

## Tender document for the work of Site Development and Infrastructure Works for Sikaria Mega Food Park at Tripura on Turnkey Basis.

### NOTICE INVITING TENDER

NIT No.: SMFPL/NIT/13/2011

Dated: 15/12/2011

The Vice President (Tender & Procurement) on behalf of Sikaria Mega Food Park Private Limited having its registered office at CF – 9, Sector I, Salt Lake City, Kolkata – 700064 invites sealed tender from the **Contractors** for undertaking the under mentioned work:

Sl. No.	Name of the Work	Earnest Money	Application Fee	Completion period
1	Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate on <b>turn key basis at Tripura.</b>	<b>Rs.1,00,000.00</b> <b>(Rupees One Lakh only)</b>	<b>Rs.1,000.00</b> <b>(Rupees One Thousand only)</b>	<b>6 (Six) months</b>

**2.** Tender documents may be purchased from the registered office of the Sikaria Mega Food Park Private Limited at CF – 9, Sector I, Salt Lake City, Kolkata – 700064 from 15/12/2011 to 04/01/2012 by depositing the cost of the tender document against the deposits of aforesaid application fee in shape of (non-refundable) Cash / D.D. in favour of Sikaria Mega Food Park (P) Ltd, upto 1.00 PM on working days.

**3.** Tenders must be submitted in 2(two) parts as specified in the tender document to the registered office of Sikaria Mega Food Park Private Limited, CF – 9, Sector I, Salt Lake City, Kolkata – 700064 on 20/01/2012.

**4.** Bid security / Earnest Money Deposit: **Rs.1,00,000.00 (Rupees One Lakh)** as Earnest Money Deposit /Bid security is to be deposited in the form of Bank Guarantee (from scheduled Bank) with validity of 28 days beyond the validity of the Bid in the format given in this Bid Document. Demand Drafts in favour of the '**Sikaria Mega Food Park Private Limited**' on any Nationalised/scheduled Bank payable at Kolkata to be attached to the **tender part I** and to be deposited in separate envelope. The earnest money shall be refunded to the unsuccessful tenderers after finalisation of tender and it shall bear no interest.

For the contractors/bidders who are registered under the National Small Scale Industries Corporation are not required to deposit the EMD/Security Bid. They have to deposit the copy of NSIC duly certified by the Director/authorized person of the Company.

The validity of tenders shall be 180 (One eighty) days from the date of opening of **Part-I** of the tender.

5. Complete execution of all items is the responsibility of the contractor(s). Sub - contracting of work by the contractor is permissible only with written consent of undersigned.

6. Sikaria Mega Food Park Private Limited reserves the right to reject any or all tenders without assigning any reason whatsoever.

**7. GENERAL INSTRUCTION FOR SUBMISSION OF BID / TENDER:**

i) The bidders are required to submit their bids giving reference to this tender notice no. and date in sealed covers in 2(two) parts prominently subscribed as Part-I and Part-II respectively.

Part - I: Techno-commercial offers along with drawings strictly in terms of the tender enquiry.

Part - II: Price only in the format as indicated in the tender documents.

Both the envelop of Part-I & Part-II should be sealed in one Envelop. Name of work & NIT No. should be mentioned on that envelop.

Part – II of the offer shall be opened only in respect of such tenders as are found suitable after scrutiny of Part-I.

9. **Pre-bid meeting** shall be held in the office of the Sikaria Mega Food Park Private Limited on 17/01/2012 at 11.00 AM. Any interpretation / clarification as to the tender may be deliberated before the bid submission. The clarifications made during the pre-bid meeting shall also form the Part of tender document.

Vice President (Tender & Procurement)

Sikaria Mega Food Park (P) Ltd.

CF – 9, Sector I, Salt Lake City,

Kolkata - 700064.

## INSTRUCTIONS TO BIDDERS

The Sikaria Mega Food Park Private Limited having its registered office CF – 9, Sector I, Salt Lake City, Kolkata – 700064 invites sealed tender from the **Contractors** for under taking the works detailed in the table on **turn-key basis**:

S. No.	Name of the work	Earnest money	Application fee	Completion period
<b>1</b>	Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate on <b>turnkey basis at Tripura.</b>	<b>Rs.1,00,000.00 (Rupees One lakh only)</b>	<b>Rs.1,000.00 (Rupees One Thousand only)</b>	<b>6 (Six) months</b>

### **1. SCOPE OF WORK:**

Site Development Work at Tripura as stated above in the above table on **Turnkey Basis.**

### **2. BID SECURITY / EARNEST MONEY DEPOSIT:**

**2.1** The bidder shall furnish, as part of his bid, a bid security / earnest money in the amount as shown above as well as in the NIT for this particular work. Bid Security/EMD shall be in favour of the '**Sikaria Mega Food Park Private Limited**' payable at Kolkata.

**2.2** Earnest money will be required to be deposited in the form of irrevocable Bank Guarantee (from a scheduled Bank) with validity period upto 28 days beyond the validity of the Bid in the prescribed format given in the Bid Document. Demand Drafts in favour of the '**Sikaria Mega Food Park Private Limited**' on any Nationalized Bank of India payable at Kolkata attached to the tender **Part-I** and to be deposited in separate envelope will also be acceptable as Earnest Money/Bid Security. The earnest money shall be refunded to the unsuccessful tenderers after finalisation and award of tender and shall bear no interest.

For the contractors/bidders who are registered under the National Small Scale Industries Corporation are not required to deposit the EMD / Security Bid. They have to deposit the copy of NSIC duly certified by the Director/authorized person of the Company.

**2.3** Any bid not accompanied by acceptable bid security and not secured as indicated in clause above shall be rejected by the employer.

**2.4** The bid security of the unsuccessful bidder shall be refunded as promptly as possible after opening of Price Bid and finalisation of tender.

**2.5** The bid security of the successful bidder will be discharged when the bidder has signed the agreement and furnished the required performance security / security deposit.

**2.6** The bid security / earnest money may be forfeited: -

a) If the bidder withdraws the bid after Bid opening, during the period of bid validity or

b) In the case of successful bidder, if the bidder fails within the specified time limit to either sign the agreement or furnish the required performance security / security deposit.

**2.7** The bid security deposited with the employer will not carry any interest.

### **3.0 DOCUMENTS COMPRISING THE BID:**

**3.1** The tenders are to be filled strictly as per procedure laid down herein below taking into consideration the technical specifications, system requirements, general & additional terms and conditions of the contract and any other specific requirement as mentioned else where in the bidding document.

**3.2** It is also presumed that the bidders are fully aware of the prevailing market price and availability of raw materials, labour, water and electricity at site. Any ignorance in this respect will not give any opportunity to the bidder for price revision or delay in the execution of work. Before submission of tender, the bidders are advised to make themselves fully conversant with the above factors to avoid ambiguity at any later stage. In case of any confusion, clarification may be asked from the Employer.

**3.3** Bidders who do not comply fully with these instructions or any other conditions to this documents which may be applicable, will render themselves liable for disqualification without notice.

### **3.4 PART – I : TECHNO-COMMERCIAL BID**

This part shall be submitted in a **sealed cover**, superscripted prominently as “**Part – I : Technical and Commercial Part**” for Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, path / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate on **Turnkey basis at Tripura**.

a) Technical offer along with, drawings, strictly in terms of tender enquiry / tender document.

b) Commercial terms and conditions including payment terms. The original tender document along with the drawings is also to be enclosed duly signed as a token of acceptance by the bidder of the entire Terms & Conditions including commercial terms and conditions and payment terms given in the Tender Document.

c) Bid security/Earnest Money Deposit in specified forms.

d) Copy of Certificates of Central sales tax registration, and sales tax / VAT registration of Tripura, If the bidder is not in a position to submit copies of registration with Tripura sales tax authorities, they have to submit a declaration to the effect that they will submit the registration certificate from the respective sales tax authorities before the execution of agreement, in case their offer is accepted.

Successful Bidder shall have to get him registered with Sales Tax Authorities of the State Govt. The "**letter of intent**" may be issued but agreement shall be executed only when registration certificate with Sales Tax Authority of the State Government is furnished along with other relevant documents.

e) Copy of Permanent Income Tax Account Number (PAN).

f) Labour licence.

### **3.5 PART - II PRICE BID**

a) The part-II to be submitted in a **sealed cover**, superscripted prominently as "**Part - II: Price bid**" for Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths, / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate on **turnkey basis at Tripura** shall comprise of price bid only in the format as indicated in the tender documents. Each cover shall be distinctly marked on its left hand top corner mentioning the name of the bidder, part no. and tender notice no.

b) A declaration that the price bid is unconditional.

### **4.0 DEADLINE FOR SUBMISSION OF BIDS:**

Bids will be delivered to the employer at the address specified in documents not later than as per Clause 3 of NIT. In the event of the specified date for the submission of bids being declared a holiday by the employer, the bids will be received upto the appointed time on the next working day.

### **5.0 BID VALIDITY:**

**5.1** Bid shall remain valid for a period not less than one hundred and eighty days after the deadline for bid submission specified in clause 4. A bid valid for a shorter period shall be rejected by the employer.

**5.2** 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 bidder's responses shall be made in writing or by cable/ by Fax / email etc. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required 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 2 in all respects.

### **6.0 CURRENCIES OF BID AND PAYMENT**

The lump sum total price/amount for the turn key job shall be quoted by the bidder in Indian Rupees.

### **7.0 AMENDMENT OF BIDDING DOCUMENTS**

Before the deadline for submission of bids the employer may modify the bidding documents by issuing addenda. Any addendum thus issued shall be part of the bidding document and shall be communicated in writing or by Fax etc. to all purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing or by fax to the employer.

### **8.0 LANGUAGE OF THE BID**

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

### **9.0 BID PRICES.**

**9.1** The contract shall be for the whole works as described in sub- clause 1.0, based on the scope of work as detailed in the bidding document.

**9.2** The bidder shall submit lump sum price for the turn key job in figure and amount as per the scope of works. Corrections if any shall be made by crossing out, initialing, dating and rewriting. No overwriting shall be allowed or accepted under any circumstances.

**9.3** All duties taxes and other levies payable by the contractor under the contract or for any other cause shall be included in the total lump sum bid price submitted by the bidder, All incidental s, overheads, leads, lifts, carriages etc, as may be attendant upon execution and completion of works as stipulated in the bidding document shall also be included in lump sum total bid prices and total bid price submitted by the bidder.

**9.4** The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to variations on any account except to the extent variation allowed as per the Additional Terms & Conditions of the contract indicated in the bidding documents.

#### **10.0 FORMAT AND SIGNING OF BID:**

The bidder shall prepare the bidding documents comprising the bid as described in clause - 3.0 of the detailed tender notice. All documents of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the bidder. All pages of the bid document shall be initialed by the person or persons signing the bid. The bid shall contain no alterations or additions, except those to comply with instructions issued by the employer or as necessary to correct errors made by the bidder in which case such corrections shall be initialed by the person or persons signing the bid. *Erasing or overwriting in the bid document may disqualify the bidder.*

#### **11.0 SEALING, MARKING AND SUBMISSION OF BIDS:**

**11.1** The bidder shall seal the bid in 2(two) inner sealed envelopes and 1 (one) outer sealed envelope, duly marking the inner envelopes in the following manner:

a) 1<sup>st</sup> inner sealed envelope will be marked as "Part I: Technical and commercial part for Site Development work and infrastructure work for setting up of Mega Food Park at Tripura".

b) 2<sup>nd</sup> inner sealed envelope will be marked as "Part II: Price bid for Site Development work and infrastructure work for setting up of Mega Food Park at Tripura".

c) Outer sealed envelope will be marked as "Bidding documents for Site Development work for setting up of Mega Food Park at Tripura".

d) The inner envelopes placed in outer envelope shall be addressed to the Employer at the following address and submitted accordingly before the deadline for submission of bid to the **Vice President (Tender Procurement), Sikaria Mega Food Park (P) Ltd., CF – 9, Sector I, Salt Lake City, Kolkata – 700064.**

e) Inner and outer envelopes will bear the following identification "Bid for Site Development and infrastructure work for setting up of Mega Food Park at Tripura".

Bid reference No.

Do not open before 1.00 PM Hrs. I.S.T. on 20/01/2012.

f) In addition to the identification required in sub-clause above, the inner and outer envelopes shall indicate the name and address of the bidder.

g) If the outer envelope is not sealed and marked as above, the employer will assume no responsibility for the misplacement or premature opening of the bid.

11.2 Sealed bids shall be submitted by the Contractor or his authorised representative in person. Tenders sent by / through post shall not be entitled under any circumstances.

**12.0 LATE BIDS:**

Any bid received by the employer after the deadline prescribed in clause 4.0 due to any reason whatsoever will not be accepted.

**13.0 MODIFICATION AND WITHDRAWAL OF BIDS:**

**13.1** No bid may be modified after the deadline for submission of bids.

**13.2** Withdrawal of a bid between the deadline for submission of bids and the expiry of the period of bid validity specified in the NIT or as extended pursuant to sub clause 5.2 may result in the forfeiture of the bid security pursuant to clause 2.6.

**14.0 BID OPENING:**

**14.1** The employer will open Part I of the bids first.

**14.2** Part II of the bids, which are technically and commercially suitable and in accordance with specifications, scope terms and conditions as per Part - I of the bid, and fulfilling the requirement of the instructions to the bidders shall be opened thereafter.

**14.3** The bidder's name, the bid prices, the total amount of each bid and discount, and withdrawal, the presence or absence of bid security and such other details as the employer may consider appropriate, may be announced by the employer at the opening of Part - II of the bids.

**15.0 PROCESS TO BE CONFIDENTIAL:**

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 bids.

**16.0 CLARIFICATIONS OF BIDS:**

To assist in the examination, evaluation, and comparison of bids, the employer may, at the employer's discretion, ask any bidder for clarification of the bidder's bid. The request for clarification and the response shall be in writing or by facsimile.

**17.0 EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS:**

**17.1** Prior to the detailed evaluation of bids, the employer will determine whether each bid

- i ) has been properly signed
- ii) is accompanied by the required bid security/ EMD
- iii) is substantially responsive to the requirements of the bidding documents.

**17.2** A substantially responsive bid is one, which conforms to all the terms, conditions, & specifications of the bidding document without material deviation or reservation. A material deviation or reservation is one -

- a) which affects in any substantial way the scope or 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 substantial responsive bids.

**17.3** If a bid is not substantially responsive, it may be rejected by the employer at its sole discretion.

#### **18.0 CORRECTIONS OF ERRORS:**

**18.1** 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 amounts in figure and in words, the amounts in words will prevail.

#### **19.0 EVALUATION AND COMPARISON OF BIDS:**

**19.1** The employer will evaluate and compare only the bids determined to be substantially responsive in accordance with clause - 17

**19.2** 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 correction for errors pursuant to clause - 18
- b) making an appropriate adjustment for any other quantifiable acceptable variations, deviations submitted in accordance with clause -18
- c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause - 18

**19.3** The employer reserves the right to accept or reject any variation, deviation and other factors that are in excess of the requirements of the bidding documents or otherwise result in unsolicited benefits for the bidder.

**19.4** If the bid of the successful bidder is of considerable variance in relation to the engineer's estimate of the cost of work to be performed under the contract, the employer may require the bidder to produce detailed price analysis for the work, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed.

#### **20.0 AWARD CRITERIA:**

Subject to clause 19, the employer will award the contract to the best qualified bidder whose bid has been determined to be substantially responsive to the bidding document and who has offered the lowest evaluated bid price. Employer will be the sole judge in this regard and such decisions shall be final and binding on all bidders.

#### **21.0 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS:**

**Notwithstanding anything stated in clause 20, the employer reserves the right to accept or reject any bid and 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 any obligation to inform the affected bidder or bidders of the grounds for the employer's action.**

#### **22.0 NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT:**

The bidder whose bid has been accepted will be notified of the award by the employer prior to expiry of the bid validity period by a letter or facsimile confirmed by a registered 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 amount')

**22.1** The notification of award will constitute the basis of the contract subject only to the furnishing of a performance security / security deposit in accordance with clause 23 hereinafter.

**22.2** The successful bidder and the Employer shall enter into a signed Agreement that will incorporate all Sub-ordinate agreement, between the employer and the successful bidder, this Agreement shall have to be signed within 21 (twenty-one) following the notification of award through the letter of acceptance.

**22.3** Upon the furnishing by the successful bidder of the performance security, the employer will promptly notify the other bidders that their bids have been unsuccessful and refund their bid security /earnest money deposits.

### **23.0 CONTRACT PERFORMANCE GUARANTEE / SECURITY DEPOSIT:**

**23.1.1** A contract performance guarantee is intended to secure the performance of the entire contract.

The performance guarantee shall cover additionally the following guarantees to the employer

(a) The successful bidder guarantees the successful and satisfactory operation of the work furnished, constructed, and erected if any, under the contract, as per specifications and documents.

(b) The successful bidder further guarantees that the work provided, executed by him shall be free from all defects in design, material and workmanship and shall upon written notice from the employer fully remedy free of expenses to the employer such defects as developed under the normal use of the said work within the period of guarantee specified in the relevant clause of the conditions of the contract.

**23.1.2 Retention Money** 5% of the contract value to be recovered from running bills. However, it will be subject to maximum to 1% of the contract value which will be released after contract defect liability period that is one year after completion of the work.

### **23.2 PAYMENT OF ADVANCE :**

**For speedy execution of the job advance to the tune of 10% of the contract value shall be paid to the party.**

**If any further advance is required beyond 10%, the same may be considered on submission of Bank Guarantee for the equivalent amount from Nationalized Bank.**

**23.3 Secured Advance:** - Secured advance to the tune of 75% of the cost of material brought at site including the cost of steel and cement and structural material will be paid against invoice and furnished indemnity bond by the agency.

### **24.0 EMPLOYMENT OF LOCAL LABOUR:**

Contractors may employ, to the extent possible, only local labour and pay wages not less than the minimum wages fixed by the local Government.

### **25.0 LEGAL JURISDICTION:**

Matters relating to any dispute or difference arising out of this tender and subsequent contract awarded based on the bid shall be subject to the jurisdiction of Kolkata courts only.

### **26.0 CONTRACT DOCUMENTS:**

The several documents including drawings forming the complete contract are to be taken as mutually explanatory of one another and so every part of each shall be read with and in the context of other details, as it

may be practicable to do so. If there are varying or conflicting provisions made in any one document forming part of contract, the employer shall decide with regard to the intention and interpretation of the document and his decision shall be final and binding.

Any error in description in bidding document or any omission therein shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to special conditions, specifications, approved drawing and design documentation etc. or from any of his obligation under the contract.

#### **27.0 INSPECTION OF SITE:**

The bidders are advised to visit and examine the site of works and its surroundings and obtain for himself on his own responsibility and cost, all information that may be necessary for preparing the bid and entering into a contract.

#### **28.0 PHYSIOGRAPHY AND CLIMATE:**

The region is located in tropical zone. The hottest months are April to June. The maximum temperature of air comes to 40 degree C in this period. The coldest months are December / January, during which period the temperature drops to 10 degree C. Average annual relative humidity of air being 87% absolute and Max. value of relative humidity is 100%. Average rainfall of Tripura is about 2100 mm per year, which is well distributed during the months of June to September. The area falls under Seismic zone V.

#### **29.0 ONE BID PER BIDDER:**

Each bidder shall submit only one bid, either individually or as partner in a partnership firm or a public limited firm. A bidder who submits or participate in more than one bid will cause all the proposals with the bidder's participation to be disqualified.

#### **30.0 COST OF BIDDING:**

The bidder shall bear all costs associated with the preparation and submission of his bid and the employer will in no case be responsible or liable for those costs.

i) The Employer shall not be responsible for any delay/ difficulties/ inaccessibility of the downloading facility for any reason whatsoever. The downloading facility shall be available during the period of the sale of tender paper.

### 31.0 CONTENTS OF BIDDING DOCUMENTS:

The set of bidding documents comprises the documents listed in the table below:

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### **Introduction: Background of the Project**

Mega Food Park is being set up by Sikaria Mega Food Park Pvt. Ltd., a Special Purpose Vehicle (SPV) promoted by experienced and successful professionals in the area of construction and infrastructure development, food processing, and Self Help Group of farmers. The promoters have a track record of setting up and scaling up business enterprises successfully particularly in Eastern and North East Part of India including Tripura. The Promoters are resourceful and possess vast experience in project development and implementation.

Sikaria Infraprojects Pvt. Ltd (SIPL) - a group company of Sikaria Group is in Infrastructure Development, Construction and Realty since last 21 years and operating in various parts of India including Tripura for various Projects including Rural Roads, Hospitals, Central Prison, Commercial Malls etc. **The company was awarded Indian Achievers Award for Infrastructure Development by the Indian Economic Development & Research Association, New Delhi for significant contribution in the North Eastern States of India.** Now the company is proceeding towards diversification and has come up with a new project named as Mega Food Park which is another milestone in the history of development of Tripura's Food Industry.

The project is supported by Ministry of Food Processing Industries (MFPI), Government of India, New Delhi. The Ministry aims at better utilization and value addition of agricultural produce, minimizing wastage at all stages in the food processing chain by development of infrastructure for storage, transportation and processing of agro-food produce, induction of modern technology into the food processing industries, encouraging R&D in food processing for product & process development, providing policy support, promotional initiatives and facilities to promote value added exports, create the critical infrastructure to fill the gaps in the supply chain from farm to consumer.

The main objective of the project is to give an impetus for the development of food processing industries in Tripura by providing modern infrastructure and common facilities for food processing units.

### **Employer's Profile**

Mega Food Park is being set up by Sikaria Mega Food Park Pvt. Ltd., a Special Purpose Vehicle (SPV) promoted by experienced and successful professionals in the area of construction and infrastructure development, food processing, and Self Help Group of farmers. The promoters have a track record of setting up and scaling up business enterprises successfully particularly in Eastern and North East Part of India including Tripura.

Sikaria Mega Food Park Private Limited is a company incorporated under the provisions of the Companies Act, 1956 for the purpose of setting up, operating and maintaining the Mega Food Park at Tripura.

### **Specific Purpose of the Proposed 'Setting up of Mega Food Park at Tripura'**

The primary objective of the Mega Food Park Scheme is to provide adequate infrastructure facilities for food processing along the value chain from the farm to market. It will include creation of infrastructure near the farm, transportation, logistics and centralized processing centers. The main feature of the scheme is a cluster based approach. The scheme will be demand driven; pre marketed and would facilitate food processing units to meet environmental, safety and social standards.

The expected outcome is increased realization for farmers, creation of high quality rural processing infrastructure, reduction in wastage, capacity building of the producers and processors and creation of an efficient supply chain along with significant direct and indirect employment generation. The objectives of the project are enlisted as follows:

- a) Creation of infrastructure facilities particularly transportation, logistics facilities including collection centres, primary processing centers near the farm for efficient and systematic procurement of raw material for the food processing units in the Mega Food Park.
- b) The strong backward linkage to ensure assured market with good price for the produce of farmers
- c) The products of the project will be demand driven and would be at par with food processing standards.
- d) Reduction in wastage of perishable agriculture produces.
- e) Capacity building of the producers
- f) Creation of an efficient supply chain along with significant with direct and indirect employments generation
- g) Creation enabling infrastructure
- h) Establishment of food processing units for processing the raw material available in the catchment area of Tripura cluster and adjoining states.
- i) Better return to the farmers.
- j) Elimination or minimization of wastage of agricultural and horticultural produce.
- k) Production of value added processed food not only for indigenous consumption but also for exports.
- l) Availability of nutritious and hygienic food products for general consumption.
- m) Encouragement of investment and employment generation in areas where agriculture is still a predominant activity and
- n) Provision of appropriate linkages between the agricultural and industrial sectors.

### **Employer's Vision of the Project**

Mega Food Park aims to be the model infrastructure provider to the food processing industry in India by adopting global best practices, high-end technology and providing end-to-end linkage to the food processing sector. The company shares the same vision as of Ministry of Food Processing Industries, Government of India to increase level of processing of perishable food, higher value addition of food items and share in global food trade.

### **Site Location**

The Site for the proposed Mega Food Park is located at MouzaTulakona and Uttar Champamura under Sadar Sub Division Agartala, Tripura. The Location is situated at around 15 kms from the city of Agartala.

The bidders are hereby instructed to study the data supplied herein, visit the site, study the physical parameters, working conditions, design and implementation scope and limitations, design parameters and all other design, execution and contract conditions and if required, get clarifications on any issue regarding the same before submitting their offers in accordance with conditions and instructions set out herein. Upon submission of their offers, all the bidders shall be considered to have gone through the above mentioned process of rawing study, site visit and allied formalities even if they have not done the same physically, and no excuse whatsoever in this regard shall be entertained at any stage of the acceptance or rejection of offer, evaluation of bids or contract implementation.



### **Basic functional requirements**

**Important note:** A general layout plan (which is a line drawing) of space allocation of the proposed Mega Food Park site at Agartala Tripura prepared by the Employer is enclosed with this document only for reference of the bidders.

**NOTE:** The Employer, i.e. Sikaria Mega Food Park Private Limited, reserves the right to change / modify / curtail / enhance the spatial and functional requirement of the proposed Site Development Work as stated earlier for the Mega Food Park at Tripura at any time or stage of progress of the tendering, awarding or implementation process, without assigning any reason whatsoever for the same and which the bidders / contractor(s) / agency / agencies shall be bound to abide by without thus being entitled to any kind of extra payment or facility whatsoever. In case of curtailment of work scope at awarding / negotiation / post-award / execution stages, the payment to the implementing agency shall be proportionately reduced in line with the reduced volume of work.

#### **General requirements of Scope of Work/ Land Development Work**

Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads/ approach road and footpath, storm water drainage, laying sewerage line, laying external water supply line, laying H.T/L.T. cable for power supply including street lighting, fencing for land boundary and front side compound wall and gate on **turnkey basis at Tripura**.

#### **General Specifications for road work:**

The specifications to be followed are indicated below:

- (1) Consolidation of subgrade with power road roller of 8 to 200 tonne capacity including making good the undulations etc. with earth or quarry spoils etc and rerolling the subgrade.**
  
- (2) Earthwork in embankment laid as per specification in 0.25m layer and dressing including watering for leads and lifts and rolling the earth with 8ton road roller in all respect .**
  
- (3) Providing & laying 200 mm thick water bound macadam sub-base with stone macadam sub-base with stone aggregate 90 mm to 63 mm and binding material earth, spreading to template and consolidation with power road roller.**
  
- (4) Providing & Laying 75 mm thick water bound macadam base course with stone aggregate 63 mm to 45 mm and binding material earth. Spreading to template and consolidation with power road roller etc. complete**
  
- (5) Providing & Laying 75 mm thick water bound macadam base course with stone aggregate 53 mm to 22.4 mm including stone screening of 11.2 mm size and binding material including screening, sorting, spreading to template and consolidation with power road roller etc. complete**
  
- (6) 25 mm thick (consolidated thickness) premix carpet surfacing with 3 cum of stone chipping of 10 mm nominal size per 100 sqm and bitumen using 96 kgs per cum on coat of 1 kg of bitumen per sqm of road Surface and consolidation with road roller complete for periphery Roads.**

(7) 50 mm thick (consolidated thickness) premix carpet surfacing with 6 cum of stone chipping of 10 mm nominal size per 100 sqm and bitumen using 56 kgs per cum on coat of 0.75 kg of bitumen per sqm of road surface and consolidation with road roller complete for main approach road.

**a) General Specifications for road work:**

**1. MATERIALS –**

**1.1 Aggregate Coarse:**

Coarse aggregate as specified in the item shall be either crushed/broken stone, crushed slag, over burnt brick aggregate or one of the naturally occurring aggregates such as kanker or laterite of suitable quality as stated hereinafter and approved by the Engineer-in-Charge.

The stone aggregate shall conform to the grading requirements set forth in Table 1.

**TABLE 1**

**Grading Requirements of Coarse Aggregate for W.B.M.**

Grading No.	Size Range	Sieve Designation	% by weight passing the sieve	
1.	90 mm to 45 mm (Suitable for sub base courses of compacted layer of not less than 90 mm thickness)	125 mm	100	
		90 mm	90	- 100
		63 mm	25	- 60
		45 mm	0	- 15
		22.4 mm	0	- 5
2.	63 mm to 45 mm	90 mm	100	
		63 mm	90	- 100
		53 mm	25	- 75
		45 mm	0	- 15
		22.4 mm	0	- 5
3.	53 mm to 22.4 mm	63 mm	100	
		53 mm	95	- 100
		45 mm	65	- 90
		22.4 mm	0	- 10
		11.2 mm	0	- 5

**1.1.1 Crushed or Broken Stone :** When crushed or broken stone is specified as the coarse aggregate, it shall be hard, durable and free from excess of flat, elongated, soft, disintegrated particles, dirt and other objectionable matter. The total quantity of such deleterious material including clay lumps, soft fragment, foreign material etc. shall not exceed 5% of the weight of the aggregate.

**1.1.2 Crushed Slag:** Crushed slag shall be made from air-cooled blast furnace slag. It shall be of angular shape, reasonably uniform in quality and density and generally free from thin, elongated and soft pieces, dirt or other objectionable matter. Crushed slag shall not weigh less than 1120 kg per cubic metre and the percentage of glossy material in it shall not be in excess of 20. Water absorption of slag shall not exceed 10% (IS 2386 Pt.III).

**1.1.3 Kankar:** Kankar shall be tough, having a blue almost opalescent fracture. It shall not contain any clay in the cavities between nodules.

**1.1.4 Laterite:** Laterite shall be hard, compact, heavy and of dark colour. The light coloured sandy laterite as well as those containing much ochreous clay shall be rejected.

### **1.2 Aggregate-Fine**

The fine aggregate shall be the fraction passing 2.8 mm sieve and retained on 90 micron sieve. It shall consist of crusher run screenings, natural sand or a mixture of both. These shall be clean, hard, durable, uncoated, dry and free from injurious, soft or flaky pieces and organic or deleterious substance.

The contents of organic and deleterious materials shall not exceed the limits specified in Table 2.

**TABLE 2**

	<i>Uncrushed</i>	<i>Crushed</i>
Coal and lignite	1%	1%
Clay lumps	1%	1%
Material passing through 75 microns (I.S.S.) Sieve	3%	3%
Shale	1%	1%

The sum of the percentages of all deleterious material shall not exceed 5%. Tests for estimation of deleterious materials and organic impurities shall be done as per IS 2386 (Pt. II).

### **1.3 Binding Material**

Binding materials to prevent raveling of water bound macadam construction shall consist of a fine grained material possessing plasticity index value of 4 to 9 when the water bound macadam is to be used as a wearing course, and 4 to 6 when W.B.M. is being adopted as a sub-base/base course with bituminous surfacing on top of it. The plasticity index shall be determined in accordance with IS 2720 (Pt. V). The quantity of binding material used in each layer shall be as per direction of Engineer-in-Charge. Application of binding material may be dispensed with the approval of Engineer-in-Charge, where screenings consisting of crushable type material like moorum or gravel are used. Where earth cut for sub-grade formation is used as binder with the approval of Engineer-in-Charge, no separate payment shall be made for collection of this binder material.

### **1.4 Bitumen Straight Run**

A range of grades, from a very soft to a very hard consistency, can be produced by varying the temperature and the rate of flow during distilling process. It shall conform to IS 73. Grades of bitumen for different uses is given in Table 3.

**TABLE 3**  
**Bitumen Grades**

<i>Grade</i>		<i>Temperature to which it shall be heated</i>
I.	FOR PAINTING (Surface Dressing)	
1.	Paving bitumen from Assam Petroleum A 90	177 deg. C to 190 deg. C
2.	Paving bitumen from other sources 80/100 - S90	177 deg C to 190 deg. C
3.	Bitumen emulsion min. 50% bitumen content:- RS grade IS 8837	(Cold application)
4.	Cut backs RC-3 (rapid curing) IS 217	—do—
II.	FOR PREMIX CARPETING	
1.	Paving asphalt 30/40 S-35 or 80/100 S-90	149 deg. C to 177 deg. C
2.	Bitumen Emulsion min. 60% bitumen contents RS grade IS 8837	(Cold application)
3.	Cut back MC (medium curing) IS 4545	(Cold application)

**Note :** For premix carpeting with paving asphalt, extra shall be paid if solvent is used.

**TABLE 4**  
**Aggregate Gradation including Filler**

<i>Sieve designation</i>	<i>Percent by weight passing the sieve</i>	
	<i>For 25 mm thickness</i>	<i>For 20 mm thickness</i>
20.0 mm	100	—
12.5 mm	75-100	100
10.0 mm	60-85	75 – 100
4.75 mm	35-55	35 – 55
2.36 mm	20-35	20 – 35
600 micron	10-22	10 – 22
300 micron	6-16	6 – 16
150 micron	4-12	4 – 12
75 micron	2- 8	2 – 8

### **1.5 Moorum:**

It shall be obtained from pits of weathered disintegrated rocks. It should preferably contain silicious material and natural mixture of clay of calcareous origin. The size of moorum shall not be more than 20 mm.

## **2 SUB-GRADE: PREPARATION AND CONSOLIDATION**

**2.0** In sub-grade composed of clay, fine sand or other soils that may be forced up into the coarse aggregate during rolling operation, an insulation layer of suitable thickness of granular materials or over size brick aggregate not less than 10 cm thick shall be provided for blanketting the sub-grade, which shall be paid for separately, unless otherwise specified.

In slushy soils or in areas that are water logged, special arrangements shall be made to improve the sub-grade and the total pavement thickness shall be designed after testing the properties of the sub-grade soil. Necessary provision for the special treatment required shall be made in the project and paid for separately.

### **2.1 Preparation of Sub-Grade**

The surface of the formation for a width of sub-base, which shall be 15 cm more on either side of base course, shall first be cut to a depth equal to the combined depth of sub-base and surface courses below the proposed finished level (due allowance being made for consolidation). It shall then be cleaned of all foreign substances. Any ruts or soft yielding patches that appear due to improper drainage conditions, traffic hauling or from any other cause, shall be corrected and the sub-grade dressed off parallel to the finished profile.

### **2.2 Consolidation**

The sub-grade shall be consolidated with a power road roller of 8 to 12 tonnes. The roller shall run over the sub grade till the soil is evenly and densely consolidated and behaves as elastic mass (the roller shall pass a minimum of 5 runs on the sub grade). All undulations in the surface that develop due to rolling shall be made good with material or quarry spoils as the cases may be and the sub-grade is rerolled.

## **3 EMBANKMENT CONSTRUCTION (UNDER OPTIMUM MOISTURE CONDITIONS)**

**3.1** In the case of earth work consolidated under optimum moisture conditions each layer of earth shall be carefully moistened to give field moisture content of about +1% to -2% of the optimum moisture content (OMC). The OMC shall be determined according to IS 2720 (Pt.VIII) Methods of Tests for Soils. Each layer shall then be compacted by rolling with 8 to 10 tonnes power road roller and a sheep foot roller if required. The required amount of water shall be added during consolidation to keep the moisture content of the soil at the optimum as per test. The density to be achieved for each layer of the material shall not be less than 95% of the density obtained in the laboratory (Proctor Method).

**3.2** Each compacted layer shall be tested in the field for density and accepted before the operations for next layer are begun.

**3.3** Control on compaction in the field shall be exercised through frequent moisture content and density determinations. A systematic record of these shall be maintained. At all times during construction the top of the embankment shall be maintained at such cross fall as will shed water and prevent ponding.

### **3.4 Density Measurement and Acceptance Criteria**

**3.4.1** One measurement of density shall be made for each 500 sqm of compacted area or for a smaller area as decided by the Engineer-in-Charge. Each measurement shall consist of at least 5 density

## **4 SUPPLYING AND STACKING OF MATERIALS**

### **4.1 Aggregates/Red Bajri**

**4.1.0** The item of work shall specify stone aggregate/brick aggregate.

**4.1.1 Stacking:** Ground where stacks are proposed to be made shall be cleared, levelled or dressed to a uniform slope and all lumps, depressions etc. shall be removed. The stacked metal shall be free from vegetation and other foreign matter. Coarse aggregates stack shall be made at places as directed by the Engineer-in-Charge. All rejected stone metal shall be removed from the site.

The aggregate shall be stacked in convenient units of one metre top width, 2.2 m bottom width, 60 cm height and of length in multiples of 3 m for new roads. Where berm width is limited or for repair works it shall be stacked in units of 40 cm top width 1.4 m bottom width, 50 cm height and length in multiples of 3 m. Template of steel shall be used for making the stacks and shall always be kept at site for check measurements. The Engineer-in-Charge may permit stacking in different sizes and height ranging between 45 to 75 cm for new roads and 40 to 60 cm for repair work, in case the site conditions so demand. In a particular reach of road as decided by the Engineer-in-Charge, the quantity of stacked material shall be comparable to the theoretical quantity required for W.B.M. to be laid in that reach.

The stacks shall be uniformly distributed along the road and shall be numbered serially. The number plate shall be planted on each stack, which shall remain in position until the stack is used in the work. A register showing daily consumption of stacks shall be maintained at site of work. The collection of stone metal shall be for completed length of one km (for each layer of W.B. macadam) or as directed by the Engineer-in-Charge in writing.

### **4.2 Binder**

**4.2.1 Stacking:** Specified binder shall be brought to the site of work in the sealed original containers. Binder brought in damaged containers shall not be allowed. The material shall be stacked in fenced enclosures, as directed by the Engineer-in-Charge, on one side of the roadway. The material shall be purchased from reputed firms or their authorised dealer. All the drums brought to site shall be serially numbered and used in the same order. The materials shall be brought in at a time in adequate quantities to suffice for the whole work or for atleast a fortnight's work.

For major bituminous road works, supply of bitumen in bulk may be taken for economical reasons, or if the contingencies of the work so require. Sufficient storage arrangement shall be made at site for atleast ten days requirement.

Materials shall be kept in the joint custody of the contractor and the representative of the Engineer-in-Charge. The empty containers shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge. A few drums may be removed before completion of work for heating bitumen and mixing aggregates etc. with the permission to the Engineer-in-Charge.

Empty drums required to be returned to stores shall be in good condition. Recovery rate for non-return of the empty drums or for the damaged drums shall be as decided by the Engineer-in-Charge.

### **4.3 Moorum/Stone Chippings/Good Earth**

**4.3.0** The item of work shall specify moorum/stone chippings/Good Earth as the cases may be.

**4.3.1 Stacking:** Ground where stacks are proposed to be made, shall be dressed to a uniform slope and all lumps, depressions etc. shall be removed. Sample of moorum shall be got approved from the Engineer-in-Charge, before the material in bulk is brought to site.

Moorum/Good Earth shall be stacked in convenient units of one cubic metre in between aggregate stacks in each length of 100 m as per requirement. The stacks shall be made with wooden boxes open at both ends and of 2 x 2 x 0.25 m dimensions. These shall always be kept at site for stacking and check measurement.

The stacks shall be uniformly distributed along the road. The supply of moorum shall be completed for the entire work or for a complete length of one km or as directed by the Engineer-in-Charge in writing.

**4.3.2 Measurements:** Length and breadth of boxes shall be measured correct to a cm. Volume shall be calculated in cubic metres, correct to two places of decimal.

## **5 EARTHWORK IN ROAD CONSTRUCTION**

**5.1** Earthwork connected with road construction fall broadly into three categories.

- (a) Earthwork in cutting including borrow pits.
- (b) Earthwork in fillings in embankments (without optimum moisture conditions).
- (c) Earthwork in fillings in embankments (under optimum moisture conditions).

**5.2** Detailed specifications relating to Earthwork already described in subhead Earth Work, PWD Specification Vol- I, 2009 so far as the various options in the earthwork for road construction as indicated below shall be applicable-

- 2.4 Site clearance
- 2.5 Setting out and making profile
- 2.6 Blasting operations
- 2.7 Excavation in all kinds of soils
- 2.8 Excavation in ordinary/hard rock
- 2.10 Earthwork in filling
- 2.11 Measurements
- 2.12 Rates
- 2.13 Surface excavation
- 2.14 Rough excavation and filling

**5.3** In addition to the above, there are certain special requirements of earthwork for road constructions, especially in embankments and excavations from borrow pits. These shall broadly conform to.

- (a) IRC : 36 Recommended practice for construction of earth embankments for road works.
- (b) IRC : 10 Recommended practice for borrow pits for road embankments by manual operations.

Excavation from borrow pits shall conform to provisions in para 3 of IRC: 10 and the road embankment shall generally conform to section, slopes and location of borrow pits as per Fig. given in CPWD Specifications Vol. I, 2009.

## **6 EMBANKMENT CONSTRUCTION (WITHOUT OPTIMUM MOISTURE CONDITIONS)**

**6.0** In addition to what is described in 16.5 above, the following shall apply: materials used in embankments shall be earth moorum, gravel, a mixture of these or any other material approved by the Engineer-in-Charge. Such materials shall be free of logs, stumps, roots, rubbish or any other ingredient likely to deteriorate or affect

the stability of the embankment. The work shall be so planned and executed that the best available materials are saved for the top portion of the embankment.

Highly expansive clays exhibiting marked swell and shrinkage properties may be deposited only at the bottom of the embankment and no such material shall be placed nor permitted to remain in the top 500 mm portion of the embankment below the sub-grade.

### **6.1 Preparation of Foundations**

The foundations of the embankment shall be ploughed to a depth of 15 to 25 cm. All clods shall be broken into fine earth and the area roughly levelled. The surface shall then be well watered before the earth work is started.

### **6.2 Source of Supply**

**6.2.1** The material used in embankment shall be obtained either from cutting high ground or from borrow pits as directed by the Engineer-in-Charge. In case of road embankments, the borrow pits may be excavated along the sides of the road so as to form road side drains with proper slopes and sections. The clear berm width between the toe of the bank and the inner edge of the borrow pits shall be specified by the Engineer-in-Charge but it shall not be less than 5 metres after making due allowance for future development.

### **6.3 Earth Filling and Compactions**

**6.3.1** Before commencement of filling the toe lines of the embankment shall be marked by pegs driven into the ground at 15 metres intervals and by continuous nicking (dafbalings) to indicate the limits of the side slopes. Bamboo and string profiles shall be erected at every 60 metres interval in straight reaches and 15 metres apart in curved portions.

**6.3.2** Embankment material shall be laid in 20 cm layers which shall be continuous and parallel to the finished grade. The placing of earth fill shall be done in the full width of embankment including slopes, and the section of formation shall be kept slightly sloping away from the centre to avoid pools of water forming due to rain. The height of filling in different sections shall be uniform as far as possible. All clods shall be broken while the earth is being placed. Organic matter of any kind shall be removed and disposed off as directed by the Engineer-in-Charge.

**6.3.3** Joining of old and new embankments shall be done by stepping in an overall slope of about 1 to 5.

**6.3.4** Each layer of earth shall be adequately watered to aid compaction.

**6.3.5** If the material delivered to the road bed is too wet it shall be dried by aeration and exposure to the sun, till the moisture content is acceptable for compaction. It shall then be rolled with roller of minimum 1/2 tonne weight, not less than 5 times, till it gets evenly and densely consolidated with wooden or steel rammers of 7 to 10 kg weight having a base of 20 cm square or 20 cm diameter. The labour for ramming shall be at least one rammer to six diggers. Every third layer of earth and the top most layer shall be well consolidated with a power roller of minimum 8 tonnes weight, rolled not less than 5 times, till the soil behaves as an elastic material and gets compressed only elastically under the load of roller.

**6.3.6 Dressing** : The embankment shall be dressed neatly as per designed section and grade, after it has been completed and thoroughly consolidated. The top and slopes shall be protected from any damage and maintained, till the work is completed and handed over to the Engineer-in-Charge.

## **7 WATER BOUND MACADAM WITH STONE AGGREGATE**

### **7.1 Water Bound Macadam with Stone Aggregate**

Stone aggregate of specified size is used. This is a standard sub base/base and is used where stone aggregate is available at reasonable rates. This consists of clean crushed coarse aggregate mechanically interlocked by rolling and voids thereof filled with screening and binding material with the assistance of water, laid on a prepared sub grade, sub-base, base or existing pavement as the case may be. Water bound macadam may be used as a sub base, base course or surfacing course.



## 7.2 Quantities of Materials

Quantities of coarse aggregate, screening and binding material required to be stacked for 100 mm approximate compacted thickness of W.B.M. for 10 sqm shall be as per table 5 for stone aggregate of the size 90 mm to 45 mm. For stone aggregate of other size, 63 mm to 45 mm and 53 mm to 22.4 mm quantity of coarse aggregate and stone screening for 75 mm approximate compacted thickness of WBM base for 10 sqm. shall be as per Table 6.

**TABLE 5**

<i>Coarse Aggregate</i>			<i>Stone Screenings</i>		<i>Binding Material</i>
<i>Classification</i>	<i>Size Range</i>	<i>Net Quantities</i>	<i>Grading/Classification and size</i>	<i>Quantity</i>	<i>Quantity</i>
Grading I	90 mm to 45 mm	1.21 cum to 1.28 cum	Type A 13.2 mm	0.27 cum to 0.30 cum	0.08 cum to 0.10 cum

**Note :** Net quantity = Loose quantity measured in stacks minus 7.5%.

**TABLE 6**

<i>Coarse Aggregate</i>			<i>Stone Screening</i>		
<i>Classification</i>	<i>Size Range</i>	<i>Net Quantity</i>	<i>Gradings/Classification &amp; Size</i>	<i>For W.B.M. Base Course</i>	<i>For W.B.M. Surface Course</i>
Grading 2	63-45 mm	0.91 cum	Type A	0.12 cum	0.10 cum
		To 0.96 cum	13.2 mm	to 0.15 cum	To 0.12 cum
—Do—	63-45 mm	0.91 cum	Type B	0.20 cum	0.16 cum
		To 0.96 cum	11.2 mm	to 0.22 cum	To 0.18 cum
Grading 3	53-22.4 mm	0.91 cum	Type B	0.18 cum	0.14 cum
		to 0.96 cum	11.2 mm	To 0.21 cum	To 0.17 cum

**Note :** The quantity of metal measured in stacks and reduced by 7.5%.

**7.3** The quantity of binding material required for 75 mm (approximate) compacted thickness will be 0.09 cum/10 sqm in the case of W.B.M. base course and 0.13 cum/10 sqm when the W.B.M. is to function as a surface course.

## 7.4 Spreading Aggregate

The coarse aggregate shall be spread uniformly and evenly upon the prepared base in required quantities with a twisting motion to avoid segregation. In no case shall these be dumped in heaps directly on the area where these are to be laid nor shall their hauling over a partly completed base be permitted. The aggregates shall be

spread uniformly to proper profile by using templates placed across the road six metres apart. Where specified, approved mechanical devices may be used to spread the aggregates uniformly. The levels along the longitudinal direction upto which the metal shall be laid, shall be first obtained at site to the satisfaction of Engineer-in-Charge, and these shall be adhered to.

The surface of the aggregate spread shall be carefully trued up and all high or low spots remedied by removing or adding aggregate as may be required.

The W.B.M. sub-base shall be normally constructed in layer of 100 mm compacted thickness and W.B.M. base shall be normally constructed in layers of 75 mm compacted thickness. No segregation of large or fine particles shall be allowed and the coarse aggregate as spread shall be of uniform gradation with no pockets of fine material.

The coarse aggregate shall normally not be spread in lengths exceeding three days average work ahead of the rolling and blending of the proceeding section.

### **7.5 Rolling**

Immediately following at spreading of the coarse aggregate, it shall be compacted to the full width by rolling with either the three-wheel-power-roller of 8 to 10 tonnes capacity or an equivalent vibratory roller. Initially, light rolling is to be done, which shall be discontinued when the aggregate is partially compacted with sufficient void space in them to permit application of screenings.

The rolling shall begin from the edges with the roller running forward and backward and adding the screenings simultaneously until the edges have been firmly compacted. The roller shall then progress gradually from the edges to the centre, parallel to the centre line of the road and overlapping uniformly each preceding rear wheel track by one half width and shall continue until the entire area of the course has been rolled by the rear wheel. Rolling shall continue until the road metal is thoroughly keyed with no creeping of metal ahead of the roller. Only slight sprinkling of water may be done during rolling, if required. On superelevated curves, the rolling shall proceed from the lower edge and progress gradually continuing towards the upper edge of the pavement.

Rolling of sub base shall not be done when the sub-grade is soft or yielding or when the rolling causes a wave like motion in the sub-base or sub-grade. When rolling develops irregularities that exceed 12 mm when tested with a three metre straight edge, the irregular surface shall be loosened and then aggregate added to or removed from it as required and the area rolled until it gives a uniform surface conforming to the desired cross-section and grade. The surface shall also be checked transversely by template for camber and any irregularities corrected in the manner described above. In no case shall the use of screenings to make up depressions be permitted.

## **8 SURFACE DRESSING ON NEW SURFACE WITH BITUMEN EMULSION-ONE COAT**

This treatment consists of cleaning the existing water bound macadam, kankar gravel or stabilised base and other black top surfaces, applying a coat of bitumen emulsion at atmospheric temperature, blinding it with stone chippings including consolidation with a road roller.

### **9 PREMIX CARPET WITH HOT BITUMEN**

**9.0** This type of treatment is normally applied on roads where the motor traffic is of medium intensity, but bullock cart traffic is fairly heavy. This treatment is suitable for district roads and for internal and service road in colonies. The consolidated thickness of this type of treatment shall be 2 cm or 2.5 cm as specified. This treatment consists of applying a tack coat on the prepared base followed immediately by spreading aggregates precoated with specified binder to camber and consolidated.

Premix carpet shall not be laid during rainy weather or when the base course is damp or wet or, when the atmospheric temperature in the shade is not more than 16°C.

#### **9.1 Preparation of Surface**

This shall be done as described in 16.26.

## 9.2 Materials

Grading of stone chipping shall be as per Table 16.17. Binder shall be as specified and shall conform to Table 16.7. Quantities of materials shall be as given in Table 8. A proper record shall be kept to ensure that the daily out turn of work is correlated with the quantity of bitumen used as per proforma given in Appendix 'A'.

**TABLE 8**

<i>Consolidated thickness of Binder Hot Bitumen premix carpet</i>	<i>of Binder Hot Bitumen</i>	<i>Stone Chippings</i>	
		<i>(in cum/100 sqm)</i>	<i>13.2 11.2 mm size</i>
		<i>mm</i>	<i>size</i>
		<i>Size</i>	
2.00 cm	(52 kg/cum of 13.2 mm size and 56 kg per cum of 11.2 mm	1.8	0.90
2.50 cm	-Do-	2.25	1.12

## 9.3 Tack Coat

The rate of application of binder for tack coat shall be as specified. The rate will be depending upon the surface on which the premix carpet is to be laid i.e. water bound macadam surface or existing black topped surface. Tack coat shall be applied as described in 16.28.

## 9.4 Preparation of Premix

The aggregate shall be dry and suitably heated to temperature as directed by Engineer-in-Charge before these are placed in the mixer to facilitate mixing with the binder.

Mixers of approved type shall be employed for mixing the aggregates with the bituminous binder.

The binder shall be heated to the temperature appropriate to the grade of bitumen approved by the Engineer-in-Charge, in boilers of suitable design avoiding local overheating and ensuring a continuous supply.

The aggregates shall be dry and suitably heated to a temperature as directed by Engineer-in-Charge before these are placed in the mixer. After about 15 seconds of dry mixing, the heated binder shall be distributed over the aggregates at the rate specified.

The mixing of binder with chippings shall be continued until the chippings are thoroughly coated with the binder. The mix shall be immediately transported from the mixer to the point of use in suitable vehicles or wheel barrows. The vehicles employed for transport shall be cleaned and be covered over in transit if so directed.

## 9.5 Spreading and Rolling

The premixed material shall be spread on the road surface with rakes to the required thickness and camber or distributed evenly with the help of a drag spreader, without undue loss of time. The camber shall be checked by means of camber boards and inequalities evened out. As soon as sufficient length of bituminous material has been laid, rolling shall commence with 6 to 9 tonne power rollers, preferably of smooth wheel tandem type, or other approved plant. Rolling shall begin at the edges and progress towards the centre longitudinally. Except on the super elevated portions rolling shall progress from the lower to upper edge, parallel to the centre line of the

pavement. The consolidated thickness shall not at any place be less than the specified thickness by more than 25%. However, the average thickness shall not be less than that specified in the item.

When the roller has passed over the whole area once, any high spots or depressions which become apparent shall be corrected by removing or adding premixed materials. Rolling shall then be continued until the entire surface has been rolled to compaction and all the roller marks eliminated. In each pass of the roller, preceding track shall be overlapped uniformly by at least 1/3 width. The roller wheels shall be kept damp to prevent the premix from adhering to the wheels and being picked up. In no case shall fuel/lubricating oil be used for this purpose.

Rollers shall not stand on newly laid material as it may get deformed thereby.

The edges along and transverse of the carpet, laid and compacted earlier shall be cut to their full depth so as to expose fresh surface which shall be painted with a thin surface coat of appropriate binder before the new mix is placed against it.

Further, the prepared finished surface shall be protected from traffic for 24 hours or such period as may be directed by the Engineer-in-Charge.

**9.6 Surface Finishing**

The surface regularity both in longitudinal and transverse directions shall be within the tolerances specified in Table 9.

**TABLE 9**

<i>Longitudinal profile</i>	<i>Cross profile</i>
<i>Max. permissible undulation when measured with 3 M straight edge</i>	<i>Max. permissible variation from specified profile when measured with a camber template</i>
10 mm	6 mm

The longitudinal profile shall be checked during rolling with a three metres long straight edge and graduated wedge at the middle of each traffic lane along the road. Similarly the transverse profile shall be checked with adjustable templates at intervals of 10 metres.

**9.7 Rectification –**

Where the surface irregularity fall outside the specified tolerances the contractor shall be liable to rectify it to the satisfaction of Engineer-in-charge by adding fresh material and recompacting to specifications where the surface is low. Where the surface is high the full depth of the layer shall be removed and replaced with fresh material and compacted to specifications.

**10 SEAL COAT - Stone Chips for Item 16.41 of D.S.R. 2007 of Seal Coat:** The stone chips shall consist of angular frangments of clean, hard, tough and durable rock of uniform quality throughout. They should be free of soft or disintegrated stone, organic or other deleterious matter. Stone chips shall be of 6.7 mm size defined as 100 per cent passing through 11.2 mm sieve and retained on 2.36 mm sieve. The quantity used for spreading shall be 0.09 cubic metre per 100 square metre area. The stone chips shall satisfy the quality requirements in Table 16.31 bituminous except that the upper limit for water absorption value shall be 1 per cent.

**TABLE 16.30**

Sl. No.	I.S. Sieve (mm)	Cummulative % passing by weight of total aggregate
1.	0.6	100
2.	0.3	95-100
3.	0.075	85-100

**TABLE 16.31**

Sl. No.	Name of Test	I.S. Code	Acceptance Criteria
1.	Grain size analysis	IS 2386 Part 1	Max 5% passing IS sieve 75 micron
2.	Flakiness and elongation Index	IS 2386 (Part IV)	Max 30%
3.	Los Angeles Abration Value	IS 2386 (Part IV)	Max 30%
4.	Polished stone value	B.S. 812 (part 114)	Min 55%
5.	Soundness (a) Sodium sulphate (b) Magnesium sulphate	IS 2386 (Part V)	Max 12% Max 18%
6.	Water absorption	<u>IS 2386 (Part III)</u>	Max 2%
7.	Coating and stripping of Bitumen aggregate mixture	IS 6241	Min retained coating 95%
8.	Water sensitivity retained tensile strength	AASHTOT 283	Min 80%

\* The elongation test to be done only on non-flaky aggregate on the sample.

\*\* This test is only required if the minimum retained coating in the stripping test is less than 95%.

**11 Fine Aggregate:**The aggregate shall be sand or grit and shall consist of clean, hard durable, uncoated dry particles and shall be free from dust, soft or flaky/elongated material, organic matter or other deleterious substances. The aggregate shall pass 2.36 mm sieve and be retained on 180 micron sieve. The quantity used for premixing shall be 0.06 cubic metres per 100 square metres area. Stones or fine aggregate shall be used as specified in item.

## 12 Construction Operations

**12.1 Weather and Seasonal Limitations:**Ref. Item No. 16.32.2.1.

**12.2 Preparation of Surface:**The seal coat shall be applied immediately after laying the bituminous course which is required to be sealed. Before application of seal coat materials, the surface shall be cleaned free of any dust or other extraneous matter.

**12.3 Construction of Seal Coat with Stone Chips:** Bitumen shall be heated to 150°C - 163°C and sprayed at the rate specified on the dry surface in a uniform manner with a self-propelled mechanical sprayer.

Immediately after the application of binder, stone chips which shall be clean and dry, shall be spread uniformly at the rate specified on the surface preferably by means of a self-propelled or towed mechanical grit spreader so as to cover the surface completely. If necessary, the surface shall be brushed to ensure uniform spread of chips.

Immediately after the application of the cover material, the entire surface shall be rolled with a 8-10 tonne smooth wheeled steel roller, 8-10 tonne static weight vibratory roller, or other equipment approved by the Engineer after laying trials if required. Rolling shall commence at the edges and progress towards the centre except in superelevated and unidirectional cambered portions where it shall proceed from the lower edge to the higher edge. Each pass of the roller shall uniformly overlap not less than one-third of the track made in the proceeding pass. While rolling is in progress, additional chips shall be spread by hand in necessary quantities required to make up irregularities. Rolling shall continue until all aggregate particles are firmly embedded in the binder and present a uniform closed surface.

**12.4 Construction of Seal Coat with Premixed Fine Aggregate:** A mixer of appropriate capacity and type approved by the Engineer-in-charge shall be used for preparation of the mixed material. The plan shall have separate dryer arrangements for heating aggregate.

The binder shall be heated in boilers of suitable design, approved by the Engineer-in-Charge to the temperature appropriate to the grade of bitumen or as directed by the Engineer-in-Charge. The aggregates shall be dry and suitably heated to a temperature between 150°C and 165°C or as directed by the Engineer-in-charge before these components are placed in the mixer. Mixing of binder with aggregates to the specified proportions shall be continued until the latter are thoroughly coated with the former.

The mix shall be immediately transported from the mixing plant to the point of use and spread uniformly on the bituminous surface to be sealed.

As soon as a sufficient length has been covered with the premixed material, the surface shall be rolled with an 8-10 tonne smooth-wheeled roller. Rolling shall be continued until the premixed material completely seals the voids in the bituminous course and a smooth uniform surface is obtained.

### **12.5 Opening to Traffic**

In the case of seal coat with premixed fine aggregate traffic may be allowed soon after final rolling when the premixed material has cooled down to the surrounding temperature. In the case of seal coat with stone chips traffic shall not be permitted to run on any newly sealed area until the following day. In special circumstances, however, the Engineer-in-charge may open the road to traffic immediately after rolling, but in such case traffic speed shall be rigorously limited to 16 km. per hour until the following day

## **13. General Specifications for Sewerage Line laying work -**

13.1 The sewerage system shall include:

- a) Laying of external sewer line.
- b) Excavations including refilling etc.
- c) Construction of collection chamber, manholes and drop connection.

### **13.2 GENERAL REQUIRMENT**

13.2.1 All materials workman ship will be new of the best quality conferring to P.W.D, Tripura subject to the approval of the site in charge.

13.2.2 All pipelines shall be laid to the require gradients and profiles.

13.2.3 All sewerage pipe work shall be done in accordance with the local municipal by laws.

13.2.4 Location of all manholes, catch basin etc., shall be got confirmed by the contractor from the Architect before the actual execution of work at site.

13.2.5 All work shall be executed as directed by the Architect.

### **13.2.6 ALIGNMENT AND GRADE**

The sewer pipes shall be laid to alignment and gradient shown on the drawings but subject to such modification as shall be ordered by the architect from time to time to meet the requirements of the works. No deviations from the lines, depths of cutting or gradients of sewers shown on the plans and section shall be permitted except by the express direction in the writing of the engineer-in-charge.

### **13.2.7 SALT GLAZED STONEWARE PIPES**

Stoneware pipes shall be of first class quality salt glazed and free from rough texture inside or outside and straight. All pipes shall have the manufacturer's name marked on it and shall comply to IS: 651-1971 approved makes (PERFECT or BURN).

### **13.2.8 Laying and Jointing of stoneware Salt Glazed Pipes**

a) Pipes are liable to be damaged in transit and notwithstanding tests that may have been made before dispatch each pipe shall be examined carefully on arrival at site. Each pipe shall be rung with a wooden hammer or mallet and those that do not ring true and clear shall be rejected. Sound pipes shall be carefully stacked to prevent damage. All defective pipes should be segregated, marked in a conspicuous manner & their use in the work prevented.

b) The pipes shall be laid with sockets leading uphill and should rest on solid & even foundations for the full length of the barrel. Socket holes shall be formed in foundations sufficiently deep to allow the pipe jointer room to work right round the pipe & as short as practicable to admit the socket and allow the joint to be made.

c) Where not bedded on the concrete the trench bottom shall be left slightly high and carefully bottomed up as pipe laying proceeds so that the pipe barrels rest on firm ground. If excavation has been carried too low it shall be made up with cement concrete 1:5:10 mix at the contractor's cost & charges.

d) If the bottom of the trench consists of rock or very hard ground cannot be easily excavated to a smooth surface, the pipes shall be laid on cement concrete bed of 1:5:10 mix to ensure even bearing.

### **13.2.9 Jointing of pipes**

a) Tanned gaskin shall first be wrapped round the spigot of each pipe and the spigot shall then be placed into the socket of pipe precisely laid, the pipe shall then be adjusted and fixed in its correct position and the gaskin caulked tightly home so as to fill not more than one quarter of total length of the socket.

b) The remainder of the socket shall be filled with stiff mix of cement mortar (1 cement: 1 clear sharp washed sand). When the socket is filled a fillet should be formed round the joint with a trowel forming an angle of 45 degrees with the barrel of the pipe. The mortar shall be beaten up and used after it has begun to set.

c) After the joint has been made any extraneous materials shall be removed from inside of the joint with a suitable scraper or "Badger". The made joints shall be protected until set the sun, drying winds, rain or dust. Sacking or other materials which can be kept damp shall be used. The joints shall be exposed and space left all around the pipes for inspection by the engineer-in-charge. The inside of the sewer must be left absolutely clear.

in bore and free from cement mortar or other obstructions throughout its entire length, & shall efficiently drain and discharge.

### **13.2.10 Testing**

a) All lengths of the sewer shall be fully tested for water tightness by means of water pressure maintained for not less than 30 minutes. Testing shall be carried out from manhole. All pipes shall be subjected to a test pressure of at least 1.5-meter head of water. The test pressure shall, however, not exceed 1.5 meter head at any point. The pipes shall be plugged preferably with standard design rubber plugs on both ends. The upper end shall, however, be connected to a pipe for filling with water and getting the required head.

b) Sewer Lines shall be tested for straightness by:

(I) Inserting a smooth ball 12mm less than the internal diameter of the pipe. In the absence of obstructions such as yarn or mortar projection at the joints the ball should roll down the interior of the pipe and emerge at the lower end.

(II) Means of a mirror at one end and a lamp at the other end. If the pipeline is straight the full circle of light will be seen otherwise obstruction or deviation will be apparent.

c) The contractor shall give a smoke test to the drains and sewer at his own expense and charges, if directed by Architect.

d) A test register shall be maintained which shall be signed and dated by contractor, Architect and representative of architects/consultants.

## **14.0 CEMENT CONCRETE AND MASONRY WORKS (FOR MANHOLES AND CHAMBERS ETC.)**

### **14.1 Materials**

#### **a) Water**

Water used for all the construction purposes shall be clear and free from oil, acid, alkali, organic and other harmful matters, which shall deteriorate the strength and/or durability of the structure. In general, the water suitable for drinking purposes shall be considered good enough for construction purpose.

#### **b) Aggregate for Concrete**

The aggregate for concrete shall be in accordance with I.S. 383 and I.S. 515 in general, these shall be free from all impurities that may cause corrosion of the reinforcement. Before actual use these shall be washed in water, if required as per the direction of the site in charge. The size of the coarse aggregate shall be done as per I.S.383.

#### **c) Sand**

Sand for various construction purposes shall comply in all respects with I.S 650 and I.S 2116. It shall be clean, coarse hard and strong, sharp, durable, uncoated, free from any mixture of clay, dust, vegetable matters, mica, iron impurities soft or flaky and elongated particles, alkali, organic matters, salt, loam and other impurities which may be considered by the Architecture as harmful for the construction.

#### **d) Cement**

The cement used for all the construction purposes shall be ordinary Portland cement or rapid hardening Portland cement conforming to I.S. 269.

#### **e) Mild steel Reinforcement**



The mild steel for the reinforcement bars shall be in the form of round bars conforming to all requirements of I. S. 432 (Grade I).

**f) Torsteel**

High yield reinforcement bar shall conform to I.S. standard.

**g) Bricks**

Bricks shall have uniform colour, thoroughly burnt but not over burnt, shall have plan rectangular faces with parallel sides and right-angled edges. They should give ringing sound when struck. Brick shall not absorb more than 20% to 22% of water, when immersed in water for 24 hours. Bricks to be used shall be approved by the engineer-in-charge.

**h) Other materials**

Other materials not fully specified in these specifications and which may be required in the work shall conform to the latest I .S. All such materials shall be approved by the engineer-in-charge before use.

**14.2 Cement Concrete (plain or reinforced)**

a) Cement concrete pipes bedding, cradles, foundations and RCC slabs for a mechanical mixer shall mix all works where quantities of the concrete poured at one time permit. Hand mixing on properly constructed platforms may be allowed for small quantities by the Architecture Rate for cement concrete shall be inclusive of all shuttering and centering at all depth and heights.

b) Concrete work shall be of such thickness and mix as given in the schedule of quantities.

c) All concert work shall be cured for a period at least 7 days. Such work shall be kept moist by means of gunny bass at all times. All pipe trenches and foundations shall be dry during the curing period.

**14.3 Masonry work**

Masonry work for manholes chambers, brick masonry pipe trench and such other works as required shall be constructed from 1<sup>st</sup> class bricks in cement mortar 1:6 mix (1 cement: 6 coarse sand): All joints shall be properly raked to receive plaster.

**14.4 Cement Concert for Pipe Support**

a) Wherever specified or shown on the drawings, all pipes shall be supported in bed all round or in haunches. The thickness and mix of the concrete shall be given in the bill quantities. Width of the bedding

b) Unless otherwise directed by the Architect cement concrete for bad, all round or in haunches shall be laid as follow:-

c) Pipes in lose soil or above ground shall be supported on brick or RCC anchor blocks as shown on the drawings.

**15.0 MANHOLES AND CHEMBERS**

15.1.1 All manholes, chambers and other such works as specified shall be constructed in brick masonry in cement mortar 1:5 (1 cement: 5 coarse sand) or as specified in the bill of quantities.

15.1.2 All manholes, chambers, etc, shall be supported on base of cement concrete of such thickness and mix as given in the bill of quantities or shown on the drawings. Where not specified, manholes shall be constructed as follows: -

Size of manhole type	90X80 Rect.	120X90 Rect.	140 dia circular
Maximum depth	160	245	Any depth beyond 245
Average thickness of	15	15	
RCC slab			
Size of cover and	61X45.5	50 dia	50 dia
frame (internal			
diameter)			
Weight of cover and	38 kg.	116 kg	116 Kg
Frame			

15.1.3 All manholes shall be proved with cement concrete benching in 1:2:4 mix (1 cement: 2 coarse sand: 4 stone aggregate 20mm nominal size). The benching shall have a slope of 10cm towards the channel. The depth of the channel shall be full diameter of the pipe. Benching shall be finished with a floating coat of neat cement.

15.1.4 All manholes shall be plastered with 12/15mm thick cement mortar 1:6 (1 cement: 6 coarse sand) and finished with a floating coat of neat cement inside. Manhole shall be plastered outside as above but with rough plaster.

15.1.5 All manholes with depths greater than 1.6 M. shall be provided with 20mm square or 25mm round rods catch rings set in cement concrete blocks 25 X 10 X 10cms in 1:2:4 mix 30cms vertically and staggered. Foot rests shall be coated coal tar before embedding.

15.1.6 All manholes shall be provided with cast iron covers and frames embedded in reinforced cement concrete slab. Weight of cover, frame and thickness of Slab shall be as specified in the bill of quantities or given above.

15.1.7 All rainwater collection chambers shall be of the size 50X45X60cm (internal) with horizontal C.I grating. The grating along with frame, shall be of size 500X450mm grating having total Wt. of app. 38 kg and of approved design and quality as per instruction of engineer incharge. The remaining details of construction shall be such as same as started above for the construction shall be same as started above for the construction of the manholes etc.

#### 15.1.8 DROP CONNECTION

a) Drop connections shall be provided between branch sewer and main sewer or in the main sewer itself in step ground when the difference in vert level of the two exceeds 45cms of their required sizes.

b) Drop connections from gully traps to main sewer on rectangular manholes shall be made inside the manholes and shall have H.C.I, special type door on top and heel rest bend at bottom connected by a H.C.I, pipe. This pipe shall be supported by holder bat clamps at 180cms intervals with at least one clamp for each drop connection. All joints shall be lead couled joints 25mm deep.

c) Drop connections from branch sewer to main sewer shall be made outside the manhole wall with glazed stone ware pipe tee connections. Vertical pipe and bend at the bottoms. The top of the tee shall be finished upto the surface level and provided with a C.I. hinged type frame and cover 30cms X 30cms. The connection shall be embedded in cement concrete 1:2:4 mix 15cms all round the pipe and tee upto the surface chamber of the tee.

d) Drop connection made from vertical stacks directly into manholes shall not be considered as drop connections. They shall be paid for under the relevant soil and waste pipes.

## **16.0 EXCAVATION FOR PIPE LINES:**

### **a) EXCAVATION**

The excavation for pipe works shall be open cutting.

### **b) Opening out Trenches**

The surface of all trenches and holes shall be restored and maintained to the satisfaction of the architect and the contractor shall not cut out or break trees in the line of the proposed works but shall tunnel under them.

The contractor shall grub up and clear the surface over the trenches and other excavation of all trees, stumps, roots and all other encumbrances affecting execution of the work and shall remove them from the site to the approval of the architect.

### **c) Obstruction of Roads**

The contractor shall not occupy or obstruct by his operation more than one half of the width of any road or street and sufficient space shall then be left for public and private transit, he shall remove the materials excavated and bring them back again when the trench is required to be refilled.

### **d) Removal of Filth**

All night soil, filth or any other offensive matter met with during the execution of the works, immediately after it is taken out of any trench, sewer or cess poll, shall not be deposited on to the surface of any street or where it is likely to be a nuisance or passed into any sewer or drain but shall be at once put into the carts and removed to a suitable place to be provided by the contractor.

### **e) Excavation to be taken to proper Depths**

The trenches shall be excavated to such a depth that the pipes shall rest on concrete or on firm bedding as described in the several clauses relating these to so that the inverts may be at the levels given in the sections. In bad ground, The architect may order the contractor to excavate to a greater depth than that shown on the drawings and to fill up the excavation to the level of the sewers with concrete, broken stone, gravel or other materials. For such extra excavation and concrete, broken stone, gravel or other materials, the contractor shall be paid extra at rates laid down for such works in the schedule, if the extra work was ordered by the Architect in writing, but if the contractor should excavate the trench to a greater depth than is required without a specific order to that effect in writing of the Architect the extra depth shall have to be filled up with concrete 1:5:10 mix (1 cement: 5 fine sand: 10 stone aggregate 40mm nominal size) at the contractor's own costs and charges to the requirements and satisfactions of the Architect.

### **f) Refilling**

After the pipes or other work has been laid and proved to be water tight, the trench or other excavations shall be refilled. Utmost care shall be taken in doing this, so that no damage shall be caused to the sewer and other permanent work. The filling in the haunches and up to 75 cms above the crown of the sewer shall consist of the finest selected materials placed carefully in 15 cms layers and flooded and consolidated. After this has been laid, the trench and other excavation shall be refilled carefully in 15 cms layers with materials taken from the excavation, each layer being watered to assist in the consolidation unless the Architect, each layer being watered to assist in the consolidation unless the Architect shall otherwise direct.

**17.0 Contractor to restore settlement and damages**

The contractor shall, at his own costs and charges, make good promptly during the whole period the works are in hand, any settlement that may occur in the surfaces of roads, terms, footpaths, gardens, open spaces etc. Whether public or private caused by his trenches or by his other excavations and he shall ne liable for any accidents caused there by. He shall also, at his own expenses and charges, repair and make good and damage done to buildings and other property. If in the opinion of the Architect he fails to make good such works with all practicable dispatch, the Architect shall be at liberty to get the work done by the contractor or deducted from any money that may be or become due to him or recover from him in any other manner according to law of the land.

**18.0 Disposal of Surplus Soil**

The contractor shall at his own costs and charges provide for disposal of all surplus materials not required to be used on the works. As each trench is refilled the surplus soil shall be immediately removed, the surface properly restored and roadways and sides left clear

**19.0 General Specifications for fencing & Compound wall**

The barbed wire shall be stretched and fixed in specified number of rows and two diagonals. The bottom row should be 14 cm above ground and the rest at spacing of 2.5 cm centre to centre. The diagonal shall be stretched between adjacent posts from the top wire of one post to the bottom wire of 2nd post. The diagonal wire will be inter woven with horizontal wires by fixing the odd rows of wires first, then the diagonal cross wires and lastly even rows of wires. The barbed wire shall be held by tearing the holes of 10 mm dia in the post and tied with G.I. wire, turn buckles and straining bolts shall be used at the end post, if so specified.

**19.1 G.I. Barbed Wire**

The barbed wire shall be of galvanised steel as specified and it shall conform to IS 278. The sampling criteria is given in Table 16.4. The wire shall be manufactured from steel by any process and shall not contain sulphur and phosphorous exceeding 0.065 per cent. The galvanised steel barbed wires shall be of two types: Type A (Lowa Type) and Type B (Glidden Type).

**Type A (Lowa Type) :**The barbs shall have four points and shall be formed by twisting two point wires, each two turns, tightly around both line wires making altogether four complete turns.

**Type B (Glidden Type) :** The barbs shall have four points and shall be formed by twisting two point wires, each two turns, tightly around one line wire making altogether four complete turns.

*Details of G. I. Barbed wire*

The galvanised steel barbed wire shall be of the size designations given in Table 16.4.

**TABLE 16.4**

<i>Size designation</i>	<i>Nominal dia. of wire</i>		<i>Mass of completed Barbed Wire</i>	<i>Distance between two barbs</i>	<i>No. of lays between the two consecutive barbs</i>
	<i>Line Wire</i>		<i>Point Wire</i>		
			<i>Max Min.</i>		
	<i>Nom</i>	<i>Tol</i>	<i>Nom</i>	<i>Tol</i>	

	(mm)	(mm)	(mm)	(mm)	(g/m)	(mm)	(mm)	
1.	2.50	± 0.08	2.50	± 0.08	155	136	75 ± 12	2 to 7
2.	2.50	± 0.08	2.50	± 0.08	120	108	150 ± 12	2 to 7
3.	2.50	± 0.08	2.00	± 0.08	125	108	75 ± 12	2 to 7
4.	2.50	± 0.08	2.00	± 0.08	103	89	150 ± 12	2 to 7
5.	2.24	± 0.08	2.00	± 0.08	106	97	75 ± 12	2 to 7
6.	2.24	± 0.08	2.00	± 0.08	85	78	150 ± 12	2 to 7

**Note :** The mass in g/m shall be obtained by dividing the total mass of the reel by the linear length in metres.

The number of lays between the two consecutive barbs shall vary between 2 to 7.

## 20.0 GENERAL SPECIFICATIONS FOR STORM WATER DRAIN

1. Excavation of trenches in streets , lanes or in open areas for storm sewer ,sewers running by gravity and ,manhols to full depths as per standered drawings including shoring, timbering of poling boards , frame system type, dressing to correct sections and dimensions , according to templates and levels , dewatering , provision for diversion of traffic cutting trees and bushes, etc night signals.
2. Providing & lowering of RCC Class NP2 S & S pipes and specials into trenches for al depth and laying out the same to correct alignment gradient levels etc. including all dressing and timbering and cutting of concrete beds and joint hotels supportable rigid manner while the same are veing jointed until the surrounding benching haunching and envelopes are completed. The pipes shall rest on the beds at all points throughout their length and to ensure this, they shall be grouted in where necessary. Joining of RCC Class NP 2 pipes and specials of different diameter in all classes in trenches.
3. Construction of rectangular brick masonry manhole chambers to standard drawings on RCC pipes / circular pipe sewer upto the required depth in 1.5 cement sand mortar, lime concrete in bed and sides of pipe sewer and cement concrete 1:2: in benching , 12mm thick water tight 1:2 cement sand plaster with a floating coat of neat cement and finished with 2 coats of sodium silicate on interior surface where required , reinforced cement concrete slab 180mm thick fixing 560mm internal diameter precast concrete heavy duty manhole cover and frame.
4. Construction brick masonr y road gully chambers as per standered drawing including dressing of beds and sides of chamber to exact profiles, 15cm thick concrete in foundation.1<sup>st</sup> class brick work laid in cement sand mortar 1:5:40mm thick cement concrete1:2:4 toopping inside the chamber with a floating coat of 1.5 mm thick neat cement laid in one operation to the topping the entire inner surface of the chamber rendered with neat cement not less than 12mm thickness of 1:2 cement and sand plaster.

## 21.0 GENERAL SPECIFICATIONS FOR LAYING WATER SUPPLY C. I. PIPE LINES

1. Providing and laying , jointing , testing C.I. pipe line & special including cost of excavation for different diameter of pipes as per requirement.
2. Providing & fixing of sluice value including cost of surface box as per requirement.
3. Providing & fixing of air valves & socur valves
4. Construction of sluice valve chamber.

## **22.0 GENERAL SPECIFICATIONS FOR H T / L T CABLE LAYING FOR POWER SUPPLY**

### **22.1 LT CABLES**

#### **a) GENERAL**

L.T. Cables shall be supplied, inspected, laid tested and commissioned in accordance with drawings, specifications, relevant Indian Standards specifications and cable manufacturer's instructions. The cable shall be delivered at site in original drums with manufacturer's name clearly written on the drums. The recommendations of the cable manufacturer with regard to jointing and sealing shall be strictly followed.

#### **b) MATERIAL**

The L.T. power cable shall be PVC insulated PVC sheathed type aluminium conductor armoured cable and L.T. control cable shall be PVC insulated PVC sheathed type copper conductor unarmoured cable conforming to IS: 1554: 1988 (Part-I) with up to date amendments.

#### **c) INSTALLATION OF CABLES**

Cables shall be laid directly in ground, pipes, masonry ducts, on cable tray, surface of wall/ceiling etc. as indicated on drawings and/or as per the direction of HSCC Electrical Engineer. Cable laying shall be carried out as per CPWD specifications.

#### **d) INSPECTION**

All cables shall be inspected at site and checked for any damage during transit.

#### **e) JOINTS IN CABLES**

The Contractor shall take care to see that the cables received at site are apportioned to various locations in such a manner as to ensure maximum utilisation and avoiding of cable joints. This apportioning shall be got approved from Engineer-in-Charge before the cables are cut to lengths.

#### **f) LAYING CABLES IN GROUND**

Cables shall be laid by skilled experienced workmen, using adequate rollers to minimize stretching of the cables. The cable drums shall be placed on jacks before unwinding the cable. With great care it shall be unrolled on over wooden rollers placed in trenches at intervals not exceeding 2 metre. Cables shall be laid at depth of 0.75 metres below ground level for LT Cables and 1 metre below ground level for HT cable. A cushion of sand total of 250 mm shall be provided both above and below the cable, joint boxes and other accessories. Cable shall not be laid in the same trench or along side a water main. The cable shall be laid in excavated trench over 80 mm layer of sand cushion. The relative position of the cables, laid in the same trench shall be preserved. At all changes in direction in horizontal and vertical planes, the cables shall be bent smooth with a radius of bent not less than 12 times the diameter of cables. Minimum 3 metre long loop shall be provided at both end of cable. Distinguishing marks may be made on the cable ends for identifications of phases. Insulation, tapes of appropriate voltage and in red, yellow and blue colours shall be wrapped just below the sockets for phase identifications. Cable route marker shall be provided as per CPWD specifications. Cost of cable route markers is deemed to be included in the cost of cables/cable laying.

#### **g) PROTECTION OF CABLES**

The cables shall be protected by bricks laid on the top layer of the sand for the full length of underground cable. Where more than one cable is laid in the same trench, the bricks shall cover all the cables and shall project a minimum of approximately 80mm on either side of the cables. Cable under road crossings and any other places subject to heavy traffic shall be protected by running them through Hume Pipes of suitable size. Pipes for cable crossing the road shall be laid at a depth of 1000 mm.

#### **h) EXCAVATION & BACK FILL**

All excavation and back fill required for the installation of the cables shall be carried out by the Contractor in accordance with the drawings and requirements laid down elsewhere. Trenches shall be dug true to line and grades. Back fill for trenches shall be filled in layer not exceeding 150mm. Each layer shall be properly rammed and consolidated before laying the next layer. The Contractor shall restore all surfaces, road ways, side walks, curbs, wall or the works cut by excavation to their original condition to the satisfaction of the Engineer-in-Charge.

**i) LAYING OF CABLES ON CABLE TRAY/SURFACE OF WALL/ CEILING**

Cable shall be laid on perforated M.S. Cable tray/ladders. Cables shall be properly dressed before cable ties/clamps are fixed. Wherever cable tray is not proposed, cables shall be fixed on surface of wall or ceiling slab by suitable MS clamps/saddles. Care shall be taken to avoid crossing of cable.

**j) CABLES ON HANGERS OR RACKS**

The Contractor shall provide and install all iron hangers racks or racks with die cast cleats with all fixings, rag bolts or girder clamps or other specialist fixing as required. Where hangers or racks are to be fixed to wall sides, ceiling and other concrete structures, the Contractor shall be responsible for cutting away, fixing and grouting in rag bolts and making good.

The hangers or racks shall be designed to leave at least 25mm clearance between the cables and the face to which it is fixed. Multiple hangers shall have two or more fixing holes. All cables shall be saddled at not more than 150mm centres. These shall be designed to keep provision of some spare capacity for future development.

**k) CABLES TAGS**

Cable tags shall be made out of 2mm thick aluminium sheets, each tag 1-1/2 inch in dia with one hole of 2.5mm dia, 6mm below the periphery. Cable designations are to be punched with letter/number punches and the tags are to be tied inside the panels beyond the glanding as well as below the glands at cable entries. Tray tags are to be tied at all bends. On straight lengths, tags shall be provided at every 5 metres.

**l) TESTING OF CABLES**

Prior to installation burying of cables, following tests shall be carried out. Insulation test between phases, phase & neutral, phase & earth for each length of cable.

- a. Before laying.
- b. After laying.
- c. After jointing.

Along with the test as prescribed in IS Code, cross sectional area shall also be checked. On completion of cable laying work, the following tests shall be conducted in the presence of the Engineer in Charge.

- a. Insulation Resistance Test (Sectional and overall).
- b. Continuity Resistance Test.
- c. Earth Test.

All tests shall be carried out in accordance with relevant Indian Standard code of practice and Indian Electricity Rules. The Contractor shall provide necessary instruments, equipments and labour for conducting the above tests & shall bear all expenses of conducting such tests.

**m) CABLE TRAY**

**Ladder Type Cable Tray**

Ladder type cable tray shall be fabricated out of double bended channel section longitudinal members with single bended channel section rungs of cross members welded to the base of the longitudinal members at a centre to centre spacing of 250 mm. The channel sections shall be supplied in convenient length

n) **H T Cables**

**Construction**

All H T Cables shall be of 11 kv grade XLPE earthed insulated & PVC sheathed flat steel wires (strips) armored electrical purity aluminum conductor cables shall be manufactured & tested in accordance with IS Specification.

o) **TERMINATION JOINTS**

Terminal joints shall be carried out as per IS specifications. Heat shrink cable termination kit shall be used for terminations.

p) **INSTALLATION OF CABLES**

Cable laying shall be carried out as per PWD specifications.



## Design aspects and parameters

### The Design Philosophy;

The site proposed for the Mega Food Park at Tripura is part of a hilly terrain typical of the region. Natural features like valleys, ridges and slopes present in the site offer varied visual experience throughout the site.

### Zoning:

Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads/ approach road and footpath, storm water drainage, laying sewerage line, laying external water supply line, laying H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall.

### The Design Basis:

#### A. CIVIL WORKS:

The structural system will be a conventional reinforced concrete beam-slab system. Expansion joints at suitable locations are considered to cater the effect of earthquake loads.

#### IMPOSED LOADS:

The super-imposed load or otherwise live load will be assessed based on the occupancy classifications as per IS:875(Part 2)-1987.

#### WIND LOADS:

The wind pressure shall be calculated based on the data furnished below and other provisions laid in IS: 875(Part 3)-1987.

Basic wind speed	55 mtr./sec.
Risk coefficient	1.00
Terrain Category	3

#### EARTHQUAKE LOADS:

The special consideration due to earthquake shall be assessed based on provisions of IS: 1893-2002.

Seismic Zone	V
Importance Factor	1.50

#### LOAD COMBINATIONS:

The various loads shall be combined in accordance with the stipulations in IS : 875(Part 5)-1987, whichever combination produces the worst effects in the building, foundation or structural member concerned will be adopted.

Values of Partial Safety Factor $\gamma_f$ for Loads						
Load Combination on	Limit State of Collapse			Limit State of Serviceability		
	DL	LL	WL/EL	DL	LL	WL/EL
DL + LL	1.5	1.5	-	1.0	1.0	-
DL + WL/EL	1.5 or 0.9*	-	1.5	1.0	-	1.0
DL +LL+WL/EL	1.2	1.2	1.2	1.0	0.8	0.8

\*This value will be considered when stability against overturning or stress reversal is critical.

Wind load & Earthquake load will be considered for both X & Y directions. Whenever, imposed load is combined with earthquake load the appropriate part of imposed load as specified in IS: 1893(Part 1)- 2002 will be used both for evaluating earthquake effects and the combined load effects used in such combinations.

#### DESIGN LIFE:

The design life of the structure shall assumed to be 60 years. The requirement will not applicable to replaceable materials.

#### DESIGN METHODOLOGY:

All structures shall be designed according to Limit State method as per IS: 456- 2000. All structural steel components shall be designed as per IS: 800-1994.

#### MATERIALS:

The self weight of the various elements will be computed based on the unit weight of the materials as per given below:

Materials	Unit Weight KN/m <sup>3</sup>
Steel	78.50
Plain Concrete	24.00
Reinforced Concrete	25.00
Brick work	20.00
BJLC	18.00
Soil	18.00
Water	10.00
Aluminium	28.00

Glass	25.00
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**CONCRETE:**

**M<sub>20</sub> / M<sub>25</sub> grade of concrete** will be considered for all the structural elements of the building.

**REINFORCEMENT:**

Steel reinforcement shall be of Grade Fe 415 conforming to IS: 1786-1985 and of Grade Fe 250 conforming to IS: 432-1982.

**DESIGN STANDARD**

The relevant Indian Standard Codes as given below must be followed for structural design

Code	Description
S:432(Part 2)-1982	Specification for Mild steel and Medium Steel bars and Hard Drawn Steel Wire for concrete reinforcement Hard Drawn Steel wire
S: 1786-1985	Specification for High Strength Deformed Steel Bars and Wires for Concrete Reinforcement
IS: 875(Part 1)-1987	Code of Practice for Design Loads (other than Earthquake) for Buildings and Structures- Unit weights of Buildings Materials and Stored Material
IS: 875(Part2)-1987	Code of Practice for Design Load (other than Earthquake) for buildings and Structures - Imposed Loads
IS: 875(Part 3)-1987	Code of Practice for Design Load (other than Earthquake) for buildings and Structures - Wind Loads
IS: 875(Part5)-1987	Code of Practice for Design Load (other than Earthquake) for buildings and Structures - Special Loads and Load Combinations
IS: 456 -2000	Code of Practice for Plain and Reinforced Concrete
IS: 1893(Part I)-2002	Criteria for Earthquake resistant design of structures (Part 1 -General provisions and buildings)
IS: 13920-1993	Ductile detailing of Reinforced Concrete Structures subjected to Seismic forces - Code of Practice
IS: 4326-1993	Code of Practice for Earthquake resistant design and construction of buildings
IS: SP 34-1987	Hand book on Concrete Reinforcement and detailing
IS: 800-1984	Code of practice for General Construction in Steel
IS: 3370(Part 1)-1965	Code of Practice for Concrete Structures for the Storage of Liquids, Part 1- General requirements
IS: 3370(Part2)-1965	Code of Practice for Concrete Structures for the Storage of Liquids, Part 2-

	Reinforced Concrete Structures
IS: 3370(Part4)-1965	Code of Practice for Concrete Structures for the Storage of Liquids, Part 4- Design Tables

**Section--10**

**Employer Supplied Data**

- a. Site location (as described under section 7 of this part of bidding document).
- b. Base drawing of the site showing contours and proposed features.
- c. General layout plan line drawing enclosed in the bidding document.
- d. Design aspects and parameters and Employer's vision of the project (as described respectively under section 9 and section 6 of this part of bidding document).
- e. Basic functional requirements (given under section 8 of this part of bidding document).

## **Detailed Project Parameters**

### **EXCAVATION & FILLING**

The contractor shall take adequate protective measures to see that excavation operations do not damage the adjoining structures or dislocate the services, if any. Water supply pipes, manholes, drainage pipes & chambers, communication cables, power supply cables etc met within the course of excavation shall be properly supported and adequately protected, so that these services remain functional. Existing structures and services within or adjacent to the area if required to be diverted / removed, shall be diverted /dismantled.

Excavation shall not be carried out below the foundation level of the adjacent buildings until underpinning, shoring, etc is done.

During excavation, the natural drainage of the area shall be maintained.

The earth used for filling shall be free from all roots, grass, shrubs, rank vegetation, brushwood, trees, saplings and rubbish.

Filling with excavated earth shall be done in regular horizontal layers each not exceeding 20 cm in depth. All lumps and clods exceeding 8 cm in any direction shall be broken. Each layer shall be watered and consolidated with steel rammer or 1/2 tonne roller.

### **PLAIN & REINFORCED CEMENT CONCRETE**

Plain & Reinforced Cement Concrete shall conform to IS: 456-2000.

Cement concrete shall be prepared by mixing graded stone aggregate of nominal size 20 mm with fine aggregate and cement with required quantity of water. Coarse aggregate shall conform to IS: 456-1978 and fine aggregate shall conform to IS: 383-1970.

Proportioning shall be done by volume. Boxes of suitable size shall be used for measuring sand and aggregate. The internal dimensions of the boxes shall generally be 35x25x40 cm deep or as otherwise approved by the EIC. The unit of measurement of cement shall be a bag of 50 kg and this shall be taken as 0.035 cum. While measuring the aggregate, shaking, ramming or heaping shall not be done. The proportioning of sand shall be on the basis of its dry volume and in case of damp sand; allowance for bulking shall be made.

Concrete shall be mixed in mechanical batch type concrete mixers conforming to IS: 1791-1985 having two blades and fitted with power loader. In exceptional circumstances, hand mixing may be done with specific prior permission of the Engineer-in-Charge in writing subject to addition of 10% extra cement, mixed on water tight platform. Concrete shall be placed in its final position so as to preclude segregation. It shall be laid gently and shall be thoroughly vibrated and compacted before setting commences. Compaction shall be done by mechanical vibrators conforming to IS: 2505-1980. Over compaction shall be avoided to prevent segregation. For the items where mechanical vibrators are not to be used, hand compaction shall be done with the help of tamping rods. After compaction, the top surface shall be finished even and smooth with wooden trowel before the concrete begins to set.

Concreting shall be carried out continuously upto construction joints. When the work has to be resumed on a surface, which has hardened, such surface shall be roughened. It shall be swept clean and thoroughly wetted.

For vertical joints, neat cement slurry of workable consistency by using 2 kg of cement per sqm shall be applied on the surface before it is dry. For horizontal joints, the surface shall be covered with a layer of freshly mixed mortar about 10-15 mm thick composed of cement and sand in the same ratio as the cement and sand in concrete mix. When concrete begins to harden, i.e. 2 to 3 hours after compaction, the exposed surfaces shall be kept damp with moist gunny bags, sand or other material approved by EIC. 24 hours after compaction, the exposed surface shall be kept continuously in damp or wet condition by ponding or by covering with a layer of sacking, canvas, hessian or similar absorbent materials and kept continuously wet for at least 7 days from the date of placing of concrete.

Freshly laid concrete shall be protected from rain by suitable covering.

Over the foundation concrete, the masonry work may be started after 48 hours of its compaction but the curing of exposed surfaces of cement concrete shall be continued along with the masonry work for at least 7 days.

Where cement concrete is used as base concrete for flooring, the flooring may be commenced before the curing period of base concrete is over but the curing of base concrete shall be continued along with top layer of flooring for a minimum period of 7 days. The exposed surface of RCC shall be plastered with cement mortar 1:3 (1 cement: 3 fine sand) of thickness not exceeding 6mm to give smooth and even surface, true to line and form.

One sample consisting of 6 cubes 15x15x15 cm shall be taken for every 20 cm or part thereof of cement concrete. Regular tests (Mandatory Lab Tests and Mandatory Field Test) shall be done to achieve specified compressive strength of concrete. Out of the 6 sample cubes, 3 cubes shall be tested for 7 days and remaining 3 cubes for 28 days' test. A register of cubes shall be maintained at the site of work. Slump test shall also be carried out.

Steel for reinforcement shall be Cold Twisted bars (Tor Steel) of TISCO / SAIL / IISCO / confirming to IS: 432 (Part I) -1982 or TMT bars of Grade 415 / 500 approved manufactures (TISCO / SAIL / IISCO). Reinforcement steel should pass tensile test as per IS: 1608-1972, bend test as per IS: 1599 -1974, and RE test & Rebound test as per IS: 1786-1985.

Preferably bars of full length shall be used. Reinforcement shall be bent and fixed in accordance with procedure specified in IS: 2502-1963. Welding of reinforcement bars, wherever done, shall be in accordance with the requirements of IS: 2751-1979. Bars shall be kept in correct position by placing precast cover blocks in cement mortar 1:2, chairs, spacers or support bars of steel.

Formwork shall be properly designed for self weight, weight of reinforcement, weight of fresh concrete, and in addition, the various live loads likely to be imposed during the construction process. Shuttering used shall be of sufficient stiffness to avoid deflections and joints shall be tightly butted to avoid leakage of slurry. Suitable camber shall be provided in horizontal members, especially in cantilever spans to counteract the effect of deflection.

**Reinforced Cement Concrete shall not be leaner than M 20 grade.**

#### **BRICK WORK**

Brickwork shall conform to IS: 2212-1962.

Only bricks of class designation 100 (average compressive strength not less than 100 kg / sq cm) shall be used. Bricks shall conform to IS: 1077-1986.

Brick should pass tests for compressive strength, water absorption, efflorescence and dimensional tests. Samples shall be selected as per IS: 5454-1978.

Cement Mortar shall be used and it shall be prepared as per IS: 2250-1981. Sand shall be free from organic impurities. For Half brick masonry, cement mortar shall be 1:4 otherwise it shall be 1:5.

Bricks shall be soaked in water before use for a period for water to just penetrate the whole depth of the bricks. They shall be removed from the tank sufficiently early so that at the time of laying they are skin-dry. Bricks shall be laid in English Bond unless otherwise instructed by the Engineer-in-Charge.

For brickwork in half brick wall, bricks shall be laid in stretcher bond. Half or cut bricks shall not be used except as closer where necessary to complete the bond. External walls shall be 250 mm thick brickwork with 2 nos. MS bars of 6mm dia, embedded in every sixth course.

Half brick walls shall be reinforced with 2 nos. MS bars of 6mm dia, embedded in every fourth course. These shall be securely anchored at their ends. Mortar used for reinforced brickwork shall be rich dense cement mortar of mix 1:4.

The walls shall be taken up truly in plumb. All courses shall be laid truly horizontal and all vertical joints shall be truly vertical.

All pipe fittings and specials, holdfasts and other fixtures, which are required to be built into the walls, shall be embedded in their correct position as the work proceeds unless otherwise directed by the Engineer-in-Charge.

## **FINISHING**

Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. The plaster shall be kept wet for a period of at least 7 days.

Plaster of Paris putty shall be applied over internal plastered surfaces to prepare the surface even and smooth, wherever specified.

One coat of cement primer conforming to IS: 109-1968 shall be applied on the walls and ceiling.

Plastic Emulsion paint as per IS: 5411-1974 of approved brand and manufacture and of required shade shall be applied in two or more coats with brush to get an even surface, wherever specified.

Rain water, soil, waste and vent pipes and fittings shall be painted with synthetic enamel paint of approved brand and manufacture and required colour, in two or more coats, over a priming coat of approved steel primer.

## GENERAL TECHNICAL SPECIFICATIONS

(Broad Specifications for Materials & Workmanship)

### 1. INTRODUCTION:

The general technical specifications are suggested and given here as broad guidelines, covering only the major work items, to express the minimum expected, standard, for relevant work to be done including supplying, fixing fittings, & erecting at site works as shown and defined in the documents, to the entire satisfaction of the Employer. The price quoted must include the best available standard of workmanship and the engagement of specialized personnel in all trades for all items of the work as needed. Any material to be used in the project by the contractor shall have to be in conformity with the specifications as accepted as per technical offer of the successful bidder for which the contractor shall submit samples to the requirements of the Employer. Also for the materials as per the approved list provided in the document, the samples shall have to be approved by the Employer through submission by the Contractor. The contractor shall procure materials from the approved manufacturers only and if the Employer so demand, the contractor shall furnish the challans, invoices, receipts or vouchers of such procurements. Before placing of order by the contractor for any items to be delivered at site free samples for approval shall be submitted to the Employer by the contractor which shall be retained by the Employer for comparing the same with material delivered at site. Samples with proper packing shall be submitted by the contractor free of cost and any supplied material, if rejected, shall be immediately removed and replaced at the risk and cost of the contractor. Free Mockup samples shall also be submitted by the Contractor to the Employer. The specimens, finishes of colour, texture, paving, metals, ceramics, fabrics and other surface finishes and furnishing and finishing items shall also be submitted free by the contractor for approval of the Employer prior to commencement of respective items of work. If felt necessary, Employer may ask manufacturers to certify supplied items. All applicable standards including BIS standards shall be applicable for all the materials and workmanship to be employed for this project, conforming to all relevant codes of practice.

A work programme including procurement and implementation schedule shall be submitted by the successful bidder, which shall be adhered to, upon approval of the Engineer-in-Charge.

All temporary protection to all finished and unfinished work shall be provided by the contractor during the progress of work. The contractor shall also clean all out ends, debris, shaving and othef types of waste from the site in general before the construction of in-fillings or coverings.

All insertions, moulds, boxes templates and fixtures shall be so accurately laid and rigidlyincorporated as to remain accurate during use.

Uniform quality in accordance with the specified standards and first class workmanship to the satisfaction of the Employer shall be accepted only. **The progress of work shall be in accordance with the schedule submitted by the Contractor and approved by the Employer.**

All detail drawings as desired by the Engineer-in-charge shall be prepared by the Contractor at his cost and the same should meet prior approval of the Employer before execution. No extra time shall be allowed to the Contractor for this process.



All work shall be carried out in accordance with the directions and to the full satisfaction of the Engineer-in-charge, denoted herein as Engineer-in-Charge, or Employer or their legal representatives, and in accordance with the specification and drawings issued and/or submitted by the contractor and approved by the Employer and instructions as may fromtime to time be given by the Employer. Contractor shall have to furnish five sets of drawings and documentation showing as-built condition in full details, upon completion of work and before final settlement. The contractor shall maintain one complete set of drawings and one endorsed approved sample board on site for reference of both the contractor and the Engineer-in-charge. Where there are any discrepancies between the requirements of the drawings and the specification, those shall be immediately referred to the Engineer-in-charge for decision before any work is commenced. The decision of the Employer shall be final in this regard.

The scope of the work to be carried out by the contractor shall include the following:

Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate on **turnkey basis at Tripura**. The contractor shall also bear the responsibility of programming, coordinating and executing the work from his side with close interaction and under supervision of the Employer and co-ordinating with other agencies working in the same space or premises.

#### **TESTING & INSPECTION:**

The Employer may issue instructions requiring the contractor to open up for inspection any covered-up work or to arrange for or carry out any tests of any materials or goods or of any executed work and the cost of such opening up or testing shall be borne wholly by the contractor. The Engineer-in-charge may issue instructions in regard to removal from the site of any work, materials or goods, which are not in accordance with this contract.

The Employer may for reasonable cause, (but not unreasonably or vexatiously) issue instructions requiring the dismissal from the work of any worker employed thereon by the contractor.

**Approved Materials :-****APPROVED MAJOR MAKES AND MAKERS:**

All workmanship, materials and work items shall conform to TPWD/PWD/NBO and relevant Indian Standards. In case of items not covered by Indian Standards, National Building Codes shall be followed and in case of items not covered either by Indian Standards or National Building Codes, the TPWD/PWD/NBO specification shall be followed.

All work shall be carried out as per finalized design/drawing submitted by the Contractor and approved by the Employer and/or as per the direction of the Engineer-in- Charge.

Three sets of Free samples of all materials/ mock-up to be used in this project shall be submitted by the contractor to the Engineer-in charge, free of cost, before procurement and execution, along with technical information, test certificates and elaboration drawings if sodesired by the Engineer-in-charge. In the event of non-availability of any or all of these materials or any other similar incidence, free samples of alternative materials(s) proposed to be used in the project shall be submitted by the Contractor, along with the written confirmation of the approved manufacturers about non-availability of specific products at the relevant points of time and also detail technical information and shop drawing(s) of newly proposed material(s) if desired by the Engineer-in-charge, for approval before subsequent use in the relevant work.

New makes and makers may be approved by the Engineer-in-charge during progress of work or at any stage of the project, if so decided by the Employer. These fresh inclusions shall be fully abided by the contractor without any extra cost or time. Rate adjustments, if at all any, shall be settled as per advice of the Engineer-in-charge. The Employer reserves the right to select, approve or direct the use of any material(s) for the project.

**SCOPE OF WORK FOR BIDDERS/ CONTRACTORS**

1. To do Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, supply & laying of sewerage line, supply & laying of C.I. line for water supply, supply & laying of power supply cable (H.T / L.T. cable) for street lighting, fencing for land boundary and front side compound wall and gate on **turnkey basis at Tripura** for the land development work to be executed.
2. To provide **sealed rates and amount** for the work along with item specifications in the format as given in *Part-II- Price bid* of this Bidding Document is in the scope of work.
3. Upon selection of the Implementing Agency through competitive bidding and award of work towards implementation of the scheme, the successful Bidder, henceforth called the contractor or the Agency, shall prepare and place detail working drawings and samples as *per* instructions and for the approval of the Engineer-in-charge.

**The bidders shall agree to comply with the Commercial Terms and Conditions as laid down in the Tender document, by putting their seal and signature on every page of the document.**

## **Evaluation / Judgment Criteria for Technical Offer**

### **(To be read in conjunction with clause no. 17 of section 2 of this tender document)**

#### **Judgment of Technical Bids:**

While the Employer reserves the right to accept, select or reject any or all of the bids at any stage of the tendering process with or without assigning any reason whatsoever, the eligible schemes shall be selected from the submittals, based on the following general selection criteria-

- a) Completeness/adequacy of submission- whether fulfils all heads of submittals
- b) Satisfaction of the functional requirements as desired
- c) Aesthetic appeal- absolute and in line with the image of the Organisation
- d) Assessed time requirement for the scheme, if implemented
- e) Clarity of the proposal from the elements of the submitted scheme
- f) Conformity with applicable standards, of the proposed materials
- g) Any other criteria felt suitable by the Employer

The committee members may at their discretion form a **judgment matrix as indicated at Annexure-1**. On the basis of the abovementioned criteria, to facilitate fair marking of the contestant entries i.e. the technical bids from the bidders. Individual members of the Judges' panel i.e. the committee may award the work.

The Employer reserves the right to disqualify any or all of the submissions/bids on the ground of inadequacy/ insufficiency or overall poor quality, at any stage. The Employer shall also reserve the right to re-tender or summarily abandon the process. The judgment, decisions, and instructions of the Employer shall be final and binding on all the parties involved.

The parties not disqualified at this technical round shall be called the 'Final Bidders'. The Employer reserves the right to

i) Directly open the *Price Bids* of the 'Final Bidders',  
or

ii) To prepare a single revised 'Final Scheme', incorporating clarifications /adjustments/modifications based upon the submitted schemes/ specifications /quantities, to suit the Employer's requirement, and to invite Revised Individual Price Bids from all the 'Final Bidders', on the singular common platform of the same "Final Scheme".

**In any of the above cases, the lowest bidder shall be selected for award of the contract.**

**Annexure 'A' -**

Employer-provided suggestive schematic layout drawing/ Master Plan

The bidders are required to go through all the steps including site visit, reconnaissance, survey and soil test, clarifications if any, etc. as stipulated in this bidding documents, before submitting their offers.

Bidders shall however study the site and the bidding document thoroughly, comply with all the stipulations therein, and submit their own originally developed **technical offer and corresponding price quotation.**

**Employer -provided suggestive Schematic layout drawing / Master Plan**

**JOB DETAILS**

**LUMPSUM PRICE ON TURNKEY BASIS FOR THE WORK** “Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate”.

**TO BE GIVEN BY THE BIDDER AS PART OF THEIR TECHNICAL OFFER**

<b>Sl. No.</b>	<b>Detail description of work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
1.	Workgroup – 1 - Land development including surface dressing of ground not exceeding 150 cm depth by using DOZZER including cutting of trees / bushes/ hedges and removal of rubbish by trucks within 5 km lead and cutting of earth from Heaps / chillas, filling of earth in layers, leveling of ground with available earth / and borrowed earth within 10 km lead including leveling, dressing and consolidated the earth with 8 ton power roller and as per the instruction of Engineer-in-Charge & Drawing.	L.S.	1		
2.	Workgroup - 2 – Drawing & providing barbed wire fencing galvanized 2 ply 12 gauge for the demarcated plot on 3 (three) sides and constructing compound wall and gate on the front side of the plot as per the instruction of Engineer-in-Charge & Drawing.	L.S.	1		
3.	Workgroup – 3 – Construction of Internal roads & paths, approach road and peripheral roads including culverts & retaining wall as per the drawings & instruction of Engineer-in-Charge.	L.S.	1		
4.	Workgroup – 4 – Construction of storm water drainage as per detailed specification and as per Drawings & instruction of Engineer-In-Charge.	L.S.	1		
5.	Workgroup – 5 –Sewerage System as per sewer line layout plan & specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		

6	Workgroup-6- C.I. External water supply line network as per layout plan and detail specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		
7.	Workgroup-7 – External Electrification including supply & Laying of H T / L. T. cable for power supply including cable trenches for power cable for streets lighting as per layout plan and detail specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		
<b>Lump sum price for the entire work GR 1 To GR 7 :</b>			<b>Rupees in Lakhs</b>		

Offered Price in Words : Rupees

**Name of the Bidder**

**Seal and Signature of the Bidder**



**PRICE BID FORMATS**

**SUMMARY OF BIDDER'S PRICE QUOTATION FOR THE WORK ON TURNKEY BASIS FOR SITE DEVELOPMENT  
AND INFRASTRUCTURE WORK FOR MEGA FOOD PARK AT TRIPURA**

Sl. No.	Brief description of Work Group	Total Price (In Rupees)
1	Workgroup -1	
2	Workgroup -2	
3	Workgroup – 3	
4	Workgroup -4	
5	Workgroup – 5	
6.	Workgroup- 6	
7.	Workgroup -7	
	<b>Grand Total of lump sum Price for the Turn Key Job Quotation by bidders (GR- 1 to GR-7).</b>	

Name of the Bidder

Seal and Signature of the Bidder

## **GENERAL TERMS AND CONDITIONS OF CONTRACT**

### 1. DEFINITIONS:

- i. "Accepting authority" shall mean the competent authority of Sikaria Mega Food Park Private Limited.
- ii. When the words "Approved" "Subject to Approval", "Satisfactory", "Equal to" "Proper", "Requested" "As directed" "Where directed", "When directed", "Determined by", "Accepted", "Permitted", or words and phrases of like import are used, the approval, judgement, direction etc. is understood to be a function of the Employer /Engineer-in-charge Authorized Engineer.
- iii. "Bank Guarantee" shall mean the Bank Guarantee to be provided by Bidder/Contractor to Employer.
- iv. The word "Client" or "Employer" or "Owner" wherever occurs in the conditions, means the Sikaria Mega Food Park Private Limited, Tripura represented by the Executive Engineer concerned.
- v. The word "Contractor"/ "Contractors" or "Manufacturer" wherever occurs means the successful Bidder/Bidders who has/have deposited the necessary Earnest Money and has/have been given written intimation about the acceptance of tender and shall include legal representative of such individual or persons composing a firm or a company or the successors and permitted assignees of such individual, firm or company, as the case may be.
- vi. "Consulting Engineer"/"Consultant" shall mean any firm or person duly appointed as *such* from time to time by the owner.
- vii. The 'Contract' shall mean the notice inviting tender, the tender as accepted by the Department and the formal agreement executed between the Department and the contractor together with the documents referred to therein including *conditions of contract, special conditions*, if any specifications, designs & drawings including those to be submitted during progress of work scope of work, billing schedule / schedule of quantities with rates and amounts.
- viii. 'Contract price' shall mean the total sum for which tender is accepted by the Department.
- ix. "Contractor's Works" shall mean the place of work used by the Contractor for the performance of the works.
- x. "Codes" shall mean the following including the latest amendments, and/or replacements, if any
- (a) Standards of Bureau of Indian Standards relevant to the works under the contract and their specifications.

(b) Any other laws, rules, regulations and Acts applicable in the country with respect to labour, safety, compensation, insurance etc.

xi. A "Day" shall mean a day of 24 hours from midnight to midnight.

xii. "Date of Contract" shall mean the date on which both the parties have signed the contract agreement.

xiii. "Drawings/'Plans" shall mean all:

a) Drawings furnished by the Employer /consultant as a basis for proposals,

b) Supplementary drawings furnished by the Employer /Consultant to clarify and to define in greater detail the intent of the contract.

c) Drawings submitted by the contractor with his proposal provided such drawings are acceptable to the Employer /Consultant,

d) Drawings furnished by the Employer /Consultant to the Contractor during the progress of the work.

**And**

(e) Engineering data and drawings submitted by the Contractor during the progress of the work provided such drawings are acceptable to the Engineering-in-Charge / Engineer.

xiv. "Engineer-in-charge" will be clearly defined in the contract document Engineer-in-charge is an authorized Officer of Sikaria Mega Food Park (P) Ltd. administering the contract, certifying payment due to the contractor valuing variations to the contract, awarding extension of time. Engineer-in-charge may further appoint an Engineer or **my** other competent person as his representative who is may be directly responsible for supervising the work being executed at the site, on his behalf under the Delegation of Power **of** the Department and notifying the same to the Contractor. However, overall responsibility, as far as the contract is concerned will be that of the Engineer-in-charge.

xv. The word "Engineer-in-Charge", "Employer" or "Engineer" wherever occurs, means the authorized representative deputed by the Owner.

xvi. "Final Acceptance" shall mean the Employer's written acceptance of the works performed under the contract, after successful completion of performance and guarantee tests.

xvii. "Government Approvals" shall mean all permits, licences, authorisations, consents, clearances, decrees, waivers, privileges, approvals from and filing with government instrumentalities necessary for the construction and operation of the project.

xviii. "Guarantee Period/Maintenance Period" shall mean the period during which the contractor shall remain liable for repair or replacement of any defective part of the works performed under the contract.

xix. "Inspector" shall mean the Employer or any person nominated by the Employer from time to time, to inspect the equipment stores or Works under the contract and/or the duly authorised representative of the Employer.

xx. "Month shall mean a calendar month according to the Gregorian calendar.

xxi. "Project safety Officer" shall mean one full time officer to ensure proper safety of all the workmen, materials plant, equipment belonging to the Contractor at the work site, employed by the Contractor.

xxii. "The Site" shall mean the site of the contract work including land and any building and erections thereon and any other land allotted by the "Employer" for contractor's use in the performance of the contract.

xxiii. "Specification" shall mean the technical specifications forming a part of the contract and such other schedules and drawings as may be mutually agreed upon.

xxiv. "Test of Completion" shall mean such tests as prescribed in the contract to be performed by the contractor before the Works is taken over by the Employer.

xxv. The 'works' shall mean "Development of Mega food Park at Tripura" It shall also mean and include arranging for equipment, labour and the services in accordance with the contract or parts thereof as the case may be and shall also include all extra or additional, altered or substituted works or any work of emergent nature, which in the opinion of the Engineer-in-charge, become necessary during the progress of the works to obviate any risk or accident or failure or becomes necessary for security.

xxvi. 'Written notice' shall mean a notice or communication in writing and shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an office of the Corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address known to him who gives the notice.

xxvii. Words importing singular only shall also include the plural and vice-versa where the context so requires.

xxviii. Words importing "Person" shall include firms, companies corporations, and associations or bodies of individuals, whether incorporated or not.

xxix. Terms and expressions, not defined herein, shall have the same meaning as are assigned to them in the Indian Sale of Goods Act, failing that in the Indian Contract Act, and failing that in the General Clauses Act.

## **2. CONTRACT DOCUMENTS:**

The following documents shall constitute the contract documents:

(i) Articles of Agreement.

(ii) Notice Inviting Tender.

(iii) Letter of Acceptance of Tender indicating deviations, if any, from the conditions of contract incorporated in the Tender document issued to the bidder and/or the Bid submitted by the bidder.

(iv) Conditions of contract, including general terms and conditions, additional terms and conditions technical terms and conditions, etc. forming part of the Agreement.

(v) Specifications, included as is part of Tender Documents.

(vi) Scope of work/Bills of quantities/Schedule of works/quantities and

(vii) Contract drawings/finalised work programme.

2.1. After acceptance of tender the Contractor shall be deemed to have carefully examined all Contract Documents to his satisfaction. If he shall have any doubt as to the meaning of any portion of the Contract Documents, he shall before signing the Contract, set forth the particulars thereof, and clarifications as may be necessary in writing to the Employer. Any information otherwise obtained from the Employer or the Employer shall not in any way relieve the Contractor of his responsibility to fulfill his obligations under the Contract.

2.2. The Contractor shall enter into a Contract Agreement with the Employer within 21 (twenty-one) days from the date issue of Acceptance of Tender' or within such extended time as may be granted by the Employer. The performance Security / Performance Guarantee for the proper fulfillment of the contract shall be furnished by the contractor in the prescribed form within 28 (twenty-eight) days of the issue of the Acceptance of tender', the

performance Security/Security Deposit/Performance Guarantee shall be as per terms prescribed in clause 23 of Instructions to Bidders of this tender.

2.3 The Employer, after the issue of the letter of Acceptance of Tender, will send one copy of the final agreement to the contractor for his scrutiny and approval.

2.4 The agreement, unless otherwise agreed to, shall be signed within 21 (twenty-one) days of the issue of the letter of Acceptance of tender, at the office of the Employer on a date and time to be mutually agreed. The contractor shall provide for signing of the contract, performance guarantee in copies as required, appropriate power of attorney and other requisite materials. In case it is agreed mutually that the contract is to be signed beyond the stipulated time, the bid guarantee submitted with the tender will have to be extended accordingly.

2.5 The agreement will be signed in six originals and the contractor shall be provided with one signed original and the rest will be retained by the Employer, None of these documents shall be used by the contractor for any purpose other than this contract and the contractor shall ensure that all persons employed for this contract strictly adhere to this and maintain secrecy, as required of such documents.

2.6 The contractor, shall provide, free of cost to the Employer all the engineering data, drawings and descriptive materials submitted with the bid, in at least six (6) copies to form a part of the contract immediately after issue of letter of acceptance.

2.7 Subsequent to signing of the contract, the contractor at his own cost shall provide the Employer with at least six (6) true copies of agreement within thirty (30) days after the signing of the contract.

2.8 The contract shall be considered as having come into force from the date of the letter of acceptance of tender issued by the Employer.

2.9 The laws applicable to this contract shall be the laws in force in India. The courts of Agartala, Tripura shall have exclusive jurisdiction in all matters arising under this contract.

### **3.0 CONTRACT PERFORMANCE GUARANTEE:**

Performance Guarantee shall consist of two parts:

- a) Performance Guarantee to be submitted after award of work in shape of Indemnity Bond.
- b) Retention Money shall be 5% of the contract value to be recovered from the running bills. However, it will be subject to maximum of 1% of the contract value. The Performance Guarantee shall bear no interest.

### **4.0 ASSIGNMENTS & SUBCONTRACTING:**

**4.1 The contractor shall not assign the Contract or any part of the Contract to Subcontractor.**

### **5.0 TIME**

5.1 The time and the date of completion of the works as stipulated in the contractor's proposal and accepted by the Employer without or with modifications, if any and so incorporated in the award letter shall be deemed to be the essence of the contract. The contractor shall so organize his resource and perform his work as to complete it not later than the date agreed to.

5.2 The contractor shall submit a detailed PERT network within the time frame agreed above consisting of adequate number of activities covering various key phases of the works such as design procurement manufacturing, and field erection activities within fifteen (15) days after the date of acceptance of tender. This network shall also indicate the interface facilities to be provided by the owner and the dates by which such

facilities are needed. Contractor shall discuss the network so submitted with the Employer and the agreed network which may be in the form as submitted or in revised form in line with the outcome of discussions and shall form part of the contract to be signed within twenty-one (21) days from the date issue of letter of acceptance of notice of award of contract. During the performance of contract, if proper progress is not maintained, in the opinion of the Engineer-in-Charge suitable changes shall be made in the contractor's operations to ensure proper progress.

5.3 The above PERT network shall be reviewed and periodic review reports shall be submitted by the contractor as directed by the Engineer-in-Charge.

## **6.0 CONTRACT PRICE**

The lump sum prices quoted by the contractor in his bid, with additions and deletions as may be agreed before signing of the contract, for the entire scope of the work covered under the specifications and documents, and shall be treated as the contract price.

## **7.0 DEDUCTIONS FROM CONTRACT PRICE**

All costs, damages or expenses for which the contractor is liable under the contract shall be claimed by the Employer, which the Employer may have paid. All such claims shall be billed by the Contractor to the Employer regularly as and when they fall due. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the contractor to properly identify such claims. Such claims shall be paid by the contractor within fifteen (15) days of the corresponding bills and if not paid by the contractor within the said period, the Employer may then deduct the amount, from any moneys due or becoming due to the contractor under the contract or maybe recovered by actions of law or otherwise if the contractor fails to satisfy the Employer of such claims.

## **8.0 CONTRACT PRICE ADJUSTMENT.**

All adjustments in the contract price shall be computed in accordance with the conditions and formulae prescribed in the relevant clauses of 'Additional Terms and Conditions of Contract' the accompanying technical specifications and further satisfying the requirements specified herein.

## **9.0 INSURANCE**

9.1 The contractor shall arrange, secure and maintain insurance as may be necessary and for all such amounts to protect his interests and the interests of the Employer, against all risks as detailed herein in the joint names of the Employer and the Contractor with the condition that payments against all claims shall be payable by insurers to the Employer as elaborated at clause 10.5. All premiums and other charges of the said insurance policies shall be paid by the contractor. The form and the limit of such insurance, as defined herein together with the under-writer thereof in each case shall be acceptable to the Employer. However irrespective of such acceptance, the responsibility to maintain adequate insurance coverage on comprehensive all risks basis at all time during the period of contract shall be that of the contractor alone. The contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations.

9.2 Any loss or damage to any equipment, included as part of the contracted works, during handling, transporting, storage and erection, till such time the completed work is taken over by the Employer, shall be to the account of the contractor. The contractor shall be responsible for preferring of all claims and make good for the damage or loss by way of repairs and/or replacement of the portion of the works damaged or lost. The transfer of title shall not in any way relieve the contractor of the above responsibilities during the period of the

contract. The contractor shall provide the Employer with a copy of all insurance policies and documents taken out by him in pursuance of the contract. Such copies of document shall be submitted to the Employer immediately after such insurance coverage. The contractor shall also inform the Employer in writing at least sixty (60) days in advance regarding the expiry, cancellation and/or change in any of such documents and ensure revalidation/renewal, etc. as may be necessary well in time.

9.3 The risk that are to be covered under the insurance shall include, but not be limited to, the loss or damage in transit, theft, pilferage, riot, civil commotion, weather conditions, accidents of all kinds, fire, etc. The scope of such insurance shall cover the entire value of the works from time to time.

9.4 All costs on account of insurance liabilities covered under the contract will be on contractor's account and will be included in contract price. However, the Employer may from time to time, during the pendency of the contract asks the contractor in writing to limit the insurance coverage risks and in such a case, the parties to the contract will agree for a mutual settlement for reduction in contract price to the extent of reduced premium amounts.

9.5 All insurance claims, payable by the insurers, shall be paid to the Employer which shall be released to the contractor in installments as may be certified by the Engineer-in-charge for the purpose of rebuilding or replacement or repair of the works and/or goods destroyed or damaged for which payment was received from the insurers.

9.6 The clause Sub-titled "insurance" under the section "General terms and conditions" of contract of this volume, cover the additional insurance requirements for the portion of the works to be performed at the site of work.

#### **10.0 LIABILITY FOR ACCIDENTS AND DAMAGES.**

Under the contract, the contractor shall be responsible for loss or damage to the work under contract until the works are taken over in accordance with clause entitled 'Taking Over' in section technical terms and conditions of contractor of this volume.

#### **11.0 LIQUIDATED DAMAGES (LD) FOR DELAY IN COMPLETION**

11.1 If the contractor fails to maintain the required progress in terms of the agreed time and progress chart or to complete the work and clear the site on or before the contract or extended date of completion, he shall without prejudice to any other right or remedy available under the law to the Employer on account of such breach pay as compensation/Liquidated Damages @ half percent (1/2%) of the contract price per week or part of the week of delay. The aggregate of such compensation/compensations shall not exceed 10 (ten) percent of the total Contract-price. This will also apply to items or group of items for which separate period of completion has been specified. The amount of compensation may be adjusted or setoff against any sum payable to the contractor under this or any other contract with the Employer.

11.2 In the event of failure on the part of the contractor to complete the contracted work thin the specified time of completion, if the Employer, is satisfied, that the works can be completed by the contractor within a reasonable time after the specified time of completion, the Employer, may allow further extension of time at its discretion. In the event of extension being granted, the Employer will be entitled without prejudice to any other right or remedy available in that behalf, to recover from the contractor damages equivalent to half percent of the contract value of the works for each week or part of the week subject to a ceiling of 1% of the contract value.

#### **12.0 SKIPPED**

Neglect or contravention complained of, should the contractor fail to comply with the notice within thirty (30) days from the date of service thereof, then and in such case the Employer shall be at liberty to employ other workmen and forthwith execute such part of the works as the contractor may have neglected to do or if the Employer shall think fit, it shall be lawful for him without prejudice to any other right he may have under the

contract, to take the works wholly or in part thereof and in that event the owner shall have free use of all contractor's equipment that may have been at the time on the site in connection with the works without being responsible to the contractor for fair wear and tear thereof and to the exclusion of any right of the contractor over the same, and the owner shall be entitled to retain and apply any balance which may otherwise be due on the contract by him to the contractor, or such part thereof as may be necessary, the payment of the cost of executing the said part of the works or of completing the works as the case may be. If the cost of completing the works or executing a part thereof as aforesaid shall exceed the balance due to the contractor, the contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay, which the contractor shall have to pay if the completion of works is delayed.

In addition, such action by the Employer as aforesaid shall not relieve the contractor of his liability to pay liquidated damages for delay in completion of works as defined in clause 12 of this section.

The termination of the contract under clause 12 of this section shall not entitle the contractor to reduce the value of the performance bank guarantee nor the time thereof. The performance Security/ Performance Guarantee shall be valid for the full value and for the full period of the contract including guarantee period.

The payment due to him on account of work executed by him, if payable, shall be paid to him only after due recoveries as per the provisions of the contract and that too after alternative arrangements to complete the work has been made.

### **13.0 FORCE MAJEURE**

Force majeure is herein defined as any cause which is beyond the control of the contractor or the Employer as the case may be which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the contract, such as :

(a) natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics. :

(b) acts of any government, including but not limited to war, declared or undeclared, priorities, quarantines, embargoes, Provided either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes.

### **14.0** The bidding documents will clearly state that:

(a) The successful bidder will advise, in the event of his having resort to this clause by a registered letter duly certified by the local or statutory authorities, the beginning and end of the cause of delay, within fifteen days of the occurrence and cessation of such Force Majeure condition. In the event of delay lasting over two months, if arising out of Force Majeure, the contract may be terminated at the discretion of the Employer.

b) For delays arising out of Force Majeure, the bidder will not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure. However, the Employer shall not be liable to pay extra costs (like increase in rates, re-mobilisation advance idle charges for labour and machinery etc.) for the period that the Force Majeure conditions actually exist.

### **15.0 DELAYS BY EMPLOYER OR HIS AUTHORISED AGENT**

15.1 In case the contractor's performance is delayed due to any act of omission on the part of the Employer or his authorised agents, then the contractor shall be given due extension of time for the completion of the works, to the extent such omission on the part of the Employer has caused delay in the contractor's performance of his work. Regarding reasonableness or otherwise of the extension of time, the decision of the Engineer-in-Charge shall be final.



15.2 In addition, the contractor shall be entitled to claim demonstrable and reasonable compensation if such delays have resulted in any increase in the cost of work. The Employer shall examine the justification for such a request for aim, and if satisfied, the extent of compensation shall be mutually agreed depending upon the circumstances at the time of such an occurrence.

15.3 Any delay in finalisation of mutual agreement in regard to any of the contractor's claims/compensation against any act of omission on the part of the Employer or his authorised agents should not result in any work stoppage/further delay on the part of the contractor. If there is any delay for which Employer is not liable, clause 12 shall be applicable.

## **16.0 EXTENSION OF DATE OF COMPLETION**

16.1 On happening of any events causing delay as stated hereinafter, the contractor shall intimate immediately in writing the Engineer-in-charge. :

a. due to any reasons defined as Force Majeure.

b. non-availability of stores which are the responsibility of the Employer to supply

c. non-availability or breakdown of tools and plant to be made available or made available by the Employer

d. delay on the part of the contractors or tradesmen engaged by the Employer not forming part of the contract, holding up further progress of the work.

e. non-availability of working drawings/work programme in time, which are to be made available by the Employer (if any) during progress of the work.

f. any other causes which, at the sole discretion of the Employer is beyond the control of the contractor.

16.2 A "Hindrance Register" shall be maintained by both the Employer and the Contractor at site to record the various hindrances as mentioned above, encountered during the course of execution.

16.3 The contractor may request the Employer in writing for extension of time within 14 days of happening of such event causing delay stating also, if practicable, the period for which extension is desired. The Employer may, considering the eligibility of the request, give a fair and reasonable extension of time for completion of the work. Such extension shall be communicated to the contractor in writing by the Employer through the Engineer-in-Charge within 1 month without stopping work of the date of receipt of such result. The contractor shall however use his best efforts to prevent or make good the delay by putting his endeavor constantly as may be reasonably required of him to the satisfaction of the Engineer-in-charge. No escalation shall be available in this respect.

16.4 Provisional extension of time may also be granted by the Engineer-in-charge during the course of execution, on written request for extension of time within 15 (fifteen) days of happening of such events as stated above, reserving the Employer's right to impose/waive liquidated damages at the time of granting final extension of time as per contract agreement.

16.5 When the period fixed for the completion of the contract is about to expire, the question of extension of the contract may be considered at the instance of the Contractor or the Employer or the both. The extension will have to be by both / mutual agreement expressed or implied.

16.6 In case the Contractor does not apply for grant of extension of time within 15 (fifteen) days of hindrance occurring in execution of the work and the Employer wants to continue with the work beyond the stipulated date of completion for reason of the work having been hindered, the Engineer-in-charge at his sole discretion can grant provisional extension of time even in the absence of application from the Contractor. Such extension of time granted by the Engineer-in-charge is valid provided the Contractor accepts the same either expressly **or** implied by his actions before and subsequent to the date of completion. Such extension of time shall be without prejudice to Employer's right to levy compensation under the relevant clause of contract.

16.7 Any approach for any decision by the Contractor(s) bypassing the Engineering-in-Charge.

16.8 The Employer shall in such an event give fifteen (15) days notice in writing to the contractor of his decision to do so.

16.9 The contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and contracts to the extent they are related to the work terminated and terms satisfactory to the Employer, stop all sub-contracting or purchasing activity related to the work terminated, and assist the owner in maintenance, portion, and disposition of the works acquired under the contract by the Employer.

16.10 The contract shall stand terminated under the following circumstances unless the Employer is satisfied that the legal representatives of the individual contractor or of the proprietor of the proprietary concern and in the case of partnership the surviving partners, are capable of carrying out and completing the contract and the Employer shall in any way not be liable to payment of any compensation to the estate of deceased contractor and/or to the surviving partners of the contractor's firm on account of the termination of the contract.

a. If the contractor being an individual in the case of proprietary concern or in the case of a partnership firm any of its partners is declared insolvent under the provisions of insolvency act for the time being in force, or makes any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors amounting to proceedings for liquidation or composition under any insolvency act.

b. In the case of the contractor being a Employer, its affairs are under liquidation either by a resolution passed by the Employer or by an order of court, not being a voluntary liquidation proceedings for the purpose of amalgamation or reorganisation, or a receiver or manager is appointed by the court on the application by the debenture holders of the Employer, if any.

c. If the contractor shall suffer an execution being levied on his/their goods, estates and allow it to be continued for a period of 21 days.

d. If the contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the contractor is a partnership concern and one of the partners dies, then unless the Employer is satisfied that the legal representatives of the individual contractor or of the proprietor of the proprietary concern and in the case of partnership the surviving partners, are capable of carrying out and completing the contract, the Employer shall be entitled to cancel the contract as to its incomplete part. In that event the Employer shall not be in any way liable to payment of any compensation to the estate of the deceased contractor and/or the surviving partners of the contractor's firm on account of the cancellation of the contract. In the event of such cancellation, the Employer shall not hold the estate of deceased contractor and/or the surviving partners of the Contractor's firm liable to damages for not completing the contract.

16.11 In the event of the death of the Contractor being a proprietary concern or of any of the partners in the case of a partnership concern and the Employer not being satisfied that the legal representative of the deceased proprietor or the other surviving partners of the partnership concern are capable of carrying out and completing the contract, the decision of Employer that the legal representatives of the deceased contractors or surviving partners of the contractor's firm cannot carry out and complete the contract shall be final and binding.

On cancellation of the contract or on termination of the contract, the Engineer-in-charge shall have powers.

- a. to take possession of the site and any materials, constructional plant, implements, stores, etc. thereon.
- b. to carry out the incomplete work by any means at the risk of the contractor.
- c. to determine the amount to be recovered from the contractor for completing the remaining work or in the event the remaining work is not to be completed the loss/damage suffered, if any, by the Employer after giving credit for the value of the work executed by the contractor upto the time of termination/cancellation less on a/c payments made till date and value of contractor's materials, plant, equipment, etc. taken possession of after termination / cancellation.
- d. to recover the amount determined as above, if any, from any moneys due to the contractor on any account or under any other contract and in the event of any shortfall, the contractor shall be called upon to pay the same on demand. The need for determination of the amount of recovery of any extra cost/expenditure or of any loss/damage suffered by the company shall not however arise in the case of termination of the contract for death/demise of the contractor as stated in 17.4 (d).

**17.0 Suspension of work** - The Employer shall have power to suspend the progress of the work or any part thereof and the Engineer-in-charge may direct the contractor in writing to suspend the work, for such period and in such manner as may be specified therein, on account of any default on the part of the contractor, or for proper execution of the work for reasons other than any default on the part of the contractor, or on ground of safety of the work or part thereof. In the event of suspension for reason other than any default on the part of the contractor, extension of time shall be allowed by the Employer equal to the period of such suspension. Any necessary and demonstrable costs incurred by the contractor as a result of such suspension of the works will be paid by the Employer, provided such costs are substantiated to the satisfaction of the Engineer-in-Charge. The Employer shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the contractor.

**17.1 Foreclosure of contractor in full or in part** - If at any time after acceptable of the tender, the Employer decides to abandon or reduce the scope of the work for any reason whatsoever the Employer, through its Engineer-in-charge, shall give notice in writing to that effect to the contractor. In the event of abandonment/reduction in the scope of work, the Employer shall be liable.

- a. to pay the contractor at the contract rates full amount for works executed and measured at site upto the date of such abandonment/reduction in the work.
- b. to pay reasonable amount assessed and certified by the Engineer-in-charge of the expenditure incurred, if any, by the contractor on preliminary works at site, e.g. temporary access roads, temporary construction for labour and staff quarters, office accommodation, storage of materials, water storage tanks and supply for the work including supply to labour/staff quarters, office, etc.
- c. to pay for the materials brought to site or to be delivered at site, which the contractor is legally liable to pay, for the purpose of consumption in work earned out or were to be carried out but for the foreclosure, including the cost of purchase and transportation and cost of delivery of such materials. The materials to be taken over by the Employer should be in good condition and the Employer may allow at its discretion the contractor to retain the materials in full or part if so described by him and to be transported by the contractor from site to his place.
- d. to take back the materials issued by the Employer but remaining unused, if any, in the work on the date of abandonment/reduction in the work, at the original issued price less allowance for any deterioration or damaged caused while in custody of the contractor

e. to pay for the transportation of tools and plants of the contractor from site to contractor's place or to any other destination, whichever is less. The contractor shall, if required by the Engineer-in-charge, furnish to him books of accounts, papers, relevant documents as may be necessary to enable the Engineer-in-charge to assess the amount payable in terms of para 17.8 (b), (c) and (d) above.

17.2 The contractor shall not have any claim for compensation whatsoever either for abandonment or for reduction in the scope of work, other than those as specified above.

17.3 The work shall, throughout the stipulated period of contract, be carried out with all due diligence on the part of the contractor. In the event of termination or suspension of the contract, on account of default on the part of the contractor, as narrated hereinbefore, the security deposit and other dues of this work or any other work done under this Employer shall be forfeited and brought under the absolute disposal of the Employer, provided that the amount so forfeited shall not exceed 10% of the contract value.

#### **18.0 NO WAIVER OF RIGHTS**

Neither the inspection by the Employer or the Engineer-in-Charge or any of their officials, employees or agents nor any order by the Employer or the Engineer-in-Charge for payment of money or any payment for or acceptance of, the whole or any part of the works by the Employer or the Engineer-in-Charge, nor any extension of time, nor any possession taken by the Engineer-in-Charge shall operate as a waiver of any provision of the contract, or of any power herein reserved to the Employer, or any right to damages herein provide, nor shall any waiver of any breach in the contract be held to be a waiver of any other or subsequent breach.

#### **19.0 CERTIFICATE NOT TO AFFECT RIGHT OF EMPLOYER AND LIABILITY OF CONTRACTOR:**

No interim payment certificate of the Engineer-in-Charge, nor any sum paid on account, by the Employer, nor any extension of time for execution of the works granted by the Engineer-in-Charge shall affect or prejudice the rights of the Employer against the contractor or relieve the contractor of his obligations for the due performance of the contract, or be interpreted as approval of the works done or of the equipment furnished and no certificate shall create liability for the Employer to pay for alterations, amendments, variations or additional works not ordered, in writing, by the Engineer-in-Charge or discharge the liability of the contractor for the payment of damages whether due, ascertained, or certified or not, or any sum against the payment of which he is bound to indemnify the Employer, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of the contractor against the Employer.

#### **20.0 GRAFTS AND COMMISSIONS ETC.**

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his partner, agent, officers, director, employee or servant or any one of his or their behalf in relation to the obtaining or to the execution of this or any other contract with the Employer, shall, in addition to any criminal liability which it may incur, subject the contractor to the cancellation of this and all other contracts and also to payment of any loss or damage to the Employer resulting from any cancellation. The Employer shall then be entitled to deduct the amount so payable from any moneys otherwise due to the contractor under the contract.

#### **21.0 LANGUAGE AND MEASURES**

All documents pertaining to the contract including specifications, schedules notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be written in English language. The metric system of measurement shall be used exclusively in the contract.

## **22.0 RELEASE OF INFORMATION**

The contractor shall not communicate or use in advertising, publicity, sales releases or in any other medium photographs or other reproduction of the works under this contract, or descriptions of the site, dimensions, quantity, quality or other information, concerning the works unless prior written permission has been obtained from the Employer.

## **23.0 CONSTRUCTION OF THE CONTRACT**

23.1 The contract shall in all respects be construed and governed accordingly to Indian laws.

## **24.0 COMPLETION OF CONTRACT**

Unless otherwise terminated under the provision of any other relevant clause, this contract shall be deemed to have been completed at the expiration of the guarantee period as provided for under the clause entitled "Guarantee" in this section.

## **25.0 ENFORCEMENT OF TERMS**

The failure of either party to enforce at any time of the provisions of this contract or any rights in respect thereto or to exercise any option herein provided, shall in no way be construed to be a waiver of such provisions, rights or options or in any way to affect the validity of the contract. The exercise by either party of any of its right herein shall not preclude or prejudice either party from exercising the same or any other right it may have hereunder.

## **26.0 ENGINEER'S -IN-CHARGE DECISION**

26.1 In respect of all matters which are left to the decision of the Engineer-in-Charge including the granting or withholding of the certificates, the Engineer-in-Charge shall, if required to do so by the contractor give in writing a decision therein.

26.2 If in the opinion of the contractor, a decision made by the Engineer-in-Charge is not in accordance with the meaning and intent of the contract, the contractor may file with the engineer within fifteen (15) days after receipt of the decision, a written objection to the decision. Failure to file an objection within the allotted time will be considered as acceptance of the Engineer-in-Charge's decision and the decision shall become final and binding.

26.3 The Engineer-in-Charge's decision and the filing of the written objection thereto shall be a condition precedent to the right to any legal proceedings. It is the intent of the contract that there shall be no delay in the execution of the works and the decision of the Engineer-in-Charge as rendered shall be promptly observed.

## **27.0 CO-OPERATION WITH OTHER CONTRACTORS AND CONSULTING ENGINEERS.**

The contractor shall agree to co-operate with the Employer other contractors and consulting engineers and freely exchange with them such technical information as is necessary to obtain the most efficient and economical design and to avoid unnecessary duplication of efforts. The Engineer-in-Charge shall be provided with three copies of all correspondence addressed by the contractor to the sub-contractors and consulting engineers in respect of such exchange of technical information.

## **28.0 POWER TO VARY OR OMIT WORK**

28.1 No alterations, amendments, omission, suspensions or variations of the work (hereinafter referred to as 'Variation') under the contract as detailed in the contract documents, shall be made by the contractor except as directed in writing by the Engineer-in-Charge, but the Engineer-in-Charge shall have full power subject to the provision hereinafter contained from the time to time during the execution of the contract by notice in writing, to instruct the contractor to make such variation without prejudice to the contract. The contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variation occurred in the contract documents. If any suggested variation would, in the opinion of the contractor, if carried out, prevent him from fulfilling any of his obligations, or guarantees under the contract, he shall notify the Engineer-in-Charge there of in writing and the Engineer-in-Charge shall decide forthwith, whether or not the same shall be carried out and if the Engineer-in-Charge confirms his instructions, contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deducted from the contract price as the case may be.

28.2 In the event of the Engineer-in-Charge requiring any variation, such reasonable and proper notice shall be given to the contractor to enable him to work his arrangements accordingly, and in cases where goods or materials are already prepared or any design, drawings or pattern made or work done requires to be altered, as reasonable and agreed sum in respect thereof shall be paid to the contractor.

28.3 In any case in which the contractor has received instructions from the Engineer-in-Charge as to the requirement of carrying out the altered or additional substituted work whichever then or later on, will in the opinion of the contractor, involve a claim for additional payments, the contractor shall immediately and in no case later than thirty (30) days, after receipt of the instructions aforesaid and before carrying out the instructions, advise the Engineer-in-Charge to that effect. But the engineer shall not become liable for the payment of any charges in respect of any such variations, unless the instructions for the performance of the same shall be confirmed in writing by the Engineer-in-Charge.

28.4 If any variation in the works, results in reduction of contract price, the parties shall, agree, in writing, so to the extent of any change in the price, before the contractor proceeds with the change.

28.5 In all the above cases, in the event of a disagreement as to the reasonableness of the said sum, the decision of the Engineer-in-Charge shall prevail.

28.6 Notwithstanding anything stated above in this clause, the Engineer-in-Charge shall have the full power to instruct the contractor, in writing, during the execution of the contract, to vary to quantities of the items or groups of items. The contractor shall carry out such variations and be bound by the same conditions, as though the said variations occurred in the contract documents. However, the contract price shall be adjusted at the rates and the prices provided for the original quantities in the contract.

## **29.0 GUARANTEE**

The contractor shall warrant that the works performed will be new and in accordance with contract documents and be free from defects in material and workmanship for a period of twelve (12) calendar months commencing immediately upon the satisfactory completion of the project, the contractor's liability shall be limited to the correction of any defective work his own under normal use and arising solely from fault design, materials, and/or workmanship provided always that such defects are repairable at the site. No repairs or replacements shall normally be carried out by the Engineer-in-Charge when the work is under the supervision of the contractor's supervisory engineers.

### **30.0 REPLACEMENT OF DEFECTIVE WORKS AND MATERIALS**

30.1 If during the progress of the works the Engineer-in-Charge shall decide and in writing to the contractor, that the contractor has executed any part of the works unsound or imperfect or has furnished any works inferior than the quality specified, the contractor on receiving details of such defects or deficiencies shall at his own expense within seven (7) days of his receiving the notice, or otherwise, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such work and redo upto the standards of the specifications. In case the contractor fails to do so, the Engineer-in-Charge may on giving the contractor seven (7) days notice in writing of his intentions to do so. proceed to remove the portion of the works so complained of and at the cost of the contractor, perform all such work provided that nothing in this clause shall be deemed to deprive the Employer of or affect any rights under the contract which the Employer may otherwise have in respect of such defects and deficiencies.

30.2 The contractor's full and extreme liability under this clause shall be satisfied by the payments to the Employer of the extra cost, of such replacement procured, including erection, as provided for in the contract, such extra cost being the ascertained difference between the priced paid by the Employer for such replacements and the contract price portion for such defective works and repayments of any sum paid by the Employer to the contractor in respect of such defective works. Should the Employer not so replace the defective works, the contractor's extreme liability under this clause shall be limited to repayment of all sums paid by the Employer under the contract for such defective works.

### **31.0 DEFENCE OF SUITS**

If any action in court is brought against the Employer or Engineer-in-Charge or an officer or agent of the Employer for the failure or neglect on the part of the contractor to perform any acts, matters, covenants or things under the contract, or for damage or injury caused by the alleged omission or negligence on the part of the contractor, his agents, representatives, workmen, suppliers or employees, the contractor shall in all such cases indemnify and keep the Employer, and the Engineer-in-Charge and/or his representative, harmless from all losses, damages, expenses or decrees arising of such action.

### **32.0 LIMITATIONS OF LIABILITIES**

The final payment by the Employer in pursuance of the contract shall mean the release of the contractor from all his liabilities under the contract. Such final payment shall be made only at the end of the guarantee period as detailed in clause 30 above and till such time as the contractual liabilities and responsibilities of the contractor, shall prevail. All other payments made under the contract shall be treated as on account payments.

### **33.0 MARGINAL NOTES**

The marginal notes to any clause of the contract shall not affect or control the construction of such clause.

### **34.0 TAXES, PERMITS & LICENSES**

The contractor shall be liable and pay all-Indian taxes, duties, levies lawfully assessed against the Employer or the contractor in pursuance of the contract. In addition the tractor shall be responsible for payment of all Indian duties, levies and taxes lawfully assessed against the contract for his

personal income and property only. This clause shall be read in conjunction with **clause 9.3** of section Instruction to Bidders.

### **35.0 PROGRESS REPORTS AND PHOTOGRAPHS**

During the various stages of the works in the pursuance of the contract, the contractor shall at his own cost submit periodic progress reports as may be reasonably required by the Engineer-in-Charge with such materials as charts net-works, photographs, test certificates, etc. such progress report shall be in the form and size as may be required by the Engineer-in-Charge and shall be submitted in at least three **(3)** copies.

### **36.0 PAYMENT**

36.1 The payment to the contractor for the contract for the performance of the works under the contractor will be made by the Employer as per the guidelines and conditions specified herein. All payment made during the contract shall be on account payments only. The final payment will be made on completion of all the works and on fulfillment by the contractor of all his liabilities under the contractor.

#### **36.2 CURRENCY OF PAYMENT**

All payments under the contract shall be in Indian Rupees only.

#### **36.3 DUE DATES FOR PAYMENT**

The Employer will make progressive payment as and when the payment is due as per the terms of payment set forth in the accompanying technical specifications. Payment will become due and payable by the Employer within thirty (30) days from the date of receipt of contractor's bill/invoice /debit note by the Employer, provided the documents submitted are complete in all respects.

#### **36.4 PAYMENT SCHEDULE:**

The contractor shall prepare and submit to the Engineer-in-Charge for approval, a break up the contract prices (billing schedule). This contract price break-up shall be interlinked with the agreed detailed PERT net work of the contractor setting forth his starting and completion dates for the various key phases of works prepared as per conditions of this section. Any payment under the contract shall be made only after the contractor's price break-up (billing schedule) is approved by the Engineer-in-Charge. The aggregate sum of the contractor's price break up shall be equal to the lump sum contract price. Payment shall be made based on mutually agreed billing schedule on the basis of *prorata progress*. The agreed billing schedule is *notional* and only for making running payments to the contractor and not for any price adjustment.

#### **36.5 APPLICATION FOR PAYMENTS:**

36.5.1 The contractor shall submit application for the payment in the prescribed proforma of the Employer.

36.5.2 Each such application shall state the amount claimed and shall set forth in details, in the order of the payment scheduled, particulars of the works including the works executed at site pursuant to the contract upto the date mentioned in the application and for the period covered since the last preceding certificate, if any.



36.5.3 Every interim payment certificate shall certify the contract value of the works executed upto the date mentioned in the application for the payment certificate, provided that no sum shall be included in any interim payment certificate in respect of the works that according to the decision of the Engineer-in-Charge, does not comply with the contract or has been performed, at the date of certificate prematurely.

### **37.0 SETTLEMENT OF DISPUTES**

37.1. If any dispute of difference of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of the Contract, whether during the progress of the works or after their completion and whether before or after the termination, abandonment or breach of the Contract it shall in the first place, be referred to and settled by the Engineer-in-Charge who shall within a period of thirty days after being requested by the Contractor to do so, give written notice of his decision to the Contractor. Upon receipt of the written notice of the decision of the Engineer-in-Charge the Contractor shall promptly proceed without delay to comply with such notice of decision.

37.2 If the Engineer-in-Charge fails to give notice of his decision in writing within a period of thirty days after being requested or if the Contractor is dissatisfied with the notice of the decision of the Engineer-in-Charge, the Contractor may within thirty days after receiving the notice of decision appeal to the Engineer-in-charge who shall offer an opportunity to the contractor to be heard and to offer evidence in support of his appeal.

#### **Settlement of Claims:**

All disputes or difference arising of or relating to the Contract shall be referred to the adjudication as follows:

##### **a) Claims upto a value of Rs. 50,000.00**

To be decided by the Engineer-in-Charge .

##### **b) Claims above Rs. 50,000.00**

Will be referred to H.O Sikaria Mega Food Park (P) Ltd.

The arbitration shall be conducted in accordance with the provisions of Indian Arbitration and Conciliation Act 1996 or any statutory modification thereof.

The arbitrator shall state his reasons in passing the award.

A reference for adjudication under these clauses shall be made by the Contractor within six months from the date of intimating the Contractor of the preparation of final bill or his having accepted payment whichever is earlier.

### **38.0 SALES TAX/ VAT ON WORKS CONTRACTS**

38.1 All taxes, levies, cess, royalties whether local, municipal, provincial or central training to the contract are payable during the entire periods of contract, shall be to the contractor/contractors account and shall be deemed to have been included in the contract rate for the work to be executed by the contractor. The Employer shall not be liable for any taxes or levies etc. whatsoever in connection with this contract.

38.2 The Employer reserves the right to deduct/withhold any amount towards taxes, levies, and to deal with such amount in terms of the provisions of the statute or in terms of the section of any

Statutory authority and the Employer shall only provide with certificate wards such deduction and shall not be responsible for any reasons whatsoever.

#### **Commencement of Work:**

The date of commencement of work will be reckoned from the 15th day of issue of Letter of acceptance or signing of the Agreement or handing over of complete site, whichever is later. However in case, the site is handed over in parts, then the date of commencement shall be fixed as mutually agreed upon by the Employer and the Contractor keeping in view the different dates of handing over of site.

#### **40.0 Handing Over of Site:**

Site will be handed over to the Contractor within 7 (seven) days from the date of signing of the Agreement.

#### **41.0 Possession of Site:**

In so far as the Contract may prescribe the site of which the Contractor shall be given possession from time to time and the order in which such portions shall be made available to him will be subject to any requirement in the Contract as to the order in which the works shall be executed. The Employer will with the Engineer-in-Charge's written order to commence the works give to the Contractor possession of so much of the site as may be required to enable the Contractor to commence and proceed with the construction of the works in accordance with the programme submitted by him or otherwise in accordance with such reasonable proposals of the Contractor given in writing to the Engineer-in-Charge from time to time as the works proceed, give to the Contractor possession of such further portions of the site as may be required to enable the Contractor to proceed with the construction of the works with due dispatch in accordance with the said programme or proposals (as the case may be). If the Contractor suffers delay or incurs expense from failure on the part of the Employer to give possession in accordance with the terms of this clause the Engineer-in-charge shall grant an extension of time for the completion of the work and certify such sum in his opinion shall be fair to cover the additional expense incurred due to extension of time which sum shall be paid by the Employer.

#### **42.0 Time for Completion:**

The time of completion is the time between commencement and completion of the contract and the work should be completed within **06 months** from the date of commencement of work.

#### **43.0 Extension of time for Completion:**

Should the amount of extra or additional work of any kind or adverse climatic conditions or other special circumstances of any kind whatsoever which may occur be such as fairly to entitle the Contractor to an extension of time for the completion of the work, the Engineer-in-charge shall determine the amount of such extension for the additional work. Provided that the Engineer-in-charge is not bound to take into account any extra or additional work or other special circumstances unless the Contractor has, within 28 days or less after such work, having been commenced or such circumstances having arisen or as soon as thereafter as is practicable, delivered to the Engineer-in-charge or his Representative full and detailed particulars of any claim for extension of time to which he may consider himself entitled in order that such claim may be investigated at that time.

#### **44.0 Certificate of Completion of Works:**

As soon as the Contractor notifies the Employer regarding completion or substantial completion of the work, the Engineer-in-charge shall inspect the work within 10 days and if in the opinion of the Engineer-in-charge the works have been substantially completed as is specified in the Contract, the Engineer-in-charge shall on receipt of a written undertaking from the Contractor to finish the balance outstanding work, if any, within maximum 15 days to enable the Engineer-in-charge to issue a Certificate of Completion in respect of the works and the Period of Maintenance of the works shall commence from that date as notified by the Engineer-in-charge.

#### **45. Compliance with Labour Regulations:**

During continuation of the contract, the contractor shall abide at all times by all the existing labour enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law, including rules, regulations, bye laws that may be passed or notification that may be issued under any labour law in further either by the State or Central Government or the local authority.

#### **46.0 Definition of Period of Maintenance:**

In these conditions, the expression "Period of Maintenance" shall mean - the period of twelve (12) months from the date of completion of the work as notified by the Contractor and certified by the Engineer-in-charge in accordance with relevant clause.

#### **47.0 Maintenance Certificate:**

The issuance of the maintenance certificate shall be deemed to constitute approval of the closure of the contract and shall be taken as an admission of the due maintenance of the Contract or any part thereof or of the occurrence of any claim or demand made by the Contractor or of additional or variable work having been ordered by the Engineer-in-charge. The Contract shall be considered as completed once a maintenance certificate has been signed by the Engineer-in-charge and delivered to the Contractor stating that the works have been completed and maintained to his satisfaction. The maintenance certificate shall be given by the Engineer-in-charge within twenty one (21) days of the expiry of the period of maintenance or as soon thereafter as any works ordered during such period pursuant to this clause shall have been completed to the satisfaction of the Engineer-in-charge and full effect shall be given to this clause notwithstanding any previous entry on the works or the taking possession, working or using thereof or any part thereof by the Employer.

#### **48.0 Fulfillment of the Contract:**

On completion of twelve (12) months of maintenance period and the issuance of the Maintenance Certificate by the Engineer-in-charge shall for satisfactory maintenance during the maintenance period, the responsibilities of the Contractor ceases and it treated shall be as fulfillment of the Contract.

### **WORK AND SAFETY REGULATIONS**

1. The contractor shall ensure proper safety of all the workmen, materials plant and equipment belonging to him or the Employer or to others, working at or near the site. The contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislation and the engineer-in-charge as he may deem necessary.

2. The contractor will notify well in advance to the Engineer-in-Charge of his intention to bring to the site any container filled with liquid or gaseous fuel or explosive or petroleum substance or such chemicals which may involve hazards. The engineer-in-charge shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the contractor shall strictly adhere to and comply with such instructions. The Engineer-in-Charge shall have the right at his sole discretion to inspect any such container or such construction plant/equipment for which material in the container is required to be used and if in his opinion, its use is not safe, he may forbid its' Use. No claim due to such prohibition shall be entertained by the Employer. Nor the Employer shall entertain any claim of the contractor towards additional safety provisions/conditions to be provided for constructed as per engineer-in-charge's instructions. Further, any such decision of engineer-in-charge shall not, in any way, absolve the contractor of his responsibilities, and in case, use of such a container or entry there of into the site area is forbidden by Engineer-in-Charge, the contractor shall use alternative methods with the approval of engineer-in-charge without any cost implication to Employer or extension of work schedule.

3. Where it is necessary to provide and/or store petroleum products or petroleum mixtures and explosives, the contractor shall be responsible for carrying out such provision and/or storage in accordance with the rules and regulations laid down in Petroleum Act 1934, Explosives Act 1948 and Petroleum and Carbide of Calcium Manual Published by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the engineer-in-charge. In case, any approvals are necessary from the Chief Inspector (Explosive) or any other authorities, the contractor shall be responsible for obtaining the same.

4. All equipment used in construction and erection by contractor shall meet Indian, International Standards, and where such standards do not exist, the contractor shall ensure these to be absolutely safe. All equipment shall be strictly operated and maintained by the contractor in accordance with manufacturer's operation manual and safety instructions and per Guidelines/Rules of the Employer in this regard.

5. Periodical examinations and all tests for all lifting/hoisting equipment and tackles shall be carried out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 1910 and associated Laws/Rules enforced from time to time. A register of such examinations and tests shall be properly maintained by the contractor and will be promptly produced as and when desired by Engineer-in-Charge or by the person authorised by him.

6. The contractor shall be fully responsible for the safe storage of his radioactive sources in accordance with BARC/DAE Rules and other applicable provisions. All precautionary measures stipulated by BARC/DAE in connection with use, contractor would take storage and handling of such material.\

7. The contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need, as may be directed by engineer-in-charge will also have right to examine these safety equipment to determine their suitability, reliability, acceptability and adaptability.

8. Where explosives are to be used, the same shall be used under the direct control and supervision of an expert, experienced, qualified and competent person strictly in accordance with the code

practices/rules framed under Indian Explosives Act pertaining to handling, storage and use of the explosives.

9. The contractor shall provide safe working conditions to all workmen and employees at the site including safe means of access, railings, stairs, ladders, scaffoldings etc. The scaffoldings, stairs, ladders etc. shall be erected under the control and supervision of an experienced and competent person. For erection, good and standard quality of material only shall be used by the contractor.

10. The contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Employer or other contractors under any circumstances, whatsoever, unless expressly permitted in writing by the Company to handle such fuses, wiring or electrical equipment.

11. Before the contractor connects any electrical appliances to any plug or socket belonging to the other contractor or Employer, he shall:

- a) satisfy the Engineer-in-Charge that the appliances is in good working condition
- b) inform the Engineer-in-Charge of the maximum current rating, voltage and phases of the appliances.
- c) obtain permission of the engineer-in-charge detailing the sockets to which the appliances may be connected.

12. The engineer-in-charge will not grant permission to connect until he is satisfied that:

- a) the appliance is in good condition and is fitted with a suitable plug.
- b) the appliance is fitted with a suitable cable having two earth conductors, one of which be an earthed metal sheath surrounding the cores.

13. No electric cable in use by the contractor/owner will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.

14. No repair work shall be carried out on any live equipment. The equipment must be declared safe by engineer-in-charge and a permit to work shall be issued by engineer-in-charge before any repair work is carried out by the contractor. While working on electric lines/equipments whether alive or dead, suitable type and sufficient quantity of tools will have to be provided by contractor to electricians/workmen/officers.

15. The contractor shall employ necessary number of qualified, full time electricians/electrical supervisors to maintain in his temporary electrical installations.

16. The contractor employing more than 250 workmen whether temporary, casual, probationer, regular or permanent or on contract, shall employ at least one full time officer exclusively as safety officer to supervise safety aspects of the equipment and workmen who will co-ordinate with the project safety officer.

The name and address of such safety officer of contractor will be promptly informed in writing to engineer-in-charge with a copy to safety officer-in-charge before he starts work or immediately after any change of the incumbent is made during currency of the contract.

17. In case, any accident occurs during the construction/erection or other associated activities undertaken by the contractor thereby causing any minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the contractor to promptly inform the same to the Employer's Engineer-in-Charge in prescribed form and also to all the authorities envisaged under the applicable laws.

18. The engineer-in-charge shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/or property, and/or equipment. In such cases, the contractor shall be informed in writing about the nature of hazards and possible injury/accident and he shall comply to remove shortcomings promptly. The contractor after stopping the specific work, can, if felt necessary, appeal against the order of stoppage of work to the Employer/Engineer-in-charge, Tripura within 3 days of such stoppage of work and decision of the Employer/Engineer-in-charge, in this respect shall be conclusive and binding on the contractor.

19. The contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons as provided in para 18 above and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.

20. The contractor shall follow and comply with all the Employer safety rules relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without demur, protest or content or reservation. In case of any inconformity between statutory requirement and the Employer safety rules referred above, the former shall be binding on the Employer's unless the statutory provisions are more stringent.

21. If the contractor fails in providing safe working environment as per the Employer safety rules or continues the work even after being instructed to stop work by Engineer-in-Charge as provided in para 18 above, the contractor shall promptly pay to the company, on demand i.e. by the Employer compensation at the rate of Rs. 5,000.00 per day or part thereof till the instructions are complied with as so certified by engineer-in-charge. However, in case of accident taking place-causing injury to any individual, the provisions contained in para 22 shall also apply in addition to compensation mentioned in this para.

22. If the contractor does not take all safety precautions and/or fails to comply with the rules as prescribed by the Employer or under the applicable laws for the safety of the equipment and plant and for the safety of personnel and the contractor does not prevent hazardous conditions which cause injury to his own employees or employees of other contractors, or the Employer employees or any other person who are at site or adjacent thereto, the contractor shall be responsible for payment of compensation under the relevant provisions of the workmen's compensation act and rules framed there under or any other applicable laws as applicable from time to time. Permanent disablement shall have same meaning as indicated in workmen's compensation act. The compensation mentioned above shall be in addition to the compensation payable to the workmen/employees under the relevant provisions of the workmen's compensation act and rules framed thereunder or any other applicable laws as applicable time to time. In case, the Employer is made to pay such compensation then the contractor is liable to reimburse the Employer such amount.

## **ADDITIONAL TERMS & CONDITIONS OF CONTRACT**

The following additional terms & conditions are also acceptable to the Employer. Tenderers are requested not to quote any additional conditions in their tender.

### **1. MOBILISATION ADVANCE:**

- i) Mobilization advance shall be paid to a maximum value of 10% of the total contract value of work.
- ii) Recovery of Mobilisation advance will start from 2<sup>nd</sup> R.A. Bill or when 15% of the work is executed, whichever is earlier and recovery of total advance shall be completed by the time 80% of the original Contract work is executed.

### **PRICE VARIATION CLAUSE:**

Price variation on materials, labour and POL will not be allowed to the contractor during project completion period. Contractor shall consider the aspect of possibility of escalation during the currency of the project while quoting the rate. Thus their quoted rate will be considered as inclusive of price variation during the project execution period.

### **Income Tax:**

Deduction of income tax at source will be made by the Employer at the applicable rates, which is obligatory as per the provisions of Income Tax Act. It shall be the responsibility of the Contractor to arrange to obtain and produce a "No Objection Certificate" from the Income Tax Authorities if the payment of their invoices is to be made without deduction of Income Tax or in case of deduction at a reduced rate.

### **5.0 Royalty Clearance Certificate:**

The Contractor shall indemnify the Employer that the minor minerals are being purchased after paying necessary Royalty & Cess and shall further indemnify that Employer will have no liability whatsoever on this account and the Contractor shall be responsible for the same.

**6.0. Secured Advance:** secured advance can be paid to be contractor against 75% value of the material brought to site against submission of voucher/P.O etc.

**7.0** Parties having excellent financial turnover and sound financial resources for mobilisation for the above work, the E.M.D money can be relaxed with prior approval of the owner.

**8.0 Performance Guarantee:** In order to have a smooth cash flow for speedy execution of the work, performance guarantee to the tune of 1% of the contract value may be accepted by the owner against submission of indemnity bond.

**Forms & formats of Bid and Qualification Information; Securities, Forms of Bank Guarantees, form of Article of Agreement. And forms of Price Bid (The information to be submitted by all the Bidders)**

**CONTRACTOR'S BID- COVER LETTER FORMAT**

To:

The Vice President (Tender & Procurement),  
Sikaria Mega Food Park (P) Ltd.,  
CF – 9, Sector I Salt Lake City,  
Kolkata - 700064.

Sub: BID for the "Site Development and Infrastructure Works for Sikaria Mega Food Park at Tripura" on Turnkey basis.

Dear Sir,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying the Bidding Document issued to us. The Bid Security/Earnest Money in accordance with the NIT and Instructions to Bidders amounting to Rs. ....Instructions to Bidders is enclosed herewith vide bank draft no .....dated..... drawn on.....Bank ..... Branch in favour of.....Payable at Kolkata(to be filled in by the Bidder ).

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We hereby confirm that this Bid complies with the Bid validity and Bid security required by the Bidding documents.

Yours faithfully,

Authorised Signature: \_\_\_\_\_

Name and Title of the Signatory: \_\_\_\_\_



Name of the Bidder: \_\_\_\_\_

(The Contractor)

Address: \_\_\_\_\_

Date: \_\_\_\_\_

(To be filled in by the Bidder)

PERFORMANCE BANK GUARANTEE FORMAT

To:

The Vice President (Tender & Procurement),  
Sikaria Mega Food Park (P) Ltd.,  
CF – 9, Sector I Salt Lake City,  
Kolkata - 700064.

Re: Bank Guarantee in respect of Contract No.....

Dated..... Between..... (name of the party)

and ..... ( name of the Contractor)

M / s .....(Name and address of the Contractor) (hereinafter called "the Contractor"

with ..... (name of the Department) (hereinafter called "the Fram") to execute ..... (name of the contract and brief description of work) on the terms and conditions contained in the said contract.

It has been agreed that the Contractor shall furnish the Bank Guarantee from a Nationalised bank for a sum of Rs ..... as security for due compliance and performance of the terms and conditions of the said contract.

The ..... (name of the Bank) having its Office at ..... has at the request of the Contractor agreed to give the Guarantor hereinafter contained.

We, the ..... Bank (hereinafter called "the Bank" do hereby unconditionally agreed

with the Company that if the contractor shall in any way fail to observe or perform the terms conditions of the said contract or shall commit any breach of its obligation thereunder, the Bank shall on demand and without any objection or demur to pay to the company the said sum of Rs. \_\_\_\_\_ or such portion as shall then remain due with interest without requiring the Company to have recourse to any legal remedy that may be available to it to compel the Bank to pay the sum, or failing on the company to compel such payment by the contractor.

Any such demand shall be conclusive as regards the liability of the Contractor to the company and as regards the amount payable by the Bank under this Guarantee. The Bank shall not be entitled to withhold payment on the ground that the Contractor has disputed its ability to pay or has disputed the quantum of the amount or that any arbitration proceeding or legal proceeding is pending between the Employer and the Contractor regarding the claim.

We, the ..... Bank further agree that the Guarantee shall come into force from

the date hereof and shall remain in force and effect till the period that will be taken for the performance of the said Contract which is likely to be \_\_\_\_\_ day of \_\_\_\_\_ but if the period of Contract is extended either pursuant to the provisions in the said contract or by mutual agreement between the contractor and the Employer the Bank shall renew the period : the Bank Guarantee failing which it shall pay to the Employer the said sum of Rs \_\_\_\_\_ or such lesser amount of the said sum of Rs \_\_\_\_\_ as may be due to the Employer and as the Employer may demand.

This Guarantee shall remain in force until the dues of the Employer in respect of the said sum of Rs \_\_\_\_\_ and interest are fully satisfied and the Employer certifies that the Contract has been fully carried out by the Contractor and discharged the guarantee.

The Bank further agrees with the Employer that the company shall have the fullest liberty without consent of the Bank and without affecting in any way the obligations hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of the said contract from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the contractor and to forebear to enforce any of the terms and conditions relating to the said Contract and the Bank shall not be relieved from its liability by reason of such failure or extension being granted to the Contractor or to any forbearance, act or omissions on the part of the Employer or any indulgence by the Employer to the Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of relieving or discharging the Guarantor.

The Bank further agrees that in case this Guarantee is required for a longer period and it is not extended by the Bank beyond the period specified above the Bank shall pay to the Employer the said sum of Rs \_\_\_\_\_ or such lesser sum as may then be deemed to the Department and as the Department may require.

Notwithstanding anything contained herein the liability of the Bank under this Guarantee is restricted to Rs .....the guarantee shall remain in force till the day .....of ..... and unless the guarantee is renewed or claim is preferred against the bank within six months from the said date all rights of the Employer under this guarantee shall cease and the Bank shall be relieved and discharged from all liabilities hereunder except as provided in the preceding Clause.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

The Bank has under its constitution power to give this Guarantee and Sri ..... who has signed it on behalf of the Bank has authority to do so.

Dated., this ..... day of.....

Signature of the authorized person

For and on behalf of the Bank

Place

Under Jurisdiction of \_\_\_\_\_ court only

**BANK GUARANTEE PERFORMA FOR EARNEST MONEY DEPOSIT**

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT)

TO BE ISSUED BY ANY NATIONALISED BANK)

To:

The Vice President (Tender & Procurement),

Sikaria Mega Food Park (P) Ltd.,

CF – 9, Sector I Salt Lake City,

Kolkata - 700064.

WHEREAS [name and address of Tenderer] (hereinafter called "the Tenderer") shall be submitting its Tender dated [date of the Tender] for the work Development and Infrastructure work for Sikaria Mega Food Park at Tripura on Turnkey basis.

KNOW ALL MEN by these present that we, [name of the bank] of [address of the bank] hereinafter called "the bank"), are bound unto the Sikaria Mega Food Park (P) Ltd. for the sum of Rupees [amount of the Guarantee] for which payment will and truly be made to the said Employer, its successors and assigns by these presents.

**Sealed** with the Common Seal of the said bank this \_\_\_\_\_ day of \_\_\_\_\_ .

The Conditions of this obligation are:

1. If the Tenderer withdraws its Offer during the period of Validity specified by the Hoyer on the tender form; or

2. If the Tenderer withdraws having been notified of the acceptance of its Offer by the employer during the period of Offer Validity:

**a)** Fails or refuses to execute the Contract Agreement when required; or

**b)** Fails or refuses to furnish the Performance Security (if any) in accordance with the tender conditions.

We [name of the bank] undertake to pay to the Employer up to the above amount upon receipt of its first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer will note that the amount claimed by it is due to it

owing the occurrence of 1 or both of the 2 (a) or (b) specifying the occurred condition or conditions.

This guarantee will remain in full force up to a period of \_\_\_\_\_ months from the date of opening of the Offer and any demand in respect thereof should reach the Bank not later than the date of expiry of this guarantee.

For and on behalf of the Bank.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Common Seal of Bank \_\_\_\_\_

**BANK GUARANTEE PERFORMA FOR MOBILISATION ADVANCE**

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT)

(TO BE ISSUED BY ANY NATIONALISED BANK) To:

To:

The Vice President (Tender & Procurement),

Sikaria Mega Food Park (P) Ltd.,

CF – 9, Sector I Salt Lake City,

Kolkata - 700064.

In consideration of the Sikaria Mega Food Park (P) Ltd. having awarded to [Name & Address of the Contractor] (hereinafter called to as "Contractor" which expression shall unless repugnant to the context of meaning thereof include its successors, administrators, executors and assigns) the work [Development and Infrastructure work for Sikaria Mega Food Park at Tripura on Turnkey basis] by issue of Letter of Award No. [Work Order/Letter on Intent No.] and the same having been unequivocally accepted by the Contractor resulting into a Contract Agreement dated valued at

[value of Work Order] (hereinafter called 'the Contract') and the Employer having agreed to make a Mobilisation Advance payment with interest to the Contractor amounting to Rs

..... (Rupees ..... ) for execution of the said Contract as an advance against Bank

Guarantee of equivalent amount furnished by the Contractor.

We, [Name of the Bank] of [address of the Bank] (hereinafter called to as 'the Bank' which expression shall unless repugnant to the context of meaning thereof, include all successors,

administrators and assigns) do hereby undertake to pay to the said Employer on demand an amount not exceeding Rs. [amount of guarantee] against any loss or damage caused to or suffered or would be caused to or suffered by the said Employer by reasons of any breach by the said Contractor of any terms and conditions contained in the said Contract without any demure reservation, recourse, contest or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and ling notwithstanding any difference between the Employer and the Contractor or any such dispute pending before any court, tribunal, arbitrator or any other authority. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable till advance amount is liquidated.

The Employer shall have the fullest liberty without affecting in way the liability of the Bank under this Guarantee from time to time to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this Guarantee to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and the exercise the same at any time in any manner

and either to enforce or to forebear or to enforce any covenants contained or implied in the Contract, between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by an exercise by the Employer of its liberty with reference to matter aforesaid or any of them or by reason of any other act of forbearance or any of them or by reason of any other act of forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank. The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a Principal debtor in first instance, without proceeding against the Contractor and notwithstanding any security or other Guarantee that the Employer may have in relation to the Contractor's liabilities.

Dated this day of at

For and on behalf of the Bank.

Signature

Name

Designation

Common Seal of Bank

**BANK GUARANTEE PERFORMA FOR RELEASE OF RETENTION MONEY**

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT)

(TO BE USED BY ANY NATIONALISED BANKS)

To:

The Vice President (Tender & Procurement),  
Sikaria Mega Food Park (P) Ltd.,  
CF – 9, Sector I Salt Lake City,  
Kolkata - 700064.

Dear Sir,

In consideration of the Sikaria Mega Food Park Private Limited (hereinafter called the said Employer) having agreed to exempt

i hereinafter called the said Contractor) from deduction of Retention Money against the due fulfillment of the Contract by the said Contractor under the terms and conditions of an Agreement No. \_\_\_\_\_ dated \_\_\_\_\_ made between the Employer and the Contractor for the work of Development and Infrastructure work for Sikaria Mega Food Park at Tripura on Turnkey basis .

We, ..... Bank Ltd. having its Head Office at ..... hereinafter referred to as 'the Bank') do hereby undertake to pay to the said Employer an amount not exceeding Rs. \_\_\_\_\_ against any loss of damage caused to or suffered or would be caused to or suffered by the said Employer by reason of any breach by the said Contractor of any terms or conditions contained in the said Agreement.

We, ..... Bank Ltd. do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the said Employer stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the said Employer by reason of any breach by the said Contractor of any of the terms or conditions contained in the said Agreement or by reason of the Contractor failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under the guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_.

We, ..... Bank Ltd. further agree that the guarantee herein contained shall remain in full force and affect during the period that would be taken for the fulfillment of the said Agreement and that it shall continue to be enforceable till the dues of the said Employer under or by virtue of the said Agreement have been fully paid and its



claim satisfied or discharged or till the Employer certify that the terms and conditions of the said Agreement has been fully and properly carried out by the said Contractor and accordingly discharge the Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before

the....., we shall be discharged from all

liability under this Guarantee thereafter. We, .....Bank Ltd. further agree with the said Employer, that the said Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time to performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the said Employer against the said Contractor and to for bear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to said Contractor or for any forbearance act or omission on the part of the said Employer or any indulgence by the said Employer to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would but this provision have effect or so relieving us.

We, ..... Bank Ltd. lastly undertake that in case the Bank Guarantee is required for a longer period and the said Contractor do not extend it beyond the period specified above. We, ..... Bank Ltd. agree to encash this Bank Guarantee on demand of the said Employer and also undertake not to revoke this guarantee during its currency except with the previous consent of the said Employer in writing.

Dated the .....day of.....

For \_\_\_\_\_ Bank Ltd.

**FORMAT FOR AGREEMENT**  
**(On Non- Judicial Stamp Paper)**

Agreement No.

Dated:

THIS ARTICLE OF AGREEMENT made on this ..... day of .....

between the Sikaria Mega Food Park (P) Ltd .of the one Part and

..... (hereinafter referred to as "the Contractor"

which expression where the context so admit shall include its heirs, executors, administrators legal representatives, successors in business and assign) of the other part.

WHEREAS, the Employer invited tender for the Work Development and Infrastructure work for Sikaria Mega Food Park at Tripura on Turnkey basis.

WHEREAS the Contractor has agreed to execute the works on the terms & conditions as stipulated in the tender and subsequent amendments thereto for a sum of Rs

Rupees .....) for successful completion of the work.

**NOW THIS AGREEMENT WITNESSED AND IT IS HEREBY AGREED AS FOLLOWS:**

In pursuance of the Agreement aforesaid and in consideration for the payment of the sum of Rs (Rupees only) and/or such sum as may be payable to the contractor, the Contractor shall upon and subject to the said terms & conditions execute and complete the work shown upon in the said drawings and described in the said scope of work as provided for in the said conditions.

2. The time shall be considered as one of the essence of the contract and time for completion of the contract shall be 06 (Six) months from the date of, commencement of work.

3. The parties hereto shall respectively and faithfully abide by and submit themselves to the terms & conditions and stipulations contained in this agreement and perform and discharge their part of contract accordingly.

4. This Agreement consist of one volume only and these final Agreement has been arrived at between the parties after due consideration of the correspondences, documents, meetings and negotiations held from time to time. This volume consist of the following documents:

Part Description of Documents

- 
01. Article of Agreement.
  02. Detailed Tender Notice.
  03. Introduction.
  04. Preliminary Project Description
  05. Detailed Scope of Work.
  06. Technical Specification
  07. General Conditions of Contract.
  08. Financial Terms & Conditions.
  09. Work Order

5. The Contract shall be executed within the preview of the Indian Laws.

IN WITNESS WHEREOF the parties have hereunto set their respective hands and seals at ..... on the date, month & year first above written.

SIGNED, SEALED AND DELIVERED

Signed on behalf of the Contractor  
Designation

Signed on behalf of the Employer  
Sikaria Mega Food Park (P) Ltd.

Designation

In the presence of the Witness

In the presence of the Witness

**NON-JUDICIAL STAMP PAPER OF Rs.10/-AFFIDAVIT**

1. I,..... Partner/Legal Attorney/Proprietor/Accredited Representative of  
M/s .....

2. I / We are submitting tender for the work Development and Infrastructure work for Sikaria Mega Food Park at Tripura on Turnkey basis.

No .....

Dtd.....

3. Our partners do not have any relative working in Sikaria Mega Food Park (P) Ltd, Tripura or I do not have any relative working in Sikaria Mega Food Park, Tripura.

4. All information furnished by me/us in respect of fulfillment of eligibility criteria and information given in this tender is complete, correct and true.

5. All documents/credentials submitted along with this tender are genuine, authentic true and valid.

6. If any information or document submitted is found to be false/incorrect, department may cancel my Tender and action as deemed fit may be taken against me/us including termination of the contract, forfeiture of all dues including Earnest Money and black listing of our firm and all Partners of the firm etc.

Seal of Notary

Signature of the Tenderer

Date:

**NON-JUDICIAL STAMP PAPER OF Rs.10/-**

**AFFIDAVIT**

1. I,..... Partner/Legal Attorney/Proprietor/Accrcdited Representative of  
M/s ..... solemnly declare that:

2. I/ We are submitting tender for the work work Development and Infrastructure work for Sikaria  
Mega Food Park at Tripura on Turnkey basis.

3. I/ We shall abide by all Clause of Tender Documents.

Seal of Notary

Signature of the Tenderer

Date:

## DECLARATION

We have read the tender document and understood all provisions and specifications in totality. All terms and conditions are acceptable to us. We do not have any terms and conditions of our own.

Seal:

Date :

Signature of the Tenderer

## DECLARATION

This is to declare that we have not been banned or delisted by any Government or Quasi Government Agencies or Public Sector Undertakings.

Seal :

Date :

Signature of the Tenderer

Name:

Address:

# PRICE BID

## PART--II



## **Price Bid instructions**

Submission instructions for the '**Part-II- Price Bid**':

1. The price bid formats provided herein before in this Bidding Document (and also additionally provided herein below) are for the guidance of the bidders, for the submission of their sealed "PRICE BID" for the subject work. The bidders shall submit their price bid for **lump sum price on turn key basis as per specification given in the tender submitted in 'Part-I- Technical Offer'**. The Price bid format shall be as indicated in the tender document. The bidders shall fill up their lump sum price on turn key basis in Indian rupees in **PART II PRICE BID**.

**The Price Bids Formats as already provided in Section 17 of this Bidding Document are being additionally provided below for ready reference.**

**The Bidders shall study the Bidding Document thoroughly and entirely, and shall submit their bids in totality, in compliance with all the clauses, instructions to bidders and other stipulations as provided in this document, maintaining proper reference.**

**PRICE BID FORMATS**

**SUMMARY OF BIDDER'S PRICE QUOTATION FOR THE WORK ON TURNKEY BASIS FOR SITE DEVELOPMENT AND INFRASTRUCTURE WORK FOR MEGA FOOD PARK AT TRIPURA**

Sl. No.	Brief description of Work Group	Total Price (In Rupees)
1	Workgroup -1	
2	Workgroup -2	
3	Workgroup – 3	
4	Workgroup -4	
5	Workgroup – 5	
6.	Workgroup- 6	
7.	Workgroup -7	
	<b>Grand Total of lump sum Price for the Turnkey Job Quoted by bidders (GR- 1 to GR-7).</b>	

Name of the Bidder

Seal and Signature of the Bidder

**LUMPSUM PRICE ON TURNKEY BASIS FOR THE WORK “Site Development work for setting up of Mega Food Park at Tripura spread on an area of 50 acres of land including infrastructure works like construction of internal roads, paths / approach road, storm water drainage, sewerage line, external water supply line, H.T/L.T. cable for power supply for street lighting, fencing for land boundary and front side compound wall and gate”.**

Sl. No.	Detail description of work	Quantity	Unit	Rate	Amount
1.	Workgroup – 1 - Land development including surface dressing of ground not exceeding 150 cm depth by using DOZZER including cutting of trees / bushes/ hedges and removal of rubbish by trucks within 5 km lead and cutting of earth form Heaps / chillas, filling of earth in layers, leveling of ground with available earth / and borrowed earth within 10 km lead including leveling, dressing and consolidated the earth with 8 ton power roller and as per Drawing and the instruction of Engineer-in-Charge.	L.S.	1		
2.	Workgroup - 2 – Drawing & providing barbed wire fencing galvanized 2 ply 12 gauge for the demarcated plot on 3 (three) sides and constructing compound wall and gate on the front side of the plot as per Drawing and the instruction of Engineer-in-Charge.	L.S.	1		
3.	Workgroup – 3 – Construction of Internal roads & paths, approach road and peripheral roads including culverts & retaining wall as per the drawings & the instruction of Engineer-in-Charge.	L.S.	1		
4.	Workgroup – 4 – Construction of storm water drainage as per detailed specification and as per Drawings & instruction of Engineer-In-Charge.	L.S.	1		
5.	Workgroup – 5 –Sewerage System as per sewer line layout plan & specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		

6	Workgroup-6- C.I. External water supply line network as per layout plan and detail specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		
7.	Workgroup-7 – External Electrification including supply & Laying of H T / L. T. cable for power supply including cable trenches for power cable for streets lighting as per layout plan and detail specification, as indicated in the tender document, drawings & as per the instruction of Engineer-in-Charge.	L.S.	1		
<b>Lump sum price for the entire work GR 1 To GR 7 :</b>			<b>Rupees in Lakhs</b>		

Offered Price in Words : Rupees

**Name of the Bidder**

**Seal and Signature of the Bidder**