1 Upon the occurrence of any Force Majeure

- a) prior to the Appointed Date, both Parties shall bear their respective Force Majeure costs.
- b) after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the "**Force Majeure costs**") shall be allocated and paid as follows:
- c) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
- d) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the

Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and

- e) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

19.6.2 Save and except as expressly provided in this Article 19, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

19.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects, as may be determined by the Authority's Engineer.

19.6.4 Force Majeure costs for any event which results in any offsetting compensation being payable to the Contractor by or on behalf of its Sub-contractors shall be reduced by such amounts that are payable to the Contractor by its Sub-contractors.

19.7 Termination Notice for Force Majeure Event

If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 19, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

19.8 Termination Payment for Force Majeure Event

19.8.1 In the event of this Agreement being terminated on account of a Non-Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause

21.5.

19.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

- any sums due and payable under Clause 21.5; and
- the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction, only if such Plant and Materials are in conformity with the Specifications and Standards;

19.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 21.6.2 as if it were an Authority Default.

19.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

19.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- ii the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- iii the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- iv when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

ARTICLE 20

SUSPENSION OF CONTRACTOR'S RIGHTS

20.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (a) suspend carrying out of the Works or any part thereof, and (b) carry out such Works itself or authorize any other person to exercise or perform the same on its behalf during such suspension (the “**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

20.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest in the Contractor and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licenses and sub-licenses respectively, the Authority or any other person authorized by it under Clause 20.1 to use during Suspension, all Intellectual Property belonging to or licensed to the Contractor with respect to the Project and its design, engineering, construction, and which is used or created by the Contractor in performing its obligations under the Agreement.

20.3 Revocation of Suspension

20.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

20.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

20.4 Termination

20.4.1 At any time during the period of Suspension under this Article 20, the Contractor may by notice require the Authority to revoke the Suspension and issue a

Termination Notice. The Authority shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 21 as if it is a Contractor Default under Clause 21.1.

- 20.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, *mutatis mutandis*, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

ARTICLE 21

TERMINATION

21.1 Termination for Contractor Default

21.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the “**Contractor Default**”), unless the default has occurred as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include the following:

- a) The Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
- b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 7.3, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
- c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-I, subject to any Time Extension, and continues to be in default for 45 (forty-five) days;
- d) the Contractor abandons or manifests intention to abandon the construction of the Project without the prior written consent of the Authority;
- e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 10.1 or stops Works for 30 (thirty) days without reflecting the same in the current programme and such stoppage has not been authorised by the Authority’s Engineer;
- f) the Project Completion Date does not occur within the period specified in Schedule-I for the Scheduled Completion Date, or any extension thereof;
- g) failure to complete the Punch List items within the periods stipulated therefor in Clause 12.3;
- h) the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within

the time specified in this Agreement or as directed by the Authority's Engineer;

- i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works without the prior approval of the Authority;
- j) the Contractor creates any Encumbrance in breach of this Agreement;
- k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect;
- l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;
- m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;
- n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Contractor is ordered to be wound up by a court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:
 - o) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
 - p) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;
- q) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;

- r) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;
- s) the Contractor has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement;
or
- t) the Contractor has failed to make any payment to the Authority within the period specified in this Agreement;
- u) the Concessionaire issues a Termination Notice in violation of this Agreement; or
- v) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

21.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

21.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or procure its completion through any other entity. The Authority and such entity may, for this purpose, use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

21.2 Termination for Authority Default

21.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "**Authority Default**") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include the following:

- a) The Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;

- b) the Authority has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;
- c) the Authority has failed to provide, within a period of 180 (one hundred and eighty) days from the Appointed Date, the environmental clearances and forest clearances required for construction of the Project;
- d) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or
- e) the Authority's Engineer fails to issue the relevant Interim Payment Certificate within 60 (sixty) days after receiving a statement and supporting documents.

21.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Authority to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

21.3 Termination for Authority's convenience

Notwithstanding anything hereinabove, the Authority may terminate this Agreement for its own convenience. The termination shall take effect 30 (thirty) days from the date of notice hereunder and shall be deemed to be termination on account of Authority Default.

21.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the provisions of this Article 21, the Contractor shall comply with and conform to the following:

- a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 21;
- b) deliver all relevant records, reports, Intellectual Property and other licences pertaining to the Works, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the "**as built**" Drawings for the Works;
- c) transfer and/or deliver all Applicable Permits to the Authority to the extent permissible under Applicable Laws; and

- d) vacate the Site within 15 (fifteen) days.

21.5 Valuation of Unpaid Works

21.5.1 Within a period of 45 (forty-five) days after Termination under Clause 21.1, 21.2 or 21.3, as the case may be, has taken effect, the Authority's Engineer shall proceed in accordance with Clause 16.5 to determine as follows the valuation of unpaid Works (the "**Valuation of Unpaid Works**"):

- i. value of the completed stage of the Works, less payments already made; and
- ii. reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards.

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at source.

21.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 45 (forty five) days from the date of Termination.

21.6 Termination Payment

21.6.1 Upon Termination on account of Contractor Default under Clause 21.1, the

Authority shall:

- iii. Encash and appropriate the Performance Security or Retention Money, whichever is more, and in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 7.1.1, as agreed pre-determined Damages, if any;
- iv. encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment and interest thereon; and
- v. pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and shall adjust from the sum thereof
 - (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and
 - (ii) all taxes due to be deducted at source.

21.6.2 Upon Termination on account of an Authority Default under Clause 21.2 or for

Authority's convenience under Clause 21.3, the Authority shall:

- a) return the Performance Security and Retention Money forthwith;

- b) Encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment, including interest thereon; and
- c) pay to the Contractor, by way of Termination Payment, an amount equal to:
- d) Valuation of Unpaid Works;
- e) the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
- f) the reasonable cost of temporary works, as determined by the Authority's Engineer; and
- g) 10% (ten percent) of the cost of the Works that are not commenced or not completed, and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

21.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Authority with the necessary particulars, after the Valuation of Unpaid Works has been communicated by the Authority's Engineer. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

21.6.4 The Contractor expressly agrees that Termination Payment under this Article 21 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

21.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

- a) the property and ownership in all Materials, Plant and Works and the Project shall, as between the Contractor and the Authority, vest in the Authority in whole, free from any and all Encumbrances; provided that the foregoing shall be without prejudice to Clause 21.6;
- b) the risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and
- c) the Authority shall be entitled to restrain the Contractor and any

person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

21.8 Survival of rights

Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

Part VI

Other Provisions

ARTICLE 22

ASSIGNMENT AND CHARGES

22.1 Restrictions on assignment and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

22.2 Hypothecation of Materials or Plant

Notwithstanding the provisions of Clause 22.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement. For the avoidance of doubt, all Materials and Plants shall, upon their incorporation into Works, be free from any and all Encumbrances without the Authority being required to make any payment to any person on account of any costs, compensation, expenses and charges for such Materials, Plants and Works.

ARTICLE 23

LIABILITY AND INDEMNITY

23.1 General indemnity

The Contractor shall indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the “**Authority Indemnified Persons**”) against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

23.2 Indemnity by the Contractor

23.2.1 Without limiting the generality of Clause 23.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
- c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

23.2.2 Without limiting the generality of the provisions of this Article 23, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other Intellectual Property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor’s obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure

the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a license, at no cost to the Authority, authorizing continued use of the infringing work. If the Contractor is unable to secure such license within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

23.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Agreement (the “**Indemnified Party**”) it shall notify the other Party (the “**Indemnifying Party**”) within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

23.4 Defense of claims

23.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Agreement, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

23.4.2 If the Indemnifying Party has exercised its rights under Clause 23.3, the Indemnified

Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

23.4.3 If the Indemnifying Party exercises its rights under Clause 23.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:

- d) the employment of counsel by such party has been authorised in writing by the Indemnifying Party;
- e) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defense of such action;
- f) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defense of such action and shall have been so notified by the Indemnified Party; or
- g) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
 - 1) that there may be specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
 - 2) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 23.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defense of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

23.5 No consequential claims

Notwithstanding anything to the contrary contained in this Article 23, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

23.6 Survival on Termination The provisions of this Article 23 shall survive Termination.

ARTICLE 24

DISPUTE RESOLUTION

24.1 Dispute resolution

24.1.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the “**Dispute**”) shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 24.2.

24.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

24.2 Conciliation

In the event of any Dispute between the Parties, either Party may call upon an officer of the Authority, not below the rank of Secretary to the Government or Chief Engineer, as the case may be, or such other person as the Parties may mutually agree upon (the “**Conciliator**”) to conciliate and assist the Parties in arriving at an amicable settlement thereof. Failing conciliation by the Conciliator or without the intervention of the Conciliator, either Party may require such Dispute to be referred to the Secretary or Chief Engineer of the Authority and the Chairman of the Board of Directors of the Contractor for amicable settlement, and upon such reference, the said persons shall meet no later than 7 (seven) business days from the date of reference to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the 7 (seven) business day period or the Dispute is not amicably settled within 15 (fifteen) business days of the meeting or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 30 (thirty) business days of the notice in writing referred to in Clause 24.1.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 24.3.

24.3 Arbitration

24.3.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause 24.2, shall be finally decided by reference to arbitration by an arbitral tribunal constituted in accordance with Clause 24.3.2. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi or Construction Industry Arbitration Council (CIAC) ,New Delhi (the “Rules”), or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and

Conciliation Act, 1996. The place of such arbitration shall be the capital of the State, and the language of arbitration proceedings shall be English.

The Arbitration shall be in Institutional mode & would not be adhoc, in any case, and the online mode of dispute resolution may also be resorted to as per the latest notification of Ministry of Law & Justice, Government of India.

24.3.2 There shall be an arbitral tribunal comprising three arbitrators, of whom each Party shall select one, and the third arbitrator shall be appointed by the two arbitrators so selected and in the event of disagreement between the two arbitrators, the appointment shall be made in accordance with the Rules.

24.3.3 Wherever possible or required, On-line dispute resolution mechanism as prescribed By Ministry of Law vide their notification - http://doj.gov.in/sites/default/files/List%20of%20firm%20with%20profile-17_1.pdf, with subsequent amendments if any, is to be resorted to, in place of the traditional in-situ arbitration procedures. The decision on which system of procedures is to be followed (viz. traditional or on-line) would rest with the Contracting Parties at the time of signing the contract, who may if they so decide, permit the decision to be made by Third Arbitrator (appointed by the two nominated arbitrators).

24.3.4 The arbitral tribunal shall make a reasoned award (the “**Award**”). Any Award made in any arbitration held pursuant to this Article 24 shall be final and binding on the Parties as from the date it is made, and the Contractor and the Authority agree and undertake to carry out such Award without delay.

24.3.5 The Contractor and the Authority agree that an Award may be enforced against the Contractor and/or the Authority, as the case may be, and their respective assets wherever situated.

24.3.6 This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder.

24.3.7 In the event the Party against whom the Award has been granted challenges the Award for any reason in a court of law, it shall make an interim payment to the other Party for an amount equal to 75% (seventy-five per cent) of the Award, pending final settlement of the Dispute. The aforesaid amount shall be paid forthwith upon furnishing an irrevocable Bank Guarantee for a sum equal to the aforesaid amount. Upon final settlement of the Dispute, the aforesaid interim payment shall be adjusted and any balance amount due to be paid or returned, as the case may be, shall be paid or returned with interest calculated at the rate of 10% (ten per cent) per annum from the date of interim payment to the date of final settlement of such balance.

24.4 Adjudication by a tribunal

In the event of constitution of a statutory tribunal or other forum with powers to adjudicate upon disputes between the Contractor and the Authority, all Disputes arising after such constitution shall, instead of reference to arbitration under Clause 24.3, be adjudicated upon by such tribunal or other forum in accordance with

Applicable Laws and all references to Dispute Resolution Procedure shall be construed accordingly.

ARTICLE 25

MISCELLANEOUS

25.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts in the State shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

25.2 Waiver of immunity

Each Party unconditionally and irrevocably:

1. agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
2. agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
3. waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
4. consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

25.3 Deleted.

25.4 Waiver

25.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- b) shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- c) shall not affect the validity or enforceability of this Agreement in any manner.

25.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or

deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

25.5 Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- a) no review, comment or approval by the Authority or the Authority's

Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction of the Project nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, Applicable Laws and Applicable Permits; and

- b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

25.6 Exclusion of implied warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

25.7 Survival

25.7.1 Termination shall:

- a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

25.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

25.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind

pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Qualification or Request for Proposals and bid submissions, as the case may be, shall be deemed to form part of this Agreement and treated as such.

25.9 Severability

If for any reason whatsoever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

25.10 No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

25.11 Third parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

25.12 Successors and assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

25.13 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside the city specified in Sub-clause (b) below may, if they are subsequently confirmed by

sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Authority;

Attention:

{Designation:

Address:

Fax No:

Email:}

- b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the person named below with a copy delivered to the Authority Representative or such other person as the Authority may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in the same city as the Authority, it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier;

{Designation:

Address:

Fax No:

Email:}); and

- c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery.

25.14 Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

25.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

25.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous consent of the Authority.

25.17 Copyright and Intellectual Property rights

25.17.1 As between the Parties, the Contractor shall retain the copyright and other Intellectual Property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

25.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 25.17.

25.17.3 As between the Parties, the Authority shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall

not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

25.18 Limitation of Liability

25.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement.

25.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 21 and 23, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party

ARTICLE 26

DEFINITIONS

26.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

“Advance Payment” shall have the meaning as set forth in Clause 17.2.1;

“Affected Party” shall have the meaning as set forth in Clause 19.1;

“Affiliate” means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

“Agreement” means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

“Applicable Laws” means all laws, brought into force and effect by GOI or the State Government(s) including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

“Applicable Permits” means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction of the Project during the subsistence of this Agreement;

“Appointed Date” means date of this Agreement.

“Arbitration Act” means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time;

“Authority” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“Authority Default” shall have the meaning as set forth in Clause 21.2.1;

“Authority’s Engineer” shall have the meaning as set forth in Clause 16.1.1;

“Authority Representative” means such person or persons as may be authorised in writing by the Authority to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfil any obligations of the Authority under this Agreement;

“Bank” means a bank incorporated in India and having a minimum net worth of Rs. 1,000 crore (Rupees one thousand crore) or any other bank acceptable to the Authority;

“Bank Rate” means the rate of interest specified by the Reserve Bank of India from time to time in pursuance of section 49 of the Reserve Bank of India Act, 1934 or any replacement of such Bank Rate for the time being in effect;

“Base Date” means the last date of that calendar month, which date precedes the Bid Due Date by at least 28 (twenty-eight) days;

“Bid” means the documents in their entirety comprised in the bid submitted by the [selected bidder] in response to the Request for Proposals in accordance with the provisions thereof and **“Bids”** shall mean the bids submitted by any and all pre-qualified bidders;

“Bid Security” means the bid security provided by the Contractor to the Authority in accordance with the Request for Proposals, and which is to remain in force until substituted by the Performance Security;

“CPI (IW)” means the Consumer Price Index for Industrial Workers as published by the Labour Bureau, Government of India and shall include any index which substitutes the CPI (IW), and any reference to CPI (IW) shall, unless the context otherwise requires, be construed as a reference to the CPI (IW) published for the period ending with the preceding month, save and except that for the purposes of annual revision of the Fixed Charge in accordance with the provisions of Clause 25.3, the revision due on April 1 of any year shall be computed with reference to CPI (IW) as on January 31 of that year;

“Change in Law” means the occurrence of any of the following after the

Base Date:

- i. the enactment of any new Indian law;
- ii. the repeal, modification or re-enactment of any existing Indian law;
- iii. the commencement of any Indian law which has not entered into effect until the Base Date;
- iv. a change in the interpretation or application of any Indian law by a judgement

of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Date; or

- v. any change in the rates of any of the Taxes or royalties that have a direct effect on the Project;

“Change of Scope” shall have the meaning as set forth in Article 13;

“Change of Scope Notice” shall have the meaning as set forth in Clause 13.2.1;

“Change of Scope Order” shall have the meaning as set forth in Clause 13.2.4;

“Completion Certificate” shall have the meaning as set forth in Clause 12.4.1;

“Joint Venture” means the Joint Venture of entities which have formed a joint venture for implementation of this Project;

“Construction” shall have the meaning as set forth in Clause 1.2.1 (f);

“Construction Period” means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

“Contract Price” means the amount as specified in Clause 17.1.1;

“Contractor” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“Contractor Default” shall have the meaning as set forth in Clause 21.1.1;

“Cure Period” means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

- ☐ commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- ☐ not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and
- ☐ not in any way be extended by any period of Suspension under this Agreement;

provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Authority’s Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Authority’s, Engineer to accord their approval;

“Damages” shall have the meaning as set forth in paragraph of Clause 1.2.1;

“Defect” means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards;

“Defects Liability Period” shall have the meaning as set forth in Clause 15.1.1;

“Dispute” shall have the meaning as set forth in Clause 24.1.1;

“Dispute Resolution Procedure” means the procedure for resolution of Disputes as set forth in Article 24;

“Drawings” means all of the drawings, calculations and documents pertaining to the Project as set forth in Schedule-H, and shall include ‘as built’ drawings of the Project;

“Document” or “Documentation” means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

“Emergency” means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project, including Users thereof, or which poses an immediate threat of material damage to the Works or any of the Project Assets;

“Encumbrances” means, in relation to the Project, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project, where applicable herein but excluding utilities referred to in Clause 9.1;

“Final Payment Certificate” shall have the meaning as set forth in Clause 17.12.1;

“Final Payment Statement” shall have the meaning as set forth in Clause 17.10.1;

Force Majeure” or “Force Majeure Event” shall have the meaning ascribed to it in Clause 19.1;

“GAD” or “General Arrangement Drawings” shall have the meaning as set forth in Clause 4.1.3 (b);

“GOI” or “Government” means the Government of India;

“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

“Government Instrumentality” means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body, including panchayat, under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

“Indemnified Party” means the Party entitled to the benefit of an indemnity pursuant to Article 23;

“Indemnifying Party” means the Party obligated to indemnify the other Party pursuant to Article 23;

“Indirect Political Event” shall have the meaning as set forth in Clause 19.3;

“Insurance Cover” means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 18, and includes all insurances required to be taken out by the Contractor under Clauses 18.1 and 18.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

“Intellectual Property” means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

“Interim Payment Certificate” or **“IPC”** means the interim payment certificate issued by the Authority’s Engineer for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;

“LOA” or **“Letter of Acceptance”** means the letter of acceptance referred to in Recital (D);

“Lead Member” shall, in the case of a Joint Venture, mean the member of such Joint Venture who shall have the authority to bind the Contractor and each member of the Joint Venture; and shall be deemed to be the Contractor for the purposes of this Agreement;

“Manuals” shall mean the manuals;

“Material Adverse Effect” means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;

“Materials” are all the supplies used by the Contractor for incorporation in the Works of the Project;

“Non-Political Event” shall have the meaning as set forth in Clause 19.2;

“Parties” means the parties to this Agreement collectively and **“Party”** shall mean any of the parties to this Agreement individually;

“Performance Security” shall have the meaning as set forth in Clause 7.1.1;

“Plant” means the apparatus and machinery intended to form or forming part of the Works;

“Political Event” shall have the meaning as set forth in Clause 19.4;

“Programme” shall have the meaning as set forth in Clause 10.1.3;

“Project” means the construction of the Project in accordance with the provisions

of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

“Project Assets” means all physical and other assets relating to (a) tangible assets such as civil works and equipment including [foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometre-stones, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices]; and (b) Project Facilities situated on the Site;

“Project Completion Date” means the date on which the last Provisional Certificate is issued;

“Project Completion Schedule” means the progressive Project Milestones set forth in Schedule-I for completion of the Project on or before the Scheduled Completion Date;

“Project Facilities” means all the amenities and facilities to be constructed on the Site,

“Project Milestone” means the project milestone as set forth in Schedule-I and includes the Scheduled Completion Date;

“Proof Consultant” shall have the meaning as set forth in Clause 10.2.2;

“Provisional Certificate” shall have the meaning as set forth in Clause 12.2.1;

“Punch List” shall have the meaning as set forth in Clause 12.2.1;

“Quality Assurance Plan” or **“QAP”** shall have the meaning as set forth in Clause 11.2.1;

“Re.”, **“Rs.”** or **“Rupees”** or **“Indian Rupees”** means the lawful currency of the Republic of India;

“Request for Proposals” or **“RFP”** shall have the meaning as set forth in Recital (C);

“Retention Money” shall have the meaning as set forth in Clause 7.5.1;

“Safety Consultant” shall have the meaning as set forth in Clause 10.1.5;

“Scheduled Completion Date” shall be the date as set forth in Clause 10.3.1;

“Scope of the Project” shall have the meaning as set forth in Clause 2.1;

“Section” means a part of the Project;

“Site” shall have the meaning as set forth in Clause 8.1;

“Specifications and Standards” means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project and any modifications thereof, or additions thereto, as included in the design and engineering for the Project submitted by the Contractor to, and expressly approved by, the Authority;

“Stage Payment Statement” shall have the meaning as set forth in Clause 17.4;

“State” means the State or the Union Territory, as the case may be, in which the headquarters of the Authority are situate and **“State Government”** means the

government of that State or Union Territory;

“**Structures**” means an elevated [road or a flyover], as the case may be;

“**Sub-contractor**” means any person or persons to whom a part of the Works has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;

“**Suspension**” shall have the meaning as set forth in Clause 20.1;

“**Taxes**” means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

“**Termination**” means the expiry or termination of this Agreement;

“**Termination Notice**” means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

“**Termination Payment**” means the amount payable by either Party to the other upon Termination in accordance with Article 21;

“**Terms of Reference**” or “**TOR**” shall have the meaning as set forth in Clause 16.2.1;

“**Tests**” means the tests set forth in Schedule-J to determine the completion of Works in accordance with the provisions of this Agreement;

“**Time Extension**” shall have the meaning as set forth in Clause 10.4.1;

“**User**” means a person who uses or intends to use the Project or any part thereof in accordance with the provision of this Agreement and Applicable Laws;

“**Valuation of Unpaid works**” shall have the meaning as set forth in Clause 21.5.1;

“**WPI**” means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month; and

“**Works**” means all works including redevelopment of town hall in bhagalpur, bihar with operation & maintainance for a period of five years, Materials, temporary works and other things necessary to complete the Project in accordance with this Agreement.

**IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND
DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR
FIRST ABOVE WRITTEN.**

SIGNED, SEALED AND DELIVERED

SIGNED, SEALED AN DELIVERED

For and on behalf of

For and on behalf of

[THE AUTHORITY] by:

THE CONTRACTOR by:

(Signature)

(Name)

(Designation)

(Signature)

(Name)

(Designation)

In the presence of:

1.

2.

{ COUNTERSIGNED and accepted by:

Name and particulars members contractor }

Schedules

SCHEDULE – A

(See Clauses 2.1 and 8.1)

SITE OF THE PROJECT

1 The Site

- 1.1 The site is located at _____, Bhagalpur, site of the Project shall include the land and the site is under possession of BSCL.
- 1.2 The dates of providing the land to the Contractor within 15 days of agreement.
- 1.3 An inventory of the Site including the land, building, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2.1 of this Agreement.
- 1.4 The alignment plans of the Project are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be modified.

SCHEDULE – F

(See Clauses 7.1.1, 7.5.3 and 19.2)

FORM OF BANK GUARANTEE

Annex-I

(See Clause 7.1.1)

Form of Guarantee for Performance Security

.....,

.....,

.....,

WHEREAS:

- a)(insert name and address of the contractor) (hereinafter called the “**Contractor**”) and (insert name and address of the project authority), (hereinafter called the “**Authority**”) have entered into an agreement (hereinafter called the “**Agreement**”) for Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract subject to and in accordance with the provisions of the Agreement
- b) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Construction Period and Defects Liability Period (as defined in the Agreement) in a sum of Rs..... cr. (Rupees crore) (the “Guarantee Amount”).
- c) We, through our branch at (the “Bank”) have agreed to furnish this bank guarantee (hereinafter called the “Guarantee”) by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees and undertakes to pay to the Authority upon occurrence of any failure or default in the due and faithful performance of all or any of the Contractor's obligations, under and in accordance with the provisions of the Agreement during the {Construction Period/ Defects Liability Period} on its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of a Sr. Manager of the Authority, that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/ or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from

enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect on [§]. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND

DELIVERED For and on behalf of the

Bank by:

(Signature

) (Name)

(Designation) (Code Number)

(Address)

NOTES:

- & The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- & The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Annex – II

(Schedule - F)

(See Clause 7.5.3)

Form of Guarantee for Withdrawal of Retention Money

.....,

.....,

.....,

WHEREAS:

- a)(insert name and address of the contractor) (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the (insert name and address of the project authority), (hereinafter called the “**Authority**”) for Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract subject to and in accordance with the provisions of the Agreement.
- b) In accordance with Clause 7.5.3 of the Agreement, the Contractor may withdraw the retention money (hereinafter called the “**Retention Money**”) after furnishing to the Authority a bank guarantee for an amount equal to the proposed withdrawal.
- c) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (hereinafter called the “**Guarantee**”) for the amount of Rs. cr. (Rs..... crore) (the “**Guarantee Amount**”).

NOW, THEREFORE, the Bank hereby unconditionally and irrevocably guarantees and affirms as follows:

- 1. The Bank hereby unconditionally and irrevocably undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being

required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of a Chief Engineer of the Authority, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Retention Money and any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Retention Money.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect 90 (ninety) days after the date of the Completion Certificate specified in Clause 12.4 of the Agreement.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the

Bank by: (Signature)

(Name) (Designation) (Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

(Schedule - F) (See Clause 19.2)

Form of Guarantee for Advance Payment

.....,
.....,
.....,

WHEREAS:

(A)(insert name and address of the contractor) (hereinafter called the “**Contractor**” has executed an agreement (hereinafter called the “**Agreement**”) with the (insert name and address of the project authority), (hereinafter called the “**Authority**”) for Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract. (“**Project**”), subject to and in accordance with the provisions of the Agreement

(B) In accordance with Clause 19.2 of the Agreement, the Authority shall make to the Contractor an interest free advance payment (herein after called “**Advance Payment**”) equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in three instalments subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment to remain effective till the complete and full repayment of the instalment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second/third} instalment of the Advance Payment is Rs. cr. (Rupeescrore) and the amount of this Guarantee is Rs. cr. (Rupees..... crore)(the “**Guarantee Amount**”)\$.

(C) We, through our branch at (the “**Bank**”) have

agreed to furnish this bank guarantee (*hereinafter called the “Guarantee”*) for the Guarantee Amount.

§ The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of a Chief Engineer of the Authority, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its

repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect on \$ unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in providing such notice when given by post it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
- m) This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature) (Name)

(Designation) (Code Number)

(Address)

NOTES:

- f) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- g) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

SCHEDULE – H

(See Clause 10.2.4)

DRAWINGS

a) Drawings

Apart from the working drawings for HVAC, all the drawings are part of RFP document and contractor has to execute the whole work according to these drawings along with the technical specifications as well as BoQ. For HVAC works, contractor or its nominated sub-contractor has to submit the detail working drawings to BSCL for approval with in the estimated budget.

b) Additional Drawings

If the Authority's Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority's Engineer, as if such drawings formed part of Annex-I of this Schedule-H.

Annex – I

(Schedule – H)

List of Drawings

[**Note:** The Authority will be informed at the time of Agreement, however all the drawings related to HVAC works shall be submitted by the bidder]

SCHEDULE – I

(See Clause 10.3.2)

PROJECT COMPLETION SCHEDULE

1 Project Completion Schedule

During Implementation period, the Contractor shall comply with the requirements set forth in this Schedule-I for each of the Project Milestones and the Scheduled Completion Date. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars and the same should be approved in the following format by the Authority.

2.0 Project Milestones:

1. For Construction

Milestone Number	Description of Each Milestone	Payment (%age)	Completion Period
1	Dismantling Works	The payment 85 percent of the Quoted Price in the Bill of Quantities (BOQ). Rest 15 % amount is for Operations and Maintenance.	15 months
2	Civil Work		
3	Plumbing Works		
4	Electrification Work		
5	Horticulture & Landscape works		
6	Seating Gallery & Stage		
7	Audio Visual & Acoustic Works		
8	HVAC system		
9	Seating Chairs and Sofas		
10	Fire Fighting Works		
11	CCTV & Intercom		
12	Emergency Lights & Illuminating signages		

Note: The selected bidder raises the monthly running account (RA) bill for the payment.

2. For Operation and Maintenance

Milestone Number	Description of Each Milestone	Payment (%age)	Cumulative Payment	Cumulative O&M Period
1	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	2	2	1years
2	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	2.5	4.5	2years
3	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	3	7.5	3years
4	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	3.5	11	4years
5	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	4	15	5years

- **Operation and Maintenance of Town Hall shall start from the day one of Schedule Completion Date.**
- **The water charges & electrical charges (Monthly Bill- or as per Electricity bill cycle) shall be paid by the Contractor.**

Payment Certificates

- The Contractor shall submit to the Engineer milestone bills of the estimated value of the work completed less the cumulative amount certified previously.
- The Engineer shall check the Contractor's milestone bills within 14 days and certify the amount to be paid to the Contractor.
- The value of work executed shall be determined and approved by the Engineer.

Scheduled Completion Date

- The Scheduled Completion Date shall be the 15 (fifteen) months from the notice to start the work.
- On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

Extension of time

- Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

SCHEDULE – J

(See Clause 12.1.2)

TESTS ON COMPLETION

1 Schedule for Tests

- 1.1 The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority's Engineer and the Authority of its intent to subject the Project to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Authority's Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of Works.
- 1.2 The Contractor shall notify the Authority's Engineer of its readiness to subject the Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-J.

2 Tests

- 2.1 Visual and physical test: The Authority's Engineer shall conduct a visual and physical check of implementing works to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include [***].
- 2.2 Deleted.
- 2.3 Deleted

- 2.4 Other tests: The Authority's Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Project with Specifications and Standards.
- 2.5 Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Project with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.6 Safety Audit: The Authority's Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project with the safety requirements and Good Industry Practice.

i. Agency for conducting Tests

All Tests set forth in this Schedule-J shall be conducted by the Authority's Engineer or such other agency or person as it may specify in consultation with the Authority.

ii. Completion Certificate

Upon successful completion of Tests, the Authority's Engineer shall issue the Completion Certificate in accordance with the provisions of Article 12.

SCHEDULE – K

(See Clause 12.2 and 12.4)

PROVISIONAL CERTIFICATE

- 1) I/We, (Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated (the "Agreement"), Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract (the "Project")

(Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been undertaken to determine compliance of the Project with the provisions of the Agreement.

- 2) Works that are incomplete on account of Time Extension have been specified in the Punch List appended hereto, and the Contractor has agreed and accepted that it shall complete all such works in the time and manner set forth in the Agreement. In addition, certain minor works are incomplete and these are not likely to cause material inconvenience to the Users of the Project or affect their safety. The Contractor has agreed and accepted that as a condition of this Provisional Certificate, it shall complete such minor works within 30 (thirty) days hereof. These minor works have also been specified in the aforesaid Punch List.
- 3) In view of the foregoing, I/We am/are satisfied that the Projectcan be safely and reliably placed in service of the Users thereof, and in terms of the Agreement, the Project is hereby provisionally declared fit for entry into operation on this the day of 20.....

4)

ACCEPTED, SIGNED, SEALED AND DELIVERED		ACCEPTED, SIGNED, SEALED AND DELIVERED
For and on behalf of		For and on behalf of
Contractor by:		Authority's Engineer by:

Signature		Signature
Name & Designation		Name & Designation
Address		Address

COMPLETION CERTIFICATE

- a) I/We,.....(Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated (the "**Agreement**"), Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract (the "**Project**").....through.....

(Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Project with the provisions of the Agreement, and I/We am/are satisfied that the Project can be safely and reliably placed in service of the Users thereof.

- b) It is certified that, in terms of the aforesaid Agreement, all works forming part of Project have been completed, and the Project is hereby declared fit for entry into operation on this the day of 20.....

SIGNED, SEALED AND

DELIVERED For and on

behalf of the Authority's

Engineer by:

(Signature) (Name)

(Designation)

(Address)

SCHEDULE – L

(See Clause 18.1.1)

SELECTION OF AUTHORITY’S ENGINEER

1.0 Selection of Authority’s Engineer

- 1.1** The provisions of the Model Request for Proposals for Selection of Technical Consultants, issued by the Ministry of Finance, Government of India vide OM 24(23)/PF-II/2008 dated 21, May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority’s Engineer. Provided, however, that no entity which is owned or controlled by the Authority shall be eligible for appointment as the Authority’s Engineer hereunder.
- 1.2** In the event of termination of the Technical Consultants appointed in accordance with the provisions of Paragraph 1.1, the Authority shall appoint another firm of Technical Consultants forthwith and may engage a government-owned entity in accordance with the provisions of Paragraph 3 of this Schedule-L.

2.0 Terms of Reference

- 1.3** The Terms of Reference for the Authority’s Engineer (the “TOR”) shall substantially conform with Annex 1 to this Schedule L.

3.0 Appointment of Government entity as Authority’s Engineer

- 1.4** Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Authority’s Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering projects; provided further that a government-owned entity which is owned or controlled by the Authority shall not be eligible for appointment as Authority’s Engineer.

(Schedule - L)

Terms of reference for Authority's Engineer

1 Scope

1.1 These Terms of Reference (the “TOR”) for the Authority’s Engineer are being specified pursuant to the Agreement dated (the “Agreement”), which has been entered into between the (insert name and address of the Authority) (the “Authority”) and (the “Contractor”) for Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.

1.2 The TOR shall apply to construction of the Project.

2 Definitions and interpretation

2.1 The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

2.2 References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

2.3 The rules of interpretation contained in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, *mutatis mutandis*, to this TOR.

3 General

3.1 The Authority’s Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

3.2 The Authority’s Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining:

- a) any Time Extension;
- b) any additional cost to be paid by the Authority to the Contractor;
- c) the Termination Payment; or

- d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 5,00,000 (Rs. five lakh).

- 3.3** The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.
- 3.4** The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2.
- 3.5** The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.
- 3.6** In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4.0 Construction Period

- 4.1** During the Construction Period, the Authority's Engineer shall review the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1.6. The Authority's Engineer shall complete such review and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided.
- 4.2** The Authority's Engineer shall review any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.
- 4.3** The Authority's Engineer shall review the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto.
- 4.4** The Authority's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from

the date of receipt of the proposed methodology from the Contractor.

- 4.5 The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4.
- 4.6 The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.
- 4.7 The Authority's Engineer shall inspect the Construction Works and the Project and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In particular, the Authority's Engineer shall include in its Inspection Report, the compliance of the recommendations made by the Safety Consultant.
- 4.8 The Authority's Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.
- 4.9 For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance.
- 4.10 The Authority's Engineer shall test check at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.
- 4.11 The timing of tests referred to in Paragraph 4.9, and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.
- 4.12 In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.
- 4.13 The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.
- 4.14 In the event that the Contractor fails to achieve any of the Milestones, the

Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Project is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.

- 4.15 The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.4.
- 4.16 Authority's Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measures, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.
- 4.17 In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and Users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.
- 4.18 The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-J and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 4.18 and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-J.

5 Determination of costs and time

- 5.1 The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- 5.2 The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.
- 5.3 The Authority's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 18.5.

6.0 Payments

6.1 The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer.

6.2 Authority's Engineer shall

within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 19.10.

7.0 Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

8 Miscellaneous

8.1 A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.

8.2 The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.

8.3 Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film format or in such other medium or manner as may be acceptable to the Authority, reflecting the Project as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.

8.4 The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

8.5 The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

SCHEDULE – M

(See Clauses 19.4.1, 19.6.1, and 19.8.1)

FORMS OF PAYMENT STATEMENTS

1. For Construction

Milestone Number	Description of Each Milestone	Payment (%age)	Completion Period
1	Dismantling Works	The payment 85 percent of the Quoted Price in the Bill of Quantities (BOQ). Rest 15 % amount is for Operations and Maintenance.	15 months
2	Civil Work		
3	Plumbing Works		
4	Electrification Work		
5	Horticulture & Landscape works		
6	Seating Gallery & Stage		
7	Audio Visual & Acoustic Works		
8	HVAC system		
9	Seating Chairs and Sofas		
10	Fire Fighting Works		
11	CCTV & Intercom		
12	Emergency Lights & Illuminating signages		

Note: The selected bidder raises the monthly running account (RA) bill for the payment.

2. For Operation and Maintenance

Milestone Number	Description of Each Milestone	Payment (%age)	Cumulative Payment	Cumulative O&M Period
1	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	2	2	1years
2	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	2.5	4.5	2years
3	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	3	7.5	3years
4	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	3.5	11	4years
5	Operation and Maintenance of Town Hall (Billing shall be on quarterly basis)	4	15	5years

- **Operation and Maintenance of Town Hall shall start from the day one of Schedule Completion Date.**
- **The water charges & electrical charges (Monthly Bill- or as per Electricity bill cycle) shall be paid by the Contractor.**

Payment Certificates

- The Contractor shall submit to the Engineer milestone bills of the estimated value of the work completed less the cumulative amount certified previously.
- The Engineer shall check the Contractor's milestone bills within 14 days and certify the amount to be paid to the Contractor.
- The value of work executed shall be determined by the Engineer.

Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

SCHEDULE – N

(See Clause 20.1)

INSURANCE

1.0 Insurance during Construction Period

1.1 The Contractor shall affect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non-Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

- a) insurance of Works, Plant and Materials and an additional sum of [15% (fifteen per cent)] of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and
- b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

1.2 The insurance under paragraph 1.1 (a) and (b) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2. Insurance for Contractor's Defects Liability

The Contractor shall affect and maintain insurance cover for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under Applicable Laws and in accordance with Good Industry Practice.

3. Insurance against injury to persons and damage to property

3.1 The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount specified below with no limit on the number of occurrences.

The insurance cover shall be not less than estimated cost.

- 3.2 The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor's performance of this Agreement excluding:

The Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and damage which is an unavoidable result of the Contractor's obligations to execute the Works.

4 Insurance to be in joint names

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.

SECTION - 5

SECTION 5: SPECIAL CONDITIONS OF CONTRACT

- 5.1 **General:** The special conditions are supplementary instructions to the tenders and shall form part of the contract.
- 5.2 **Drawing:** All Drawings/Layout plans given in Section 11 are for reference or guidance purpose only. The Bidder will submit the detailed Contract execution plan within 15 days from date of issuing Work Order or Agreement whichever is earlier. The same shall be reviewed and approved by BSCL or through other agency approved by BSCL. These 15 days period is included in stipulated time of Contract Period. Redevelopment of town hall in Bhagalpur, Bihar with Operation & Maintenance for a period of five years shall be carried out as per the drawings approved by BSCL.
- 5.3 **Data to be furnished by the Bidder:** The Bidder shall submit the following information to BSCL.
- 5.4 Proposed constructions Programme and time schedule showing sequence of operations within **15 days** of receipt of notice to proceed with the work in pursuance of the conditions of contract.
- 5.5 **Action when the progress of any item of work is unsatisfactory:** If the progress of an item of work during construction, which is important for timely completion of work is unsatisfactory, BSCL shall notwithstanding that the general progress of work is satisfactory, after giving the Bidder **15 days'** notice in writing get the said work executed by employing other means including other labour / Bidder etc. and the Bidder will have no claim for compensation for any loss sustained by him owing to such action.
- 5.6 In case if any of the works under this contract are found unsatisfactorily by BSCL, the BSCL shall either request the bidder to rectify the defect immediately or at his discretion may have it done by others (vendor or contractor) and deduct the actual amount incurred as per market rate plus 15 % extra incurred in such works from the bidders.
- 5.7 **Inspection and Tests:** Except as otherwise provided in here of all material and workmanship if not otherwise designated by the specifications shall be subject to inspection, examination and test by BSCL at any and all times during manufacture and/or construction and at any/all places where such manufacture or constructions are carried on. The BSCL shall have the right to reject defective materials and workmanship or require its corrections. Rejected workmanship shall be satisfactorily replaced with the proper material without charge thereof and the Bidder shall properly segregate and remove the rejected material from the premises. If the Bidder fails to proceed at once with the replacement of the rejected material and/or the construction of defective workmanship BSCL may replace such material and/or correct such workmanship and charge the cost thereof to the Bidder.

The Bidder shall be liable for replacement of defective work up to the time of completion of DLP in accordance with the conditions of contract of all work to be done under the contract. The Bidder shall furnish promptly without additional charge all facilities, labour and material necessary for the safe and

convenient inspection and tests that may be required by BSCL. All inspections and tests by the departments shall be performed in such a manner as to not unnecessarily delay the work. Special full size and performance test shall be charged with any additional cost of inspection when materials and workmanship are not kept ready by the Bidder at the time of inspection.

- 58 **Removal of temporary work, Plant & Surplus materials:** Prior to final acceptance of the completed work, but excepting as otherwise expressly directed or permitted in writing, the Bidder shall, at his own expenses remove from the site and dispose of all the temporary structures including buildings, all plant and surplus materials, and all rubbish and debris for which he is responsible to the satisfaction of BSCL.
- 59 **Possession prior to completion:** BSCL shall have the right to take possession of or use any completed part of the work. Such possession or use shall not be deemed as an acceptance of any work not completed in accordance with the contract.
- 5.10 **Damage to works:** The works whether fully completed or incomplete, all the materials, machinery, plants, tools, temporary building and other things connected there with shall remain at the risk and in the sole charge of the Bidder until the completed work has been delivered to BSCL and till completion certificate has been obtained from BSCL. Until such delivery of the completed work, the Bidder shall at his own cost take all precautions reasonably to keep all the aforesaid works, materials, machinery, plants, temporary buildings and other things connected there with free from any loss, damages and in the event of the same or any part there of being lost or damaged, he shall forthwith reinstate and make good such loss or damages at his own cost.
- 5.11 **Examination and tests on completions:** On the completion of the work and not later than three months thereafter, BSCL shall make such examination and tests of the work as may then seem to him to be possible, necessary or desirable, and the Bidder shall furnish free of cost any materials and labour which may be necessary thereof and shall facilitate in every way all operations required by BSCL, in making examination and tests.
- 5.12 **Climatic Conditions:** BSCL may order the Bidder to suspend any work that may be subject to damage by climatic conditions and no claims of the Bidder will be entertained by the department on this account.
- 5.13 As per the Ministry of Environment and Forest Guidelines 2010 and Ministry of Urban Development notifications, the Site area shall be protected from dust by fixing Green Fencing around the Construction site area.

The Contractor is instructed to strictly adhere to the following at his own cost.

- a) Supply and Fixing Green barriers and wind breaking walls around their sites.
- b) Cover tarpaulin on scaffolding around area of construction,
- c) Do not store construction material, particularly sand, on any part of the street, roads in any colony,

- d) Cordon the work area with proper fencing by other means with due consideration of safety of workers, public, etc.
 - e) Dust emissions from construction site are controlled.
 - f) Sprinklers should be compulsorily used at the site and Wet jets in grinding and stone cutting must be used.
 - g) The work area shall be well illuminated during nights.
- 5.14 **Safety regulations:** During the entire contract period, while carrying out this works indicated in this tender, the Bidder will ensure compliance of all safety regulations as provided in the Safety Code (**Annexure - D**). The bidder will be responsible for safety of the works.
- 5.15 **The Bidder will make his own arrangement:** for supply of water, light & power for his works and labour camps etc.: The Bidder will make his own arrangement for supply of water, light and power for his works and labour camps etc. The department will not entertain any claim what so ever for any failure or break down etc. in supply of to the Bidder. The Bidder will supply and fix his own tested meter of the approved make but the meter will be kept in the custody of the department.
- 5.16 **Interference with other Bidders:** The Bidder must not interfere with other Bidders who may be employed simultaneously or otherwise by the department at the Site. He will at no time engage departmental labour or that of other Bidders without the written permission of BSCL. **Bidder is fully responsible for cause of damages of the adjoining works of different works at site and the same cost of rectification of damages shall be recovered from the Bidder as per BSCL's instructions.**
- 5.17 **Regulations and bye laws:** The Bidder shall conform to the regulations, bye-laws any other statutory rules made by any local authorities or by the Government and shall protect and indemnify BSCL, against any claim or liability arising from or based on the violation of any such laws, safety, theft, ordinance, regulation, orders, decrees etc.
- 5.18 **Site Order Book:** A site order book shall be kept in the departmental office at the site of the work. As far as possible all orders regarding the works are to be entered in this book. All entries therein shall be signed by the departmental officers in direct charge of the work and the Bidder or his representatives. In the important cases the Chief General Manager of BSCL will countersign the entries which the Bidders or his representative shall be bound to take note of all instructions meant for the Bidder as entered in the site order book without having to be called for separately to note them. BSCL shall submit periodically copies of the remarks of the site order book to the Chief General Manager, BSCL for record and to the Bidder for compliance and report.
- 5.19 **Conversion of units:** Whenever in the contract agreement dimensions and units have been expressed in F.P.S. system, the same will be converted in to metric system units by applying the standard conversion table of Indian Standard Institution so as to derive the corresponding figure arithmetically and

the Bidder will have to accept the figures so derived without any claim or compensation whatsoever.

- 520 **Rights of other Bidders and persons:** If, during the progress of the work covered by this contract, it is necessary for other Bidders or persons to do work in or about the site of work, the Bidder shall afford such facilities, as BSCL may require.
- 521 **Employment of technical persons:** The Bidder shall employ or produce evidence of having in his employment of the qualified technical person as indicated in the RFP from the Institution recognized by the Government of Bihar / Govt. of Other State / Govt. of India
- 522 The above is the minimum requirement of Manpower. However, contractor shall access the actual requirement and deploy the necessary manpower. No extra cost will be paid for deployment of extra manpower if required.
- 523 The technical staff shall be got approved in writing from BSCL (whose approval may be withdrawn any time) for supervision of works and to receive direction from the Engineer of the work on behalf of the contractor. The supervisory staff of the contractor will not be changed without the approval of BSCL.

5.1 **Bonus for early completion**

In the event that the Project Completion Date occurs prior to the Scheduled Completion Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 1% (one percent) of the Contract Price per month computed on per day basis, shall be payable to the contractor subject to a maximum of 5% (five per cent) of the Contract Price. Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Completion Certificate.

Additional Special Conditions

1. Contractor is advised to read carefully all chapters and give complete information regarding his proposals, substantiating the same with calculations, drawings literature, with clear reference to any standards adopted (which are not mentioned in the tender), in such manner that there is no ambiguity or nothing is left to chance. All relevant information, so as to make the proposal understandable shall be given. Vague remarks and remarks like “will be given later” are not acceptable. If in the opinion of BSCL, the proposal is grossly incomplete, this will form sufficient reason for complete rejection of the tender on technical grounds.
2. Contractor shall note that this is a lumpsum rate tender. The bidder shall give rate for complete work. However, his proposals are subject to scrutiny and approval for unit wise / sub unit wise progressive payments by the competent authority. He shall therefore take utmost precaution to offer very standard equipment manufactured by only reputed manufacturers (wherever the makes are specified, the same shall be offered). However, the bidder should note that after the tenders are opened, all modifications, corrections, changes should be carried out entirely to the satisfaction of BSCL at no extra cost to BSCL. The contractor shall not be allowed to change the price quoted.
3. All the equipment installed shall be thoroughly tested at the time of commissioning of the plant and all initial defects shall be rectified to the entire satisfaction of the engineer. Damaged or non-working parts shall be replaced at no extra cost to BSCL.
4. **Training of the BSCL, staff before Handling over the Equipment/Instruments.** As there is fair amount of automation specified, there will be very large number of small components, which form units of equipment. In order that the BSCL staff engaged on operations and maintenance becomes proficient in understanding and handling the equipment correctly, the contractor will have to organize training programme in the manufacturers’ shops as well as on site during actual operation of the plant. For this purpose, he will have to employ suitably qualified, trained personnel to carry out this training. The training period is for 7 days after commissioning of the plant or for such extra period before commissioning in the workshops. A mutually agreed programme shall be formulated during the execution, which will be binding on the contractor.
5. **Third Party Inspection:** BSCL reserves the right to appoint any organization/ institution for checking of design, & quality & quantity checks of works during currency of the contract & no additional cost shall be payable by BSCL on this account
6. The overall development of site at which processing sheds shall be constructed inclusive of roads, horticulture, lights and other utilities services such as water supply, sewerage, drainage etc. shall be provided by contractor agency as per drawings provided by BSCL.

7. The Bidder shall liable for all statutory clearances inclusive from Bihar Pollution Control Board for execution and till operation period.
8. Bidder shall liable to all consequences arising there upon.
9. During the Construction Period, the Contractor shall maintain, at its cost, the Project Site and the assets thereon so that the traffic and commercial worthiness and safety thereof are at no time materially inferior as compared to their condition 7 (seven) days prior to the date of this Agreement, and shall undertake the necessary repair and maintenance works for this purpose.
10. The Construction work shall be executed by the bidder strictly as per technical specification of Bihar Construction Department/CPWD. In case of ambiguity or dispute arises, Bihar Construction Department (BCD) specification will prevail over.
11. The bidder shall strictly abide the General Conditions of contract and Special Conditions of Contract of the RFP document. In no case, the bidder may violate the above conditions and no amendments should be made in the GCC or SCC.
12. In case of arbitration or dispute of the Contract, the Hon'ble High court of Patna, Bihar is the Jurisdiction.
13. The RFP document shall form part of Contract Agreement. The bidder should download all pages of the RFP document and must sign all pages (authorized signatory of the Contract agency) before uploading the RFP document in the www.eproc.bihar.gov.in portal

SECTION 6

CONTRACT DATA

CONTRACT DATA

Clause Reference With respect to section 4.

Items marked “N/A” do not apply in this contract.

	Name: BSCL. Address: Municipal Corporation, Court Compound, Bhagalpur Name of Employer’s Representative: - Chief Executive Officer, Bhagalpur Smart City Limited, Bhagalpur	[Cl.1.1 of ITB of Section - 1]
	The Engineer is: - To be Informed Later.	GCC Cl .16 of Article - 16
	The Dispute Review Expert will be Expert Mediator of the Govt. of India rules.	[GCC Cl. 24 of Article - 24]
	The Defects Liability Period is upto 5 years during operation & maintenance	[GCC Cl. 15 of Article - 15]
	The commencement date shall from the issue of letter of notice to proceed (NTP)	[GCC Cl. 10 of Article - 10]
	The Intended Completion Date for the whole of the Works is 15 months after agreement for detail refer Important Milestone	[GCC Cl 12 of Article - 12]
	Mile Stone Physical works to be completed	15 Months from the start date of work
	The Site is located at Bhagalpur	[[Cl.7 of ITB)
	The name and identification number of the Contract is	[ITB CL 1.1]
	The work consists of Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract.	[Cl. 1.1 of ITB)
	The following documents also form part of the Contract	[GCC Cl 1.0 of Article -1]
	The law which applies to the Contract is the law of Union of India	[GCC Cl.25.1 of Article - 25]
	The language of the Contract documents is English	[GCC Cl.25.14 of Article - 25]
	The limit of sub-contracting	N/A
	The Schedule of Key Personnel	[Annexure – II of ITB of section 2)
	The minimum insurance cover for physical property, injury and death is Rs.5 lakhs per occurrence with the number of occurrences limited to four. After each occurrence, contractor	[GCC. 18.0 of Article 17.0)

	will pay additional premium necessary to make insurance valid for four occurrences always till Defect Liability Period of the Project.	
	The Site Possession Dates shall be 10 days after the issue of LoA.	[GCC Cl.8.2 of Article 8]
	The period for submission of the programme for approval of Engineer shall be 30 days from the appointed date	[GCC Cl.10.1.3 of Article 10] 10.1.3
	The currency of the Contract is Indian Rupees	[GCC Cl.17.2 of Article 17)
	The proportion of payments retained (retention money) shall be 9 % from each bills subject to a maximum of 8 % of final contract price.	[GCC Cl. 7.5.1 of Article 7]
	Amount of liquidated damages for delay in completion of works for whole work: (1/2000) of the Initial Contract Price, rounded off to the nearest hundred, per day.	[GCC CL 10.3.2]
	Maximum limit of liquidated damages for delay in completion of work 5 per cent of the Initial Contract Price rounded off to the nearest thousand.	[GCC Cl. 10.3.2 & 10.3.3 of Article 10)
	Amount of Bonus for early completion of whole of the works As per GCC	[GCC Cl. 17.16 of Article 17]
	The amounts of the advance payment are:	[GCC Cl 17.2 of Article 17]
	Mobilization (Interest bearing) – 10% of the Contract price. On submission of unconditional Bank Guarantee (to be drawn before the end of 20% of the contract period). The contractor shall furnish part 'Bank Guarantee' of 110% of amount of advance taken as Mobilization.	The mobilization advance shall be released in two equal installments of 5% each.
	Repayment of advance payment for mobilization and equipment: The advance loan shall be repaid with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 20 percent of the Contract Price or 6 (six) months from the date of payment of first installment of advance whichever period concludes earlier, and shall be made at the rate of 20 per cent of the amounts of all Interim Payment Certificates until such time as the loan has	[GCC Cl. 17.2.5 of Article 17]

	been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clauses 8.2 and 8.4 (Condition of Contract). In case non-achievement of milestone and accordingly non-production of running bills and consequently non-recovery of mobilization advance, the part Bank Guarantee (BG) against the Mobilization advance to that extent shall be forfeited.	
	The Securities shall be for the following minimum amounts equivalent as a percentage of the Contract Price: Performance Security for 2 per cent of contract price plus Rs. (to be decided after evaluation of the bid) as additional security in terms of ITB Clause 29.5.	[Cl. 7.1 of Article 7)
	The date by which "as-built" drawings (in scale as directed and in color print) in 5 sets of Hard copy (coloured) and 1 set of soft copy are required within 28 days of issue of certificate of completion of whole or section of the work, as the case may be.	GCC CL 10.2.7 of Article 10)
	The amount to be withheld for failing to supply "as built" drawings in color print by the date required is Rs 10.00 lakhs for projects up to Rs 50 crores, and additional Rs 0.15 lakhs for every Rs. 1.00 crore increment in project cost thereafter, with upper limit of Rs 50 lakhs.	GCC CL 10.2.7 of Article 10
	The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works.	GCC Cl 10.5 of Article 10)

VOLUME-II

SECTION 7

TECHNICAL SPECIFICATION

Disclaimer: The technical specifications provided herein for Bhagalpur Smart City Limited) are as per NBC, IS 456, IS 800, and other relevant IS codes. In the absence of any definite provisions on any particular issue in the aforesaid specifications, reference may be made to the specifications of Government of Bihar/India which provides the specifications of various items of works which may be taken as minimum and any item of lower specifications shall not be allowed.

Details of Materials and Specifications

- 1) **Foundation & Plinth:** RCC Column Structure of grade M30 or higher and Fe 500 TMT bars conforming to IS 1786:2008
- 2) **Super Structure:** RCC framed structure all column and beam with concrete of grade M30 or higher and reinforcement as per design for Fe 500 TMT bars conforming to IS 1786:2008
- 3) **RCC roof slab** 125mm thick in M30
- 4) **Chajja** 75mm thick 0.6 m wide in RCC.
- 5) **Water Proofing:** Water proofing with APP or fibre reinforced elastomeric liquid water proofing membrane with acrylic polymers.
- 6) **Walls:** A- class brick work in red brick in cement mortar 1:4
- 7) **Plaster:** 12mm thick 1:4 inside, 24mm thick 1:4 outside, 6mm thick 1:4 ceiling
- 8) **Flooring:**
 - a. **Rooms:** Vitrified tile flooring over flat brick soling as per design conforming to IS:15622
 - b. **Toilets, Laundry, Wash and Kitchen:** Anti-skid floor tiles in Kitchen and Toilets/ baths conforming to IS:15622 on 20 mm thick 1:4 cement mortar.
 - c. **Foyer, Waiting Hall, Dining hall, Corridor, Medical Shops and Staircase:** 25 mm thick Kota stone laid in 20mm thick 1:4 cement mortar
- 9) **Wall Tile/Dado/Skirting in Kitchen, Toilet and Bath:**
 - a. **Skirting:**150mm skirting of same material as flooring,
 - b. **Dado:** 600mm above kitchen counter, window sill and window side of ceramic glazed tile in 1:3 cement mortar,
 - c. **Bath/Toilet:** Ceramic glazed tile 2m from floor level for toilets and bath in 12mm thick 1:3 cement mortar
- 10) **Doors:**
 - a. **Frames:**
 - i. **External Doors frame** as per design in pressed steel door frames made of 1.60mm mild steel sheet conforming to IS 4351
 - ii. **Internal Door Frame** in 1 ½ inch/ 35 mm thick wood of Local wood, Subject to change on discretion to Second class Teak wood/ Sal wood/ Seasoned hollock wood/ Local wood
 - b. **Door Shutter:** Minimum 25 mm Thick (Internal Doors) and minimum 30mm Thick external Doors (Entry Doors) of first-class hard wood conforming to IS 4913 or IS 2202 subject to final approved design and execution.
 - c. **Paint:** Two coats of enamel paint over one coat of wood primer of approved shade.
- 11) **Windows:** Approved make, Aluminium Section with appropriate tubular section or Z section conforming to IS: 733 and IS: 1285 with powder coating of 50 microns, float glass panels of 4.0mm thickness, grill made of MS steel with 20mm X 6mm flat or 10mm square bar with 18kg/sqm minimum as per design, with suitable coating of enamel paint and red oxide zinc chromate primer.
- 12) **Painting:**
 - a. **Interior and ceiling:** Surface smoothened with 2mm thick white wall putty, over it one coat of white cement primer, over it two coats of acrylic emulsion paint of approved shade.
 - b. **Exterior:** Application of exterior acrylic smooth paint with silicone additives.

13) Sanitary ware:

- a. **Water closet:** Vitreous white glazed earthen ware water closet (Indian/ European W.C. Pan) of approved make with china/Orissa pattern footrest (Indian W.C. pan) with P or S trap, and with 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS 7231.
- b. **Urinal:** White vitreous china flatback urinal with standard flushing cistern and spray fittings
- c. **Wash Basin:** White Vitreous glazed earthenware wash hand basin of approved make.
- d. **Washroom Fittings:** fittings as per approved make of C.P. Brass

14) Water Supply: All internal water supply through PVC pipes and UPVC pipes wherever applicable as per design conforming to IS 4985-1978 Series IV.

15) Good Earth: Good earth shall consist of a free draining organic soil from horizons less than 7 300mm from the original surface, of a workable crumbly and lump free loamy 8 character and shall contain no grass or weed growth of any kind or other foreign 9 material or stones exceeding 25mm in diameter. Total stone content shall be 10 no greater than 15% by volume. A 1 litre sample with back up soil test data is 11 required before installation, or mixing. Soil test reports to be provided by 12 contractors for each source of good earth. 13 The following criteria shall be tested at an approved laboratory before use on 14 site 15 pH 7.0 - 7.8 16 Electrical conductivity below 0.75 dS/m 17 Soil-water extract not exceeding 1500 micromho/cm 18 Soil texture 19 Sand (0.05 - 2.00mm) Max. 75% Min. 20% 20 Silt (0.002 - 0.05mm) Max. 60% Min. 5% 21 Clay (less than 0.002mm) Max. 30% Min. 5% 22 The earth shall be stacked at site in stacks not less than 50 cm high and of 23 volume not less than 3.0 cum.

List of Approved Makes**CIVIL ITEMS:**

Sl. No.	Description of Approved Material	Approved Make
1 (a)	Cement (OPC- Grade 43/53)	Ultratech (L&T)/ Ambuja/ACC / Birla Gold/ /JK/ /Lafarge.
1 (b)	White Cement	JK White/ Birla White
2	Reinforcement Steel	SAIL/ TISCON(TATA)/ VIZAG (RINL) /JINDAL.
3	Structural Steel	SAIL/ TISCON(TATA)/ VIZAG (RINL) /JINDAL.
4.	Glazed Ceramic Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
5.	Ceramic Floor Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
6.	Vitrified Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
8.	Ply Wood, Shuttering Ply Conforming to IS 303-1989 / IS 4990- 1993	M/s. Century Plyboards (I) Ltd. / M/s. Green Ply Industries Ltd.
9.	-	-

10.	Fire Door	Shakti Met-Door, Metaflex
11	Rolling Shutter	Bengal Rolling Shutter, 'Standard', 'Swastik', 'Diana', 'Hercules',
12.	Stainless Steel Section	SAIL/ TATA
13.	Stainless steel hardware for doors	Dorma /Haffelle
14	Glazing	Saint Gobain / Asahi Float Glass Ltd / Hindustan Safety Glass Works Ltd. / Modi.
15.	Injection water proofing , Water Proofing coating, Water Repellents Conc., Admixtures, PVC, Plasticized membranes of water proofing	Sika Qualcrete Ltd./ Structural Waterproofing Co./Pidilite Industries Ltd./ Fosroc/ BASF (The applicator has to be certified by the water proof vendor.
16.	Synthetic Enamel Paints, Distemper, Acrylic Emulsion Paints, Melamine Coating, Aliphatic Acrylate	I.C.I (I) Ltd. / Berger Paints (I) Ltd. / Jenson & Nicholson (I) Ltd. / Asian Paints (I) Ltd. / FOSROC Chemicals(I) Pvt Ltd.
17.	Flush door (Factory made)	M/s. Century Plyboards (I) Ltd. / Green ply / Merino Industries
18.	Aluminium Sections and Extrusion shall conform IS:733-1983and IS:1285-1975	HINDALCO / JINDAL
19.	General Hardware	
	a. Latches, Hinges etc.	GODREJ / DORMA / HAFFELLE
	b. Locks, Flush Bolt	GODREJ / DORMA / HAFFELLE
	c. Handles	GODREJ / DORMA / HAFFELLE
	d. Screw	Nettlefold / GKW / ND
	e. Door Closure	GODREJ / DORMA / HAFFELLE
	f. Floor Spring	GODREJ / M/s. EVERITE Agencies Pvt. Ltd. / M/s. Garnish
	g. Aldron	ISI Marked
	h. Tower Bolt	ISI Marked
	i. PVC Buffer Block	ISI Marked
	j. Door Stopper	ISI Marked
	k. Patch fittings for toughened glass	Dorma Systems
21.	Kota stone (Bluish grey/ Green)	Premium
22.	Waterproof Adhesive for Tile/Slab fixing to wall or floor	Terraco India (P) Ltd. / M/s. Pidilite Industries Ltd. / M/s. Roffe Construction Chemicals Pvt. Ltd.
23.	Sealant	<ul style="list-style-type: none"> • Rhodorsil-33, Pidiseal A-11 & B-11 : M/s. Pidilite • Industries Ltd., Techseal RDL-600, Techseal RDL- 940, Techseal RDL-1000

		: M/s. Choksey Chemical • (P) Ltd. Roffseal : M/s. Roffe Construction Chemicals • Pvt. Ltd. or Fosroc ., Sikk Polysulphide/ Dr. Fixit • Pidiseal PS (42 P) MYK.
24.	Tile Jointing Materials	—RainbowTile Mate— HDI(M/s. Roffe construction Chemicals Pvt. Ltd.). —Terragroutll (M/s. Terraco India (P) Ltd. or Fosroc
25.	Decorative Ply (Teak / Cedar / Mahogany / Walnut Veneer)	M/s. Century Plyboards (I)Ltd./ GREEN PLY
26.	Cement Based or Exterior Textured Paint	ICI (I) Ltd / Asian Paints / Berger Paint (I) Ltd ./ Jenson & Nicholson
27	Glass Mosaic tiles	Shon, Kent , Bisazza
28	Glass for structural glazing & canopy (Coloured Reflective Toughened Glass)	Saint Gobain / Hindustan Pilkington/ Ashai float glass .
29	Silicone Sealant	GE/Dow Corning
30.	Aluminium composite panel	Aluco bond ,Aludecor , Alstrong
31.	MS Conduit pipe	BEC /SUPREME/ AKG
32.	PVC Conduit pipe	PLAZA/PRECISION/POLYCAB/AKG/ Arkaylite/ Havells, JUVAS
33.	Pre-construction Anti-termite (Chloropyriphos)	Pest Control India or approved by Engineer-in-charge
34.	Cement Primer	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
35.	Textured Paint	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
36.	Waterproofing acrylic emulsion exterior grade paint	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
37.	Acrylic Polymer waterproofing coat	SIKA / FOSROC / PIDILITE / ROFFE/ BASF
38.	Expanding grout admixture	SIKA / FOSROC / PIDILITE / ROFFE/ BASF

39.	Integral waterproofing compound	SIKA / FOSROC / PIDILITE / ROFFE
40.	Waterproofing admixture	SIKA / FOSROC / PIDILITE / ROFFE
41.	Plasticizer	SIKA / FOSROC / PIDILITE / ROFFE
42.	APP Modified Bituminous membrane	SIKA / FOSROC / PIDILITE / ROFFE
43.	Aluminium anodized louver	HUNTER DOUGLAS
44.	Structural glazing	JINDAL/HINDALCO .
45.	Stainless steel handrail with balluster	GODREJ / DLINE
46.	Floor hardener	Ironite/ Feronite

WATER SUPPLY, SEWERAGE & DRAINAGE

Sl. No.	Description of Approved Material	Approved Brand / Manufacturer
1.	G.I. Pipes - medium class (As per IS-1239, P - I)	TATA/JINDAL
2.	G.I. Pipe fittings (as per IS-1239, P - II) ; of material with Galvanised Cast Iron	HB' / "NB' /"ZOLOTO"/Leader / -"JSI"
	Fillings, with material code conforming to IS- 1879	approved Heavy

3.	C.P. on brass fittings	
	CP Bib cock	JAUAR-Continental /CERA /ESSCO - Delux' or =umthing special'/ —Marcll/—Hindwarell or as approved by ENGINEER-IN-CHARGE
	CP 'Long Nose' /or' Long Body' Bib cock	- Do -
	CP Angle valve	- Do -
	CP 'Concealed' Stop cock 'Heavy' type with adjustable CP wall Flange	- Do -
	CP Shower Rose	- Do -
4.	Bronze /Gun metal-body—Pressure-	—Zolotoll- 1040A / Leaderll/ —Santll / —Neta
	Releasell valve with threaded screwed ends, class (PN-1.0) / or (PN-1.6) class	
5.	Gun metal body Ball Float valve with PVC (High pressure) Ball Float	Zolotoll / Leaderll/ —Santll / —Neta
6.	15 mm dia. PVC Connector pipe with Symet nuts at both ends. - (for Wash Basin	PRAYAG or as approved by ENGINEER-IN- CHARGE

	Pillar tap & W.C. & Urinal Cistern connections)	
7.	Wall Outlet Connection Flexible Pipe - 15mm dia	"Jaquar" / —Esscoll/ —Hindwarell
8.	Bronze /Gun metal-body Gate valve with threaded screwed ends, "Non-rising Spindle" type (PN-1.0) / or (PN- 1.6) class	—Leaderll / —Zolotoll-for Bronze body / Sant / —Netall / SBM – —Peglarll type
9.	Bronze -body Globe valve with BSPT(F), threaded screwed ends, "Non-rising Spindle" type (PN-1.0) (PN- 1.6) class	Valves of 'Zoloto', or 'Sant' or as approved by ENGINEER-IN-CHARGE.
10.	CI body Gate /Sluice valve with flanged ends rising Spindle" type (PN- 1.0) /or (PN-1.6) class	= Sant' / = Zoloto'/Leader / = Hawa'
11.	Pump for water supply .	'Willo'/ 'KSBll / —CRlll / —Grundfosll/DP.pump
12.	CP Urinal Spreader-15mm (for Urinals only)	for all Toilets :- Hindware / "Parryware" or as approved by ENGINEER-IN-CHARGE.
13.	Soil, waste & vent pipes / and Pipe Fittings & Specials :- C.I. Centri cast (as per 15-3989)	'NECO' / 'HEPCO' / 'KAPILANSH DHATU UDYOG (P) L TD.'
14.	C.P. on brass fittings	JAQUAR/ESSCO =-Delux'/Marc /Hindware /CERA/

15.	C.P. on brass fittings C.P. Waste Coupling, ii) C.P. Bottle Trap, iii) C.P Robe Hook, iv) C.P. Towel Rail. v) CP Two way Bib Tap	JAQUAR/ESSCO _Delux'/Marc/ Hindware /CERA
16.	CP Toil. Paper Holder	- Do -
17.	CP Towel Ring	- Do -
18	CP Soap Dish Holder	- Do -
19.	CP Bottle Trap with wall connection Pipe	- Do -
20.	Sanitary Fixtures & Fittings	
	CP Robe Hooks	- Do -
	CP "Two-way" Bib cock	- Do -
	CP Shower Rose	- Do -
21.	Rigid PVC (Concealed) Waste pipe, [Schdl.-40], (as per ASTM D 1785)- (concealed or exposed)	Supreme / Oriplast / Finolex/ Utkarsh
22.	Rain Water Pipe Fittings :- 'Sand cast Iron' - "SWR" class, as per (IS: 1792)	DO
23.	'Salem' Stainless Steel Sink as per AISI 304 (18/8) conforming to I.S.- 13983	"Hindware" "Hafele" "'Nirali' , 'Parryware'

24.	Stone- Ware Pipes , and S.W. Pipe Fittings	Sonali / GINNI / NIRALI / Hind
25.	C. I. Manhole Cover (I.S. - 1726) - "Medium" or "Heavy" Grade' (Light duty only on Oil/Grease Trap Chamber)	NECO' / 'HEPCO'/ Swastika / _BPL'/ —BICII.
26.	NP-2 class R.C.C. Pipes and Pipe Fittings (i.e., RCC Collars etc.)	/ _West Bengal Eastern Spuncrete Concrete Industries (P) Ltd. / _HINDUSTAN'/ _SUR'./or equivalent ISI approved Make.
27.	Stone- Ware Gully Trap	Sonali / GINNI / NIRALI / Hind / or equivalent ISI approved make.
28.	C. I. Grating- (Over Catch Pit / Yard Gully Chamber), (I.S. - 1726) "Medium" or "Heavy" Grade	NECO' / 'HEPCO' / _BPL'/IIKapilansh Dhatu UdyogII
29.	Rain Harvesting Pump/ Agriculture Pump of required capacity -.	'Willo'/ IIKSBI / —CRII / —GrundfosII/ DP pumps/
30.	"Enclosed" Analogue type Water Meter ("Bulk" Type), conforming to IS- 2373 with Calibration Certificate, including all necessary accessories.	"Dashmesh" / 'Kaycee" / "Capstan"/ —KentII.
31.	Bronze body "Parallel Slide" 'Blow-off valve ("Spring loaded, blow-off pressure sellable" type), with flanged ends, also with matching Flanges (PN-1.0) / or (PN- 1.6) class	Zoloto' / Sant –make / Leader.
32.	Air-Release Valve Bronze body "Parallel Slide" 'Blow-off valve ("Spring loaded, blow-off pressure sellable" type), with flanged ends, also with	Zoloto' / Sant –make / Leader.

	matching Flanges (PN-1.0) / or (PN-1.6) class	
	Bronze / Gun metal -body Ball valve with BSPT(F), threaded screwed ends, "quarter turn Lever operated" type (PN-1) / or (pN-1.6) class	Valves of Bronze body :- 'Leader', 'Zoloto' – Metal only:- Sant make / Leader.
33.	Gaskets-CAF 'Full face' conforming to IS-2712, Gr.- C; (3mm thick)	"Klinger" / "Permanite" / "Champion".
34.	CPVC and uPVC and HDPE pipe including fittings	Ori-Plast /Suprim/Alom
35.	Pressure Reducing Valve , Blow-off VALVE : Bronze / Gun metal Body, : Bronze/Gun metal Body, Non-Return Valve (N.R.V) : C.I. Body	Zoloto, / "Sant" / —Leaderll / —Amcoll/ —Hawall)
36.	(Vitreous Sanitary wares chinaware):- i) W.C. - (Indian type/ European Type) - with 'S' / 'P' - Trap - Floor mounted type, without PVC Flushing Cistern ii) Wash Basins - "Flat-back" type rectangular pattern with —Esscoll CP Pillar Tap / or —Swan neckll type Mixer iii) Urinal - Flat back "Small" with CP	Hindware,/ —Parryware/ —CERA / KOHLER

	Spreader, CP Waste coupling, CP Bottle Traps with waste pipes.	
37.	Wall Mirror	6mm thick 'Modiguard' / 'Ashai' / or equivalent as approved by ENGINEER-IN-CHARGE, with 12mm thick hard-board backing
38.	W.C.:- Floor mounted "Pedestal" type- W.C. -	'Hindware- /'Parryware'/'Cera' :-
39.	Wash Basin	'Hindware- /'Parryware'/'Cera'
40.	For WC flushing :- PVC 'Low- level' "Dual- Flush" Cistern	Hindware' "SLEEK" or equivalent Parryware or 'Cera' Model.

ELECTRICAL ITEMS:

Sl.	ITEM	APPROVED MAKES
1	Diesel engine	CUMMINS / CATERPILLAR / KIRLOSKAR
2	Alternator	KIRLOSKAR / STAMFORD / AREVA
3	LT Cable termination materials	DOWELLS / COMET / LOTUS
4	Air Circuit Breaker	SCHNEIDER / ABB / L&T
5	MCCB / Contactor	SCHNEIDER / ABB / L&T
6	MCB Distribution Board	SCHNEIDER / ABB / L&T
7	MCB / RCCB / RCCBO	SCHNEIDER / ABB / L&T
8	Power Factor Correction Relay	SCHNEIDER // L&T/EPCOS

9	Power Factor Correction Capacitors	SCHNEIDER / EPCOS / L&T
10	Relays	SCHNEIDER / SIEMENS / L&T
11	Meters	SCHNEIDER /ENERCON/ AEI
12	Ammeter/Voltmeter selector switch	L&T/ KAYCEE / SALZER
13	Indicating Lamp	SCHNEIDER /SIEMENS/VAISHNO/ L&T
14	Push Buttons / Indicating Lamps	SCHNEIDER /L & T (RISHAB) / SIEMENS
15	CT	KAPPA / AUTOMATIC ELECTRIC / BCH
16	L. T. Power, control and signal cable	HAVELLS / POLYCAB / CRYSTAL
17	Cu. Wires	MESCAB / FINOLEX /HAVELLS
18	M.S.Conduit	JINDAL / TATA / GST
19	PVC conduit & Accessories	ISI Marked
20	Industrial Power Socket Outlets	SCHNEIDER / ABB / L&T
21	Switches and Sockets modular type	LEGRAND / CRABTREE / L&T
22	Lighting Fixture	WIPRO / CG / PHILIPS
23	Wall/ Ceiling / Exhaust Fans	USHA / CROMPTON / HAVELLS
24	Ductable Split Units	LG / PANASONIC / CARRIER
25	Wall Mounted Split Unit	LG / PANASONIC / CARRIER
26	Cable Tray	FABRICATED / LEGRAND
27	EPABX	UNIFY / CISCO / AVAYA
28	RJ 11 SOCKET	LEGRAND/L&T/SCHNEIDER
29	RJ 45 SOCKET	LEGRAND/L&T/SCHNEIDER
30	LAN Cable & Accessories	HAVELLS / POLYCAB / CRYSTAL

31	UPS	ETON/EMERSON
32	CCTV CAMERAS	L&T/SCHNEIDER/ABB
33	PA SYSTEM along with all accessories	BOSCH / HONEYWELL
34	TRANSFORMER	VOLTAMP / SCHNEIDER /
35	HT BREAKER	SCHNEIDER/ABB/L&T
36	HT XLPE CABLE	HAVELLS / POLYCAB / CRYSTAL
37	11 KV RUBBER MAT	ISI MARKED
38	11 KV HAND GLOVES	ISI MARKED
39	ELECTRONIC LIGHTING ARRESTER	PROLITE/
40	Fan	Havells, Crompton, Bajaj
41	LED Lights	Havells, Crompton, Bajaj,Surya

FIREFIGHTING MAKES

Sl. No.	Description of Material/Item	Approved Make
1	Relays	Siemens / Schneider / L & T
2	Meters	IMP / Neptune
3	Ammeter/Voltmeter selector switch	Kaycee / Salzer / AE
4	Indicating Lamp	Siemens/ Schneider
5	Wires (copper conductor)	Mescab / Polycab/ Havells/ Nicco / Gloster
6	MCCB	Siemens/ Schneider / L & T
7	CT	Kappa

8	MS-Black Main Pipes-Hydrant ERW (IS-1239) Butt weldable /threaded IS:1239 Part-I (Heavy)	JINDAL / TATA/ Nezone/ ‘Skipper’
9	Gate valve(IS:210,GR-210) ,	Crawlie & Ray /Leader /Intervall/Sant/ Zoloto/L&T Kirloskar/
10	Butter fly valve in C.S. lever / Wheel	
	operated to be fitted between flanges, PN- 1.0 BS-5155	
11	Foot Valve with Strainer as per IS- 4038	
12	Sluice / Gate Valve.	
13	N.R.V.	
14	R.C.C. pipes (NP-3	Eastern W.B. Concrete Industries Spuncrete / Pvt. Ltd. / Hindustan
15	Hydrant Valve IS-5290	Shield Fire /Minimax, Surex –all ISI marked
16	CP fire Hose with G.M. Nozzle.	FireShield/Minima x, Surex – all ISI marked
17	Pressure Gauge	FireShield /Minimax, Surex – all ISI marked
18	Hose Box	FireShield /Minimax, Surex – all ISI marked
19	Fire Extinguishers D.C.P.- 5 Kg.- including MS fastening Clamps for mounting on walls/columns CO2 4.5 Kg.- including MS fastening Clamps for mounting on walls/columns Water CO2 including MS fastening Clamps for mounting on alls/columns A B C – Powder type	FireShield /Protector/ /Surex /Minimax-all ISI approved

	(Mono Ammonium Phosphate base) - including MS fastening Clamps for mounting on walls/columns	
20	Pump	Pumps/Kirloskar/KSB/ SAM TURBO BE /WPIL /Grundfos or Equivalent
21	Y'-strainer	Kirloskar/Lead er/ Sant /Zoloto
	Pressure Release Valve	Kirloskar/Lead er/ Sant /Zoloto
23	Fire Sprinklers (both pendent & Up- Right type)	= TYCO' / = VIKING' / = Omex'/ —Centrall-ELO 16/ Crawlle & Ray
24	FIRE ALARM PANEL	HONEYWELL-ESSER, Notifire, Simplex. _ Morley Edward
25	RESPONSE INDICATOR	Approved matching Brand.
26	CABLE	Finolex or equivalent
27	PVC CONDUIT	Ori-Plast or other equivalent
28	FIRE ALARM PANEL	HONEYWELL-ESSER,
29	Smoke Detector	Siemens/Esser/Tyco
30	Heat Detector	Siemens/Esser/Tyco
31	Manual Call Box	ISI Approved Make
32	PC	HP/Dell
33	Pressure Switch	Indfoss ,/ Switzer
34	Lift	OTIS/KONE/JOHNSON

All material must conform to relevant BIS specifications.

Technical Specification for HVAC

1 MAKE FULL INVERTER VRF Condensing Units (ODU) of following capacities

Supply of Voltas make VRF units complete with Partial Inverter driven scroll compressor having interconnected control wiring and refrigerant piping housed in compact housing duly powder coated body.

22 HP

18 HP

14 HP

- 2 VRF Evaporative Units (IDU) of following capacities
 Ductable Unit 2.5 TR
 Ductable Unit 5.5 TR
 Ductable Unit 8.0 TR
 Hiwall Unit 2.0 TR

- 3 AHU UNIT
 8500 CFM FLOOR MOUNTED AIR HANDLING UNIT WITH 50 MM STATIC PRESSURE (2stage filtration along with mixing chamber)

- 4 AHU KIT

- 5 Electrification works including Outdoor illumination
 Total for HIGH SIDE (SUPPLY OF EQUIPMENTS) BASIC PRICE

 TOTAL HIGH SIDE PRICE WITH ALL TAXES

 INSTALLATION, TESTING & COMMISSIONING OF THE A.C SYSTEM

- 6 Installation of VRF Condensing (Outdoor) Units
 22 HP
 18 HP
 14 HP

- 7 Installation of VRF Evaporative(Indoor) Units
 VRF Evaporative Units (IDU) of following capacities
 Ductable Unit 2.5 TR
 Ductable Unit 5.5 TR
 Ductable Unit 8.0 TR
 Hiwall Unit 2.0 TR

- 8 AHU UNIT
 "8500 CFM FLOOR MOUNTED AIR HANDLING UNIT WITH 50 MM STATIC PRESSURE (2stage filtration along with mixing chamber)"

- 9 Topping-up of refrigerant R - 410 A.
 FOR 162 HP VRF SYSTEM

- 10 "Site Fabricated GI Ducting as per IS-655, both
 for Supply Air Ducting - GSS - 120 GSM,"
 i) 20 Gauge
 ii) 22 Gauge
 iii) 24 Gauge

- 11 Fire Retardent Canvass Connections

- 12 Cross link close cell fire retardent Thermal

Insulation with Al Foil 9 MM thick

- 13 "Accoustic Insulation- Acoustic Insulation - Supply & fixing of duct acoustic insulation with 12 mm thick Rigid Board resin bonded glass wool of 48Kg/cu.m density (Board) and 28 gauge perforated aluminium sheet."
- 14 Al. powder coated Grille for Supply air with Collar damper
- 15 GSS DUCT DAMPER
- 16 Al. powder coated Grille for Return air without Collar damper
- 17 SITC of Communication Cable between indoor unit to outdoor unit
3core x 1.5/1.0 sqmm Cu shielded cable laid in conduits
- 18 SITC of seam less and eddy current tested hard drawn copper insulated
Refrigerant Piping with 19 mm insulation
- 19 SITC of Rigid PVC drain pipe of 32 mm dia with 6 mm nitrile rubber sleeve
- 20 SITC of MS stand for condensing unit
- 21 Lifting , Shifting of ODU & I U Units

Technical Specification for Audio Visual & Acoustics

STAGE LIGHTING

High quality CE Certified 54x3W LED PAR Light used as a Effect Light, Spot Light and Strobe Light etc. with below specifications:

- Lamp: 54 X 3W RGBW LED(12R+18G+18B+6W)
- Max. Power consumption:160W
- Power supply: 100-230V AC,50/60Hz
- Power cable: 3 core 1.5 sq.mm. copper PVC insulated
- Channels: 8 Channel DMX-512
- DMX In /Out : 5 Pin • Beam angle: 25°
- Control mode: DMX/RDM,Manual.
- LUX @ 2m: 10,000 • Function:strobe, dimming, sound active and Master slave.
- Housing:Diecast aluminium with black epoxy polyster powder coated
- Dimming: 0 - 100% • IP Grade:IP65
- Power and DMX: Loop in and loop out

High quality LED 2x2 blinder matrix Light is used in Entertainment applications, Night club, Fashion shows, Film, Band performances, Discotheque,Stage performance , TV studio and large-scale show etc fixture with advanced COB LED technology with below

specifications:-

- Power Consumption: 400W

Electrification works including Outdoor illumination

- Light Color: Single color warm white / Cool Light
- LEDs Qty : 4 pieces • Channel:4/8 channel
- Lifetime: Over 50,000 hours •
- Beam Angle: 30°
- Control mode:DMX512,Master/Slave, AutoRun, Sound active
- Dimmer: 0-100% linearly adjustable
- LUX:8270 LUX @ 2m • IP Grade: IP20 • Certification: CE

"High quality 200W LED Fresnel light used as a Key light, Back light, Fill light with dimming, spot & flood focus versions for creating various effects for multiple applications with specifications as below.

- Lamp power-200W COB LED•Power supply - 100-240 AC, 50/60 Hz•Power cable- 3 core

1.5 sq.mm. copper PVC insulated•Color Temperature:3200K•Control:DM X512/Manual• Spot-Flood focus adjustment:Manual

- CRI>95•TLCI>90•Dimming-0- 100% through manual and DMX•Beam Angle-10°-50°• Protection rating-IP20•LUX at 2m:35,600 at 10° & 3,210 at 50°(3200K)•Certification:CE"

"High quality LED PARCAN Light used for dance hall, architectural and stage lighting with below specifications:

- Lamp power - 100W LED• Power supply - 100-240 AC, 50/60 Hz• Channels: 2 channel DMX 512 • Control: Manual, DMX • Color Temperature: 3000K • CRI > 90 • Function: Dimming, Strobe • Dimming: 0- 100% • Beam Angle - 9°/15°/20°
- Protection rating - IP20 •"

"High quality 200W LED Profile Spot Light used as a Spot Light and high-contrast gobo projection Light. Other Technical specifications as below:

- Lamp Power : 200W COB LED
- Power Supply : AC 110-230V, 50Hz.
- CRI : >90 • Colour Temperature : 3200K
- Focus : Manual Focus • Beam Angle : 19°
- Control : DMX, Autorun and Master/Slave
- Shutter arrangements : Beam shapping shutter or plastic gobo projection assembly. • Lux Level for 3200 K light @ 2meters to 4025 Lux@ beam angle 19 deg • Dimming : 0 - 100% dimming • Protection Rating : IP20• Body Color : Black "

"High Quality 20x15W RGBWA 5 in 1 LED Wash Light fixture with below specification details.

- Light Source : 20 x 15W RGBWA 5 in 1 LEDs
- Operating Voltage : 100- 240VAC, 50-60 Hz
- Power: 300W Max • IP Rated IP20 /IP 65
- Beam angle : 45°/30° • DMX Channels : 5/9
- Operating Modes : DMX512 / Manual / Color Preset • Dimmer : 0-100% linear adjustment
- Operating Modes DMX, Master/Slave, Color Preset• Housing Cast aluminum housing with natural cooling system • Power cable & DMX cable In-out looping cables •"

"Diecast aluminum ""C"" clamp with safety locking chain, duly powder coated in black matt texture finish and technical specifications as below.

- Lock - MS threaded Galvanized lock key,
Plastic Glass filled nylon moulded M6 key.
- Receptacle - 28mm standard TV spigot.
- Safety - MS Galvanized chain with pin.
- Finish - Pretreated and black epoxy polyester powder coated.
- Safe working load – 150Kg."

Safety bond with lock clip to be fixed around the grid to avoid fall of the material in case if the "C" clamp is not locked properly. SWL 100Kgs.

Identification name plate round 79MM undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment and duly powder coated in matt White texture finish.

MS suspender consisting of fish plate of 150X150X6mm undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment and with requisite anchor fastner(Customised) duly powder coated in black matt texture finish & stud with 12mm threaded rod to keep the Bar rigidly held With SWL of 200kg.

MS "C" track size of 40 x 50 x 40mm, 3mm thick, made up of SAIL/Jindal make with 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish.

Motorized winch to be used as stage Lighting Bar with frill attachment 10 Mtr lenght made of 40NB dual barrel 2 mm thickness along with 1.5 HP 3PH AC motor with DC Brake Necessary pulley, guide pulleys GI wire rope of minimum 5mm in diameter constructed with 6 bundles of 19 strands with fiber/Steel core at center, Pile winding drum Specially designed compact worm gear box Cam type double Upper & lower limit controller Requisite trunking arrangement like cable retractor made of 22SWG CRCA Mild steel in 2 pieces with Epoxy polyster powder coated in black texture finish with individual length of flip flop of 1300mm, thickness of 22 mm, width of 116 mm.

Motorized winch of lenght 12 mtrs to be used as Front of house Light Bar made of 40NB dual barrel 2 mm thickness along with 1.5 HP 3PH AC motor with DC Brake Necessary pulley,guide pulleys GI wire rope of minimum 5mm in diameter constructed with 6 bundles of 19 strands with fiber/Steel core at center, Pile winding drum Specially designed compact worm gear box Cam type double Upper & lower limit controller Requisite trunking arrangement like cable retractor made of 22SWG CRCA Mild steel in 2 pieces with Epoxy polyster powder coated in black texture finish with individual length of flip flop of 1300mm, thickness of 22 mm, width of 116 mm.

Wing ladder, made using 40NB dual barrel undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment and duly powder coated in black matt texture finish Size of 1800mm x 600mm

"MS Power junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment , duly powder coated with Matt black texture finish 4 way 10A IEC Socket of below specifications:-

/15 (1.5mm)

- Terminations : /28 (2.8mm solder)
- Total Max Rating : 10A, 250V a.c
- Operating Temp : –20°C to
+70°C
- Mouldings : Nylon, Flammability Rating UL94V-0"

"MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 Tank

Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish 5 pin XLR DMX OUT connector of below

specifications:-

- Extra high temperature resistant insulator material.
- All metal housing offers best overall RF protection & electromagnetic shielding
- New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination
- Optional connection to easily join pin 1 to chassis ground"

"MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish 5 pin XLR DMX IN connector of below specifications:-

- Extra high temperature resistant insulator material.
- All metal housing offers best overall RF protection & electromagnetic shielding
- New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination
- Optional connection to easily join pin 1 to chassis ground"

"DMX lighting junction loop box made up of 22SWG CRCA sheet of jindal make undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish 5 pin XLR DMX in / out connector of below specifications:-

- Extra high temperature resistant insulator material.
- All metal housing offers best overall RF protection & electromagnetic shielding
- New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination
- Optional connection to easily join pin 1 to chassis ground."

MS Auxilary fabricated marshalling boxes made up of 20SWG CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish for all the light bar with required no of ivory connectors.

Well designed and engineered Fabricated wall mount 15 Way Direct Lighting Distribution Board made up of MS CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish consists of suitable rating TPN incomer, SP MCB's and for the junction boxes fixed on the top of the grid including wiring and busbar connection with proper earthing and Hingable door with magnetic door lock complete.

MS sheet metal fabricated power junction box duly powder coated and fitted with 2 10amps 3 pin IEC socket, ON/OFF switch and necessary glands to power splitters and console undergone through 7 tank process with various chemical treatment to keep them rust free duly powder coated with Matt black texture finish.

MS Fabricated made up of 22SWG CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish power junction box (PJB) to terminate the Motorized section power connections.

Well designed and engineered Wall mount 3 feeder motor control centre panel & Remote control panel with emergency trip necessary contactors and relays to control the motors system for to control the motors system for Lightbar Mechanism. (MCCP/RCP - 3)

MS perforated trays with tray lid Size 40 x 75 x 40mm treated with 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with matt black texture finish paint along with clamping arrangement.

Internal earthing copper bare conductor network related to work coming under our scope.

"Installation hardwares such as clamps, connectors, glands, lugs, ferruells, welding rods etc."

"Grid mount photo isolator DMX Amplifier unit 1 DMX input and 8 isolated output with following specifications:

- Power Supply: 90-240V AC, 45- 63Hz.
- Control: DMX 512 protocol,
- Control Signal input: 5 pin XLR female,
- splitter bracket."

Digital Lighting Console with 1024 DMX channels • 1024 Channels. • 96 Fixtures. • 96 Dimmer Control Channels. • Time control of scenes: Fade in/out, LTP slope • Channels for each fixture 40 primary + 40 fine tune • LCD display with back light • 600 Scene step • 60 Scenes/Playbacks • 10 Scenes to run simultaneoulsy • Shape generato: Shapes of Dimmer, Pan/Tilt, RGB, CMY, Color, Gobo, Iris and Focus • Master slider - Global, playback, fixture • USB Memory - FAT32 supported

Consumables:-

5 pin XLR male / female connectors.

5 Pin XLR Termination plug.

Valcro Tape (White if available)

Cables :-

PVC Copper unarmoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 3cx1.5 sq mm.

FRLS PVC copper multistrand flexible cable 7 core x 1.5 sq.mm.

PVC Copper armoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 4cx4 sq mm.

Screened DMX signal cable for DMX network.

STAGE DRAPERY

Main Valance fixing arrangement using 40NB MS pipe, 2mm thick, 14 Mtr in length undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment duly powder coated with matt black texture finish with mounting brackets to suspend the arrangement.

Main curtain track system 17 Mtr long, centre parting with overlap of 0.9mtr provided with, Heavy duty extruded curtain track of 48x84mm, powder coated Track mounting brackets constructed of C track of dimension 40X50X40mm Electromechanical drive unit with 3PH INDUCTION MOTOR, 1.1KW, 3000RPM, 90B5 FLANGE MOUNT with GI wire ropes of 3mm in diameter constructed with 7 bundles of 7 strands with steel core at center Curtain holding Nylon wheel trollies consisting of 4 wheeler master trolley and 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track. Nylon moulded 6201 Ball bearing Diverter pulley with with 90mm for outer diameter, 72mm diameter at groove base, 19mm pulley thickness & MS yellow passivated Routing pulleys with 165mm for outer diameter, 150mm diameter at groove base with 12mm pulley thickness.

Rear curtain track system 14 Mtr long, centre parting with overlap of 0.9mtr provided with, Heavy duty extruded curtain track of 48x84mm, powder coated Track mounting brackets constructed of C track of dimension 40X50X40mm Electromechanical drive unit with 3PH INDUCTION MOTOR, 1.1KW, 3000RPM, 90B5 FLANGE MOUNT with GI wire ropes of 3mm in diameter constructed with 7 bundles of 7 strands with steel core at center Curtain holding Nylon wheel trollies consisting of 4 wheeler master trolley and 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track. Nylon moulded 6201 Ball bearing Diverter pulley with with 90mm for outer diameter, 72mm diameter at groove base, 19mm pulley thickness & MS yellow passivated Routing pulleys with 165mm for outer diameter, 150mm diameter at groove base with 12mm pulley thickness.

MS, Wing frame construction, made out of MS square pipe with 2mm in thickness powder coated of size H 7.5 Mtr x W 2 Mtr, provided with 1.5meter wing track of 48X84mm with gridmount brackets made

of 40X50X40mm C track Pivotal 4 wheeled suspension trolley Adjustable floor locking screw jacks with rubber grips Inverted 4-Wheeler Trolley with Flexi Adaptor Clamp Extruded track Aluminium I Profile to be laid through out the dept of the stage

Cyclorama arrangement using aluminium extruded "I" track of 48 x 84mm duly powder coated in black texture finish to use as straight cyclorama track with MS fabricated Grid/wall mount bracket constructed of C track of dimension 40X50X40mm duly powder coated to hold the track, MS fabricated Tie down railing cut length 3 mtr duly powder coated to keep the cyclorama in drum tight arrangement, 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track, MS powder coated Leading edge frame to keep the cyclorama in drum tight arrangement of Size L 10 Mtr x 6Mtr.

MS Fabricated made up of 22SWG CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish power junction box (PJB) to terminate the Motorized section power connections.

Well designed and engineered Wall mount 2 feeder motor control centre panel & Remote control panel with emergency trip necessary contactors and relays to control the motors system for curtains Mechanism. (MCCP/RCP - 2)

Fabrics

"Fire retardant velvete fabric 100% (2 times of the finished dimension) gathering for main Valance as per the approved pattern and colour, not less than 300 GSM, duly stitched along with and eyelets.

Size : L 14 Mtr x H 1.5 Mtr."

"Fire retardant velvete fabric with lining 100% (2 times of the finished dimension) gathering for main curtain as per the approved pattern and colour, not less than 300 GSM, duly stitched along with eyelets.

Size: L 9 Mtr x H 7.5 Mtr."

"Fire retardant cotton fabric 50% gathering for Rear curtain as per the approved pattern and colour, not less than 250 GSM, duly stitched along with eyelets.

Size: L 7.5 Mtr x H 7.5 Mtr."

"Fire retardant cotton fabric 50% (1.5 times of the finished dimension) gathering for frills as per the approved pattern and colour, not less than 250 GSM, duly stitched along with eyelets. Size: L 10 Mtr x H 1.2 Mtr.ng"

"Fire retardant cotton fabric 0% gathering for wings as per the approved pattern and colour, not less than 250 GSM, duly stitched along with eyelets.

Size: L 7.5 Mtr x H 4.1 Mtr."

"Perforated plastic Cyclorama seamless welded screen, off white, with eyelets along all four sides, perforated plastic screen with eyelets.

Size: L 10 Mtr x H 6 Mtr."

Cables :-

FRLS PVC copper multistrand flexible cable 7 core x 1.5 sq.mm.

PVC Copper flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 4cx4 sq mm.

Audio Setup

"Main Arrays LCR: Supply, installation, testing & Commissioning of stage left, Centre and right clusters Loudspeakers having 14"" LF driver or better and multiple MF/HF drivers (More than 4), Bi-amplified 2 or 3 Way array loudspeaker system, with Individual Module free field Frequency Range (-10dB) of 55Hz - 18kHz or better & Continuous Power Handling of

>= 750W LF + 150W MF/HF. The

Loudspeaker module shall have a Max. SPL (Peak) of MF/HF >= 130 or better. It should have Horizontal near dispersion pattern of 90° or better, vertical dispersion of the array shall be 60 degrees or better."

"Subwoofers: Supply, installation, testing & Commissioning of 18"" arrayable subwoofer with same footprints as Main Line array elements for Arraying in the frame, having a Freq. Range of 30 Hz - 200Hz. It should have an axial Sensitivity of > = 94dB (1W/1m) or more delivering a free field Max.

Calculated SPL(peak) of >=127 db. The loudspeaker should have a nominal impedance: 4ohm or more and continuous Power Handling of 750W or more complete with installation as per

the site requirement."

Array Frame: Supply, installation, testing & Commissioning of OEM array frames/ Hanging/ Mounting arrangement for Suspension of upto 8-10 array modules offered above, Shall offer multiple rigging points

for achieving desired pitch settings.

Front Fills: Supply, installation, testing & Commissioning of Compact High SPL Fill loudspeakers with 5" LF Driver ; Frequency Range of 90 Hz - 16 kHz or better; Nominal Dispersion : 90°H x 90°V; Long term Power handling of 175 W or better; Sensitivity : 90 dB; Max SPL : 116dB Peak; Nominal Impedance : 8Ω; 18-gauge (1.2 mm) perforated steel; Powder- coated finish grille with Two-part spray polyurethane coating Enclosure. Shall offer optional OEM Input transformer kit for Distributed system applications. Standard wall bracket shall be included.

Stage Monitors: Supply, installation, testing & Commissioning of Sound Reinforcement System - Small format sound reinforcement loudspeakers with 2 x 8" Driver ; Frequency range of: 70 Hz - 16 kHz; Nominal Dispersion : 90°H x 60°V (rotatable horn); Long term Power handling capacity: 300W or better; free field full range Sensitivity : 94 dB SPL or better; Max SPL : 119dB (125dB Peak); Nominal Impedance : 8 Ω; 18- gauge (1.2 mm) perforated steel; Powder-coated finish grille with Two-part spray polyurethane coating Enclosure. With U bracket for standard installs.

"Surround & Fill Loudspeakers: Supply, Installation, testing and commissioning of of Wedge shaped Stage Monitor Loudspeaker with Frequency Response of 90 Hz to 16 kHz or better ; Horizontal Nominal Dispersion : 90 degree Horizontal X 60 degree Vertical or better (Rotatable Horn); Sensitivity (SPL / 1 W @ 1 m) of 92 dB SPL or better. Continuous Power of 200 Watt or better; Impedance of 8 Ohm ; Max SPL @ 1 Mtr (Cont.) of 120 dB SPL or better

; Transducers/Drivers of HF: 1 x 1.5" or better; LF: 1 X 8" or better complete with standard accessories and wall bracket."

Digital Power Amplifier: Supply, installation, testing & Commissioning of 8 channel class D Power amplifier with a Max Output Power of 8x500W@8 ohms, or bridged mode output power of 4x 1000W @ 8/4 ohms. 20Hz - 20 KHz, SNR of 102dB and THD + N of <0.4% with built in protection such as Limiters, Temperature, DC, Short Circuit, Peak Current Limiters, Turn on delay etc. Built in DSP for Matrix routing, Speaker equalization, Delays, Array EQs etc complete with Ethernet Port for Network Control, programming and monitoring. Shall offer optional Network audio connectivity (Dante or CobraNet) through expansion slot.

"Digital Signal Processor:

Supply , installation , testing and commissioning of Digital Sound Processor with 8 Mic/Line inputs & 8 analog outputs, 24 Bit A-D and D-A Convertors; Sampling Rate : 48 kHz; THD : < 0.002 % ; Channel Separation (Crosstalk) : < 105 dB ; Frequency Response 20 Hz - 20 kHz ; Signal-to-Noise Ratio 80 dB ;Dynamic Range : > 115 dB; 5 Control Inputs and Outputs; RS-232 and Ethernet Port for third party Control and Monitoring; Expansion slots for optional Network Audio formats like Dante/Cobranet; inbuilt DSP features like Input Equalizers, Router, Band Pass filter, Output Equalizer, Delay, Limiters, gates, Source selectors etc."

Master Control Center: Supply, installation, testing & Commissioning of programmable Audio DSP controller with Display and programmable encoder knobs. Multiple programmable settings configurable over Ethernet. Source Selection and Volume Controls ; Supports Upto 256 programmable Functions Shall include any accessory to make the system functional.

"Audio Mixer with effects, Builtin 40 inputs

Supply of Digital Mixer : 17 motor faders (16 channels + 1 master) ; 40 input mixing channels (32 mono + 2 stereo + 2 return) ; 20 Aux buses (8 mono + 6 stereo) + Stereo + Sub ; 8 DCA groups with Roll-out ; 16 analog XLR/TRS combo mic/line inputs + 2 analog RCA pin stereo line inputs ; 16 analog XLR outputs ; 34 x 34 digital record/playback channels via USB 2.0 + 2 x 2 via a USB storage device,"

"Wireless handheld microphone . Wireless Transmitters with Lapel

- 2 AA batteries (minimum up to 14 hours of continuous use) 300 feet (91 m) operating range (line of sight),

Audio Input Level: gain Max: - 16dBV Min: +10dBV, Gain Adjustment Range: 26 dB, Input Impedance - 1 MΩ, RF Transmitter output – 10mV Lavalier Microphone Impedance minimum 3000 ohms with minimum 1m of cable.

Transducer Type : Condenser Polar Pattern: Omnidirectional Frequency Response from: 50 Hz Frequency Response to: 20 KHz Sensitivity (dBV/Pa): -38 dBV/Pa Sensitivity (mV/Pa): 13 mV/Pa Equivalent Selfnoise: 18 dB (A) Sound Pressure: 120 dB Receiver – Microprocessor-controlled internal antenna diversity, One-touch Quick Scan frequency selection quickly locates the best frequency, Two audio status indicator LED, Break-resistant Microphone Clip, Audio Output Impedance : XLR connector: 200 Ω / 6.35 mm (1/4") connector: 50 Ω Audio Output Level: XLR connector: -27 dBV (into 100 kΩ load) / 6.35 mm (1/4") connector: -13 dBV (into 100 kΩ load), (Ref. ±33 kHz deviation with 1 kHz tone) RF Sensitivity : -105 dBm for 12 dB SINAD, typical Image Rejection - >50 dB, typical"

"Wireless lapel microphone . Wireless Transmitters with Lapel

- 2 AA batteries (minimum up to 14 hours of continuous use) 300 feet (91 m) operating range (line of sight), Audio Input Level: gain Max: - 16dBV Min: +10dBV, Gain Adjustment Range: 26 dB, Input Impedance - 1 M Ω , RF Transmitter output – 10mV Lavalier Microphone Impedance minimum 3000 ohms with minimum 1m of cable. Transducer Type : Condenser Polar Pattern: Omnidirectional Frequency Response from: 50 Hz

Frequency Response to: 20 KHz Sensitivity (dBV/Pa): -38 dBV/Pa Sensitivity (mV/Pa): 13 mV/Pa Equivalent Selfnoise: 18 dB (A) Sound Pressure: 120 dB Receiver – Microprocessor-controlled internal antenna diversity, One-touch Quick Scan frequency selection quickly locates the best frequency, Two audio status indicator LED, Break-resistant Microphone Clip, Audio Output Impedance : XLR connector: 200 Ω / 6.35 mm (1/4") connector: 50 Ω Audio Output Level: XLR connector: -27 dBV (into 100 k Ω load) / 6.35 mm (1/4") connector: -13 dBV (into 100 k Ω load),

(Ref. \pm 33 kHz deviation with 1 kHz tone) RF Sensitivity : -105 dBm for 12 dB SINAD, typical Image Rejection - >50 dB, typical"

Wired handheld microphone Vocal Type Dynamic Frequency Response 50 to 15,000 Hz Polar Pattern Cardioid Sensitivity (at 1,000 Hz Open Circuit Voltage) -54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL Impedance Microphone rating impedance is 150 Ω (300 Ω actual) for connection to microphone inputs rated low impedance Polarity Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3. Case Dark gray, enamel-painted, die Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille Connector Three-pin professional audio connector (male XLR type) Certification Eligible to bear CE Marking. Conforms to European EMC Directive 89/336/EEC. Should meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.

"DRUM KIT FOR DRUM MIKING SOLUTION

Wired (Instrumental) microphone Type Dynamic Frequency Response 50 to 15,000 Hz Polar Pattern Cardioid Sensitivity (at 1,000 Hz Open Circuit Voltage) -54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL

Impedance Microphone rating impedance is 150 Ω (300 Ω actual) for connection to microphone inputs rated low impedance Polarity

Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3. Case Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille Connector Three-pin professional audio connector (male XLR type)"

"Gooseneck microphone with table top stand with ON/OFF Switch

Type Condenser (electret bias) Frequency Response 50 to 17000 Hz

Output Impedance (at 1000Hz) EIA Rated at 150 Ohms (180 Ohms actual) Open Circuit Sensitivity (At 1KHz ref 1V per Pascal) Cardioid : 21.1 mV Super Cardioid : 23.7mV Polarity Positive Sound Pressure on diaphragm to produce positive voltage on Pin 2 relative to pin 3 of XLR output connector Maximum SPL (1 kHz at 1% THD, 1 kilohm load) Cardioid: 123 dB Supercardioid: 122 dB Equivalent Output Noise (A- weighted) Cardioid: 29 dB SPL Supercardioid: 28 dB SPL Signal-to-Noise Ratio (referenced at 94 dB SPL at 1 kHz)

Cardioid: 65 dB Supercardioid: 66 dB Dynamic Range (1 kilohm load at 1 kHz) 94 dB Common Mode Rejection 45 dB minimum Preamplifier Output Clipping Level (1% THD) -6 dBV (0.5 V) Logic Connections - LED IN ?? Active low (\leq 1.0V), TTL compatible. Absolute maximum voltage: -0.7V to 50V Logic Input Output Loc I/O terminals for remote control Certification CE Marking. Conforming to European EMC Directive 89/336/EEC. To Meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.

Mute Switch Attenuation 50 dB minimum Microphone 12"" / 18"" inches desktop mini condenser, gooseneck mounted microphone

Cartridge interchangeable"

"CD player with USB

Five-disc CD changer Disc Compatibility : CD, CD-R/RW, CD-Text (MP3,WMA),USB, iPod Output Level

: 2 ± 0.3 V (1 kHz, 0 dB) Signal-to-Noise Ratio : 105 dB Harmonic Distortion : 0.003% (1 kHz) Dynamic Range : 96 dB Frequency Response : Hz-20 kHz (± 0.5 dB) Output : Optical & analog RS-232C interface and IR in/out Power Consumption : 16 W"

4 point mic junction boxes .

UL Listed Connectors .

Light cations.weight tripod alluminium Microphone stand with Long Arm, boom type & chrome plating

Light weight tripod alluminium Microphone stand with short Arm, boom type & chrome plating

Speaker cable Outer Jacket : LS PVC (CL2P) Outer Shield : Aluminum/Polyester Twisted Tinned Copper 10AWG 2 Conductor Oxyzen Free Standards : EU Directive 2000/53/EC (ELV), EU Directive 2003/96/EC (BFR), EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), EU Directive 2003/11/EC (BFR), CE Mark, RoHS, NFPA 262, UL voltage rating : 150 V RMS.

"Speaker cable

Outer Jacket : LS PVC (CL2P) Outer Shield : Aluminum/Polyester Twisted Tinned Copper 12AWG 2 Conductor Oxyzen Free Standards : EU Directive 2000/53/EC (ELV), EU Directive 2003/96/EC (BFR), EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), EU Directive 2003/11/EC (BFR), CE Mark, RoHS, NFPA 262, UL voltage rating : 150 V RMS."

2 core PVC insulated Cu conduction sheilded microphone cable

24 Core Mic Snake Cable

CAT5 cable

Equipment rack with Hardware, Fans, Trays cable managers

Matrix Switcher, Multiplexer, Converters, Extenders, Network Manager, KVM, Console, Audio Server

Projection System

Projection

"Projection Technology : RGB liquid crystal shutter projection system (3LCD)"

LCD Size : 1.43" or better

"Native Resolution : WUXGA

(1920 x 1200) or better"

Projection Lens Type : Optical Power Zoom / Power Focus / Power Shift / Power Distortion

High Definition : 4k Enhanced

F Number : 1.9 - 2.1

Focal Length : 54.7 - 73.0 mm

Zoom Ratio : 1 - 1.35

"Throw Ratio : 1.74 - 2.35 (wide-Tele)"

"Lens Exchange : must be available"

Lens Shift Mode : it should be powered : -

a) Vertical (up/down) : +/- 65%

b) Horizontal (Left/Right) : +/- 30%

Lens position : 10 positions

Lamp Type : Laser Diode

Lamp Life : (Normal / Eco) 20,000 / 30,000 hours

"Lumens in White Light : 25,000

lm"

Lumens in Color Light : 25,000 lm

Contrast Ratio : 25,00,000 : 1

"Keystone Correction : Manual vertical: $\pm 45^\circ$, Manual horizontal
 $\pm 30^\circ$ "

Quick Corner : Required

Curve Surface : Required

Point Correction : Required

Operating Temperature : 0 - 50 degree C

Direct Power on / off : required

"Start up period : Less than 8
seconds"

Warm up period : 30 section

Cool Down Period : Instant off

"For optimal deployment of projection system, various Input- Output options/ connector, Content Server
etc. compatibilities are required.

Installation costs should also be factored in. Installation should be 'zero-keystone' in so far as the
projection geometry is concerned, and should be otherwise compatible with other subsystems (sound
systems,
screen, etc.)"

Projection Surface

Type : Ceiling / wall mountable

180° wide viewing angle with 1.1 gain

Active 3D, 4K Ultra HD, and HDR Ready

Standard black masking borders

Upto 180" in 16:9

With bubble leveler

Infrared (IR) remote control

Detachable 3-way wall UP/STOP/DOWN switch

"Built-in 5-12 volt trigger port for
Drop/Rise operation to"

"synchronize with the projector's
power cycle"

12 Volt Trigger Cable included

Low-voltage internal IR Receiver

"RJ45 input port allows easy integration with 3rd party control
systems"

Tubular motor for swift operation and speed

AMX and CRESTRON certified

"Conforms to ANSI/UL STD.

60950-1"

"Certified to CAN/CSA STD.

C22.2"

"GREENGUARD® and GREENG
UARD® Gold Certified | UL 2818"

Power Conditioning for NIT AGARTALA AUDITORIUM PROJECT

"40kva True online, double conversion, high efficiency, and high power factor Uninterruptible Power
Systems (UPS) rated at 40 KVA/40kW with battery as mentioned below. UPS shall be DSP Based with
LCD display & shall have event log upto 200

nos or more."

Widest input range, Built in Maintenance Bypass, ECO mode, EPO, REPO, Swappable interior architecture with front access for Service & Dual Aux Internal Supply Full IGBT Rectifier / Battery charger & IGBT based Inverter with SNMP Card enabled and SNMP Software.

OUTPUT PARAMETERS

Capacity - 40kVA/40kW (0-40deg C without de-rating) with Unity Power Factor at Output (OEM can offer higher Kva UPS capacity to meet 40kw requirement) with common output panel.

"Configuration - 3- ph, 3-wire, N

+PE with Voltage Regulation +/- 1%, Frequency 50/60Hz"

Slew Rate - Less than 1Hz/s;

Crest Factor - 3:1 max.

Recovery time - 60 millisecond

"Over load capacity 125% - 10

min; 125-150% - 1min; >150% -
1 sec"

AC-AC Efficiency 95% or more

"Transfer time - Mains to battery -
0 millisecond"

"Transfer time - Inverter to bypass

-Synchronization mode - 1 millisecond"

INPUT PARAMETERS

"Configuration - 3- ph, 3-wire, N

+PE; Power Factor - >0.99 at full load"

"Nominal Voltage - 380/400/415V; Input Voltage range- 3 Phase 315Vac-475Vac; Frequency -
50/60 Hz"

Frequency range- Hz -40 to 70 Hz at full load

BYPASS

Voltage Range - 15% -20%; Frequency - 50/ 60Hz; Frequency Range - +/-10%

BATTERY

"BATTERY

(Exide/Rocket/Quanta/Leoch) 12V, SMF – minimum 32 nos 100AH CAPACITY."

"Certifications Product - CE; OEM ISO 9001, ISO 14001 & OHSAS

18001 (for OEM Indian

Operation)"

Electrical

Bidder to develop and install electrical panel having digital input / output displays, control and switching, wherever applicable, for entire project. Bidder to factor cabling from mains to UPS and UPS to equipment.

Acoustic for Town Hall

"595x595x15mm, Square edge

(T15 Grid system)"

"Supply and Installation of, square edge, Glassfibre core fully encapsulated ceiling tile of size 595x595x15mm having volume density 120Kgs/m3, weight 1.8 kg/m2 which is suspended by using 0.3mm thick Skelet Trellis

metal grid system."

"Skelet Trellis metal grid system of 600x600mm module includes wall angle with unequal flanges of 15/19mm, length 3000mm, fixed along the perimeter of walls with the help of nylon sleeves and suitable fasteners at 300mm centers. Then suspend the Skelet Main T with flange width

15mm, height 32mm and length 3600mm, from the soffit slab with help of soffit cleat and wire rod with leveling spring clip at 1200mm centres. Skelet CrossT with flange width 15mm, height 26mm and length 1200mm is interlocked into the pre-cut slots in the Main Skelet Trelis at 600mm centers in the perpendicular direction to the Main Skelet. Finally Skelet CrossT with flange width 15mm, height 26mm and length 600mm are interlocked into the pre-cut slots in the CrossT in direction parallel to the Main T to result in 600x600mm module. Nubby square edge of size 595x595x15mm shall be placed into the grid size of 600x600mm. Ensure arrow marks behind the tiles are oriented in one direction to achieve uniform shade."

Technical Parameters

"• Fire (Class) – 1 & P

- Acoustics – NRC 0.9 (For E900 Mounting)
- Thermal conductivity (W/mk)– 0.066
- Climate (°C, RH) – 40, 95
- Light reflectance (%) – 85
- Green (VoC, RC %) – Low, 35"

Stage Ceiling Specification

"595x595x15mm, Square edge
(Grid system)"

Supply and Installation of Ebony, square edge, Glassfibre core fully encapsulated ceiling tile of size 595x595x15mm having volume density 120 Kgs/m³, weight 1.8 kg/m² which is suspended by using 0.3mm thick Skelet Trelis Ebony metal grid system.

"Skelet Trelis Ebony metal grid system of 600x600mm module includes Skelet wall angle with unequal flanges of 15/19mm, length 3000mm, fixed along the perimeter of walls with the help of nylon sleeves and suitable fasteners at 300mm centers. Then suspend the Skelet MainT with flange width 15mm, height 32mm and length 3600mm, from the soffit slab with help of soffit cleat and wire rod with leveling spring clip at 1200mm centres. Skelet CrossT with flange width 15mm, height 26mm and length 1200mm is interlocked into the pre-cut slots in the Main T at 600mm centers in the perpendicular direction to the Main T. Finally Skelet CrossT with flange width 15mm, height 26mm and length 600mm are interlocked into the pre-cut slots in the CrossT in direction parallel to the Main T to result in 600x600mm module. Subtex Ebony square edge of size 595x595x15mm shall be placed into the grid size of 600x600mm. Ensure arrow marks behind the

tiles are oriented in one direction to achieve uniform shade."

Technical Parameters

"• Fire (Class) – 1 & P

- Acoustics – NRC 0.9 (For E900 Mounting)
- Thermal conductivity (W/mk)– 0.066
- Climate (°C, RH) – 40, 95
- Light reflectance (%) – na"
- Green (VoC, RC %) – Low, 35

Hall Perimeter Ceiling Specification

Gypsum Ceiling

"Supply and Installation of Gypsum board, square edge, gypsum core panels of installed by using Strut ceiling framework."

"The Strut ceiling framework system shall include Strut Wall channel, fully knurled, sectional thickness 0.55mm, length 3600mm, unequal flanges of 20 & 30mm and web of 25mm, fixed along the perimeters of the wall with nylon sleeves and suitable fasteners at every 300mm centers. Then suspend Strut Main channels, fully knurled, sectional thickness 0.8mm, length 3600mm, equal flanges of 15mm and web 45mm from the soffit at 1200mm centers with

Strut, fully knurled, Suspender angle with sectional thickness 0.55mm, unequal flanges of 25 & 10mm. Strut Cross channel, fully knurled, sectional thickness 0.55mm, length 3600mm, web 35mm, depth of 20mm and equal flanges 9.5mm is fastened to the Strut perpendicularly at 600mm centers. Gypsum board, 1200x2400x12mm is installed on the Strut with suitable fasteners in a staggered manner."

Stage Wall Paneling Specification

Strand 600x2400x20mm, Kerfed edge

Supply and Installation of Strand, Kerfed edge Magnesite bonded pinewood fibre core tiles of size 600x2400x20mm, density 400 kgs/m³, weight 8kg/m² installed by using Strut framework system with non-visible fasteners using H-Spline.

The Strut framework systems includes Strut Cross Channel having thickness 0.55mm, length 3600mm, knurled web 25, depth

"25mm and equal flanges 12mm is fastened to wall positioned horizontally in a regular manner at 600mm c/c with support of MC

45. H-Spline having sectional thickness 2mm and length 2400mm to be fixed perpendicular to the Strut Cross Channel at 600mm centers. The Kerfed edge panels shall be then inserted into the H-spline along their long edges of 2400mm against framework to perfect fit

with staggered short edges."

Technical Parameters

"• Fire (Class) – 1 & P

- Acoustics – NRC 0.87 (For 15mm thk C50 Mounting)
- Thermal conductivity (W/mk)– 0.08
- Climate (°C, RH) – 50, 90
- Light reflectance (%) – Low light reflectivity
- Green (VOC, RC %) – Low, 30"

Side and Rear Wall Specification Lower Reaches

"Panel 128x2430x16mm, T&G edge"

"Supply & installation of Panels made of pinewood E1 grade fiberboard, melamine laminated finish, groove un-perforated slats

- (2mm Slats @16mm pitch) / (2mm grooves @ 32mm centers), Non FR, size 128x2430x16mm, volume density of unperforated base board 800Kg/m³, weight 12Kgs/m² installed by using Strut framework system."

Strut framework system includes Strut aluminium core cross channel having thickness 0.55mm, length 3600mm, knurled web 40mm, depth 10mm and equal flanges 15mm is fastened to wall or framework behind vertically / horizontally at every 600mm c/c. Strut aluminium core cross channel, thickness 0.5mm, length 2400mm, web 15mm & 27mm,

"depth 18mm and flanges of 7mm with suitable edge & centre brackets is then fixed perpendicular to the Strut Cross channel with the help of fasteners at every 400mm centers. Slats of size 128x 2430x16mm in then fixed perpendicular to Strut CC18 with suitable edge & centre brackets. Short edges of the panel are staggered. Contractor to provide expansion joints of 3mm at every 4.86m length wise and 4.992m width wise."

Technical Parameters

"• Acoustics – NRC 0.2

- Thermal conductivity (W/mk)– na
- Climate (°C, RH) – 50, 70
- Light reflectance (%) – 75 (Maple Arce)
- Green (VOC, RC %) – Low, 25"

Side and Rear Wall Specification Upper Reaches

Strand 600x2400x20mm, Square edge

"Supply and Installation of Strand

, square edge, magnesite- bonded superfine filament pinewood fibre tile of size 600x2400x20mm, density 400 kgs/m³, weight 8 kg/m² installed

by using Strut framework system."

The Strut framework systems includes Strut Cross Channel having thickness 0.7mm, length 3600mm, knurled web 40, depth 22mm and equal flanges 15mm is fastened to wall positioned horizontally in a regular manner at 600mm c/c. Strand 600x1200x20mm panels are fastened to Strut Cross channel with suitable fasteners. Longer edges of the panel should be perpendicular to Strut Cross Channel. Fastners to be countersunk and paint finished with suitable colour Factory finish only.

The system is backlined with the

"acoustical infill thermal bonded
poly fiber"

Technical Parameters

"• Fire (Class) – 1 & P

- Acoustics – NRC 0.91 (For 50mm thk E250* Mounting)
- Thermal conductivity (W/mk)– 0.08
- Climate (°C, RH) – 50, 90
- Light reflectance (%) – 75
- Green (VOC, RC %) – Low, 30"

Technical Specification for Electrification Work

"Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit with modular switch , modular plate, suitable size G.I. box etc as required."Group C

Fan point

Ceiling Light point

LED light in holder on wall light point

Exhaust fan point

call bell point

Total =

"Wiring for twin control light point with 1.5 sq. mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box etc as required."

"Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required."

2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire

4 X 6 sq. mm + 1 X 6 sq. mm earth wire

4 X 10 sq. mm + 1 X 10 sq. mm earth wire

"Supplying and drawing following sizes of PVC insulated aluminium conductor, single core cable in the existing surface/ recessed PVC conduit as required."

6 x 2.5 sq. mm

9 x 2.5 sq. mm

Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.

Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.

Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required.

Switch board

15 Amps switch socket and switch board

5 Amps switch socket and switch board

AC point

Total =

Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection, painting etc. as required.

Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.

Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required

Telephone socket outlet

TV antenna outlet

Bell push

Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.

1 or 2 Module (75mmX75mm)

4 Module (125mmX75mm)

6 Module (200mmX75mm)

8 Module (125mmX125mm)

"Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required." 1 or 2 Module

4 Module (125mmX75mm)

6 Module (200mmX75mm)

8 Module (125mmX125mm)

"Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed PVC

conduit as required." "Supplying and fixing stepped type electronic fan regulator on the existing modular plate/ switch box including connections but excluding modular plate etc. as required."

Supplying and fixing brass batten/ angle holder including connection etc. as required. Supplying and fixing electronic musical call suitable for single phase, 230 volts complete bell as required.

"Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box

etc. as required.."

Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.

Upto 450 mm sweep

Extra for fixing the louvers shutters complete with frame for a exhaust fan of all sizes

"Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)"

12 way (4 + 36), Double door

Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.

40 amps

63 amps

"Supplying and fixing following rating, 240/415 volts,""C"" curve, miniature circuit breaker suitable for inductive loads of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required." 6/32 amps, Single pole

Total no of rooms, toilet & lobby area

Power points

Total=

Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required

Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.

"Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ termination with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping with 2 sets of brass nut bolt and spring washer spaced at 50 mm)"

Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.

"Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe 2.7 metre long etc. with charcoal/ coke and salt as required."

"Supplying and laying 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode, including connection with brass nut, bolt, spring, washer excavation and refilling etc. as required."

"Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required."

"Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required."

4 Metre height Octagonal Hot-Dip galvanized street light poles with top dia. (A/F) 70 mm & bottom dia (A/F) 130 mm and made of 3 mm thick sheet, base plate dimension 220 X 220 X 12 mm including suitable size foundation bolts etc. (with 18% GST included)

8 Metre height Octagonal Hot-Dip galvanized street light poles with top dia. (A/F) 70 mm & bottom dia (A/F) 155 mm and made of 3 mm thick sheet, base plate dimension 260 X 260 X 16 mm including suitable size foundation bolts etc. (with 18% GST included)

3 core, 185 sq. mm , 11 KV grade, armoured power H.T. cable , XLPE insulated with PVC sheathed & aluminium conductor (with 18% GST included)

"Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning,

Protective covering and refilling the trench etc. as required."

Upto 120 sq. mm

"Fixing for laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required." Upto 35 sq. mm (Clamped with 1 mm thick saddle)

"Providing and fixing lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required."

"Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required."

"Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required."

"Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)"

"Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)"

Recess mounting LED round down light (12W) with all accessories and replacable electronic driver

Regular make 1200mm Sweep ceiling fan

LED lamp 10/12 W

12"(300mm) metal exhaust fan of approved make

Recess mounting Ceiling light LED 12 watt bulb rose(GI Metal Box), 200mmX250mmX60mm deep

Technical Specification for Seating Chairs

Seating Gallery Chairs

"Udine Slider –

Size: sliding and push back from 22 inch

Height : 40 inch from base Arm rest : fome padded Back angel : 14 gauge Seat back density : PU material

Cushion ply : tripal layer ply Cushion height : 18 inch from base

Back frame ; iron / moulded 15 mm ply Spring for push back sliding :cushion seat,15 kg density with polyurethume

Back : About 50 kg density with polyurethume Mechanism : push back 14- 16 gauge push back 15 kg fill welded with powder coating 50x25 Ms

Tube of 15 kg using roling spring for push and back with height durability Total weight of chair : 26.5 kg

Upholstery : fabric with foam lamination with 5 mm fabric lamination

Arm rest handle with cup holder : PPCP injection moulded handle with height durability

Installation : will install with existing floor with anchor fastners of length 6"" of screws

Color : cream fabric"

VIP Sofas

Three Seater Sofas

Green room Chairs & Restaurant chairs

Make up Chairs

VIP Waiting Sofa

Three seater sofa

Centre Table

Centre table

Wall Clock

Wall clock of Ajanta make

Technical Specification for Fire Fighting System

Pumping System

1. Main Electric Fire Pump
Horizontal Pump with electric motor
Capacity:137 m3/hr; Head: 70 mWc
2. Diesel Engine Fire Pump Horizontal pump with diesel engine Capacity: 96 m3/hr; Head: mWc
3. Jockey Pumps Horizontal Pump with electric motor Capacity : 10.8 m3/hr; Head: mWc
4. Pipe For size upto DN 40,ERW to IS:1239 (Part-1), heavy, Black, Plain End For Dn 50 to Dn 150;ERW to IS:1239 (Part-1), medium, Black, Bevel End For DN 200 & above, ERW pipe to IS: 3589, IS 2062 Gr B, Fe 410, Bevel End
 - a) 250NB
 - b) 200NB
 - c) 150NB
 - d) 80NB
 - e) 65NB
 - f) 50NB
5. CI Gate Valves
 - a) 200 mm dia.
 - b) 150 mm dia.
 - c) 65 mm dia.
 - d) 50 mm dia.
6. CI Non Return Valves
 - a) 150 mm dia.
 - b) 50 mm dia.
7. Motorized Butterfly Valve
 - a) 80 mm dia.
8. Y type Strainer
 - a) 200 mm dia.
 - b) 65 mm dia.
9. Pump MCC panel
10. Power Cable
11. Control cable
12. Pressure Gauge
13. Level switch
14. Pressure Switch

Hydrant System

- 1 SS Hydrant valve
Fire hose pipe (as per IS:8423) of 63 mm dia and 15 meter length rated
- 2 for burst pressure of 35.7 Kg/sqcm. Hose shall be complete with ISI marked brass male & female coupling (IS:903) bound & riveted to hose pipe with copper rivets & 1.5 mm copper wire. Type-A
- Hose cabinet of size 0.75 x 0.60 x 0.25 mtr made out of MS sheet of 16 gauge thickness having central opening and 3 mm thick glazed glass
- 3 doors (Two nos.) suitably marked on the outside with the letters "FIRE HOSE" including necessary locking arrangement and shall be painted with one coat of primer and two coats of synthetic enamel paint of approved shade.
- 63 mm dia instantaneous pattern branch short SS 304 pipe, 20 mm
- 4 dia nozzle conforming to IS 903, suitable for inter connection to hose pipe coupling
- 5 Wall mounted swinging type hose reel with 20mm dia hose pipe and 0 mter length along with shutoff nozzle and isolation valve
- 6 CI Gate Valves
 - a) 150 mm dia.
- 7 NP3 RCC Hume pipe
 - a) 300 mm dia.
- 8 25 mm dia. air release valve with isolation valve
- 9 Four way fire brigade inlet with isolation valve

Sprinkler System

MS Pipe

For size upto DN 40, ERW to IS:1239 (Part-1), heavy, Black, Plain End
 For Dn 50 to Dn 150; ERW to IS:1239 (Part-1), medium, Black, Bevel End
 For DN 200 & above, ERW pipe to IS: 3589, IS 2062 Gr B, Fe 410, Bevel End

100NB
 80NB
 65NB
 50NB
 32NB
 25NB

Sprinkler Alarm Valve- 100 mm dia.

Sprinkler bulb Pendent k=80, 68 deg cel

SS braided flexible hose for sprinklers

CI isolation Gate valve

100 mm dia.

CI wafer type Butterfly valve

100 mm dia.

25 mm dia. ball valve

Annunciation panel for sprinkler system

Flow Switches

Instrument cable

Technical Specification for CCTV camera

1. Supply Installation Testing & commissioning of 2 MP Bullet camera 1/2.8" Progressive Scan CMOS, ICR, 0 lux with IR, Slow shutter, 1920x1080: 50/60fps, 2.8~12mm/F1.4 Motorized VF lens with Smart Focus, H.264/MJPEG, Triple-Stream, WDR 140dB, BLC, HLC, 3D DNR, ROI, Defog, Support SD/SDXC Card up to 128GB, IP67, AC24V/PoE, Bracket included, Motion detection, Tampering alarm, Network disconnect, IP address conflict, Storage exception, Line crossing detection, Intrusion detection, Region entrance, Region exiting, Unattended baggage, Object removal, face detection, face recognition, IR 50 Mtr., Protection IP 67, Operating Conditions -30 °C –60 °C (-22 °F –140 °F), Humidity 95% or less(non-condensing), -H: -40 °C –60 °C, 12 V DC ± 10%, PoE (802.3at) ONVIF, UL LISTED. CERTIFICATE CE & FCC. APPROVED MAKE: HIKVISION/PELCO/BOSCH/SONY Supply Installation Testing & commissioning of Outdoor PTZ Cameras WITH POLE MOUNT BRACKET AND POWER SUPPLY - 2MP speed dome camera of minimum 1/3" Progressive Scan CMOS, 50Hz: 25fps (1920x1080), Color: 0.05 lux/F1.6, B/W: 0.002 lux/F1.6, 0 lux, 3D DNR, ICR, Optical Zoom: 35X, Pan Speed: 0.1° - 200°/s, Tilt Speed: 0.1° -200°/s. shall be fitted with 200 mtr IR. smart tracking, defog, HLC, ROI, smart IR. camera shall be IP66 with IK10 for quality of Image
2. provision of 120dB WDR facilities should be there. camera shall be supplied with its suitable Power supply and its mounting arrangements as per site conditions i.e. wall, pole mount any with all required accessories & fitments. Camera shall be UL 60950-1, certified, CE Certified, FCC Certified. as per detailed specifications ONVIF, UL LISTED. CERTIFICATE CE & FCC. APPROVED MAKE: HIKVISION/PELCO/BOSCH/SONY
3. Supply Installation of 14 mtr GALVANISED Octangle POLE with base plate FOR PTZ CAMERA WITH JUNCTION BOX including excavation, foundations, muffins NVRs for above cameras 64 ch NVR Dual-OS design, ANR technology HDD hot swap with RAID5, N+1 hot spare system. H.265/H.264/MPEG4 video formats, Connectable to the third-party network cameras Up to 64 IP cameras can be connected, Recording at up to 12 MP resolution HDMI1/VGA1 and HDMI2/VGA2 outputs provided, HDMI1 Video output at up to 4K (3840 x2160) resolution Up to 8 SATA interfaces and 1 e SATA
4. interface, 2self-adaptive 10M/100M/1000M network interfaces, and IP video input 64-ch, Two-way audio 1-ch, RCA (2.0 Vp-p, 1kΩ), Incoming bandwidth 320Mbps, or 200Mbps (when RAID is enabled) Outgoing bandwidth 256Mbps, or 200Mbps (when RAID is enabled) Recording resolution 12p /8MP/6MP/5MP/4MP/3MP/1080p/UXGA/720p ONVIF, UL LISTED. CERTIFICATE CE & FCC. APPROVED MAKE: HIKVISION/PELCO/BOSCH/SONY
5. Supply Installation, Testing & commissioning of SURVILLANCE HARD DISC 4TB

equivalent to SEGATE APPROVED MAKE: SEAGATE/WD

6. Supply Installation, Testing & commissioning of 2 4-Port POE+ Gigabit Managed Switch 10/100/1000 Mbps APPROVED MAKE: HI KVISION/CISCO/NETGEAR
7. Supply Installation Testing and commissioning of 6 Core, ARMOURED Fiber Optic CABLE APPROVED MAKE: AMP/MOLEX/KRONE
8. Supply Installation Testing and commissioning of CAT 6 UN ARMOURED UTP CABLE APPROVED MAKE: AMP/MOLEX/KRONE
9. Supply & laying of 2 core x1.5. Sq.mm Copper AR MOURED power cable on trays, cleating on wall ,ceiling, columns, underground etc. :
10. Cable end termination of 2x1.5 Sq.mm Armoured cables including Gland, lugs etc .
11. Supply ,Instalaltion Testing and commissiiong of 55 " LFD 16x7 with Full HD resolution APPROVED MAKE: LG/SAMSUNG
12. Supply and fixing of 15U rack with inbuilt fan and power supply APPROVED MAKE: VALRACK/APW President/APC
13. 5KVA ONLINE UPS WITH BATTERIES FOR 30 MIN BACK UP APPROVED MAKE: APC/CONSUL NEOWATT

VOLUME-III

SECTION 8 FORM OF BID

FORM OF BID

Description of the Works:

BID

To :

Address :

1.0 We offer to execute the Construction of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract, Bihar described above and remedy any defects therein in conformity with the Conditions of Contract, specification, drawings (Concept layout), Price Bid (Item rate format) and Addenda along with reply to the pre-bid queries.

2.0 We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the document.

3.0 We agree to abide by this Bid for the period of days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

4.0 Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

5.0 We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ day of _____ 2020.

Signature_____in the capacity of
_____duly authorized to sign bids for and on

behalf of (In block capitals or typed)

Address

Witness

Address

Occupation

SECTION 9 PRICE BID

PRICE BID

Preamble

- 1.0 The Price Bid shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Technical Specifications and Drawings (Concept Layout), Reply to Pre-Bid Queries and Addendum.
- 2.0 The payment will be based upon the actual quantities executed and completed, as measured by the Contractor and checked and verified by the Designated Engineer and valued at the rates and prices tendered in the Price Bid, within the terms of the Contract.
- 3.0 The Rates of Different Items of Work shall be tendered in the Price Bid shall include supply, construction and operation & maintenance, labour, supervision, materials, erection, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
- 4.0 The rates or prices shall be quoted entirely in Indian Currency.
- 5.0 The rates of various items of work shall be entered in the price bid which will be taken to have included in the cost of water supply electricity etc.
- 6.0 The rates of different items of work related to the construction of the Town Hall as mentioned in above para shall be deemed to be inclusive of costs associated with the related Items of Work.
- 7.0 General directions and descriptions of work and materials are not necessarily repeated or summarized in the Price Bid. References to the relevant sections of the contract documentation shall be made before entering rates or price in the Price Bid.
- 8.0 The method of measurement of completed work shall be on the item rate basis for which payment shall be made as indicated in the bid documents.
- 9.0 Errors will be corrected by the Employer for any arithmetic errors pursuant to Clause 29 of the Instructions to Bidders.
- 10.0 Rock is defined as all materials which, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kW with a single rear mounted heavy duty ripper.

PRICE BID

I/we hereby tender to execute the whole of the work described in the:

Name of the Work: - Redevelopment of Town Hall in Bhagalpur, Bihar with Operation & Maintenance in defect liability period for a period of five years under Smart City Mission on Item Rate Contract.

PRICE BID FORMAT

The price bid format is given below as ANNEXTURE – 1.

SECTION 10

SECURITIES AND OTHER FORMS

BID SECURITY (BANK GUARANTEE)

WHEREAS, [name of Bidder] (hereinafter called "the Bidder") has submitted his Bid dated [date] for the construction of [name of Contract hereinafter called "the Bid"].

KNOW ALL PEOPLE by these presents that We _____ [name of Bank] of _____

[name of country] having our registered office at (hereinafter called "the Bank") are bound unto _____

[name of Employer's Representative] (hereinafter called "the Employer's Representative") in the sum of * for which payment well and truly to be made to the said Employer's Representative the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of 2020 THE

CONDITIONS of this obligation are:

1.0 If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;

OR

2.0 If the Bidder having been notified to the acceptance of his bid by the Employer during the period of Bid Validity:

3.0 fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

4.0 fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders; or

5.0 does not accept the correction of the Bid Price pursuant to Clause 27.

We undertake to pay to the Employer 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 Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

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

DATE

SIGNATURE

WITNESS

SEAL

[Signature, name and address]

- 6.0 The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.
- 7.0 45 days after the end of the validity period of the Bid. Date should be inserted by the Employer before the Bidding documents are issued.

PERFORMANCE BANK GUARANTEE

To

_____ [name of Employer's Representative]

_____ [address of Employer's Representative]

WHEREAS, _____ [name and address of Contractor] (hereafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of _____

[amount of guarantee]* (in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between your and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of expiry of the Defect Liability Period.

Signature and Seal of the guarantor

Name of Bank _____

Address _____

Date _____

*An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

BANK GUARANTEE FOR ADVANCE PAYMENT

PERFORMANCE BANK GUARANTEE

To

_____ [name of Employer's Representative]

_____ [address of Employer's Representative]

_____ [name of Contractor]

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub-clause 14.2 ("Advance Payment") of the above-mentioned Contract, [name and address of Contractor] (herein after called "the Contractor") shall deposit with [name of Employer's Representative] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of Guarantee]* [in words].

We the _____ [bank of financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to [name of Employer's Representative] on his first demand without whatsoever right of obligation on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee]* _____ [in words]

We further agree that no change or addition to or other modification of the terms of the Contractor or Works to be performed there under or of any of the Contract documents which may be made between _____ [name of Employer's Representative] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until [name of Employer's Representative] receives full repayment of the same amount from the

Contractor.

Yours truly,

Signature and Seal: _____

Name of Bank / Financial Institution: _____

Address: _____

*An amount shall be inserted by the Bank or Financial Institution representing the amount of the Advance Payment, and denominated in Indian Rupees.

LETTER OF ACCEPTANCE

(Letter head paper of the Employer's Representative)

(Date)_____

To

(Name and address of the Contractor)

Dear Sirs,

This is to notify you that your Bid dated ____ - ____ - _____ for execution of the _____ (name of the Contract and identification number of Contract, as given in the instructions to Bidder) for the Contract Price of Rupees _____ (_____) amount in words and figures as corrected and modified in accordance with the Instructions to Bidders¹ is hereby accepted by our agency

You are hereby requested to furnish Performance Security, in the form detailed in Para 32.1 of ITB for an amount equivalent to Rs. _____ within 21 days of the receipt of this letter of acceptance valid upto 28 days from the date of expiry of Defects Liability Period i.e. upto _____ and sign the contract, failing which action as stated in para 32.4 of ITB will be taken.

Yours faithfully,

Authorized Signature
Name and title of Signatory
(Employer's Representative)

¹.Delete "corrected and" or "and modified" if only one of these actions applies. Delete as corrected and modified in accordance with the Instructions to Bidders, if corrections or modifications have not been affected.

ISSUE OF NOTICE TO PROCEED WITH THE WORK

(Letter head of the Employer's Representative)

(Date) _____

To

(Name and address of the Contractor)

Dear Sirs,

Pursuant to your furnishing the requisite security as stipulated in ITB Clause 32.1 and signing of the Contract for the construction of

_____ at Bid Price of Rs. _____

You are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of
Employer's Representative)

AGREEMENT FORM

Agreement

This agreement made the _____ day of between _____ (name and address of Employer) [hereinafter called “the Employer] and _____
_____ (name and address of contractor) hereinafter called “ the Contractor” of the other part.

Whereas the Employer is desirous that the Contractor execute _____
_____ (name and identification number of Contract) (hereinafter called “ the Works”) and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein at a cost of Rs.

NOW THIS AGREEMENT WITNESSETH as follows :

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

4. The following documents shall be deemed to form and be ready and construed as part of this Agreement viz.
- a. The Contract Agreement
 - b. Letter of Acceptance, notice to proceed with the works
 - c. Contractor's Bid
 - d. Contract Data
 - e. Conditions of Contract including Special Conditions of Contract
 - f. Employer's Requirements
 - g. Technical Specifications
 - h. Concept Data along with Tender documents
 - i. Any other document listed in the Contract Data as forming part of the Contract

In witnessed whereof the parties there to have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____ was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said _____

in the presence of:

Binding Signature of Employer's Representative

Binding Signature of Contractor

UNDERTAKING

I, The undersigned do hereby undertake that our firm M/s _____ agree to abide by this bid for a period _____ days for the date fixed for receiving the same and it shall be binding on us and may be accepted at any time before the expiration of that period.

(Signed by an Authorized Officer of the Firm)

Title of Officer

Name of Firm

DATE

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SECTION 10 DRAWINGS

The detail drawings are available on

<https://www.smartcitybhagalpur.org/tenders>

VOLUME-V

SECTION 12

DOCUMENTS TO BE
FURNISHED BY BIDDER

CHECKLIST

Mandatory Check List			
Sl.no	Particulars	YES / NO	IF YES Page No.
1	Name of the Bidders		
2	Bid Control No.		
3	Details of DD Name of the Bank:- DD Number:- Date:- Amount:-		
4	EMD		
5	RFP Documents fee		
6	GST No.		
7	Pan Card		
8	Principal place of business		
9	Labour license EPF and ESI (Registration no & Date)		
10	Registration certificate from Central / State Govt. Department / CPSU/CPSE/State PSU etc.		
11	Details of Electrical Licence		
12	a. Electrical Qualification		
	b. Water Supply/ Sanitary Engineering Qualification		
13	Character Certificate		
14	Power of Attorney		

15	if Joint Venture Details		
16	Partnership Deed/Article of association/ Memorandum		
17	Income Tax Return Details	2014-15	
		2015-16	
		2016-17	
		2017-18	
		2018-19	
18	Turn Over, Balance sheet, profit and loss account of firm / company duly certified by Chattered Accountant	2014-15	
		2015-16	
		2016-17	
		2017-18	
		2018-19	
19	Project Methodology		
20	CV 's as per ANNEXURE – II		
	During Construction		
	Project Manager -1 Nos		
	Site Engineers - 2 Nos		
	Electrical Engineer cum HVAC expert - 1 Nos		
	Acoustics Expert - 1 Nos		
	Quantity Surveyor - 1 Nos		
	Architect - 1 Nos		
	Soil & Material Engineer and Quality Control Engineer - 1 Nos		
	During O & M		
	Project Manager -1 Nos		

	Civil Engineer -1 Nos		
	Electrical Engineer -1 Nos		
	Mechanical Engineer -1 Nos		
	Support Staff -8 Nos		
21	Work Experience Completion Status	2014-15	
		2015-16	
		2016-17	
		2017-18	
		2018-19	
22	Form of BID		
23	Undertaking from bidder		
24	Statement of compliance (bidder is not associated with consultant)		
25	Proposed Work Method and Schedule		
26	Work Programme		
27	Quality Assurance Programme		
28	Undertaking that the bidder will be able to invest a minimum cash upto 25% of the contract value of work, during implementation of work.		
29	Equipment Details As per ANNEXURE – I		
	Indicative list of equipments to be deployed		
	Dozer --- 1 Nos		
	Front end Loader --- 1 Nos		
	Smooth Wheeled Roller ---1 Nos		

	Water Tank --- 1 Nos		
	Bar Cutting Machine --- 4 Nos		
	Bar Bending Machine --- 2 Nos		
	Welding Machine --- 4 Nos		
	Vibrator (Needle) --- 4 Nos		
	Well-equipped Laboratory facility for quality test ---- 1 (one)		
	Transit Mixer with pumping arrangement --- 1 Nos		
	Steel Prop for 1000Sqm		
	Concrete Batching Plant (10 cum / hour) --- 1 unit		
	Steel Plate with fitting --- for 1000 Sqm		
	Staging pipe with fitting --- for 1000 Sqm		
	Cube Testing Machine (UTM) --- 1 Nos		
	Cube Mould ---- 50 Nos		
30	Assessed available bid capacity		
31	Maximum value of similar nature of works executed in one year during last five years = A		
32	Completion time = N		
33	Value of existing commitment=B		
34	Bid capacity=A*3*N-B		
35	Any Other Relevant Documents		

PRICE BID FORMAT: ANNEXTURE – 1.

FINANCIAL BID FORM						
Town Hall						
S · N o	ITEM OF WORK	Unit	Qty	Rate includi ve of all taxes, GST and 5 yers O & M (in Rs.)	Amou nt includi ve of all taxes, GST and 5 yers O & M (in Rs.)	Amount inclusive of all taxes, GST and 5 years O & M in words
	Dismantling Work_Old Town Hall-Bhagalpur					
1	Demolishing cement concrete including disposal of material within 50 metre lead:1:3:6 or richer mix	cum	151.764		0.00	
2	Demolishing R.C.C. work including stacking of steel bars and disposal of unserviceable material withing 50 metres lead:	cum	54.45		0.00	
3	Extra for cutting reinforcement bars in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B. work)	Per RCC beam/colum n/foun	54.00		0.00	

		ation/ statue				
4	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work.	kg	4083 0.37		0.00	
5	Demolishing brick work including stacking of serviceable material and disposal of unserviceable material within 50 meters lead:In cement mortar	cum	489. 99		0.00	
6	Removing mortar form bricks and cleaning bricks including stacking within a lead of 50m (stacks of cleaned bricks shall be measured): From brick work in cement mortar	cum	489. 99		0.00	
7	Dismantling doors windows and clerestory windows (steel or wood) shutters including chowkhats, architrage, holdfasts etc. complete and stacking within 50 metres lead:Of area beyond 3 sqm	each	26.0 0		0.00	
8	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plats, bolts, nuts, cutting hvets, welding etc. including dismem bering and stacking within 50 metres lead.	kg	6081 7.00		0.00	
9	Extra for dismantling trusses, rafters, purlins etc. Of steel work for every additional height of one metre or part there of beyond 5 metres	kg	6081 7.00		0.00	
10	Dismantling tile work in floors and roofs laid in cement mortar including	sqm	1517 .640		0.00	

	stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm					
1 1	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	sqm	1216 .34		0.00	
1 2	Dismantling roofing including ridges, hips valleys and gutters etc. and stacking the material within 50 metres lead of: G.S. Sheet	sqm	1216 .34		0.00	
1 3	Dismantling cement asbestos, Celotax or other hard board ceiling or partition walls including stacking of serviceable materials and disposal of unserviceable materials within 50 metres lead.	sqm	1216 .34		0.00	
1 4	Dismantling C.I. or asbestos rain water pipe with fittings and clamps including stacking the material within 50 metres lead. 100 mm dia pipe	m	150. 00		0.00	
1 5	Taking out C. I. cover with frame from R.C.C. top slab of manholes of various sizes including demolishing of R.C.C, work and stacking of useful materials near the site and disposal of unserviceable materials into municipal dumps within 50 metres lead.	each	18.0 00		0.00	
1 6	Taking out C.I. cover with frame from R.C.C. top slab of inspection chambers of various sizes including demolishing of R.C.C. work and stacking of useful materials near the site	each	18.0 00		0.00	

	and disposal of unserviceable materials into municipal dumps within 50 metres					
17	Dismantling of R.C.C. spun vent shaft including excavating the cement concrete pit completely , taking out the shaft, refilling the excavated gap, stacking the useful materials near the site and disposal of unserviceable materials within 50 metres lead.	each	4.00		0.00	
18	Dismantling or road gully chamber or various sizes including C.I. grating with frame including stacking of useful materials near the site and disposal of unserviceable materials into municipal dumps within 50 metres lead including refilling the excavated.	each	18.00		0.00	
19	Dismantling of flushing cistern of any size including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	each	9.00		0.00	
20	Dismantling aluminium/Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable surplus material and stacking of serviceable material with in 50 m lead as directed by Engineer-in-charge.	sqm	1216.34		0.00	
21	Demolishing R.C.C. work by mechanical means and stockpiling at designated locations and disposal of dismantled materials up to a lead of 1 kilometre, stacking	cum	489.986		0.00	

	serviceable and unserviceable material separately including cutting\ reinforcement bars.					
2 2	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer- in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	cum	1676 .17		0.00	
EARTH WORK						
2 3	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm 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 50 m.All kinds of soil.	cum	2963 .87		0.00	
2 4	Total earth filling Filling available excavated earth (excluding rock) in trenches, plinth,sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	cum	1975 .91		0.00	
CONCRETE WORK						

25	Pile work in foundation Providing, driving with hydraulic piling rigs with power units and installing driven cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) : 400 mm dia piles	Rmt	156.00		0.00	
26	Pile work in foundation Providing, driving with hydraulic piling rigs with power units and installing driven cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) : 450 mm dia piles	Rmt	2136.00		0.00	
27	PCC Work Providing and laying in position cement concrete of specified grade exluding the cost of centring and shuttering-all work upto plinth level.1:3:6 (1 cement : 3	cum	8.24		0.00	

	coarse sand : 6 graded stone aggregate 20 mm nominal size)					
28	Centring and shuttering including strutting,propping etc. and removal of form for.Foundations, footings, bases of columns etc. for mass concrete.	sqm	417.63		0.00	
29	Diluting and injecting chemical emulsion for POSTCONSTRUCTIONAL anti-termites' treatrntent(including the cost of chemical emulsion) Along external wall where the apron is not provided using chemical imulsion @ 7.5 liters / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete: With chlorpyriphos/Lindone E.C. 20% with 1% concentration External wall length	metre	182.26		0.00	
30	Damp- Proof Course : Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand(zone-III) : 4 graded stone aggregate 20mm nominal size).	sqm	213.11		0.00	
31	Applying residual bitumen on plinth beam Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg. per square metre on damp orroof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	sqm	213.11		0.00	

3 2	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone - III) : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	sqm	82.0 2		0.00	
REINFORCED CEMENT CONCRETE WORK						
3 3	Centering and shuttering including strutting, propping etc. and removal of form for : Columns, pillars, piers, Abutments, Posts, Struts	sqm	2147 .26		0.00	
3 4	Centering and shuttering including strutting, propping etc. and removal of form for : Suspended floors, roofs, landings, balconies and access platform	sqm	3102 .31		0.00	
3 5	Centring and Shuttering- Shelves Centering and shuttering including strutting, propping etc. and removal of form for : Shelves (Cast in situ)	sqm	50.4 2		0.00	
3 6	Centring and Shuttering- Beams, Lintels Centering and shuttering including strutting, propping etc. and removal of form for : Lintels, beams, plinth beams, girders, bressumers and cantilevers	sqm	6031 .71		0.00	
3 7	Centring and Shuttering- Stairs Centering and shuttering including strutting, propping etc. and removal of form for : Stairs, (excluding landings) except spiral-staircases	sqm	154. 58		0.00	

38	Centring and Shuttering- Chazza and Architectural projections Centering and shuttering including strutting, propping etc. and removal of form for : Weather shade, Chajjas, corbels etc., including edges	sqm	27.45		0.00	
39	RCC Work Providing and Laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-30 grade reinforced cement concrete.All works upto plinth level	cum	988.68		0.00	
40	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-30 grde reinforcd cement concrete: walls, Columns, pillars, posts and struts	cum	467.83		0.00	
41	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-30 grde reinforcd cement concrete: Beams, girders, cantilevers, suspended floors,	cum	994.35		0.00	

	lintels, roofs and staircases including spiral staircase and shelves etc.					
	STEEL REINFORCEMENT					
20	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500- Thermo-Mechanically Treated bars TMTC-500- 8 mm dia.	kg	7382 0.08		0.00	
21	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500- Thermo-Mechanically Treated bars TMTC-500- 12 mm dia.	kg	2460 6.69		0.00	
22	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500- Thermo-Mechanically Treated bars TMT Fe-500- 16 mm dia.	kg	1230 33.4 6		0.00	
23	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500- Thermo-Mechanically Treated bars TMT Fe-500- 20 mm dia.	kg	1476 40.1 6		0.00	

2 4	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500- Thermo-Mechanically Treated bars TMT Fe-500- 25 mm dia.	kg	1230 33.4 6		0.00	
2 4	Expansion joint 100mm in floor Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical location in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow	meter	91.1 8		0.00	

<p>freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).Floor Joint of 100 mm gap</p>					
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25	Expansion joint 100mm in wall Providing and fixing of expansion joint system related with wall joint (internal/external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221-02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).	meter	62.55		0.00	
BRICK WORK						
26	Brick work in plinth Brick work with bricks of class designation 100A in foundations and plinth in :cement mortar1:4(1cement:4coarse sand)	sqm	189.28		0.00	
27	Brick flat soling Brick work 7cm thick with brick of class designation 100A cement mortar 1:3 (1 cement : 3 coarse sand) in super structure	sqm	109.92		0.00	

28	Tile brick masonry with tile bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4 (1 cement :4 coarse sand)	cum	44.30		0.00	
28	Extra for tile bricks masonry with tile bricks of class designation 100A in superstructure from plinth level upto floor five level.	cum	1146.36		0.00	
MARBLE & GRANITE WORK						
29	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. Area of slab over 0.50 sqm	sqm	851.75		0.00	
30	Providing edge moulding to 18 mm thick marble stone counters, vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in- Charge. Granite work	meter	4194.84		0.00	

3 1	Extra for providing opening of required size & shape for wash basins/kitchen sink in kitchen platform. Vanity counters and similar location in marble/granite/stone work including necessary holes for pillar taps etc. including rubbing,moulding and polishing of cut edges etc. complete.	each	31.0 0		0.00	
DOOR & WINDOW WORKS						
3 2	Providing flush door Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type,core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	97.2 6		0.00	
3 3	Providing wood door/window frame Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).Second class teak wood	cum	0.85		0.00	
3 4	Providing and fixing curtain roads Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete:	m	122. 00		0.00	

3 5	Providing hold fast for wood frames Providing 40X5mm flat iron hold fast 40cm long including fixing to frame with 10 mm dia. Bolts, nuts and wooden plugs and embedding in cement oncrete block 30x10x15 cm 1:3:6 mix(1 cement: 3 coarse sand : 6 graded stone 20mm nominal size)	each	234. 00		0.00	
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3 6	<p>Providing UPVC window ventilator shutter Area of window above 1.75 sqm) Providing and fixing factory made uPVC white colour sliding glazed window upto 1.50 m in height dimension comprising of uPVC multichambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealent shall be paid separately) Note: For uPVC frame and sash extruded profiles minus 5% tolerance in dimension i.e. in</p>	sqm	190. 68		0.00	
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	<p>depth & width of Three track three panels sliding window with fly proof SS wire mesh (Two nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).</p>					
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37	Providing glazing in ventilators and windows Providing and fixing glazing in aluminium door, windows, ventilators, shutters and partitions etc, with EPDM rubber/neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge (cost of aluminium snap beading shall be paid in basic item) With float glass panes of 4.0 mm thickness.	sqm	190.68		0.00	
38	Providing door stopper Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete. Providing and fixing 50 mm bright finished brass cup board or wardrobe knob of approved quality with Providing and fixing bright finished	each	78.00		0.00	
39	Tower bolts Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete: 250x10 mm	each	72.00		0.00	
40	Tower bolts Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete: 150x10 mm	each	72.00		0.00	

4 1	Tower bolts Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete: 100x10 mm	each	72.00		0.00	
4 2	Door Latch Providing and fixing bright finished brass door latch with necessary screws etc. complete 300X16X5 mm	each	144.00		0.00	
4 3	Sliding Door bolts Providing and fixing ISI marked oxidised M.S. sliding door bolts with nuts and screws etc. complete 300x16 mm	each	144.00		0.00	
4 4	Decorative High pressure laminates Providing& Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S including cost of adhesive of approved quality:1.0 mm thick	sqm	194.52		0.00	

4	<p>PVC Door shutter 30 mm thick factory made Polyvinyl Chloride (PVC) door shutter made of styles and rails of a uPVC hollow section of size 60x30 mm and wall thickness 2 mm (± 0.2 mm), with inbuilt decorative moulding edging on one side. The styles and rails mitred and joint at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 25x20 mm and 1 mm (± 0.1 mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x30 mm and 2 mm (± 0.2 mm) wall thickness fixed to the shutter styles by means of plastic/ galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm (± 0.1 mm) wall thickness . The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge.</p>	sqm	51.98		0.00	
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4 6	PVC Door frames Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm,made out of extruded 5 mm rigid PVC foam sheet, mitred at corners and joined with 2 Nos. of 150 mm long brackets of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineer-in- Charge.	meter	163. 35		0.00	
STEEL WORK						
4 7	Steel Truss Works Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete	kg	8728 8.85		0.00	
4 8	G.S. Sheet Roofing Providing corrugated G.S. sheet roofing fixed with G.I.J. or hooks, bolts and nuts 8 mm diameter with bitumen and G. I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on over lapping of sheets complete (upto a pitch of 60°) excluding the cost or purlins, rafters and trusses. 0.8mm thick with zinc coating not less than 275 gm/sqm	sqm	1587 .07		0.00	

49	Roof Thermal Insulation Thermal Insulation of roofing with Expanded polystyrene fixed with suitable adhesive to the false ceiling as per the directions of the Engineer-in charge, Extra for Chamfered edges of beading, With Type SE Self Extinguishing type	sqm	1587.07		0.00	
50	Providing and applying two coats of High Albedo paint having minimum Solar Reflective Index (SRI) 108 (with solar reflectance & thermal emittance tested as per ASTM) C 1549 and ASTM C 1371 respectively), VOC less than 10 cc/gm. The coating thickness and the methodology of application shall strictly as per manufacturer's specifications and as approved by Engineer-in- Charge. Surface preparation includes cleaning with metal wire brush to remove all dust, fungus etc., washing with water all complete. The contractor shall give guarantee for the performance of SRI and also the durability of coating, all complete as per direction of Engineer-in-Charge.	sqm	1587.07		0.00	
51	Steel works in gates Steel work welded in built up sections/framed work including cutting hoisting, rixing in position and applying a priming coat of approved steel primer using structural steel, etc. as required In gratings, frames, guard bar, ladders, railings, brackts. gates & similar works	kg	705.60		0.00	

5 2	Steel works in Railing Providing and Fixing Stainless Steel (Grade 304) railing made of Hollow tubes,channels, plates etc., 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-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts,fasteners etc.).	kg	3360 .35		0.00	
5 3	Providing S.S. grill in window Providing and Fixing Stainless Steel (Grade 304) railing made of Hollow tubes,channels, plates etc., 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-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts,fasteners etc.).	kg	164. 16		0.00	

5 4	Providing fixing of toughened Glass in railing and glass curtain wall Toughened glass 12 mm thickness	sqm	186. 69			
5 5	Toughened Glass Door Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double action hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-incharge (Door handle, lock and stopper etc.to be paid separately).	sqm	5.76			
FLOORING WORK						
5 6	Providing and laying Vitrified 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, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. Size of Tile 1000 x 1000 mm.	sqm	3102 .31		0.00	

57	Providing and laying Ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of ist quality conforming to IS : 15622 of approved make in colours such shades except white , Ivory , Grey , Fume Red , Brown , laid on 20 mm thick Cement motar 1:4 (1 cement: 4 coarse sand) including pointing the joints with white cement and matching pigment etc., complete.	sqm	163.06		0.00	
58	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (Thickness to be specified by the manufacture) of approved make in all colours, shades except burgundy , bottle green , black of any size as approved by Engineer-in-charge in skirting , risers of steps and dados over 12 mm thick bed of cement Motar 1:3(1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	sqm	760.08		0.00	
59	Vitrified tiles in skirting Providing and laying Vitrified 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, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.Size of Tile 1000x1000 mm	sqm	164.63		0.00	

	FINISHING WORK					
60	12 mm internal plaster work- 1:3 12 mm cement plaster 1:3(1 cement: 3coarse sand)	sqm	6102.58		0.00	
61	15 mm external plaster work (coarse Sand) 15 mm cement plaster 1:3 (1 cement: 3 coarse sand)	sqm	3371.50		0.00	
62	6 mm plaster work in ceiling (coarse Sand) 6 mm cement plaster of mix :1:3 (1 cement : 3 fine sand)	sqm	3102.31		0.00	
63	Internal & External putty work Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	12576.39		0.00	
64	Distempering with 1st quality acrylic distemper, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture,including applying additional coats wherever required, to achieve even shade and colour. Two Coats	sqm	12576.39		0.00	
65	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade: Two or more coats on new work	sqm	9204.89		0.00	
66	External Paint Works Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)	sqm	3371.50		0.00	

6 7	Paint on wood works Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.75 ltr/ 10 sqm of approved brand and manufacture.	sqm	137. 92		0.00	
6 8	Providing water proofing in Toilet Providing and laying in situ five course water proofing treatment with glass fibre tissue reinforced bitumen over roof consisting of first coat of bitumen primer @ 0.40 kg. per sqm, 2nd & 4th courses of bonding material® 1.60 kg. per sqm which shall consist of blown type bitumen of grade 85/25 conforming to IS: 702, third layer of glass fibre tissue course as specified, fifth, the top most layer of stone grit 6 mm and down size or pea-sized gravel sprad @ 6 dmJ per sqm including preparation of surface excluding grading for slope etc. complete.Toilet floor area	sqm	163. 06		0.00	
6 9	Steel works in gates Steel work welded in built up sections/framed work including cutting hoisting, rixing in position and applying a priming coat of approved steel primer using structural steel, etc. as required In gratings, frames, guard bar, ladders, railings, brackts. gates & similar works, MS Grating over trench and drains	kg	3790 .50		0.00	
Civil Works Boundary Wall Earth Work						

70	Earthwork excavation : Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm 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 50 m.All kinds of soil.	cum	239.36		0.00	
71	Total earth filling Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	cum	159.60		0.00	
72	PCC Work : Providing and laying in position cement concrete of specified grade exluding the cost of centring and shuttering-all work upto plinth level. 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	cum	14.33		0.00	
REINFORCED CEMENT CONCRETE WORK						
73	Centring and Shuttering- Column Centering and shuttering including strutting, propping etc. and removal of form for : Columns, pillars, piers, Abutments, Posts, Struts	sqm	167.16		0.00	
74	Centring and Shuttering- Beams, Lintels Centering and shuttering including strutting, propping etc. and removal of form for : Lintels, beams, plinth beams, girders, bressumers and cantilevers Plinth beam	sqm	233.43		0.00	

75	RCC Work : Providing and Laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-20 grade reinforced cement concrete.	cum	52.97		0.00	
76	RCC in columns Providing and Laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-20 grade reinforced cement concrete. walls, Columns, pillars, posts and struts	cum	9.47		0.00	
77	Steel Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500-	kg	9568.32		0.00	
78	Brick work in plinth Brick work with bricks of class designation 100A in foundations and plinth in : cement mortar1:4(1cement:4coarse sand)	cum	61.81		0.00	
MARBLE & GRANITE WORK						

79	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. Area of slab over 0.50 sqm	sqm	521.98		0.00	
80	Providing S.S. grill : Providing and Fixing Stainless Steel (Grade 304) railing made of Hollow tubes, channels, plates etc., 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-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.). grill	kg	1977.26		0.00	
SANITARY INSTALLATIONS & Plumbing Works						

8 1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests	each	4.00		0.00	
8 2	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid.	each	35.00		0.00	
8 3	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and	each	1.00		0.00	

	making good the walls and floors wherever required : Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern					
84	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : Range of three urinal basins with 10 litre white P.V.C. automatic flushing cistern	each	4.00		0.00	
85	Providing and fixing wash basins with C.P. brass pillar tap, 32mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls and floors where required. White Vitreous china Wash basin of size 630 x 450mm with single 15mm C.P brass pillar tap.	each	37.00		0.00	

8 6	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	each	37.0 0		0.00	
8 7	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	each	41.0 0		0.00	
8 8	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :150 mm diameter	each	5.00		0.00	
8 9	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 a) 15 mm nominal bore	each	37.0 0		0.00	
WATER SUPPLY						
9 0	Providing & fixing Chlorinated polyvinyl Chloride (CPVC) Pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge. Concealed work, including cutting chases and making good the walls 15 mm nominal outer dia pipes	metre	400.00		0.00	

91	Providing & fixing Chlorinated polyvinyl Chloride (CPVC) Pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge. Concealed work, including cutting chases and making good the walls 20 mm nominal outer dia pipes	metre	250.00		0.00	
92	Providing & fixing Chlorinated polyvinyl Chloride (CPVC) Pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge. Concealed work, including cutting chases and making good the walls 25 mm nominal outer dia pipes	metre	250.00		0.00	

93	Providing & fixing Chlorinated polyvinyl Chloride (CPVC) Pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in charge. Concealed work, including cutting chases and making good the walls 32 mm nominal outer dia pipes	metre	180.00		0.00	
94	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. EXTERNAL WORKS 25 mm dia. nominal bore	metre	100.00		0.00	
95	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. EXTERNAL WORKS 32 mm dia. nominal bore	metre	300.00		0.00	
96	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. EXTERNAL WORKS 40 mm dia. nominal bore	metre	150.00		0.00	
97	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. EXTERNAL WORKS 50 mm dia. nominal bore	metre	200.00		0.00	

98	Providing and fixing ball (brass) valve of approved quality. High or low pressure, with plastic floats complete: 15 mm nominal bore.	each	37.00		0.00	
99	Providing and fixing ball (brass) valve of approved quality. High or low pressure, with plastic floats complete: 20 mm nominal bore.	each	37.00		0.00	
100	Providing and fixing ball (brass) valve of approved quality. High or low pressure, with plastic floats complete: 25 mm nominal bore	each	37.00		0.00	
101	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. Reducer For 48.60 mm x 42.70 mm outer dia pipe	each	68.00		0.00	
102	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-	each	62.00		0.00	

	profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. Reducer For 42.70 mm x 34.00 mm outer dia pipe				
103	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. Reducer For 34.00 mm x 22.22 mm outer dia pipe	each	82.00	0.00	
104	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. Reducer For 22.22 mm x 15.88 mm outer dia pipe	each	108.00	0.00	

105	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. For 15.88 mm outer dia x 15 mm nominal dia threaded	each	68.00		0.00	
106	Providing and fixing required Stainless Steel Fitting of press fit design of grade AISI 304 conforming to JWWA G116 standard with V-profile or M-profile and with O-ring sealing gasket of EPDM material of required dia as per direction of Engineer-in-charge. For 22.22 mm outer dia x 15 mm nominal dia threaded	each	62.00		0.00	
107	Providing and fixing uplasticised PVC connection pipe with brass unions : 30 cm length 15 mm nominal bore	each	86.00		0.00	
108	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.Flexible pipe 40 mm dia	each	37.00		0.00	
109	Painting of GI pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work. 25 mm dia. nominal bore	metre	100.00		0.00	
110	Painting of GI pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work. 32 mm dia. nominal bore	metre	300.00		0.00	

1 1 1	Painting of GI pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work. 40 mm dia. nominal bore	metre	150. 00		0.00	
1 1 2	Painting of GI pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work. 50 mm dia. nominal bore	metre	200. 00		0.00	
1 1 3	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fitting and base support for tank.	per litre	4000 0.00		0.00	
1 1 4	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 a) 15 mm nominal bore	each	42.0 0		0.00	
1 1 5	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms 15 mm nominal bore.	each	42.0 0		0.00	
1 1 6	Providing and fixing C.P brass angle valve for basin mixer and geyser points of approved quality confirming to IS:8931 15 mm nominal bore	each	40.0 0		0.00	
1 1 7	Providing and fixing PTMT Grating of approved quality and colour Circular Type 125 mm nominal dia with 25 mm waste hole	each	104. 00		0.00	

1 1 8	Providing & fixing PTMT soap dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements. Weighing not less than 106gms.	each	34.0 0		0.00	
SEWRAGE & DRAINAGE						
1 1 9	Providing, laying and jointing glazed stone ware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1cement :1 fine sand) including testing of joints etc complete. 200 mm diameter	metre	408. 00		0.00	
1 2 0	Providing and laying cement concrete 1 : 5 : 10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) upto haunches of S.W. Pipes including bed concrete as per standard design. 200 mm diameter	metre	408. 00		0.00	
1 2 1	Providing and fixing square mouth S. W. Gully trap grade 'A' complete with C.I. grating brick masonry chamber with F.P.S bricks and water tight CI cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design 150 x 100 mm. size P type With common burnt clay F.P.S. (non modular) bricks of class	each	40.0 0		0.00	

1 2 2	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc complete 250 mm diameter R.C.C pipes	metre	408. 00		0.00	
1 2 3	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design : Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	40.0 0		0.00	

1	Extra for depth for manholes Size 90x80 cm With common					
2	burnt clay F.P.S. (non modular) bricks of class	each	40.0		0.00	
4	designation 7.5		0			
BOREWELL						
1	Boring/drilling bore well of required dia for casing / strainer					
2	pipe, by suitable method prescribed in IS:2800 (part I),					
	including collecting samples from different strata,					
1	preparing and submitting strata chart/ bore log, including					
2	hire & running charges of all equipments, tools, plants &	metre	90.0		0.00	
5	machineries required for the job, all complete as per		0			
	direction of Engineer - in-charge, upto 90 metre depth					
	below					
	level.All type of soil 300 mm dia					
1	Boring/drilling bore well of required dia for casing / strainer					
2	pipe, by suitable method prescribed in IS:2800 (part I),					
	including collecting samples from different strata,					
1	preparing and submitting strata chart/ bore log, including					
2	hire & running charges of all equipments, tools, plants &	metre	60.0		0.00	
6	machineries required for the job, all complete as per		0			
	direction of Engineer - in-charge, beyond 90 metre &					
	upto 150 metre depth below ground level. All type of soil					
	300 mm dia					

1 2 7	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/ plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge. 200 mm nominal size dia having minimum wall thickness 5.40 mm	metre	50.0 0		0.00	
1 2 8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer- in -charge.	metre	50.0 0		0.00	
1 2 9	Development of tube well in accordance with IS:2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples &	Hour	36.0 0		0.00	

	getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in- Charge.					
1 3 0	Providing and fixing suitable size threaded mild steel cap or spot as per requirement, all complete for borewell of 200 mm nominal size dia	each	2.00		0.00	
1 3 1	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete 200 mm nominal size dia	each	2.00		0.00	
1 3 2	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level : 1:2:4(1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) mix for sanitary sealing of well at top (approx. 5m from top).	cum	1.00		0.00	
RAIN WATER PIPES AND FITTINGS						

1 3 3	Making khurra 45x45cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20mm nominal size) over PVC sheet 1mx1mx400 micron, finished with 12mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete :	Each	90.00		0.00	
1 3 4	Providing and fixing on wall face unplasticised-PVC (working pressure 4 kgf per sqm) rain water pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. 110 mm diameter	Metre	744.00		0.00	
1 3 5	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10mm gap for thermal expansion. Coupler 110mm	Each	90.00		0.00	
1 3 6	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10mm gap for thermal expansion. Single T with door 110x110x110 mm	Each	90.00		0.00	

1 3 7	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10mm gap for thermal expansion. Bend 87.5°110 mm bend	Each	90.0 0		0.00	
1 3 8	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete. 110mm	Each	1080 .00		0.00	
1 3 9	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	Each	90.0 0		0.00	
Civil Works Basement Trench						
1 4 0	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm 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 50 m. 2.8.1 All kinds of soil.	cum	194. 03		0.00	
1 4 1	Providing and laying in position cement concrete of specified grade exluding the cost of centring and shuttering-all work upto plinth level. 1:3:6 (1 cement : 3	cum	16.8 8		0.00	

	coarse sand : 6 graded stone aggregate 20 mm nominal size)					
1 4 2	Centring and shuttering including strutting,propping etc. and removal of form for.for drainage and trenches	Sqm	276. 75		0.00	
1 4 3	Centering and shuttering including strutting, propping etc. and removal of form for : mass concrete	Sqm	377. 00		0.00	
1 4 4	Providing and Laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering finishing and reinforcement, M-20 grade reinforced cement concrete. In drain and trenche	cum	71.4 0		0.00	
1 4 5	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500-8mm dia.	Kg	4230 .45		0.00	
1 4 6	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500-12mm dia.	Kg	1128 .12		0.00	

1 4 7	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars TMTC-500-16mm dia.	Kg	282. 03		0.00	
1 4 8	Steel Work in Gates: Steel work welded in built up sections/framed work including cutting hoisting, rixing in position and applying a priming coat of approved steel primer using structural steel, etc. as required In gratings, frames, guard bar, ladders, railings, brackts. gates & similar works	Kg	3790 .50		0.00	
Civil Works Recharge Pit 10MX 5M X 5M						
1 4 9	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm 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 50 m.All kinds of soil.	cum	400. 00		0.00	
1 5 0	Centring and shuttering including strutting,propping etc. and removal of form for Suspended floors, roofs, landings, balconies and access platform.	sqm	80.0 0		0.00	

1 5 1	Design Mix Concrete Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately). All works upto plinth level	cum	10.0 0		0.00	
1 5 2	Steel Reinforcement Up to plinth level Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars TMTC-500-8mm dia.	kg	750. 00		0.00	
1 5 3	Brick work up to Plinth Brick work with bricks of class designation 100A in foundations and plinth in : Cement mortar 1 : 4 (1 cement: 4 coarse sand)	cum	65.0 0		0.00	

1 5 4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge 100 mm nominal size dia	M	30.0 0		0.00	
1 5 5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	m ³	160. 00		0.00	
1 5 6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	m ³	160. 00		0.00	
1 5 7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer for all leads & lifts, all complete as per direction of Engineer -in- charge.	m ³	80.0 0		0.00	
Civil Works SEPTIC TANK (100 User)						
1 5 8	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and	cum	168. 00		0.00	

	disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.					
1 5 9	Centering and shuttering including strutting, propping etc. and removal of form for : Suspended floors, roofs, landings, balconies and access platform	sqm	56.0 0		0.00	
1 6 0	Design Mix Concrete : Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately). All works upto plinth level Septic Tank cover.	cum	7.00		0.00	

1 6 1	Up to plinth level Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars TMTC-500-8mm dia. RCC work in slab	kg	525.00		0.00	
1 6 2	Brick work up to Plinth Brick work with bricks of class designation 100A in foundations and plinth in : Cement mortar 1.:4 (1 cement: 4 coarse sand) Recharge pit wall	cum	43.40		0.00	
1 6 3	Brick flat Soling Half brick masonry with bricks of class designation 100A in foundations and plinth in : Cement mortar 1:3 (1 cement: 3 coarse sand) Septic tank base	sqm	56.00		0.00	
1 6 4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:1:2 (1 cement: 1 coarse sand:2 graded stone aggregate 20 mm nominal size) Septic tank base	cum	5.60		0.00	
1 6 5	20 mm external plaster work (coarse Sand) 1: 4(1 cement: 4 coarse sand)	sqm	142.80		0.00	

1 6 6	Cement punning Making bell mouth opening/ entrance of size 100x50x50 cm for drainage pipe under footpath, including providing cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) for shape of bell mouth, including plastering providing and fixing precast R.C.C./ S.F.R.C. slab including plastering with cement mortar 1:3 (1 cement : 3 fine sand) of 6 mm thickness on exposed surface of the slab & bell mouth including centring, shuttering & neat cement punning inside the bell mouth etc. all complete.	each	142. 80		0.00	
1 6 7	Supplying and fixing C.I. cover without frame for manholes : 500mm diameter c.i cover (light duty) the weight of the cover to be not less than 58 kg	each	4.00		0.00	
1 6 8	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design. with common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	4.00		0.00	
Electification work						
WIRING						
1 6 9	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC	point	5854 .00		0.00	

	conduit with modular switch , modular plate, suitable size G.I. box etc as required. Group C					
170	Wiring for twin control light point with 1.5 sq. mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box etc as required.	point	435.00		0.00	
171	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	metre	4800.00		0.00	
172	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 4 X 6 sq. mm + 1 X 6 sq. mm earth wire	metre	1980.00		0.00	
173	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 4 X 10 sq. mm + 1 X 10 sq. mm earth wire	metre	890.00		0.00	

1 7 4	Supplying and drawing following sizes of PVC insulated aluminium conductor, single core cable in the existing surface/ recessed PVC conduit as required. 6 x 2.5 sq. mm	metre	400. 00		0.00	
1 7 5	Supplying and drawing following sizes of PVC insulated aluminium conductor, single core cable in the existing surface/ recessed PVC conduit as required. 9 x 2.5 sq. mm	metre	250. 00		0.00	
1 7 6	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	metre	1800 .00		0.00	
1 7 7	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	metre	1450 .00		0.00	
1 7 8	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. Switch board	each	160. 00		0.00	
1 7 9	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet	each	72.0 0		0.00	

	and 5/6 amps modular switch, connection etc. as required. 15 Amps switch socket and switch board					
1 8 0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. 5 Amps switch socket and switch board	each	178. 00		0.00	
1 8 1	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. AC point	each	44.0 0		0.00	
1 8 2	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection, painting etc. as required.	each	454. 00		0.00	
1 8 3	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	each	5.00		0.00	

1 8 4	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required Telephone socket outlet	each	71.0 0		0.00	
1 8 5	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required TV antenna outlet	each	30.0 0		0.00	
1 8 6	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required Bell push	each	2.00		0.00	
1 8 7	Supplying and fixing following Modular base and cover plate on existing modular metal boxes etc. as required 1 or 2 Module	each	60.0 0		0.00	
1 8 8	Supplying and fixing following Modular base and cover plate on existing modular metal boxes etc. as required 4 Module	each	10.0 0		0.00	
1 8 9	Supplying and fixing following Modular base and cover plate on existing modular metal boxes etc. as required 6 Module	each	127. 00		0.00	
1 9 0	Supplying and fixing following Modular base and cover plate on existing modular metal boxes etc. as required 8 Module	each	150. 00		0.00	

1 9 1	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required. 1 or 2 Module	each	60.0 0		0.00	
1 9 2	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required. 4 Module (125mmX75mm)	each	10.0 0		0.00	
1 9 3	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required. 6 Module (200mmX75mm)	each	127. 00		0.00	
1 9 4	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required. 8 Module (125mmX125mm)	each	150. 00		0.00	
1 9 5	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed PVC conduit as required.	metre	550. 00		0.00	
1 9 6	Supplying and fixing stepped type electronic fan regulator on the existing modular plate/ switch box including connections but excluding modular plate etc. as required.	each	6.00		0.00	
1 9 7	Supplying and fixing brass batten/ angle holder including connection etc. as required.	each	128. 00		0.00	

1 9 8	Supplying and fixing call bell/ buzzer suitable for single phase, 230 volts, complete as required	each	2.00		0.00	
1 9 9	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required..	each	6.00		0.00	
2 0 0	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required. Upto 450 mm sweep	each	48.0 0		0.00	
2 0 1	Extra for fixing the louvers shutters complete with frame for a exhaust fan of all sizes	each	48.0 0		0.00	
2 0 2	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.) 12 way (4 + 36), Double door	each	11.0 0		0.00	

203	Supplying and fixing following rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive loads of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40 amps, Tripole pole and neutral	each	11.00		0.00	
204	Supplying and fixing following rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive loads of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. 50/63 amps, Tripole pole and neutral	each	11.00		0.00	
205	Supplying and fixing following rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive loads of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. 6/32 amps, Single pole	each	344.00		0.00	
206	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required	each	560.00		0.00	
EARTHING						
207	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/coke and salt as required.	set	2.00		0.00	

208	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ termination with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping with 2 sets of brass nut bolt and & spring washer spaced at 50 mm)	metre	40.00		0.00	
209	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	metre	28.00		0.00	
210	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe 2.7 metre long etc. with charcoal/ coke and salt as required.	set	2.00		0.00	
211	Supplying and laying 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode, including connection with brass nut, bolt, spring, washer excavation and refilling etc. as required.	metre	40.00		0.00	
212	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	metre	56.00		0.00	
213	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	metre	56.00		0.00	
SUPPLYING AND LAYING OF CABLES						

2 1 4	4 Metre height Octagonal Hot-Dip galvanized street light poles with top dia. (A/F) 70 mm & bottom dia (A/F) 130 mm and made of 3 mm thick sheet, base plate dimension 220 X 220 X 12 mm including suitable size foundation bolts etc. (with 18% GST included)	each	10.00		0.00	
2 1 5	8 Metre height Octagonal Hot-Dip galvanized street light poles with top dia. (A/F) 70 mm & bottom dia (A/F) 155 mm and made of 3 mm thick sheet, base plate dimension 260 X 260 X 16 mm including suitable size foundation bolts etc. (with 18% GST included)	each	10.00		0.00	
2 1 6	3 core, 120 sq. mm , 11 KV grade, armoured power H.T. cable , XLPE insulated with PVC sheathed & aluminium conductor (with 18% GST included)	metre	300.00		0.00	
2 1 7	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required. Upto 120 sq. mm	metre	300.00		0.00	
2 1 8	Fixing for laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required. Upto 35 sq. mm (Clamped with 1 mm thick saddle)	each	8.00		0.00	
Lightning Conductor						

2 1 9	Providing and fixing lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	each	2.00		0.00	
2 2 0	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	each	2.00		0.00	
2 2 1	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	each	84.0 0		0.00	
2 2 2	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	metre	34.0 0		0.00	
2 2 3	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	metre	46.0 0		0.00	
Fittings and accessories						
2 2 4	Recess mounting LED round down light (12W) with all accessories and replacable electronic driver	each	5670 .00		0.00	
2 2 5	Regular make 1200mm Sweep ceiling fan	each	6.00		0.00	

2 2 6	LED lamp 10/12 W	each	128. 00		0.00	
2 2 7	300 mm, 230V, A.C. exhaust fan	each	48.0 0		0.00	
2 2 8	Recess mounting Ceiling light LED 12 watt bulb rose(GI Metal Box), 200mmX250mmX60mm deep	each	5670 .00		0.00	
Horticulture & Landscaping Works						
Preparation of soil for planting						
2 2 9	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	cum	120. 00		0.00	
2 3 0	Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).	cum.	100. 00		0.00	

2 3 1	Supplying and stacking sludge at site including royalty and carriage upto 5 km complete (sludge measured in stacks will be reduced by 8% for payment).	cum.	120. 00		0.00	
2 3 2	Supplying and stacking at site dump manure from approved source, including carriage upto 5 km complete (manure measured in stacks will be reduced by 8% for payment) : 2.4.3 Screened through sieve of I.S. designation 4.75 mm	cum.	80.0 0		0.00	
2 3 3	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	sqm	600. 00		0.00	
2 3 4	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).	cum	200. 00		0.00	
2 3 5	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	cum	120. 00		0.00	

2 3 6	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)	cum	75.00		0.00	
2 3 7	Tree plants : Providing and stacking of Fishtail palm of ht. 270-300 cm bottom girth 40-50 cm well developed in big size HDPE bags as per direction of the officer-in-charge.	each	24.00		0.00	
2 3 8	Tree plants : Supply and stacking of Delonix regia (Gulmohar) plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge	each	24.00		0.00	
	Providing grass					

2 3 9	Providing and laying Neelgiri/Mexican grass turf with earth 50mm to 60mm thickness of existing ground prepared with proper level and ramming with tools wooden (Dhurmos) and than rolling the surface with light roller make the surface smoothen and light watering with sprinkler and maintenance for 30 days or more till the grass establish properly, as per direction of officer-in-charge.	sqm	1200 .00		0.00	
2 4 0	Providing and displaying of Brassia Variegated having ht. 30 cm, well developed with fresh and healthy foliage in 20 cm size of Earthen pot/ Plastic pot & as per direction of the officer-in-charge.	each	60.0 0		0.00	
2 4 1	Providing and displaying of Croton Petra Bangalore variety having ht. 60 cm to 75 cm with 4 to 6 branches, well developed, fresh and healthy colorful leaves in 25 cm size of Earthen pot/Plastic pot & as per direction of the officer-in-charge.	each	75.0 0		0.00	
2 4 2	Providing and Displaying Bougainvillea named variety, Sobhra, Thima, Marry palmar, Cherry Blossom etc. well developed with fresh & healthy bushy in full bloom 75 to 90 cm ht. in 40 cm Cement Pot as per direction of the officer-in-charge.	each	35.0 0		0.00	

2 4 3	Garden maintenance for 1 years : Complete maintenance of the entire garden features having as per yard stick in the garden area i.e. lawn trees, shrubs, hedge, flower beds, foliages, creepers etc. including hoeing,weeding pruning replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter , removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required) top dressing of lawn with good earth and menure and maintenance of other garden related works as directed by office-in-charge (Cost of Good Earth, Manure, Fertilizer, Insecticide , Pesticide will be provided by the Department & lawn mover and brush cutter with fuel , other T & P material/articles shall be provided by the contractor.) - Open spaces(as per yard stick 1Mali =3.00Acre).	per sqm per year	650. 00		0.00	
2 4 4	Concrete pavers : Providing and laying factory made chamfered edge cement concrete paver blocks in foot path, park and lawns drive way or light & traffic parking etc. of required strength, thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted berd of course sand, compacting and proper embedding/laying of inter locking paver blocks in to the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with	sqm	1846 .00		0.00	

	sand cutting of paver balocks as per size required size and pattern, finishing and sweeping extra sand,all complete as per manufacturer's specifications & directioin of E/I.					
Civil and Architectural work						
	Seating Gallery and Stage					
2 4 5	Wooden flooring on stage 25 mm wooden planking, tongued and grooved in flooring, including fixing with iron screws complete with :Second class teak wood	Sqm	3538 .08		0.00	

2 4 6	<p>Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size</p>	Sqm	3102 .31		0.00	
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	<p>3.5 x 25mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095-(Part I) : 2011 (Board with BIS certification marks).</p>					
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2 4 7	Decorative High pressure laminates: Providing& Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S including cost of adhesive of approved quality:1.0 mm thick	Sqm	1789 .00		0.00	
2 4 8	Wall paneling as per design: Providing and fixing, in position concealed G.I. section for wall paneling using board of required thickness fixed on the 'W' profile (0.55 mm thick) having a knurled web of 51.55 mm and two flanges of 26 mm each with lips of 10.55 mm, placed @ 610 mm C/C in perimeter channel having one flange of 20 mm and another flange of 30 mm with thickness of 0.55 mm and web of length 27 mm. Perimeter channel is fixed on the floor and the ceiling with the nylon sleeves @ 610 mm C/C with fully threaded self-tapping dry wall screws. Board is fixed to the 'W' profile with 25 mm countersunk ribbed head screws @ 200 mm C/C., all complete as per the drawing & directions of engineer-in-charge, the joints of the boards are finished with specially formulated jointing compound and 48mm wide jointing tape to provide seamless finish. Tapered edge calcium silicate board made with calcareous & siliceous materials reinforced with cellulose fiber manufactured through autoclaving process to give stable crystalline	Sqm	1789 .00		0.00	

structure with compressive strength 225 kg/ sq.cm, Bending strength 100 kg/sq.cm.10mm thick					
Audio Visual and Acoustics					
STAGE LIGHTING:					

249	<p>High quality CE Certified 54x3W LED PAR Light used as a Effect Light, Spot Light and Strobe Light etc. with below specifications:</p> <ul style="list-style-type: none"> • Lamp: 54 X 3W RGBW LED(12R+18G+18B+6W) • Max. Power consupsion:160W • Power supply: 100-230V AC,50/60Hz • Power cable: 3 core 1.5 sq.mm. copper PVC insulated Channels: 8 Channel DMX-512 • DMX In /Out : 5 Pin • Beam angle: 25° • Control mode: DMX/RDM,Manual. • LUX @ 2m: 10,000 • Function:strobe, dimming, sound active and Master slave. • Housing:Diecast aluminium with black epoxy polyster powder coated •Dimming: 0 - 100% • IP Grade:IP65 • Power and DMX: Loop in and loop out 	Nos	10.00		0.00	
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250	<p>High quality LED 2x2 blinder matrix Light is used in Entertainment applications, Night club, Fashion shows, Film, Band performances, Discotheque, Stage performance , TV studio and large-scale show etc fixture with advanced COB LED technology with below specifications:-</p> <ul style="list-style-type: none"> • Power Consumption: 400W • Electrification works including Outdoor illumination • Light Color: Single color warm white / Cool Light • LEDs Qty : 4 pieces • Channel:4/8 channel • Lifetime: Over 50,000 hours • • Beam Angle: 30° • Control mode:DMX512,Master/Slave, AutoRun, Sound active • Dimmer: 0-100% linearly adjustable • LUX:8270 LUX @ 2m • IP Grade: IP20 • Certification: CE 	Nos	4.00		0.00	
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2 5 1	<p>"High quality 200W LED Fresnel light used as a Key light, Back light, Fill light with dimming, spot & flood focus versions for creating various effects for multiple applications with specifications as below.</p> <ul style="list-style-type: none"> • Lamp power-200W COB LED • Power supply - 100-240 AC, 50/60 Hz • Power cable- 3 core 1.5 sq.mm. copper PVC insulated • Color Temperature:3200K•Control:DM X512/Manual • Spot-Flood focus adjustment:Manual • CRI>95•TLCI>90 • Dimming-0- 100% through manual and DMX • Beam Angle-10°-50° • Protection rating-IP20 • LUX at 2m:35,600 at 10° & 3,210 at 50°(3200K) • Certification:CE" 	Nos	4.00		0.00	
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2 5 2	<p>High quality LED PARCAN Light used for dance hall, architectural and stage lighting with below specifications:</p> <ul style="list-style-type: none"> • Lamp power - 100W LED • Power supply - 100-240 AC, 50/60 Hz • Channels: 2 channel DMX 512 • Control: Manual, DMX • Color Temperature: 3000K • CRI > 90 • Function: Dimming, Strobe • Dimming: 0- 100% • Beam Angle - 9°/15°/20° • Protection rating - IP20 	Nos	11.00		0.00	
2 5 3	<p>High quality 200W LED Profile Spot Light used as a Spot Light and high-contrast gobo projection Light. Other Technical specifications as below:</p> <ul style="list-style-type: none"> • Lamp Power : 200W COB LED • Power Supply : AC 110-230V, 50Hz. • CRI : >90 • Colour Temperature : 3200K • Focus : Manual Focus • Beam Angle : 50° • Control : DMX, Autorun and Master/Slave • Shutter arrangements : Beam shapping shutter or plastic gobo projection assembly. • Lux Level - 4025 lux@3200k @ 2 Mtr with beam angle 19° 	Nos	2.00		0.00	

	<ul style="list-style-type: none"> • Dimming : 0 - 100% dimming • Protection Rating : IP20 • Body Color : Black 				
254	<p>High Quality 20x15W RGBWA 5 in 1 LED Wash Light fixture with below specification details.</p> <ul style="list-style-type: none"> • Light Source : 20 x 15W RGBWA 5 in 1 LEDs • Operating Voltage : 100- 240VAC, 50-60 Hz • Power: 300W Max • IP Rated IP20 /IP 65 • Beam angle : 45°/30° • DMX Channels : 5/9 • Operating Modes : DMX512 / Manual / Color Preset • Dimmer : 0-100% linear adjustment • Operating Modes DMX, Master/Slave, Color Preset • Housing Cast aluminum housing with natural cooling system • Power cable & DMX cable In-out looping cables 	Nos	10.00	0.00	

255	Diecast aluminum "C" clamp with safety locking chain, duly powder coated in black matt texture finish and technical specifications as below. <ul style="list-style-type: none"> • Lock - MS threaded Galvanized lock key, Plastic Glass filled nylon moulded M6 key. • Receptacle - 28mm standard TV spigot. • Safety - MS Galvanized chain with pin. • Finish - Pretreated and black epoxy polyester powder coated. • Safe working load – 150Kg. 	Nos	41.00		0.00	
256	Safety bond with lock clip to be fixed around the grid to avoid fall of the material in case if the "C" clamp is not locked properly .SWL 100Kgs.	Nos	41.00		0.00	
257	Identification name plate round 79MM undergone through 7 Tank Zinc Phosphate chemical treatement for rust free equipment and duly powder coated in matt White texture finish.	Nos	41.00		0.00	
258	MS suspender consisting of fish plate of 150X150X6mm undergone through 7 Tank Zinc Phosphate chemical treatement for rust free equipment and with requisite anchor fastner(Customised) duly powder coated in black matt texture finish & stud with 12mm threaded rod to keep the Bar rigidly held With SWL of 200kg.	Nos	55.00		0.00	

259	MS "C" track size of 40 x 50 x 40mm, 3mm thick, made up of SAIL/Jindal make with 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish.	Mtrs	250.00		0.00	
260	Motorized winch to be used as stage Lighting Bar with frill attachment 10 Mtr lenght made of 40NB dual barrel 2 mm thickness along with 1.5 HP 3PH AC motor with DC Brake Necessary pulley, guide pulleys GI wire rope of minimum 5mm in diameter constructed with 6 bundles of 19 strands with fiber/Steel core at center, Pile winding drum Specially designed compact worm gear box Cam type double Upper & lower limit controller Requisite trunking arrangement like cable retractor made of 22SWG CRCA Mild steel in 2 pieces with Epoxy polyster powder coated in black texture finish with individual length of flip flop of 1300mm, thickness of 22 mm, width of 116 mm.	Nos	2.00		0.00	
261	Motorized winch of lenght 12 mtrs to be used as Front of house Light Bar made of 40NB dual barrel 2 mm thickness along with 1.5 HP 3PH AC motor with DC Brake Necessary pulley,guide pulleys GI wire rope of minimum 5mm in diameter constructed with 6 bundles of 19 strands with fiber/Steel core at center, Pile winding drum Specially designed compact worm gear box Cam type double Upper & lower limit controller Requisite trunking arrangement like	Nos	1.00		0.00	

	cable retractor made of 22SWG CRCA Mild steel in 2 pieces with Epoxy polyester powder coated in black texture finish with individual length of flip flop of 1300mm, thickness of 22 mm, width of 116 mm.					
2 6 2	Wing ladder, made using 40NB dual barrel undergone through 7 Tank chemical treatment to keep them rust free and duly powder coated in black matt texture finish Size of 1800mm x 600mm	Nos	2.00		0.00	
2 6 3	MS Power junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 4 way 10A IEC Socket of below specifications:- • Fixing : Snap fit /15 (1.5mm) • Terminations : /28 (2.8mm solder) • Total Max Rating : 10A, 250V a.c • Operating Temp : -20°C to +70°C • Mouldings : Nylon, Flammability Rating UL94V-0.	Nos	15.0 0		0.00	

2 6 4	MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 5 pin XLR DMX OUT connector of below specifications:- • Extra high temperature resistant insulator material. • All metal housing offers best overall RF protection & electromagnetic shielding • New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination • Optional connection to easily join pin 1 to chassis ground	Nos	8.00		0.00	
2 6 5	MS Signal junction box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 5 pin XLR DMX OUT connector of below specifications:- • Extra high temperature resistant insulator material. • All metal housing offers best overall RF protection & electromagnetic shielding • New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination • Optional connection to easily join pin 1 to chassis ground	Nos	1.00		0.00	

2 6 6	<p>DMX lighting junction loop box made up of 22SWG CRCA sheet of jindal make undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish 5 pin XLR DMX in / out connector of below specifications:-</p> <ul style="list-style-type: none"> • Extra high temperature resistant insulator material. • All metal housing offers best overall RF protection & electromagnetic shielding • New duplex ground contact for excellent contact integrity between chassis and cable connector, Larger solder contacts for easier termination • Optional connection to easily join pin 1 to chassis ground. 	Nos	1.00		0.00	
2 6 7	<p>MS Auxilary fabricated marshalling boxes made up of 20SWG CRCA sheet undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish for all the light bar with required no of ivory connectors.</p>	Lot	1.00		0.00	
2 6 8	<p>Well designed and engineered Fabricated wall mount 15 Way Direct Lighting Distribution Board made up of MS CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish consists of suitable rating TPN incomer, SP Mcb's and for the junction boxes</p>	Nos	1.00		0.00	

	fixed on the top of the grid including wiring and busbar connection with proper earthing and Hingable door with magnetic door lock complete.					
2 6 9	MS sheet metal fabricated power junction box duly powder coated and fitted with 2 10amps 3 pin IEC socket, ON/OFF switch and necessary glands to power splitters and console undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish.	Nos	3.00		0.00	
2 7 0	MS Fabricated made up of 22SWG CRCA sheet undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment, duly powder coated with Matt black texture finish power junction box (PJB) to terminate the Motorized section power connections.	Nos	3.00		0.00	
2 7 1	Well designed and engineered Wall mount 3 feeder motor control centre panel & Remote control panel with emergency trip necessary contactors and relays to control the motors system for to control the motors system for Lightbar Mechanism. (MCCP/RCP - 3)	Nos	1.00		0.00	

2 7 2	MS perforated trays with tray lid Size 40 x 75 x 40mm treated with 7 tank process with various chemical treatment to keep them rust free, duly powder coated with matt black texture finish paint along with clamping arrangement.	Mtrs	100.00		0.00	
2 7 3	Internal earthing copper bare conductor network related to work coming under our scope.	Lot	1.00		0.00	
2 7 4	Installation hardwares such as clamps, connectors, glands, lugs, ferruels, welding rods etc.	Lot	1.00		0.00	
2 7 5	Grid mount photo isolator DMX Amplifier unit 1 DMX input and 8 isolated output with following specifications: <ul style="list-style-type: none"> • Power Supply: 90-240V AC, 45- 63Hz. • Control: DMX 512 protocol, • Control Signal input: 5 pin XLR female, • splitter bracket. 	Nos	1.00		0.00	
2 7 6	Digital Lighting Console with 1024 DMX channels • 1024 Channels. • 96 Fixtures. • 96 Dimmer Control Channels. • Time control of scenes: Fade in/out, LTP slope • Channels for each fixture 40 primary + 40 fine tune • LCD display with back light • 600 Scene step • 60 Scenes/Playbacks • 10 Scenes to run simultaneoulsy • Shape generato: Shapes of Dimmer, Pan/Tilt, RGB, CMY, Color, Gobo, Iris and Focus •	Nos	1.00		0.00	

	Master slider - Global, playback, fixture • USB Memory - FAT32 supported					
277	Consumables:- 5 pin XLR male / female connectors.	Nos	12.00		0.00	
278	Consumables:- 5 Pin XLR Termination plug.	Nos	8.00		0.00	
279	Consumables:- Valcro Tape (White if available)	Nos	2.00		0.00	
	Cables :-					
280	PVC Copper unarmoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 3cx1.5 sq mm.	Mtrs	600.00		0.00	
281	FRLS PVC copper multistrand flexible cable 7 core x 1.5 sq.mm.	Mtrs	150.00		0.00	

2 8 2	PVC Copper armoured flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 4cx4 sq mm.	Mtrs	30.0 0		0.00	
2 8 3	Screened DMX signal cable for DMX network.	Mtrs	300. 00		0.00	
STAGE DRAPERY						
2 8 4	Main Valance fixing arrangement using 40NB MS pipe, 2mm thick, 14 Mtr in length undergone through 7 Tank Zinc Phosphate chemical treatment for rust free equipment duly powder coated with matt black texture finish with mounting brackets to suspend the arrangement.	Nos	1.00		0.00	
2 8 5	Main curtain track system 17 Mtr long, centre parting with overlap of 0.9mtr provided with, Heavy duty extruded curtain track of 48x84mm, powder coated Track mounting brackets constructed of C track of dimension 40X50X40mm Electromechanical drive unit with 3PH INDUCTION MOTOR, 1.1KW, 3000RPM, 90B5 FLANGE MOUNT with GI wire ropes of 3mm in diameter constructed with 7 bundles of 7 strands with steel core at center Curtain holding Nylon wheel trollies consisting of 4 wheeler master trolley and 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track. Nylon moulded 6201 Ball bearing Diverter pulley with with 90mm for outer diameter, 72mm	Nos	1.00		0.00	

	diameter at groove base, 19mm pulley thickness & MS yellow passivated Routing pulleys with 165mm for outer diameter, 150mm diameter at groove base with 12mm pulley thickness.				
2 8 6	Rear curtain track system 14 Mtr long, centre parting with overlap of 0.9mtr provided with, Heavy duty extruded curtain track of 48x84mm, powder coated Track mounting brackets constructed of C track of dimension 40X50X40mm Electromechanical drive unit with 3PH INDUCTION MOTOR, 1.1KW, 3000RPM, 90B5 FLANGE MOUNT with GI wire ropes of 3mm in diameter constructed with 7 bundles of 7 strands with steel core at center Curtain holding Nylon wheel trollies consisting of 4 wheeler master trolley and 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track.Nylon moulded 6201 Ball bearing Diverter pulley with with 90mm for outer diameter, 72mm diameter at groove base, 19mm pulley thickness & MS	Nos	1.00	0.00	

	yellow passivated Routing pulleys with 165mm for outer diameter, 150mm diameter at groove base with 12mm pulley thickness.					
287	MS, Wing frame construction, made out of MS square pipe with 2mm in thickness powder coated of size H 7.5 Mtr x W 2 Mtr, provided with 1.5meter wing track of 48X84mm with gridmount brackets made of 40X50X40mm C track Pivotal 4 wheeled suspension trolley Adjustable floor locking screw jacks with rubber grips Inverted 4-Wheeler Trolley with Flexi Adaptor Clamp Extruded track Aluminium I Profile to be laid through out the dept of the stage	Nos	4.00		0.00	

2 8 8	Cyclorma arrangement using aluminium extruded "I" track of 48 x 84mm duly powder coated in black texture finish to use as straight cyclorama track with MS fabricated Grid/wall mount bracket constructed of C track of dimension 40X50X40mm duly powder coated to hold the track, MS fabricated Tie down railing cut length 3 mtr duly powder coated to keep the cyclorama in drum tight arrangement, 2 wheeler trolley placed uniformly at specific interval of 200mm throughout the track, MS powder coated Leading edge frame to keep the cyclorama in drum tight arrangement of Size L 10 Mtr x 6Mtr.	Nos	1.00		0.00	
2 8 9	MS Fabricated made up of 22SWG CRCA sheet undergone through 7 tank process with various chemical treatment to keep them rust free, duly powder coated with Matt black texture finish power junction box (PJB) to terminate the Motorized section power connections.	Nos	2.00		0.00	
2 9 0	Well designed and engineered Wall mount 2 feeder motor control centre panel & Remote control panel with emergency trip necessary contactors and relays to control the motors system for curtains Mechanism. (MCCP/RCP - 2)	Nos	1.00		0.00	
	Fabrics				0.00	

2 9 1	Fire retardant velvette fabric 100% (2 times of the finished dimension) gathering for main Valance as per the approved patern and colour, not less than 300 GSM, duly stitched along with and eyelets. Size : L 14 Mtr x H 1.5 Mtr.	Nos	1.00		0.00	
2 9 2	Fire retardant velvette fabric with lining 100% (2 times of the finished dimension) gathering for main curtain as per the approved patern and colour, not less than 300 GSM, duly stitched along with eyelets. Size: L 9 Mtr x H 7.5 Mtr.	Nos	2.00		0.00	
2 9 3	Fire retardant cotton fabric 50% gathering for Rear curtain as per the approved patern and colour, not less than 250 GSM, duly stitched along with eyelets. Size: L 7.5 Mtr x H 7.5 Mtr.	Nos	2.00		0.00	
2 9 4	Fire retardant cotton fabric 50% (1.5 times of the finished dimension) gathering for frills as per the approved patern and colour, not less than 250 GSM, duly stitched along with eyelets. Size: L 10 Mtr x H 1.2 Mtr.	Nos	2.00		0.00	
2 9 5	Fire retardant cotton fabric 0% gathering for wings as per the approved patern and colour, not less than 250 GSM, duly stitched along with eyelets. Size: L 7.5 Mtr x H 4.1 Mtr.	Nos	4.00		0.00	
2 9 6	Perforated plastic Cyclorama seamless welded screen, off white, with eyelets along all four sides, perforated plastic		1.00		0.00	

	screen with eyelets. Size: L 10 Mtr x H 6 Mtr.					
	Cables :-					
2 9 7	FRLS PVC copper multistrand flexible cable 7 core x 1.5 sq.mm.	Mtrs	100.00		0.00	
2 9 8	PVC Copper flexible FRLS insulated multicore cable 1100V grade confirming to IS694 size 4cx4 sq mm.	Mtrs	20.00		0.00	
	Audio Setup					
2 9 9	Main Arrays LCR: Supply, installation, testing & Comissioning of stage left, Centre and right clusters Loudspeakers having 14" LF driver or better and multiple MF/HF drivers (More than 4), Biampified 2 or 3 Way array loudspeaker system, with Individual Module free field Frequency Range (-10dB) of 55Hz - 18kHz or better & Continuous Power Handling of >= 750W LF + 150W MF/HF. The Loudspeaker module shall have a Max. SPL (Peak) of MF/HF>= 130 or better. It should have Horizontal near dispersion pattern of 90° or better, vertical dispersion of the array shall be 60 degrees or better.	Nos	6.00		0.00	

300	Subwoofers: Supply, installation, testing & Commissioning of 18" arrayable subwoofer with same footprints as Main Line array elements for Arraying in the frame, having a Freq. Range of 30 Hz - 200Hz. It should have an axial Sensitivity of $\geq 94\text{dB}$ (1W/1m) or more delivering a free field Max. Calculated SPL(peak) of $\geq 127\text{ db}$. The loudspeaker should have a nominal impedance: 4ohm or more and continuous Power Handling of 750W or more complete with installation as per the site requirement.	Nos	2.00		0.00	
301	Array Frame: Supply, installation, testing & Commissioning of OEM array frames/ Hanging/ Mounting arrangement for Suspension of upto 8-10 array modules offered above, Shall offer multiple rigging points for achieving desired pitch settings.	Nos	3.00		0.00	
302	Front Fills: Supply, installation, testing & Commissioning of Compact High SPL Fill loudspeakers with 5" LF Driver ; Frequency Range of 90 Hz - 16 kHz or better; Nominal Dispersion : $90^\circ\text{H} \times 90^\circ\text{V}$; Long term Power handling of 150 W or better; Sensitivity : 90 dB; Max SPL : 116dB Peak; Nominal Impedance : 8Ω ; 18-gauge (1.2 mm) perforated steel; Powder- coated finish grille with Two-part spray polyurethane coating Enclosure. Shall offer optional OEM	Nos	4.00		0.00	

	Input transformer kit for Distributed system applications. Standard wall bracket shall be included.				
303	<p>Stage Monitors: Supply, installation, testing & Commissioning of Sound Reinforcement System - Small format sound reinforcement loudspeakers with 2 x 8" Driver ; Frequency range of: 70 Hz - 16 kHz; Nominal Dispersion : 90°H x 60°V (rotatable horn); Long term Power handling capacity: 300W or better; free field full range Sensitivity : 94 dB SPL or better; Max SPL : 119dB (125dB Peak); Nominal Impedance : 8 Ω; 18- gauge (1.2 mm) perforated steel; Powder-coated finish grille with Two-part spray polyurethane coating Enclosure. With U bracket for standard installs.</p>	Nos	4.00	0.00	

304	<p>Surround & Fill Loudspeakers: Supply, Installation, testing and commissioning of of Wedge shaped Stage Monitor Loudspeaker with Frequency Response of 90 Hz to 16 kHz or better ; Horizontal Nominal Dispersion : 90 degree Horizontal X 60 degree Vertical or better (Rotatable Horn); Sensitivity (SPL / 1 W @ 1 m) of 92 dB SPL or beter. Continuous Power of 200 Watt or better; Impedance of 8 Ohm ; Max SPL @ 1 Mtr (Cont.) of 120 dB SPL or better; Transducers/Drivers of HF: 1 x 1.5" or better; LF: 1 X 8" or better complete with standard accessories and wall bracket.</p>	Nos	8.00		0.00	
305	<p>Digital Power Amplifier: Supply, installation, testing & Commissioning of 8 channel class D Power amplifier with a Max Output Power of 8x500W@8 ohms, or bridged mode output power of 4x 1000W @ 8/4 ohms. 20Hz - 20 KHz, SNR of 102dB and THD + N of <0.4% with built in protection such as Limiters, Temperature, DC, Short Circuit, Peak Current Limiters, Turn on delay etc. Built in DSP for Matrix routing, Speaker equalization, Delays, Array EQs etc complete with Ethernet Port for Network Control, programming and monitoring. Shall offer optional Network audio connectivity (Dante or CobraNet) through expansion slot.</p>	Nos	5.00		0.00	

306	<p>Digital Signal Processor: Supply , installation , testing and comissioning of Digital Sound Processor with 8 Mic/Line inputs & 8 analog outputs, 24 Bit A-D and D-A Convertors; Sampling Rate : 48 kHz; THD : < 0.002 % ; Channel Separation (Crosstalk) : < 105 dB ; Frequency Response 20 Hz - 20 kHz ; Signal-to-Noise Ratio 80 dB ;Dynamic Range : > 115 dB; 5 Control Inputs and Outputs; RS-232 and Ethernet Port for third party Control and Monitoring; Expansion slots for optional Network Audio formats like Dante/ Cobranet; inbuilt DSP features like Input Equalizers, Router, Band Pass filter, Output Equalizer, Delay, Limiters, gates, Source selectors etc.</p>	Nos	1.00		0.00	
307	<p>Master Control Center: Supply, installation, testing & Commissioning of programmable Audio DSP controller with Display and programmable encoder knobs. Multiple programmable settings configurable over Ethernet. Source Selection and Volume Controls ; Supports Upto 256 programmable Functions Shall include any accessory to make the system functional.</p>	Nos	1.00		0.00	

308	Audio Mixer with effects, Builtin 40 inputs Supply of Digital Mixer : 17 motor faders (16 channels + 1 master) ; 40 input mixing channels (32 mono + 2 stereo + 2 return) ; 20 Aux buses (8 mono + 6 stereo) + Stereo + Sub ; 8 DCA groups with Roll-out ; 16 analog XLR/TRS combo mic/line inputs + 2 analog RCA pin stereo line inputs ; 16 analog XLR outputs ; 34 x 34 digital record/playback channels via USB 2.0 + 2 x 2 via a USB storage device,	Nos	1.00		0.00	
309	Wireless handheld microphone . Wireless Transmitters with Lapel - 2 AA batteries (minimum up to 14 hours of continuous use) 300 feet (91 m) operating range (line of sight), Audio Input Level: gain Max: - 16dBV Min: +10dBV, Gain Adjustment Range: 26 dB, Input Impedance - 1 MΩ, RF Transmitter output – 10mV Lavalier Microphone Impedance minimum 3000 ohms with minimum 1m of cable. Transducer Type : Condenser Polar Pattern: Omnidirectional Frequency Response from: 50 Hz Frequency Response to: 20 KHz Sensitivity (dBV/Pa): -38 dBV/Pa Sensitivity (mV/Pa): 13 mV/Pa Equivalent Selfnoise: 18 dB (A) Sound Pressure: 120 dB Receiver – Microprocessor-controlled internal antenna diversity, One-touch Quick Scan frequency selection quickly locates the	Nos	4.00		0.00	

	<p>best frequency, Two audio status indicator LED, Break-resistant Microphone Clip, Audio Output Impedance : XLR connector: 200 Ω / 6.35 mm (1/4") connector: 50 Ω Audio Output Level: XLR connector: -27 dBV (into 100 kΩ load) / 6.35 mm (1/4") connector: -13 dBV (into 100 kΩ load), (Ref. \pm33 kHz deviation with 1 kHz tone) RF Sensitivity : -105 dBm for 12 dB SINAD, typical Image Rejection - >50 dB, typical</p>				
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310	<p>Wireless lapel microphone . Wireless Transmitters with Lapel</p> <p>- 2 AA batteries (minimum up to 14 hours of continuous use) 300 feet (91 m) operating range (line of sight), Audio Input Level: gain Max: - 16dBV Min: +10dBV, Gain Adjustment Range: 26 dB, Input Impedance - 1 MΩ, RF Transmitter output – 10mV Lavalier Microphone Impedance minimum 3000 ohms with minimum 1m of cable. Transducer Type : Condenser Polar Pattern: Omnidirectional Frequency Response from: 50 Hz Frequency Response to: 20 KHz Sensitivity (dBV/Pa): -38 dBV/Pa Sensitivity (mV/Pa): 13 mV/Pa Equivalent Selfnoise: 18 dB (A) Sound Pressure: 120 dB Receiver – Microprocessor-controlled internal antenna diversity, One-touch Quick Scan frequency selection quickly locates the best frequency, Two audio status indicator LED, Break-resistant Microphone Clip, Audio Output Impedance : XLR connector: 200 Ω / 6.35 mm (1/4”) connector: 50 Ω Audio Output Level: XLR connector: –27 dBV (into 100 kΩ load) / 6.35 mm (1/4”) connector: –13 dBV (into 100 kΩ load), (Ref. \pm33 kHz deviation with 1 kHz tone) RF Sensitivity : -105 dBm for 12 dB SINAD, typical Image Rejection - >50 dB, typical</p>	Nos	2.00	0.00
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3 1 1	<p>Wired handheld microphone Vocal Type Dynamic Frequency Response 50 to 15,000 Hz Polar Pattern Cardioid Sensitivity (at 1,000 Hz Open Circuit Voltage) –54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL Impedance Microphone rating impedance is 150 Ω (300 Ω actual) for connection to microphone inputs rated low impedance Polarity Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3. Case Dark gray, enamel-painted, die Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille Connector Three- pin professional audio connector (male XLR type) Certification Eligible to bear CE Marking. Conforms to European EMC Directive 89/336/EEC. Should meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.</p>	Nos	4.00		0.00	
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3 1 2	<p>DRUM KIT FOR DRUM MIKING SOLUTION</p> <p>Wired (Instrumental) microphone Type Dynamic Frequency Response 50 to 15,000 Hz Polar Pattern Cardioid Sensitivity (at 1,000 Hz Open Circuit Voltage) –54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL. Impedance Microphone rating impedance is 150 Ω (300 Ω actual) for connection to microphone inputs rated low impedance Polarity Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3. Case Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille Connector Three-pin professional audio connector (male XLR type) Certification Eligible to bear CE Marking. Conforms to European EMC Directive 89/336/EEC. Should meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments. Equivalent self noise @ 24 dBA or less, and weight 300 gms or less</p>	Nos	2.00		0.00	
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3 1 3	<p>Gooseneck microphone with table top stand with ON/OFF Switch Type Condenser (electret bias) Frequency Response 50 to 17000 Hz Output Impedance (at 1000Hz) EIA Rated at 150 Ohms (180 Ohms actual) Open Circuit Sensitivity (At 1KHz ref 1V per Pascal) Cardioid : 21.1 mV Super Cardioid : 23.7mV Polarity Positive Sound Pressure on diaphragm to produce positive voltage on Pin 2 relative to pin 3 of XLR output connector Maximum SPL (1 kHz at 1% THD, 1 kilohm load) Cardioid: 123 dB Supercardioid: 122 dB Equivalent Output Noise (A- weighted) Cardioid: 29 dB SPL Supercardioid: 28 dB SPL Signal-to-Noise Ratio (referenced at 94 dB SPL at 1 kHz) Cardioid: 65 dB Supercardioid: 66 dB Dynamic Range (1 kilohm load at 1 kHz) 94 dB Common Mode Rejection 45 dB minimum Preamplifier Output Clipping Level (1% THD) -6 dBV (0.5 V) Logic Connections - LED IN ?? Active low ($\leq 1.0V$), TTL compatible. Absolute maximum voltage: -0.7V to 50V Logic Input Output Loc I/O terminals for remote control Certification CE Marking. Conforming to European EMC Directive 89/336/EEC. To Meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments. Mute Switch Attenuation 50 dB minimum Microphone 12" / 18" inches</p>	Nos	2.00	0.00
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	desktop mini condenser, gooseneck mounted microphone Cartridge interchangeable				
3 1 4	CD player with USB Five-disc CD changer Disc Compatibility : CD, CD-R/RW, CD- Text (MP3,WMA),USB, iPod Output Level : 2 ± 0.3 V (1 kHz, 0 dB) Signal-to-Noise Ratio : 105 dB Harmonic Distortion : 0.003% (1 kHz) Dynamic Range : 96 dB Frequency Response : 20 Hz-20 kHz (± 0.5 dB) Output : Optical & analog RS-232C interface and IR in/out Power Consumption : 16 W	Nos	1.00	0.00	

3 1 5	4 point mic junction boxes .	Nos	6.00		0.00	
3 1 6	UL Listed Connectors .	Nos	1.00		0.00	
3 1 7	Light cations.weight tripod alluminium Microphone stand with Long Arm, boom type & chrome plating	Nos	6.00		0.00	
3 1 8	Light weight tripod alluminium Microphone stand with short Arm, boom type & chrome plating	Nos	4.00		0.00	
3 1 9	Speaker cable Outer Jacket : LS PVC (CL2P) Outer Shield : Aluminum/Polyester Twisted Tinned Copper 10AWG 2 Conductor Oxyzen Free Standards : EU Directive 2000/53/EC (ELV), EU Directive 2003/96/EC (BFR), EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), EU Directive 2003/11/EC (BFR), CE Mark, RoHS, NFPA 262, UL voltage rating : 150 V RMS.	Mtrs	1500.00		0.00	
3 2 0	Speaker cable Outer Jacket : LS PVC (CL2P) Outer Shield : Aluminum/Polyester Twisted Tinned Copper 12AWG 2 Conductor Oxyzen Free Standards : EU Directive 2000/53/EC (ELV), EU Directive 2003/96/EC (BFR), EU	Mtrs	1500.00		0.00	

	Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), EU Directive 2003/11/EC (BFR), CE Mark, RoHS, NFPA 262, UL voltage rating : 150 V RMS.					
3 2 1	2 core PVC insulated Cu conduction sheilded microphone cable	Mtrs	300.00		0.00	
3 2 2	24 Core Mic Snake Cable	Mtrs	100.00		0.00	
3 2 3	CAT5 cable	Mtrs	100.00		0.00	
3 2 4	Equipment rack with Hardware, Fans, Trays cable managers	Nos	1.00		0.00	
3 2 5	Matrix Switcher, Multiplexer, Converters, Extenders, Network Manager, KVM, Console, Audio Server	Nos	1.00		0.00	
	Projection System for Town Hall Bhagalpur					

3 2 6	<p>Projection "Projection Technology : RGB liquid crystal shutter projectionsystem (3LCD)"LCD Size : 1.43" or better; "Native Resolution : WUXGA (1920 x 1200) or better"Projection Lens Type : Optical Power Zoom / Power Focus / Power Shift / Power Distortion; High Definition : 4k Enhanced; F Number : 1.9 - 2.1Focal Length : 54.7 - 73.0 mm; Zoom Ratio : 1 - 1.35; "Throw Ratio : 1.74 - 2.35 (wide-Tele)"; "Lens Exchange : must be available"; Lens Shift Mode : it should be powered : -a) Vertical (up/down) : +/- 65%; b) Horizontal (Left/Right) : +/- 30%Lens position : 10 positions; Lamp Type : Laser Diode; Lamp Life : (Normal / Eco) 20,000 / 30,000 hours"Lumens in White Light : 25,000 lm"; Lumens in Color Light : 25,000 lm; Contrast Ratio : 25,00,000 : 1"Keystone Correction : Manual vertical: $\pm 45^\circ$, Manual horizontal $\pm 30^\circ$"Quick Corner : Required; Curve Surface : Required; Point Correction : Required; Operating Temperature : 0 - 50 degree C; Direct Power on / off : required"Start up period : Less than 8 seconds"; Warm up period : 30 section;Cool Down Period : Instant off"For optimal deployment of projection system, various Input-Output options/ connector, Content Server etc. compatibilities are required.Installation costs should also be factored in. Installation should be 'zero-keystone' in so far as the projection geometry is concerned, and should be</p>	Set	1.00	0.00
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	otherwise compatible with other subsystems (sound systems, screen, etc.)"					
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3 2 7	<p>Projection Surface</p> <p>Type : Ceiling / wall mountable; 180° wide viewing angle with 1.1 gain; Active 3D, 4K Ultra HD, and HDR Ready; Standard black masking borders Upto 180" in 16:9 With bubble leveler; Infrared (IR) remote control; Detachable 3-way wall UP/STOP/DOWN switch; "Built-in 5-12 volt trigger port for Drop/Rise operation to"; "synchronize with the projector's power cycle"; 12 Volt Trigger Cable included; Low-voltage internal IR Receiver; "RJ45 input port allows easy integration with 3rd party control systems"; Tubular motor for swift operation and speed AMX and CRESTRON certified</p> <p>"Conforms to ANSI/UL STD. 60950-1"; "Certified to CAN/CSA STD. C22.2"; "GREENGUARD® and GREENGUARD® Gold Certified UL 2818"</p>	Set	1.00		0.00
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3 2 8	<p>Power Conditioning for Town Hall, Bhagalpur</p> <p>"40kva True online, double conversion, high efficiency, and high power factor Uninterruptible Power Systems (UPS) rated at 40 KVA/40kW with battery as mentioned below. UPS shall be DSP Based with LCD display & shall have event log upto 200 nos or more."</p> <p>Widest input range, Built in Maintenance Bypass, ECO mode, EPO, REPO, Swappable interior architecture with front access for Service & Dual Aux Internal Supply Full IGBT Rectifier / Battery charger & IGBT based Inverter with SNMP Card enabled and SNMP Software.</p> <p>OUTPUT PARAMETERS: Capacity - 40kVA/40kW (0-40deg C without de-rating) with Unity Power Factor at Output (OEM can offer higher Kva UPS capacity to meet 40kw requirement) with common output panel.; "Configuration - 3- ph, 3-wire,N +PE with Voltage Regulation +/- 1%, Frequency 50/60Hz"; Slew Rate - Less than 1Hz/s ; Crest Factor - 3:1 max.; Recovery time - 60 millisecond "Over load capacity 125% - 10 min; 125-150% - 1min; >150% - 1 sec"; AC-AC Efficiency 95% or more; "Transfer time - Mains to battery - 0 millisecond"; "Transfer time - Inverter to bypass -Synchronization mode - 1 millisecond"</p> <p>INPUT PARAMETERS: "Configuration - 3- ph, 3-wire,N +PE; Power Factor - >0.99 at full load"; "Nominal Voltage -</p>	Complete Set	1.00	0.00
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	<p>380/400/415V; Input Voltage range- 3 Phase 315Vac-475Vac; Frequency - 50/60 Hz"; Frequency range- Hz -40 to 70 Hz at full load; BYPASS Voltage Range - 15% -20% ; Frequency - 50/ 60Hz; Frequency Range - +/-10%; BATTERY "BATTERY (Exide/Rocket/Quanta/Leoch) 12V, SMF – minimum 32 nos 100AH CAPACITY."; "Certifications Product - CE; OEM ISO 9001, ISO 14001 & OHSAS 18001 (for OEM Indian Operation)"</p> <p>Electrical: Bidder to develop and install electrical panel having digital input / output displays, control and switching, wherever applicable, for entire project. Bidder to factor cabling from mains to UPS and UPS to equipment.</p>					
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329	Acoustic for Town Hall, Bhagalpur "595x595x15mm, Square edge (T15 Grid system)"; "Supply and Installation of, square edge, Glassfibre core fully encapsulated ceiling tile of size 595x595x15mm having volume density 120Kgs/m3, weight 1.8 kg/m2 which is suspended by using 0.3mm thick Skelet Trelis metal grid system."; "Skelet Trelis metal grid system of 600x600mm module includes wall angle with unequal flanges of 15/19mm, length 3000mm, fixed along the perimeter of walls with the help of nylon sleeves and suitable fasteners at 300mm centers.; Then suspend the Skelet Main T with flange width 15mm, height 32mm and length 3600mm, from the soffit slab with help of soffit cleat and wire rod with leveling spring clip at 1200mm centres.; Skelet Cross T with flange width 15mm, height 26mm and length 1200mm is interlocked into the pre-cut slots in the Main Skelet Trelis at 600mm centers in the perpendicular direction to the Main Skelet; Finally Skelet CrossT with flange width 15mm, height 26mm and length 600mm are interlocked into the precut slots in the CrossT in direction parallel to the Main To result in 600x600mm module.; Nubby square edge of size 595x595x15mm shall be placed into the grid size of 600x600mm. Ensure arrow marks behind the tiles are oriented in one direction to achieve uniform shade.";	Sqm	580.00		0.00
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Technical Parameters: • Fire (Class) – 1 & P; • Acoustics – NRC 0.9 (For E900 Mounting); • Thermal conductivity (W/mk)– 0.066; • Climate (°C, RH) – 40, 95; • Light reflectance (%) – 85; • Green (VoC, RC %) – Low, 35".

330	<p>Stage Ceiling Specification</p> <p>"595x595x15mm, Square edge (Grid system)"</p> <p>Supply and Installation of Ebony, square edge, Glassfibre core fully encapsulated ceiling tile of size 595x595x15mm having volume density 120 Kgs/m³, weight 1.8 kg/m² which is suspended by using 0.3mm thick Skelet Trelis Ebony metal grid system; "Skelet Trelis Ebony metal grid system of 600x600mm module includes Skelet wall angle with unequal flanges of 15/19mm, length 3000mm; fixed along the perimeter of walls with the help of nylon sleeves and suitable fasteners at 300mm centers; Then suspend the Skelet MainT with flange width 15mm, height 32mm and length 3600mm; from the soffit slab with help of soffit cleat and wire rod with leveling spring clip at 1200mm centres; Skelet CrossT with flange width 15mm, height 26mm and length 1200mm is interlocked into the pre-cut slots in the Main T at 600mm centers in the perpendicular direction to the Main T; Finally Skelet CrossT with flange width 15mm, height 26mm and length 600mm are interlocked into the pre-cut slots in the CrossT in direction parallel to the Main T to result in 600x600mm module. Subtex Ebony square edge of size 595x595x15mm shall be placed into the grid size of 600x600mm. Ensure arrow marks behind the tiles are oriented in one</p>	Sqm	146.00	0.00
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direction to achieve uniform shade." Technical Parameters: "• Fire (Class) – 1 & P; • Acoustics – NRC 0.9 (For E900 Mounting); • Thermal conductivity (W/mk)– 0.066; • Climate (°C, RH) – 40, 95; • Light reflectance (%) – na"; • Green (VoC, RC %) – Low, 35

3 3 1	Hall Perimeter Ceiling Specification Ceiling Gypsum "Supply and Installation of Gypsum board, square edge, gypsum core panels of installed by using Strut ceiling framework."; "The Strut ceiling framework system shall include Strut Wall channel, fully knurled, sectional thickness 0.55mm,length 3600mm, unequal flanges of 20&30mm and web of 25mm, fixed along the perimeters of the wall with nylon sleeves and suitable fasteners at every 300mm centers; Then suspend Strut Main channels, fully knurled, sectional thickness 0.8mm, length 3600mm, equal flanges of 15mm and web 45mm from the soffit at 1200mm centers with Strut, fully knurled, Suspender angle with sectional thickness 0.55mm, unequal flanges of 25 & 10mm. Strut Cross channel, fully knurled, sectional thickness 0.55mm, length 3600mm, web 35mm, depth of 20mm and equal flanges 9.5mm is fastened to the Strut perpendicularly at 600mm centers. Gypsum board, 1200x2400x12mm is installed on the Strut with suitable fasteners in a staggered manner."	Sqm	102.00		0.00	
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	Stage	Wall	Paneling	Specification					
3 3 2		600x2400x20mm, Strand, Kerfed edge pinewood fibre core tiles of size 600x2400x20mm, density 400 kgs/m3, weight 8kg/m2 installed by using Strut framework system with non-visible fasteners using H-Spline. The Strut framework systems includes Strut Cross Channel having thickness 0.55mm, length 3600mm, knurled web 25, depth 25mm and equal flanges 12mm is fastened to wall positioned horizontally in a regular manner at 600mm c/c with support of MC 45. H-Spline having sectional thickness 2mm and length 2400mm to be fixed perpendicular to the Strut Cross Channel at 600mm centers. The Kerfed edge panels shall be then inserted into the H-spline along their long edges of 2400mm against framework to perfect fit with staggered short edges.		Supply and Installation of Strand, Kerfed edge Magnesite bonded tiles of size 600x2400x20mm, density 400 kgs/m3, weight 8kg/m2 installed by using Strut framework system with non-visible fasteners using H-Spline. The Strut framework systems includes Strut Cross Channel having thickness 0.55mm, length 3600mm, knurled web 25, depth 25mm and equal flanges 12mm is fastened to wall positioned horizontally in a regular manner at 600mm c/c with support of MC 45. H-Spline having sectional thickness 2mm and length 2400mm to be fixed perpendicular to the Strut Cross Channel at 600mm centers. The Kerfed edge panels shall be then inserted into the H-spline along their long edges of 2400mm against framework to perfect fit with staggered short edges. Technical Parameters "• Fire (Class) – 1 & P; Acoustics – NRC 0.87 (For 15mm thk C50 Mounting); • Thermal conductivity (W/mk)– 0.08;• Climate (°C, RH) – 50, 90;• Light reflectance (%) – Low light reflectivity;• Green (VOC, RC %) – Low, 30"	Sqm	244. 00		0.00	

3 3 3	<p>Side and Rear Wall Specification Lower Reaches "Panel 128x2430x16mm, T&G edge" "Supply & installation of Panels made of pinewood E1 grade fiberboard, melamine laminated finish, groove un-perforated slats - (2mm Slats @16mm pitch) / (2mm grooves @ 32mm centers), Non FR, size 128x2430x16mm, volume density of unperforated base board 800Kg/m3, weight 12Kgs/m2 installed by using Strut framework system."</p> <p>Strut framework system includes Strut aluminium core cross channel having thickness 0.55mm, length 3600mm, knurled web 40mm, depth 10mm and equal flanges 15mm is fastened to wall or framework behind vertically / horizontally at every 600mm c/c. Strut aluminium core cross channel, thickness 0.5mm, length 2400mm, web 15mm & 27mm, "depth 18mm and flanges of 7mm with suitable edge & centre brackets is then fixed perpendicular to the Strut Cross channel with the help of fasteners at every 400mm centers. Slats of size 128x 2430x16mm in then fixed perpendicular to Strut CC18 with suitable edge & centre brackets. Short edges of the panel are staggered. Contractor to provide expansion joints of 3mm at every 4.86m length wise and 4.992m width wise."</p>	Sqm	200. 00		0.00	
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	<div> <div>Technical</div> <div>Parameters</div> <div> <ul style="list-style-type: none"> • Acoustics – NRC 0.2; • Thermal conductivity (W/mk)– na; • Climate (°C, RH) – 50, 70; • Light reflectance (%) – 75 (Maple Arce); • Green (VOC, RC %) – Low, 25" </div> </div>					
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3 3 4	<p>Side and Rear Wall Specification Upper Reaches</p> <p>Strand 600x2400x20mm, Square edge</p> <p>"Supply and Installation of Strand, square edge, magnesite-bonded superfine filament pinewood fibre tile of size 600x2400x20mm, density 400 kgs/m³, weight 8 kg/m² installed by using Strut framework system."</p> <p>The Strut framework systems includes Strut Cross Channel having thickness 0.7mm, length 3600mm, knurled web 40, depth 22mm and equal flanges 15mm is fastened to wall positioned horizontally in a regular manner at 600mm c/c. Strand 600x1200x20mm panels are fastened to Strut Cross channel with suitable fasteners. Longer edges of the panel should be perpendicular to Strut Cross Channel. Fastners to be countersunk and paint finished with suitable colour</p> <p>Factory finish only.</p> <p>The system is backlined with the "acoustical infill thermal bonded poly fiber"</p> <p>Technical Parameters</p> <ul style="list-style-type: none"> • Fire (Class) – 1 & P • Acoustics – NRC 0.91 (For 50mm thk E250* Mounting) • Thermal conductivity (W/mk)– 0.08 • Climate (°C, RH) – 50, 90 • Light reflectance (%) – 75 • Green (VOC, RC %) – Low, 30" 	sqm	380. 00		0.00	
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335	UNDER DECK INSULATION Supply fitting and fixing of Rockwool with density of 48kg/m ³ , thickness of 75mm with aluminium foil backing to be laid over just beneath the roofing sheet, rock wool roll / slab to be fixed with adhesive and will be hold in position with chicken wire mesh to the entire periphery;	Sqm	680.00		0.00	
336	Supply and fixing of wooden bit with polish for final finishing as required different areas	Rmt	600.00		0.00	
337	Wooden doors; "Supply, installation and commissioning of Acoustical door shutter made of Teak wood Frame with anti-termite paint covered with 12mm ply and 4 mm thick teak veneer on both side and filling with acoustical backing by Ploy fiber wool of thickness 50mm having density of 20 Kgs/M ³ with polish finish with door closer, 12" "SS finish 'D' handle 4 Nos. for each door, tower bolt of 12"" and all the hinge of 125 mm of SS. Door frame made of Sal wood with 125 mm x 75 mm size.	Sqm	24.00		0.00	
HVAC System						
338	MAKE FULL INVERTER VRF Condensing Units (ODU) of following capacities: Supply of Voltas make VRF units complete with Partial Inverter driven scroll compressor having interconnected control wiring and refrigerant piping	Nos	12.00		0.00	

	housed in compact housing duly powder coated body. 22 HP					
339	MAKE FULL INVERTER VRF Condensing Units (ODU) of following capacities: Supply of Voltas make VRF units complete with Partial Inverter driven scroll compressor having interconnected control wiring and refrigerant piping housed in compact housing duly powder coated body. 18 HP	Nos	4.00		0.00	
340	MAKE FULL INVERTER VRF Condensing Units (ODU) of following capacities: Supply of Voltas make VRF units complete with Partial Inverter driven scroll compressor having interconnected control wiring and refrigerant piping housed in compact housing duly powder coated body. 14 HP	Nos	5.00		0.00	
341	VRF Evaporative Units (IDU) of following capacities Ductable Unit 2.5 TR	Nos	2.00		0.00	
342	VRF Evaporative Units (IDU) of following capacities Ductable Unit 5.5 TR	Nos	4.00		0.00	

3 4 3	VRF Evaporative Units (IDU) of following capacities Ductable Unit 8.0 TR	Nos	4.00		0.00	
3 4 4	VRF Evaporative Units (IDU) of following capacities Ductable Unit 2.0 TR	Nos	2.00		0.00	
3 4 5	AHU UNIT 8500 CFM FLOOR MOUNTED AIR HANDLING UNIT WITH 50 MM STATIC PRESSURE (2stage filtration along with mixing chamber)	Nos	8.00		0.00	
3 4 6	AHU KIT	Nos	16.0 0		0.00	
3 4 7	Electrification works including Outdoor illumination	Nos	22.0 0		0.00	
	Installation, testing and commissioning of Air Conditioning System				0.00	
3 4 8	Installation of VRF Condensing (Outdoor) Units 22 HP	Nos	12.0 0		0.00	
3 4 9	Installation of VRF Condensing (Outdoor) Units 18 HP	Nos	4.00		0.00	

3 5 0	Installation of VRF Condensing (Outdoor) Units 14 HP	Nos	4.00		0.00	
3 5 1	Installation of VRF Evaporative(Indoor) Units, VRF Evaporative Units (IDU) of following capacities, Ductable Unit 2.5 TR	Nos	2.00		0.00	
3 5 2	Installation of VRF Evaporative(Indoor) Units, VRF Evaporative Units (IDU) of following capacities, Ductable Unit 5.5 TR	Nos	4.00		0.00	
3 5 3	Installation of VRF Evaporative(Indoor) Units, VRF Evaporative Units (IDU) of following capacities, Ductable Unit 8.0 TR	Nos	4.00		0.00	
3 5 4	Installation of VRF Evaporative(Indoor) Units, VRF Evaporative Units (IDU) of following capacities, Ductable Unit 2.0 TR	Nos	2.00		0.00	
3 5 5	AHU UNIT 8500 CFM FLOOR MOUNTED AIR HANDLING UNIT WITH 50 MM STATIC PRESSURE (2stage filtration along with mixing chamber)	Nos	8.00		0.00	
3 5 6	Topping-up of refrigerant R - 410 A. FOR 162 HP VRF SYSTEM	kg	135.00		0.00	
3 5 7	Site Fabricated GI Ducting as per IS-655, both for Supply Air Ducting - GSS - 120 GSM, i) 20 Gauge	Sqm	650.00		0.00	

358	Site Fabricated GI Ducting as per IS-655, both for Supply Air Ducting - GSS - 120 GSM, i) 22 Gauge	Sqm	750.00		0.00	
359	Site Fabricated GI Ducting as per IS-655, both for Supply Air Ducting - GSS - 120 GSM, i) 24 Gauge	Sqm	1890.00		0.00	
360	Fire Retardent Canvass Connections	Nos	26.00		0.00	
361	Cross link close cell fire retardent Thermal Insulation with Al Foil 9 MM thick	Sqm	2260.00		0.00	
362	Accoustic Insulation- Acoustic Insulation - Supply & fixing of duct acoustic insulation with 12 mm thick Rigid Board resin bonded glass wool of 48Kg/cu.m density (Board) and 28 gauge perforated aluminium sheet.	Sqm	780.00		0.00	
363	Al. powder coated Grille for Supply air with Collar damper	Sqm	76.00		0.00	
364	GSS DUCT DAMPER	Sqm	12.00		0.00	

3 6 5	Al. powder coated Grille for Return air without Collar damper	Sqm	26.0 0		0.00	
3 6 6	SITC of Communication Cable between indoor unit to outdoor unit 3core x 1.5/1.0 sqmm Cu shielded cable laid in conduits	Rmt	890. 00		0.00	
3 6 7	SITC of seam less and eddy current tested hard drawn copper insulated Refrigerant Piping with 19 mm insulation	Rmt	610. 00		0.00	
3 6 8	SITC of Rigid PVC drain pipe of 32 mm dia with 6 mm nitrile rubber sleeve	Rmt	60.0 0		0.00	
3 6 9	SITC of MS stand for condensing unit	Nos	8.00		0.00	
3 7 0	Lifting , Shifting of ODU & I U Units	Lot	1.00		0.00	
	Seating Chairs And Sofas					

3 7 1	Seating Gallery Chairs: Udine Slider – Size: sliding and push back from 22 inch Height : 40 inch from base Arm rest : fome padded Back angel : 14 gauge Seat back density : PU material Cushion ply : tripal layer ply Cushion height : 18 inch from base; Back frame ; iron / moulded 15 mm ply Spring for push back sliding :cushion seat,15 kg density with polyurethume; Back :About 50 kg density with polyurethume Mechanism : push back 14- 16 gauge push back 15 kg fill welded with powder coating 50x25 Ms; Tube of 15 kg using roling spring for push and back with height durability Total weight of chair : 26.5 kg Upholstery : fabric with foam lamination with 5 mm fabric lamination; Arm rest handle with cup holder : PPCP injection moulded handle with height durability; Installation : will install with existing floor with anchor fastners of length 6" of screws Color : cream fabric	each	1010 .00		0.00	
3 7 2	VIP Sofas Three Seater Sofas	each	12.0 0		0.00	
3 7 3	Green room Chairs & Restaurant chairs Make up Chairs	each	26.0 0		0.00	

3 7 4	VIP Waiting Sofa Three seater sofa	each	2.00		0.00	
3 7 5	Centre table	each	8.00		0.00	
3 7 6	Wall clock of Ajanta make	each	4.00		0.00	
Fire Fighting						
3 7 7	Supply, fabrication & laying heavy grade IS marked black mild steel piping complete with all fittings, pipe supports, clamps, painting etc. as approved with threaded and welded jointing for Wet Riser System. Threaded joint upto 50mm diameter pipe; Welded joint above 50mm diameter pipe. 50 mm nominal bore	Rmt	280. 00		0.00	
3 7 8	Supply, fabrication & laying heavy grade IS marked black mild steel piping complete with all fittings, pipe supports, clamps, painting etc. as approved with threaded and welded jointing for Wet Riser System. Threaded joint upto 50mm diameter pipe; Welded joint above 50mm diameter pipe. 40 mm nominal bore	Rmt	373. 00		0.00	

3 7 9	Supply, fabrication & laying heavy grade IS marked black mild steel piping complete with all fittings, pipe supports, clamps, painting etc. as approved with threaded and welded jointing for Wet Riser System. Threaded joint upto 50mm diameter pipe; Welded joint above 50mm diameter pipe. 32 mm nominal bore	Rmt	620. 00		0.00	
3 8 0	Supply, fabrication & laying heavy grade IS marked black mild steel piping complete with all fittings, pipe supports, clamps, painting etc. as approved with threaded and welded jointing for Wet Riser System. Threaded joint upto 50mm diameter pipe; Welded joint above 50mm diameter pipe. 25mm nominal bore	Rmt	780. 00		0.00	
3 8 1	Supply, installation, testing and commissioning of 150 mm dia Zonal Control Valve inclusive of 1 no 150 mm dia butterfly valve, 150mm diam. non return valve, Flow Switch, water pressure gauges & 25 mm dia. Auxillary Drain valve with sight glass with necessary GI (H) piping with threaded fittings of required sizes complete	set	3.00		0.00	
3 8 2	Providing, fixing, testing and commissioning of quick response 15 mm dia. gunmetal quartz bulb type sprinkler head to operate at 68 degree centigrade. Cost shall include UL/FM listed powder coated rossette plate. Pendent / Upright type	each	360. 00		0.00	

3 8 3	Providing, fixing, testing and commissioning of quick response 15 mm dia. gunmetal quartz bulb type sprinkler head to operate at 68 degree centigrade. Cost shall include UL/FM listed powder coated rosette plate. Side wall sprinklers	each	120.00		0.00	
3 8 4	Providing and fixing UL/Fm listed SS braided flexible pipe with accessories complete with all accessories specified in technical specifications (Size=15B) a. 780mm long	each	40.00		0.00	
3 8 5	Providing and fixing UL/Fm listed SS braided flexible pipe with accessories complete with all accessories specified in technical specifications (Size=15B) b. 1000mm long	each	54.00		0.00	
Fire Extinguishers						
3 8 6	Providing, storing, handling, shifting, installation, testing and commissioning of portable fire Extinguishers as described ISI marked (IS:15683) 4.5 kg carbon dioxide extinguisher, IS marked, with high pressure discharge tube, horn, control valve, CCE approved cylinder	Nos	18.00		0.00	
3 8 7	Providing, storing, handling, shifting, installation, testing and commissioning of portable fire Extinguishers as described ISI marked (IS:15683) 6 kg Mono Ammonium Phosphate (ABC) type cartridge operated extinguishers	Nos	18.00		0.00	
3 8 8	Providing, storing, handling, shifting, installation, testing and commissioning of portable fire Extinguishers as	Nos	18.00		0.00	

	described ISI marked (IS:15683) 22.5 Kg. CO2 Fire Extinguisher					
389	Providing and fixing inspectors test assembly complete with test valve, sight glass sectional drain valve, union with corrosion resistant orifice all complete strictly as per drawing. a) 50 mm dia	Nos	25.00		0.00	
	CCTV Surveillance System					
390	High Definition IR Camera: 6.5 MP ,HD Bullet Camera,6 mm; PoE, 1080P@25/30fps, WDR, NIR, BLC, Dual ICR, 30m IR, IP66, ousing,6mm Lens	Nos	70.00		0.00	
391	High Definition IR Camera: 6.5 MP HD IP PTZ Camera,20x; 1/2.8" 2.1Megapixel Sony Exmor CMOS sensor, 1080P@25/30fps IR distance 150meters, Speed 0.05°~400°/s, Mirco SD card(32GB)TVS 6000V protection; IP66 waterproof, Wiper*Suppport Tripwire&Perimeter intelligent analysis functions	Nos	12.00		0.00	
392	16CH 720P,HD NVR,4 HDD, 16ch 1080P/720P IP Camera Input, 16ch Realtime Display; 8ch 720P/4ch 1080P Sync Playback, Incoming: 128Mbps; Outgoing : 64Mbps HDMI, VGA Output, 4 SATA(Up to 16TB)	Nos	6.00		0.00	
393	8CH 720P,HD NVR,2 HDD, 8ch 1080P/720P IP Camera Input, 8ch Realtime Display,2ch 1080P/4ch 720P Sync Playback, 40Mbps Bandwidth HDMI, VGA Output, 2 SATA (Up to 8TB)	Nos	3.00		0.00	

3 9 4	POE: 16 Port POE Switches 100/1000	Nos	6.00		0.00	
3 9 5	POE: 8 Port POE Switches 100/1000	Nos	3.00		0.00	
3 9 6	Cat 6: Cat 6 Cable bundle of 300 mtr	bundl e	16.0 0		0.00	
3 9 7	Connector: RJ 45 Connector	box	6.00		0.00	
3 9 8	Antenna Wireless Air Grid Antenna	pair	3.00		0.00	
3 9 9	Hard Disk, Surveillance Hard Disk 4 TB	nos	16.0 0		0.00	
4 0 0	Hard Disk, Surveillance Hard Disk 2 TB	nos	12.0 0		0.00	
4 0 1	Supply ,Instalaltion Testing and commissiong of 55 " LED 16x7 with Full HD resolution APPROVED MAKE: LG/SAMSUNG	nos	7.00		0.00	

4 0 2	Supply and fixing of 15U rack with inbuilt fan and power supply APPROVED MAKE: VALRACK/APW President/APC	nos	3.00		0.00	
4 0 3	5KVA ONLINE UPS WITH BATTERIES FOR 30 MIN BACK UP APPROVED MAKE: APC/CONSUL NEOWATT	nos	6.00		0.00	
4 0 4	Installation Charge For Full CCTV Setup	SET	1.00		0.00	
4 0 5	Supply Fixing installation of Illuminated signages of Approved Design and material	Sqm	200.00		0.00	
Total Amount					0.00	