

DESIGNED TO EXCEL

**ODISHA CONSTRUCTION CORPORATION LIMITED**  
**(A Govt. of Odisha Undertaking)**  
Gopabandhu Nagar, Unit-VIII, Bhubaneswar.

**BIDDING DOCUMENT FOR EPC CONTRACT**

E-PROCUREMENT NOTICE No. 12 /OCCL/2020-21 (ON-LINE)

BID IDENTIFICATION No. OCCL- TIP/01/2020-21

**Name of work: “Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)”**

MANAGING DIRECTOR

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**SECTION – I**  
**DETAILED NOTICE INVITING TENDER (DNIT)**

## ODISHA CONSTRUCTION CORPORATION LIMITED

BHUBANESWAR, ODISHA,

PIN: 751012, Tel No.(0674) 2562020,

e-Mail: [theoccltd@odishaconstruction.com](mailto:theoccltd@odishaconstruction.com)**"e" Procurement Notice No- 12/OCCL/2020-21 (on-line)**Online tender is invited on **EPC Contract (Turn - Key Basis)** for the works as detailed below:

Sl No	Name of Work	Bid Identification No	Period of completion	Date & time of availability of bid document in the portal	Last date/Time for receipt of bids in the portal	Time and Date of Opening of Technical Bid	Seeking Clarification
01	Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 9Nos. of Minor Irrigation Projects including distribution system and command area development for 4012 ha. of CCA on EPC-Turn Key basis- (Package No-I)	<b>OCCL-DGP/04/2020-21</b>	<b>18 (Eighteen) calendar months including rainy seasons.</b>	<b>From 30.09.2020, 10.00 A.M to 20.10.2020 up to 5.30P.M.</b>	<b>20.10.2020 up to 05.30PM.</b>	<b>21.10.2020 at 12.00 Noon</b>	<b>10.00 AM of 30.09.2020 to 03.00 PM of 08.10.2020</b>
02	Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4161 ha. of CCA on EPC-Turn Key basis- (Package No-II)	<b>OCCL-SBP/06/2020-21</b>	<b>18 (Eighteen) calendar months including rainy seasons.</b>	<b>From 30.09.2020, 10.00 A.M to 20.10.2020 up to 5.30P.M.</b>	<b>20.10.2020 up to 05.30PM.</b>	<b>21.10.2020 at 12.00 Noon</b>	<b>10.00 AM of 30.09.2020 to 03.00 PM of 08.10.2020</b>
02	Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)	<b>OCCL-TIP/01/2020-21</b>	<b>18 (Eighteen) calendar months including rainy seasons.</b>	<b>From 30.09.2020, 10.00 AM to 20.10.2020 up to 5.30P.M.</b>	<b>20.10.2020 up to 05.30PM.</b>	<b>21.10.2020 at 12.00 Noon</b>	<b>10.00 AM of 30.09.2020 to 03.00 PM of 08.10.2020</b>

Pre-bid conference for above three works will be held on dt. 09.10.2020, 11.30 A.M at Head office, OCCL, Unit-VIII, Gopabandhunagar, Bhubaneswar

Name & address of the officer inviting Bid: Managing Director, Odisha Construction Corporation Limited, Unit-VIII, Gopabandhunagar, BBSR - 12

Further details can be seen from the e-procurement portal <https://tendersodisha.gov.in>

Sd/22.09.2020

**Managing Director, OCCL,**

## CHECK LIST

### DOCUMENTS TO BE FURNISHED BY THE BIDDER

The check list has been prepared to facilitate submission of information sheets by the bidder. Other information required for the bid, but not mentioned in the check list shall also be submitted.

Sl. No.	Particulars	Reference to Clause No. & Vol. No.	Whether furnished		Reference to Page No.
			Yes	No	
	<b>Cover – I</b>				
	<b>FILE-I</b>				
1	Letter of submission of Bid	Form-A			
2	Document towards payment of Cost of Bid document	As per NIT			
3	Document towards payment of EMD	As per NIT			
4	C-I enlistment certificate of OCCL / equivalent Registration Certificate	As per ITB - 14.7 , Tech. Bid			
5	GST Registration Certificate	As per ITB - 14.7 , Tech. Bid			
6	PAN	As per ITB - 14.7 , Tech. Bid			
7	Income Tax Return Certificate	As per ITB - 14.7, Tech. Bid			
8	Declaration by Affidavit	As per ITB - 14.7 , Tech. Bid			
9	No Relation Certificate	As per ITB - 14.7, Form D of Section-III, Tech. Bid			
	<b>FILE-II</b>				
1	Bid Capacity	As per 15.5 of ITB , Tech. Bid			
2	List of Works in Hand in form -F	As per ITB - 14.7, Form-F, Section-III, Tech. Bid			
3	List of Machineries & Equipments in form-E	As per ITB - 14.7, Form-E, Section-III, Tech. Bid			
4	Details of Personnel's in Form H	As per ITB - 14.7, Form-H, Section-III, Tech. Bid			
5	Bank Credit Facility Certificate	As per ITB - 14.7, Section-III, Tech. Bid			
6	Certificates towards execution of Similar nature of works	As per ITB - 14.7, Section-III, Tech. Bid			

Sl. No.	Particulars	Reference to Clause No. & Vol. No.	Whether furnished		Reference to Page No.
			Yes	No	
7	Certificates towards execution of Similar major items of works	As per ITB - 14.7, Section-III, Tech. Bid			
8	Additional information	Form-I, Section-III, Tech. Bid			
9	Litigation History	Annexure-V of Section-III, Tech. Bid			
	<b>FILE – III</b>				
	<b>As per Vol-I</b>				
1	Methodology of the Operation & Maintenance of the system for 5 Years	As per ITB 14.7 , Tech. Bid			
2	Construction Programme	As per ITB 14.7 , Tech. Bid			
3	Milestones for execution of work.	Clause-14.17 Section-II, Tech. Bid			
4	Maintenance Personnel	Clause – 5.0 Section-VI			
5	List of Equipments, Tools & Plants and Spare Parts for O&M of the system.	Clauses of Section-VI			
6	Year-wise breakup of O&M Cost	<b>Appendix-F-2</b> of Financial Bid			
	<b>As per Vol-II - TS</b>				
1	Section-V(A)				
	<b>Cover – II</b>				
	<b>Financial Bid</b>				
	<b>FILE-I</b>				
1	Price Bid	Financial Bid			



**ODISHA CONSTRUCTION CORPORATION LIMITED  
BHUBANESWAR, ODISHA,**

**PIN: 751012, Tel No.(0674) 2562020, e-Mail: [theooccltd@odishaconstruction.com](mailto:theooccltd@odishaconstruction.com)**

**"e" Procurement Notice No- 12/OCCL/2020-21 (on-line)**

**Bid Identification No. OCCL-TIP/01/2020-21**

**NOTICE INVITING TENDER**

Online tenders are invited on EPC Contract (Turn-Key Basis) for the following works

SI No	Name of Work	Bid Identification No.	Estimated Cost.	Class/EMD /Tender Fee /Period of completion
01	Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13 Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)	OCCL-TIP/01/2020-21	Not Provided	<p>(1) Class - Special/Super Class agency registered with works Department, Government of Odisha or equivalent class registered with CPWD / Railway / MES or other State Governments or central or state PSUs. The agency must be enlisted as C-1 class of contractor in OCC Ltd. If not enlisted they are to get themselves enlisted in OCC Ltd as C-I class of contractors preferably before submission of tender but Mandatory before drawl of agreement. <b>(Details mentioned below in Qualification of Tenderers 1.0 (e)).</b></p> <p>(2) EMD- <b>Rs. 87,10,000/-</b> to be paid through on-line mode/Bank Guarantee as per prescribed format , Annexure-I in Section-III of Technical Bid.</p> <p>(3) Tender Fee - Rs. 11,800/- inclusive GST (Non Refundable) to be paid on-line mode only</p> <p>(4) Period of Completion - 18 (Eighteen) calendar Months including rainy season.</p>

- A. Period of Completion : 18 (Eighteen) Calendar Months.
- B. Date & Time of Availability of Bid Document in the Portal : From 30.09.2020, 10.0 AM. to 20.10.2020 up to 5.30PM
- C. Seeking clarification end date : 08.10.2020 up to 03.00 PM
- D. Pre-Bid Meeting Date & Time : 09.10.2020 at 11.30 AM.
- E. Last Date and Time for Receipt of Bid : 20.10.2020 up to 5.30PM.
- F. Place of Sale & Receipt of Bid : On-Line through e-Procurement.
- G. Time and Date of Opening of Technical Bid : 21.10.2020 at 12.00 Noon.
- H. Place of Opening of Bid : Head Office,  
Odisha Construction Corporation Limited,  
Bhubaneswar, Odisha.

**1.0** Particulars of Tender

- a) Name of Department : Department of Water Resources, Govt. of Odisha.
- b) Tender Notice Number : e- Procurement Notice No- 12/OCCL/2020-21 (on-line)  
(Bid Identification No - OCCL-TIP/01/2020-21)
- c) Period of Contract : Eighteen (18) calendar months including rainy season
- d) Form of Contract : EPC (Turn-Key Basis)
- e) **Qualification of Tenderers** : Class: Special/Super Class agency registered with works

Department, Government of Odisha or equivalent class registered with CPWD / Railway / MES or other State Governments or central or state PSUs. **The agency must be enlisted as C-I class of contractor in OCC Ltd. If not enlisted, the agency is to get enlisted in OCC Ltd as C-I class of contractor preferably before submission of tender but Mandatory before drawl of agreement. The enlistment form of**

**OCCL is available in the website of OCC Ltd. i.e. [www.odishaconstruction.com](http://www.odishaconstruction.com) or may be collected from OCC Ltd. Head Office and should be submitted at the same office along with the necessary documents and fees before uploading the bid in portal positively failing which it will not be considered for the present work. In case intending bidder applied for such Certificate but not received up to the time of submission of bid, he has to upload certificate of Registration of concerned State Government / Railway / CPWD / Government bodies along with copy of the application for C-I enlistment in OCCL.**

- |   |  |
|---|--|
| Tender category                               | : Irrigation Work (UGPL)   |
| f) EMD/Bid Security                           | : <b>Rs. 87,10,000/-</b> to be <b>paid</b> through on-line mode/Bank Guarantee as per prescribed format , Annexure-I in Section-III of Technical Bid.  |
| g) Cost of Tender Document                    | : Rs. 11,800/- inclusive GST (Non-refundable) <b>to be paid through on-line mode only.</b>   |
| h) Bid Submission                             | : Technical and Price bids by Online   |
| i) Bid Validity                               | : 90 days from last date of submission of bid.   |
| j) Availability of tender online Start Date   | : 30.09.2020 at 10.00 AM   |
| k) Availability of tender online closing date | : 20.10.2020 up to 05.30 pm.   |
| l) Seeking clarification                      | : 30.09.2020 at 10.00 AM to 08.10.2020 up to 3.00 PM.  |
| m) Pre-Bid Meeting Date & Time                | : 09.10.2020 at 11.30 AM   |
| n) On line bid submission Closing date        | : 20.10.2020 up to 05.30 PM.   |
| o) Technical Bid opening date                 | : 21.10.2020 at 12.00 Noon onwards.  |
| p) Place of Technical Bid opening             | : Head Office,<br>Odisha Construction Corporation Limited,<br>Bhubaneswar, Odisha.   |
| q) Price Bid opening Date                     | : Date & Place of Opening of Price Bid shall be Notified by the Managing Director, OCCL after evaluation of Technical Bid.   |
| r) Initial Security Deposit (ISD)             | : Total 2% of agreement value, in the form as per Detail Notice Inviting Tender.   |
| s) Performance Security                       | : 5 % of the gross amount of bills to be deducted from each work bill.   |
| t) Authority Inviting Bid.                    | : Managing Director,<br>Odisha Construction Corporation Limited,<br>Bhubaneswar, Odisha.   |
| u) Address with Contact Details               | : Managing Director,<br>Odisha Construction Corporation Limited,<br>Bhubaneswar, Odisha.<br>Tel No:- (0674) 2562020<br>e-Mail:- <a href="mailto:theooccltd@odishaconstruction.com">theooccltd@odishaconstruction.com</a> |

**v) Download of Tender Documents :**

The tender documents are available from the date 30.09.2020 at 10.00 AM to 20.10.2020 up to 5.30 P.M in the website [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in). Interested bidders can view these tender documents online and can download tender documents. Bidders who wish to submit their offer shall pay required tender document fees through on-line mode only as available in the portal.

**2.0 SEEKING CLARIFICATION**

All prospective bidders can seek clarification on-line in writing to e-mail ([theooccltd@odishaconstruction.com](mailto:theooccltd@odishaconstruction.com)) between **10.00 AM of 30.09.2020 to 03.00 PM of 08.10.2020**. The Pre- Bid meeting will be held on **09.10.2020 at 11.30 AM**.

- 2.1** The bidders are requested to submit any query in writing or e-mail to reach the office of the Managing Director, OCCL, Bhubaneswar during the clarification seeking period as mentioned in NIT.
- 2.2** Any modification of the bid documents that may become necessary as a result of the clarification shall be made by the Employer, by issuing an addendum to Bid Documents which eventually becomes a part of the Agreement.
- 2.3** The answers to the clarifications sought for will be uploaded in the website and treated as a part of bid document.
- 3.0 OPENING OF TENDER**  
The Technical Bid will be opened on dated **21.10.2020 at 12.00 Noon** on website [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in) as mentioned in Para 1.0 (p) above. Intending bidders or their representatives who wish to participate in online tender opening can log on to [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in) on the due date and time after online opening of the bid by the Managing Director, OCCL, Bhubaneswar. The bidders or only one authorized representative who wish to remain present at Office of the Managing Director, OCCL, Bhubaneswar at the time of tender opening can do so. The price bid will be opened after approval of technical bid by the competent authority.
- 4.0 GENERAL INSTRUCTIONS**
- 4.1** The cost of tender document will not be refunded under any circumstances.
- 4.2** When in response to a notice calling for tenders, only a single tender is received in the first time, the tender shall be cancelled without opening of the bid and fresh tender shall be invited. If single tender is received, even after retendering then the approval of the next higher authority should be obtained, if the tender is otherwise in order and acceptable.
- 4.3 Combined Evaluation:**
- A. If any bidder/Contractor participates in all the three works published in this tender call notice, combined evaluation will be made. In case any bidder does not qualify for all the three works combined but qualifies individually, then agency will be considered as qualified for the work as per his option exercised in bid (bidder has to submit his option during bidding). In absence of his option, the work with higher value will be considered.
- B. If the bidder qualifies for all the three works and becomes lowest, in such case, the authority reserves the right to award one or more works to him taking time factor into consideration.
- 4.4** EMD in the form specified in tender document only shall be accepted.
- 4.5** The validity of offer should be at least ninety (90) days from the last date of submission of bid on line.
- 4.6** Tenders without Tender document fees, Earnest Money Deposit (EMD) and which do not fulfill all or any of the condition or submitted incomplete in any respect will be rejected.
- 4.7** Conditional tender shall not be accepted.
- 4.8** The Managing Director, OCCL, Bhubaneswar reserves the right to accept or reject any or all tenders without assigning any reason thereof.
- 4.9** The bid document shall form a part of contract and only required documents need to be uploaded during online bid submission for evaluation of bid.
- 4.10** The bidders are advised to read carefully the "Instruction to Bidders" contained in the tender documents.
- 4.11** The website address for e -tendering is [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in).
- 4.12** The details of the above notice will be available on [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in).
- 4.13** Defects liability period: 5 (Five) years from the date of commissioning of the system or 5 Khariff/5 Rabi water supply seasons whichever is later.
- 4.14** Operation & Maintenance period: 5 (Five) years from the date of commissioning of the system or 5 (Five) kharif / Rabi water supply seasons whichever is later.
- 4.15** The dates stipulated in the NIT are firm and under no circumstances they will be relaxed unless officially extended/modified.

- 4.16** The quoted rate should be exclusive of GST which will be paid extra.
- 4.17** Other terms and conditions shall be applied as per terms and condition of the tender documents.
- 4.18** Joint Venture tender is not acceptable.

Further details can be seen from e-Procurement portal i.e. [\*\*https://tendersodisha.gov.in\*\*](https://tendersodisha.gov.in)

**Sd/-(22.09.2020)**

**Managing Director,  
OCC Ltd.**

**SECTION – II**  
**INSTRUCTION TO BIDDERS**

## SECTION – II

### INSTRUCTION TO BIDDERS

#### **1.0 SPECIAL ATTENTION.**

The tender is invited on turnkey basis with single point responsibility from EPC agencies/firms who are registered as Special/Super Class agency with Govt. of Odisha. Agencies registered in equivalent grade outside Odisha are also eligible. However, The Bidders are to get themselves enlisted in OCC Ltd as C-I class of contractors preferably before submission of tender but Mandatory before drawl of agreement. The enlistment form of OCCL is available in the website of OCC Ltd. i.e. [www.odishaconstruction.com](http://www.odishaconstruction.com) or may be collected from OCC Ltd. Head Office and should be submitted at the same office along with the necessary documents and fees before uploading the bid in portal positively failing which it will not be considered for the present work. In case intending bidder applied for such Certificate but not received that up to the time of submission of bid, he has to upload certificate of Registration of concerned State Government / Railway / CPWD / Government bodies along with copy of the application for C-I enlistment in OCCL.

- 1.1** All bidders are urged to submit a written/ online request immediately upon receipt of the tender documents for the matter where clarifications and/or additional information are desired, along with the details of work. All such request should reach Office of the Managing Director, OCCL through e-mail on or before **08.10.2020 up to 03.00 Pm.**
- 1.2 THE BIDDERS ARE ADVISED TO VISIT THE SITE BEFORE QUOTING THEIR RATES FOR PRICE BID. THEY CAN SEE THE TENTATIVE DRAWINGS RELATED TO THE UGPL SYSTEM AS AVAILABLE WITH THE DEPARTMENT. THEIR QUOTED RATE SHOULD BE INCLUSIVE OF COST TOWARDS SURVEY FOR COLLECTING ALL THE DATA AND INFORMATION, PLANNING ,DESIGNS, RE-ENGINEERING, PROCURING , LAYING AND ANY OTHER EXPENCESES FOR COMPLETION OF PROJECTS AND COST TOWARDS O& M FOR FIVE YEARS AFTER COMMISIONING .**
- 1.3** The tender document shall be submitted as per procedure laid down in Section -II, Para No. 14, for submission of tender.
- 1.4** Tender shall be opened as per procedure laid down in Section – II, Para 15.
- 1.5** All bidders are cautioned that bid containing any deviation from the contractual terms and conditions, specifications or requirements shall be treated as non-responsive.
- 1.6** Conditional bid will be rejected outright. No additional condition shall be included in the bid .
- 1.7** Alternative bids are not acceptable.
- 1.8** Evaluation of bid will be done when tender is considered responsive as per tender conditions.
- 1.9** Bidder shall have to submit a declaration regarding correctness of the information in tenders submitted in shape of affidavit sworn before Notary or any Judicial Magistrate in the prescribed format.

- 1.10** The Managing Director, OCCL, Bhubaneswar reserves the right to disqualify any bidder without assigning any reason thereof.
- 1.11** Bidders shall be disqualified if they have made untrue or false representation in the forms, statements and attachments required in the bid documents;  
Or  
Record of poor performance either due to technical or financial grounds or any other reasons.
- 1.12** If the bidder has submitted tender fee online and EMD through online/Bank Guarantee, the request of the bidder for not opening of bid shall not be accepted in any circumstances.
- 1.13** **The bidder who wishes to submit EMD in shape of Bank Guarantee instead of on-line transfer during uploading of his bid, he has to select “Yes” against the option of “EMD through BG/ST or EMD Exemption allowed” of EMD Fee Details. If the system asks for percentage of EMD exemption allowed, the bidder must fill in “100%”. The bidder has to upload the scanned copy of the Bank Guarantee in the required field, if the system asks for document towards exemption of EMD.**
- 1.14** **The scanned copy of B.G must be uploaded with bid and original B.G should be submitted off-line during the prescribed time limit as per DTCN failing which the bid shall be liable to be considered as non responsive.**
- 1.15** The bidder shall have to upload all required documents as per Clause No. 13 of Section – II duly scanned with his bid. Only scanned copy uploaded shall be considered. The bid shall be considered non-responsive if any required documents are not uploaded duly scanned during online submission of bid.

## **2.0** **DEFINITIONS.**

In this document the following words and expressions have the meaning hereby assigned to them.

- 2.1 MD, OCCL:** Managing Director, Odisha Construction Corporation Limited, Bhubaneswar.
- 2.2 Bidder:** individual/firm/ Limited Company/Corporation, as eligible for bidding.
- 2.3 Contractor/ Agency:** Shall mean the Bidder whose bid will be accepted by the Owner for award of the Work and shall include such successful Bidder's legal representatives, successors and permitted assignees.
- 2.4 Government / Owner / Employer:** Means the Government of Odisha / OCCL (or Employer or Owner).
- 2.5 Online:** Any activity that is done on website is referred as 'Online' activity e.g., Submission of Price Bid online would mean that the Price Bid has to be submitted on the prescribed website.
- 2.6 Offline:** Any activity that is done in conventional route is referred as 'Offline' activity.
- 2.7 E-Tender:** Tender in which one can participate online by means of logging in to the required website.

- 2.8 **Digital Signature:** Any electronic document, which contains encrypted message digest using hash algorithm and Tenders public key is known as Digitally Signed Documents and the process of generating such document is called digitally signing it.
- 2.9 **Scanned Copy:** Electronic Copy of any document generated using a Scanner.
- 2.10 **System:** Means the computer which hosts the website ([www.tendersodisha.gov.in](http://www.tendersodisha.gov.in)) where bidders can participate in the tendering process online.
- 2.11 **Upload:** The process of transferring electronic document from bidder's computer using internet connection to the website is called uploading.
- 2.12 **Approved / Approval:** Means approval in writing.
- 2.13 **Construction Plant:** Means all equipment, appliances or things of whatsoever nature required for the execution, completion or maintenance of the work or temporary works but does not include materials or other things intended to form or forming part of permanent work.
- 2.14 **Contract:** Means the instructions and information for bidders, general and special conditions, specifications, drawings, tender (including schedules of quantities & tender prices), the formal agreement and all addenda and attachments related to the above.
- 2.15 **Drawings:** Means the drawings referred to in the specifications, any modifications of such drawings approved in writing by the Project authority and such other drawings as may from time to time be furnished or approved in writing by the Engineer-in-Charge.
- 2.16 **Engineer-in-Charge:** Means the Senior Manager, OCCL in charge of the work, specified parts of the work under the contract or such other Engineer to whom the Engineer-in-Charge may have delegated certain duties, acting separately within the scope of the particular duties entrusted to them.  
The agency will be given a copy of the OCCL authorization designating the Engineer-in-Charge by designation and delegating him his authority at the time when contract is signed. It is however, to be distinctly understood that, no delegation of powers shall be made to such OCCL assistants or subordinates, except in respect of supervision to ensure compliance of the contract conditions.
- 2.17 **Contract Price:** Means the agreed amount stated in the Contract Agreement for the design, execution and completion of the works on turn-key basis and the remedying of any defects, and includes adjustments (if any) in accordance with the contract.
- 2.18 **Agency's Equipment:** Means all apparatus, machinery, vehicles and other things required & brought to site by the agency, for the execution and completion of the works and the remedying of any defects. However, Agency's Equipment excludes Temporary works, Employer's equipment (if any) plant, materials and any other things intended to form or forming part of the permanent works.
- 2.19 **Goods:** Means Agency's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.



- 2.20 **Materials:** Means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply of materials (if any) to be supplied by the Agency under the Contract.
- 2.21 **Permanent Works:** Means the permanent works to be designed and executed by the Agency under the Contract.
- 2.22 **I.S.S/ B.I.S:** Means Indian Standard specifications/ Bureau of Indian standard.
- 2.23 **Month:** Means from the beginning of a given date of a calendar month to the end of preceding date of the next calendar month.
- 2.24 **Week:** Means seven consecutive days.
- 2.25 **Rupees`:** Means Rupees of Indian Currency.
- 2.26 **Site:** Means the lands and other places on, under, in or through which, the works are to be executed or carried out and any other lands or places provided by the Owner for the purposes of the contract together with such other places as may be specifically designated in the Contract or subsequently approved as forming part of the site.
- 2.27 **Engineer-in-Charger:** Means the Senior Manager, OCCL in overall charge of the work.
- 2.28 **Temporary Works:** Means all temporary works of every kind required for performance of the Contract.
- 2.29 **Work:** Means the work to be executed in accordance with the contract.
- 2.30 **Country:** Means the Country in which the site (or most of it) is located, where the Permanent Works are to be executed i.e. INDIA.
- 2.31 **'Sub-Agency'** shall mean the person named in the Contract for any part of the Works or any person to whom any part of the Contract has been sub-let by the Agency with the consent in writing of the Engineer-in-Charge and will include the legal representatives, successors and permitted assignees of such person.
- 2.32 **'Consulting Engineer'/'Consultant'** shall mean any firm or person duly appointed as such from time to time by the Owner.
- 2.33 **'Specification'** shall mean the Technical Specifications forming a part of the Contract and such other schedules and drawings as may be mutually agreed upon.
- 2.34 The term **'Erection Portion'** of the Contract Price shall mean the value of field activities of the Contract including erection, testing and commissioning to be performed at Site by the Agency.
- 2.35 **'Manufacturer's Work'** or **'Agency's Work'** shall mean the place of work used by the Manufacturer, the Agency, their Collaborators for the performance of the Work.
- 2.36 **'Inspector'** shall mean the Owner or any person nominated by the Owner from time to time, to inspect the equipments, stores or work under the Contract and/or the duly authorized representative of the Owner.
- 2.37 **'Notice of Award of Contract'/'Letter of Award'/'Telex of Award'** shall mean the official notice issued by the Owner notifying the Agency that his proposal has been accepted.
- 2.38 **'Date of Contract'** shall mean the date on which both the parties have signed the Contract Agreement.
- 2.39 **'Writing'** shall include any manuscript, type-written or printed statement, under or over signature and/ or seal as the case may be.
- 2.40 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, judgment, direction etc. is understood to be function of the Owner/Engineer.

- 2.41 "**Consumer installation**" means any composite electrical unit including electric wires, fittings, motors, transformers and apparatus portable and stationary, indoor, outdoor and underground erected and wired by or on behalf of the consumer in one and at the same premises
- 2.42 '**Guarantee Period'/Maintenance Period'** shall mean the period during which the Agency shall remain liable for repair or replacement of any defective part of the Works performed under the Contract.
- 2.43 Words importing the singular only shall also include the plural and vice-versa where the context so requires.
- 2.44 Words importing 'Person' shall include firms, companies, corporations and associations or bodies of individuals, whether incorporated or not.
- 2.45 Terms and expressions not herein defined shall have the same meaning as are assigned to them in the Indian Sale of goods Act (1930), failing that in the Indian Contract Act (1872) and failing that in the General Clauses Act (1897).
- 2.46 **FOT: Famers' Organisation and Training** i.e formation of Pani-Panchayat (WUA) and training them / organization for operation and maintenance of the system.

### 3.0 GENERAL DESCRIPTION OF THE WORK.

Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III). Name of MIPs alongwith CCA are shown below;

<b>Name of MIP</b>	<b>Name of district</b>	<b>Ayacut in Ha</b>
<b>( 1 )</b>	<b>( 2 )</b>	<b>( 3 )</b>
Bisamgiri	Kalahandi	220
Jariguma	Kalahandi	528
Litiguda	Nuapada	600
Karangabhata	Nuapada	216
Ghataguda	Koraput	201
Chitughat	Nabarangapur	208
Bariagihalwa	Rayagada	300
Bhatapur	Rayagada	480
Dhepaguda	Rayagada	364
Pujariguda	Rayagada	300
Relikupanana	Rayagada	275
Goiguda	Rayagada	250
Karanjia	Rayagada	140
<b>Total area=</b>		<b>4082 Ha.</b>

#### **4.0 BRIEF DESCRIPTION & SCOPE OF WORK UNDER THIS TENDER.**

4.1 The project is proposed to be implemented on Engineering, Procurement and Construction (EPC) on Turnkey basis on single point responsibility. **The work includes surveying to collect required data/ information, planning, procuring, laying, jointing etc. complete in all respect for UGPL distributaries, Minors, Sub minors & CAD works. Moreover providing off take structures, control structures, air valves, blow off assemblies, flush valves, turnout structures etc. whatever required for serving the command efficiently up to 1.00 ha. Chak.** The bidder shall be responsible for the planning, designs, estimation, getting approval of the design & drawings, preparation of technical datasheet, Quality Assurance Programme, construction programme etc. for all components of the project as per the work specifications provided in the bid documents and commissioning of the project on turnkey basis followed by operation and maintenance of the entire project in the package for a period of five years or five khariff & five Rabi seasons whichever is later.

##### **4.2.0 Detail scope of work:**

- 4.2.1 **Survey & Investigation:** Survey and Investigation has to be done by the agency to get required field data/ information for planning & design and re-engineering work at his own cost. However if any data/information is available with concerned field division of Minor Irrigation may be supplied to the agency on his written request.
- 4.2.2 It is the responsibility of the agency to fix up permanent & Temporary Benchmark stones / concrete pillars at suitable locations in the command area and transferring the values of the levels to them at his own cost.
- 4.2.3 It is the responsibility of the agency to collect Revenue village maps/sheets, demarcating command area, contour survey of the command area with contour interval of 0.5m., assessment of the CCA of the scheme from the Records of Rights (R.O.R) of villages at his own cost.
- 4.2.4 Preparation of site survey plans for all crossing of the pipe lines to the rivers, nalas, roads, drains, railway lines existing water, gas & oil pipes etc is to be done by the agency.
- 4.2.5 Processing land schedule for obtaining right of way/use permission from different Govt., Semi Govt. and private authority.

##### **4.3 Design:**

- 4.3.1 Processing for approval of all the required designs & drawings from Project authority and getting it approved. Design will be done for UGPL pipe network of the entire ayacut of 4082ha. In 13 nos of MIP to supply irrigation water through outlet at 1 ha. DI pipe will be used in pipe network while design dia is 200mm or above and UPVC pipe will be used while design dia less than 200mm.

##### **4.4 Procurement & Installation:**

- 4.4.1 Preparation of Procurement schedule for construction materials, machineries and equipments.
- 4.4.2 Making arrangement for pre-procurement quality verification by third party.
- 4.4.2.1 Procurement of the machineries and equipments required for the work as per the specifications of the agreement.
- 4.4.3 Installation and commissioning of machineries and equipments as per the approved drawings.

##### **4.5 Works:**

- 4.5.1 Preparation of CPM/PERT chart for scheduling the construction as per the mile stone.

##### **4.6 Operation & Maintenance:**

- 4.6.1 Operation & Maintenance of the system for five years or five Kharif/ five Rabi water supply seasons whichever is later.
- 4.6.2 Capacity building of O&M staff of Government & Pani Panchayat members for O&M of the system.
- 4.6.3 Preparation of operation and maintenance manual of the system.

##### **4.7 Other Responsibilities:**

4.7.1 The scope also includes necessary co-ordination and management to obtain consent or permission from affected bodies/ authority/ parties whose damage to property is involved in construction of all the components. The agency will be responsible for processing all the documents required for permission for right way/right of use from Govt., Semi Govt. and private parties etc. All statutory charges required to be paid for this shall be borne by the Govt. The Engineer-in-Charge will sign the necessary documents required for permissions/ clearances/land acquisition. Required co-ordination for sanction from the concerned authority & NOC from the concerned authority / field owner for satisfactory completion shall be provided by the bidder. For laying pipeline under railway, roads, existing gas, oil or water pipe lines etc. all the statutory charges shall be borne by the Govt. On satisfactory completion of the work required NOC is to be obtained from the concerned departments by the bidder.

## 5.0 COMMUNICATION

- 5.1 **Airports:** Bhubaneswar, Vizag & Raipur are the nearby airports in Odisha, Andra Pradesh and Chhatisgarh respectively.
- 5.2 **Railways:** Rayagada, Koraput, Bhawanipatna and Vijaynagaram are the main railway stations on the East Coast Railways nearer to the work.
- 5.3 **Roads:** Nearest towns are connected by National Highways and State Highways. The site of UGPL scheme is approachable by MDR, PMGSY roads & Panchayat roads.
- 5.4 **Approach to work site:** The bidder has to make his own arrangement for approaching to the work site from nearest point of connecting roads.

## 6.0 GENERAL FACILITIES:

- 6.1 **Transport Communication Facilities:** The agency has to make arrangement at his own cost to transport all his construction equipments, construction materials and labour to work site.
- 6.2 **Availability of Labour:** Both semi- skilled & unskilled labour required for the work are available in project area and it is preferable to engage local labour. However the Agency must make his own arrangements for labour/ machineries/ equipments.
- 6.3 **Availability of petrol, Diesel and other lubricants:** The nearest petrol pumps for procurement of petrol, diesel and other lubricants are available at nearest State High ways/ National high ways/ Sub-Division/District Head Quarters. The agency shall make his own arrangement for procurement of same at his own cost required for the machineries and equipments engaged for the work.
- 6.4 **Electricity Supply:** The Agency shall make his own arrangement for extension of electric connection at his own cost from the Distribution Companies if so required by him.
- 6.5 **Housing Facilities:** Private house may not be available in the vicinity of the work site. The Agency shall make his own arrangement for housing the Laborers, workers and staff at the work site.
- 6.6 **Medical Aid:** The Health Centre is available at Govt. Hospitals at the nearest Block/Sub-Division/District head quarters. However, the Agency shall make first aid arrangement at his own cost in accordance with rule and regulations of prevailing Labour Act.
- 6.7 **Post, Telegraph & Telephones:** Post, Telegraph, Telephones & Fax are available at Block/Sub-Division/District head quarters. Most of the sites are covered by different mobile networks.

## 7.0 CLIMATE AND WORKING SEASON

- 7.1 **Climate:** The Project area has moderate climate with temperature varying from 20°C to 37°C. The rainy season is generally confined to four months from 15<sup>th</sup> June to 15<sup>th</sup> October.
- 7.2 **Working Season:** Since rainfall is confined mainly to the period starting from middle of June to the middle of October, it may be necessary to close the work of concrete during the monsoon.

However, the work of earthwork and pipeline work can be continued in dry spells during the monsoon.

## **8.0 COST OF BIDDING**

All costs and expenses incidental to preparation of the proposals, to attend discussion and conferences, if any, including pre-award discussion with the successful bidder, technical and other presentation including any demonstration, etc. shall be borne by the bidders and the Employer shall bear no liabilities whatsoever on such cost and expenses.

## **9.0 LANGUAGE OF TENDER**

Tender documents shall be submitted in prescribed form in English only. All literature or correspondence in connection with tender shall be made in English only.

## **10.0 BID VALIDITY:**

- 10.1 Bids shall remain valid for a period of not less than Ninety (90) days from the last date of submission of Bids.
- 10.2 During the above mentioned period no plea by the Bidder for any sort of modification of the Bid based upon or arising out of any alleged misunderstanding of misconceptions or mistake or for any reason will be entertained.
- 10.3 In exceptional circumstances, prior to expiry of the original time limit, the Bid Inviting Officer may request the bidders to extend the period of validity for a specified additional period. Such request to the bidders shall be made in writing. A Bidder may refuse the request without forfeiting his E.M.D but his bid will be treated as "non-responsive". A Bidder agreeing to the request will not be permitted to modify his Bid.

## **11.0 METHOD OF TENDERING**

- 11.1 If the tender is uploaded by an individual, it shall be digitally signed by the individual.
- 11.2 If the tender is uploaded by a proprietary firm, it shall be digitally signed by the proprietor.
- 11.3 If the tender is uploaded by a firm in partnership, it shall be digitally signed by a partner holding a registered power of attorney for the firm in which case a certified copy of the power of attorney shall accompany the tender, a certified copy of the partnership deed, full name, current address of the firm, current addresses of all the partners of the firm shall also accompany the tender.
- 11.4 If the tender is uploaded by a limited company or a corporation, it shall be digitally signed by a duly authorized person holding the power of attorney for signing the tender in which case a certified copy of the power of attorney shall accompany the tender. Such limited company or corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded. They should also furnish Articles of Memorandum of Association.
- 11.5 Each bidder shall submit only one bid for the work. A bidder who submits more than one bid for the work will be disqualified.

## **12.0 EARNEST MONEY DEPOSIT (EMD)**

- 12.1 Rs. 87.10 Lakhs to be paid through on-line mode/Bank Guarantee in favour of Odisha Construction Corporation Limited, Bhubaneswar as per prescribed format, Annexure-I in Section-III of Technical Bid. The EMD must be paid in full without concession. The bids without stipulated EMD or with any shortfall in amount will be summarily rejected.
- 12.2 The EMD must be paid in full without concession. The bids without stipulated EMD or with any shortfall in amount will be summarily rejected.
- 12.3 The EMD will be retained in the case of successful Bidder and will not carry any interest and will be dealt with as provided in the Bid. The EMD will be refunded online in the case of successful Bidders and will not carry any interest and will be dealt with as provided in the Bid.

- 12.4 The bidder who wishes to submit EMD in shape of Bank Guarantee instead of on-line transfer, during uploading of his bid, he has to select "Yes" against the option of "EMD through BG/ST or EMD Exemption allowed" of EMD Fee Details. If the system asks for percentage of EMD exemption allowed, the bidder must fill in "100%". The bidder has to upload the scanned copy of the Bank Guarantee in the required field, if the system asks for document towards exemption of EMD.  
The scanned copy of B.G must be uploaded with bid and original B.G should be submitted off-line during the prescribed time limit as per DTCN failing which the bid shall be liable to be considered as non-responsive.
- 12.5 Earnest money will be refunded to all the unsuccessful bidders after drawl of Agreement with successful bidder. The Earnest Money of the successful bidder will be returned after deposit of required ISD as per DTCN.
- 12.6 The E.M.D. shall be forfeited in the following cases.
- 12.6.1 If the Bidder withdraws the Bid during the validity period of Bid
- 12.6.2 In case of successful Bidder, if he fails to submit APS/ISD as specified in Instructions to Bidder.
- 12.6.3 In the case of a successful Bidder, if he fails to sign the Contract for whatever be the reason
- 12.6.4 If any of the statements, documents, certificate uploaded by the bidder through e- procurement portal, is found to be false / fabricated / bogus; the bidder will be black listed and his EMD / Bid Security shall be forfeited.
- 12.7 If required, OCCL may request to extend the bid validity period. In such case the validity period of the EMD may be extended by the bidder for a further period requested by the OCCL if the bidder agrees to extend the validity period of the bid
- 12.8 In case of forfeiture of E.M.D., bidder shall be disqualified and shall not be allowed to bid for further work under the OCCL for a period of three years.

### **13.0 ACCOMPANIMENTS TO TENDER**

**The bidder shall have to upload following legible documents duly signed digitally.**

- 13.1 Scanned copy of Bank Guarantee if EMD submitted in shape of B.G.
- 13.2 Scanned copy of the PAN and GST registration certificate.
- 13.3 Declaration showing the works in hand (FORM-F) with the bidder and the value of works that remain to be executed in each case in prescribed forms required for evaluation of qualification of the bidder.
- 13.3 Scanned copy of the C-I enlistment Certificate of OCCL should be uploaded. In case intending bidder applied for such Certificate but not received up to the time of submission of bid, he has to upload certificate of Registration of concerned State Government / Railway / CPWD / Government bodies along with the application for C-I enlistment in OCCL.
- 13.4 Bank Credit Facility Certificate in the prescribed format given in Section-II , Clause no.15.10.5.
- 13.5 DELETED
- 13.6 The copy of power of attorney, if power is delegated for signing the bid to other person by the bidder. (As per para 11.3 of Section-II)
- 13.7 Forms with Annexures shall have to be submitted in Electronic form and where the space / window of the prescribed form is not sufficient to fill required matter, bidder may submit the details in separate "scanned sheet". In online submission, the bidders have to mention relevant form number in heading of above mentioned separate "scanned sheet",
- 13.8 Other documents as mentioned in Tender Notice.
- 13.9 DELETED
- 13.10 Annual Reports along with audited balance sheets and other financial statements for the last five years.
- 13.11 The Annual turnover, profit and net worth shall be certified by the applicant's statutory Auditor.
- 13.12 The information on litigation history in Annexure V  
All other documents mentioned in the tender documents to be submitted in physical form shall also be uploaded.

## 14.0 SUBMISSION OF TENDER

- 14.1 The bidders shall submit their tender online only. In case of any failure, malfunction or breakdown of electronic system used during the e-procurement process, the tender inviting authority shall not accept any responsibility for failure or breakdown other than in those systems strictly within their own control.
- 14.2.1 The e-procurement applications are PKI (Public Key Infrastructure) enabled and supports the Digital Signature Certificates (DSC) of appropriate class issued from a registered Certifying Authority (CA) as stipulated by Controller of Certifying Authorities (CCA), Government of India such as n-code, Sify, TCS, e-Mudhra etc., for signing the bids at the time of submission by agency. The contractor has to procure Digital Signature Certificates issued by above authority as per the procedure. This process should be completed before submission of the tender. Digitally signed bids are to be submitted electronically through e-procurement, without which the tender will not be considered for opening the Price Bid.
- 14.3 Suitable training will be given by State Procurement Cell, Nirman Soudha, Bhubaneswar to the bidders those are interested to know the procedure of bid submission on e-procurement platform. The telephone No is 18003456765 (Toll free), 0674-2530998.
- 14.4 The bidders would be required to register on the e-procurement portal [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in) and submit their bids online. The OCCL will not accept any bid submitted in the paper form. The bidders should quote their Tender contract price at the prescribed field / place provided in the e-procurement portal.
- 14.5 The bidder may ask question in writing/ e-mail, provided the questions are raised within the period of seeking clarification as mentioned in the particular of tender. The officer inviting tender will clarify queries related to the tender.
- 14.6 Intending bidders can contact the office of the Managing Director, OCCL for any clarification, information on any working day during working hours on or **before 08.10.2020** up to 3.00 PM. No clarification will be entertained after the end of seeking clarification date and time.
- 14.7 **The bidders are requested to submit the bids in single stage with double covers. One cover (i.e Cover-I) is for Technical Bid and another cover (i.e Cover-II) is for Financial Bid.**

### Cover-I: Technical Bid:

This will contain the following documents in three PDF files:

**File-I:** This shall contain Letter of Submission (Form A), Details of payment made towards tender paper cost and EMD, Scanned copies of C-I enlistment Certificate from OCCL, PAN, GST registration certificate, latest income tax return certificate, Declaration Affidavit sworn before Notary or any Judicial Magistrate (Form J), No Relationship Certificate (Form D), Power of Attorney etc. **In case the intending bidder applied for C-I enlistment Certificate but not received up to the time of submission of bid, he has to upload certificate of Registration of concerned State Government/ Railway/ CPWD/ Government bodies along with the application for C-I enlistment in OCCL.**

**File-II:** This shall contain Assessed Available Bid capacity as specified in clause no. 15.10 under "INSTRUCTION TO BIDDERS", Details of Financial Capability (Form G), List of works in hand (Form F), List of machinery & Equipments available for the work (Form E), details of personnel to be engaged in this work (Form H), any other additional information (form I), Bank Credit Facility Certificate, Certificates towards execution of similar work and similar major items of work, Litigation History (Annexure V) and any other document required as per bid documents. **The contractor should attach an affidavit sworn before Notary or any Judicial Magistrate that the plant and machinery/ equipment are and will be available during execution of work.**

**File-III:** This shall contain Details of technical proposal along with all technical data in the format in accordance with technical specification of bid document describing broadly the technology and methodology of planning, design and construction of major components along with irrigation distribution network of the project including commissioning of the total project. The bidder shall furnish the methodology of the proposed Operation & Maintenance of the system for five

years and other O&M expenses separately. A construction programme for completion of the project in 18 months is to be furnished.

### **Cover-II: Financial Bid:**

This will contain Price Bid & shall be uploaded in two separate formats as follows.

#### **File-I**

- i. The first part of Price Bid i.e. the "Bill of Quantity" shall be in intelligent Excel format. Lump sum price is to be filled up without any change in wording & format and uploaded.

#### **File-II**

- ii. APPENDIX- F-2 (Break up of O&M Cost year wise) shall be downloaded from the website. After filling in the above Appendix i.e. F-2, the bidder has to upload the same in PDF Format in Cover-II i.e. Financial Bid only.
- iii. **The bidder should not upload APPENDIX- F-2 in the Technical bid, failing which the bid will be considered as non-responsive.**

### **14.8 Submission of Original Documents:**

After uploading the Bid, the following uploaded documents in original i.e. ***Affidavits sworn before Notary or any Judicial Magistrate, No Relationship Certificate, Power of attorney, Bank Credit Facility Certificate and the Bank guarantee if EMD submitted through Bank Guarantee*** in a sealed cover superscripting name of work, are to be submitted by the bidder at office of the Managing Director, OCCL, Bhubaneswar up to **5.30 PM of 20.10.2020** through Registered Post/Speed Post/Personally. Failure to furnish originals of EMD before the technical bid opening will entail rejection of the bid. The tender inviting authority shall not be responsible for any postal delay and/or non receipt of original copy of bid security and cost of bid documents on or before specified date and time. Non-submission of bid security within the designated period shall debar the bidder from participating in the online bidding system and his portal registration shall be blocked. His name shall also be informed to the Registering Authority for cancellation of his registration as contractor. Similarly, if any of the documents furnished by the bidder is found to be false / fabricated / bogus, the bidder will be black listed and the EMD will be forfeited.

- 14.9 The bidder must submit online duly filled in Forms, Schedules of Technical Bid and Forms and Annexure of Price Bid etc. All the forms, annexure shall be submitted duly filled in electronic form & shall be available on website.
- 14.10 The bidder shall fill & submit the required details / data / information in the prescribed form of tender document.
- 14.11 The bidder shall quote his/her rate only in Price Bid.
- 14.12 Tender in offline mode will not be accepted.**
- 14.13 Earnest Money Deposit (EMD) will be furnished by the bidder as per the Para. 12 of Section – II.
- 14.14 The employer at its discretion can extend the last date for submission of tender by amending the bidding document in which case all rights and obligations of the employer and bidder will thereafter be subject to the last date as extended.
- 14.15 All duties, taxes, royalty and other levies except GST payable by the agency as per State/Central Government rules, shall be deemed to have been included in the contract value quoted by the Bidder.
- 14.16 The agency is expected to quote the bid price in Lump sum after careful analysis of cost involved for the performance of work complete considering all specification and conditions of contract. In case it is noticed that the price quoted by the Bidder is unusually high or unusually low, unless the



Employer is convinced about the reasonableness of bid price on scrutiny of the analysis for such price to be furnished by the Bidder, it will be sufficient cause for the rejection of the bid.

- 14.17 The OCCL has prepared milestones for executing the work which may be referred while bidding. In case the bidder has alternative plan for milestone, they should submit the indicative milestone at the time of submission of bid and firm mile stone after completion of survey and investigation. The bidder shall pay special attention as regards achieving of critical milestones on schedule, so as to ensure final commissioning in time. The Employer shall critically monitor both the Physical as well as Financial Targets, on monthly and quarterly basis. Shortfalls, if any, in the monthly targets shall be immediately rectified by supplementing the resources by the agency leading to increase in the progress, at no extra cost to the Employer, so as to achieve the quarterly targets as per schedule.
- 14.18 The agency will be responsible for processing of permission for right of way/right of use and land acquisition till the same is obtained. Payment of statutory charges and cost of the land will be the responsibility of Govt. Demarcation of acquisition area, preparation of schedules for acquisition is the responsibility of the agency. Similarly preparation of all the base papers for right of way/right of use the NOC from different authorities/owners is the responsibility of the agency. The agency should be responsible for compensation to be paid for standing crops, trees etc. and the cost there upon will not be borne by the OCCL.

## **15.0 OPENING OF TECHNICAL BID**

- 15.1 The Technical Bid will be opened on **21.10.2020 at 12.00** Noon onwards on website [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in) as mentioned in NIT. Intending bidders or their representatives who wish to participate in online tender opening can log on to [www.tendersodisha.gov.in](http://www.tendersodisha.gov.in) on the due date and time after online opening of the bid by the authorized officer. The bidders who wish to remain present at Head Office, OCCL premises at the time of tender opening can do so. Only one representative of each firm will be allowed to remain present. The price bid will be opened after final decision on Technical Bid of tender. All the statements, documents, certificates, Fixed Deposit Receipt/Bank Guarantee and technical proposals will be verified for evaluation. The clarification on particulars, if any required from the Bidder will be obtained from the bidders.
- 15.2 DELETED
- 15.3 The bids not accompanying with documents as per clause No 13 of "Instruction to Bidders" will be considered as Non Responsive.
- 15.4 Bid capacity & the technical proposal of the bidders who have paid the requisite EMD & tender fee, submitted registration certificate, Power of attorney, No relationship Certificate, shall be scrutinized.
- 15.5 The bids will be evaluated against the specified parameter/criteria and the qualified bidders will be identified. If any of the Bidders is not present at the time of opening of Bids, the Bid opening authority will, on opening the Bid of the absentee Bidder, read out and record the deficiencies if any, which shall be binding on the Bidder.
- 15.6 Technical Bids shall be scrutinized in accordance with the conditions stipulated in the Bid document. In case of any discrepancy or non-adherence of conditions, the Bid accepting authority shall communicate the same, which will be binding both on the Bid opening authority and the Bidder. In case of any ambiguity, the decision taken by the Bid Accepting Authority on Bids shall be final.
- 15.7 MD, OCCL reserves the right to accept or reject any of the bid for qualification without assigning any reason thereof.

15.8 After opening of the same, the technical evaluation will be carried out & details will be scrutinized by the MD, OCCL. In case of any clarification, same will be obtained from the bidder. After completing the above procedure & evaluation of Technical Bid the bid accepting Authority shall be moved for acceptance of the Technical Bid. The date of opening of online Price Bid will be intimated to the bidders by the bid opening authority on acceptance of the technical bid by bid accepting authority.

The bidder / firm / company must be registered as Special /Super Class agency with Govt. of Odisha. Agencies registered in equivalent grade outside Odisha are also eligible. However, The Bidders are to get themselves enlisted in OCC Ltd as C-I class of contractors preferably before submission of tender but Mandatory before drawl of agreement. The enlistment form of OCCL is available in the website of OCC Ltd. i.e. [www.odishaconstruction.com](http://www.odishaconstruction.com) or may be collected from OCC Ltd. Head Office and should be submitted at the same office along with the necessary documents and fees before uploading the bid in portal positively failing which his bid will be non responsive for this tender. In case intending bidder applied for such Certificate but not received up to the time of submission of bid, he has to upload certificate of Registration of concerned State Government / Railway / CPWD / Government bodies along with the application for C-I enlistment in OCCL.

## 15.10 QUALIFYING CRITERIA for evaluation of Technical Bid

### 15.10.1 SATISFACTORY COMPLETION OF SIMILAR WORK:

To qualify for award of the contract, each bidder in its name should have satisfactorily completed (not less than 80% of the original contract value if the work is incomplete) **as a prime contractor** of at least one similar work of value not less than **Rs. 34.90 Crores** at FY 2020-21 price level in last five years (5 years prior to the FY of invitation of tender i.e. FY 2015-16 to 2019-20 & including current FY i.e. FY 2020-21) (Self attested copy of certificate of authenticity is to be enclosed from the concerned Executive Engineer/competent officer in charge of execution. The detailed correspondence address/Fax no/ e-mail ID of the authority issuing certificate shall be furnished). Weightage of 10% per year shall be given on cost of satisfactorily completed works of previous years to bring them to the current price level. Failure to submit proof in support will result in non-consideration of the tender.

Note: **Similar nature** of works are “**Construction of Under Ground Pipe line Irrigation System & their maintenance on EPC Turn-Key basis**”.

### 15.10.2 ANNUAL TURN-OVER

To qualify for award of the contract, each bidder in its name should have in the last five years (from FY 2015-16 to FY 2019-20) achieved a minimum annual turnover (in all classes of Civil Engineering Construction works / pipeline works only) of **Rs. 87.10 Crores** at FY 2020-21 price level in any one financial year (Attested copy of certificate of authenticity is to be enclosed from the appropriate authority). Weightage of 10% per year shall be given on financial turnover of the previous years to bring them to the price level of current financial year i.e. 2020-21.

**Note:** The bidder should not have suffered loss in any financial year during last five years for which he has to submit the audited balance sheets and profit & loss account for the financial years 2015-16 to 2019-20. The certificate to this effect must be submitted by statutory auditor who has audited the Profit-loss account of the bidder. The attested copies of certificate towards Annual Turnover (in all classes of Civil Engineering Construction works/pipeline works) from statutory auditor who has audited the Profit-loss account of the bidder shall only be considered.

### 15.10.3 SATISFACTORY COMPLETION OF SIMILAR MAJOR ITEMS OF WORK

To qualify for award of the contract, the bidder should have executed the following minimum quantities in any one financial year during the last 5 years i.e. **from FY 2015-16 to FY 2019-20** and including current financial year i.e. **FY 2020-21:-**

- (i) The Agency must have completed supplying, laying, jointing & testing of **D.I. pipelines** (of dia varying from 200mm to 600 mm and above) for a **minimum length of 39 Kms.**
- (ii) The Agency must have completed supplying, laying, jointing & testing of **UPVC pipelines** (of dia varying from 110mm to 180mm and above) for a **minimum length of 94 Kms.**
- (iii) The Agency must have completed "**Construction of Under Ground Pipe line Irrigation System** including distribution system & Command Area Development for 1090ha. with maintenance of pipe line system for irrigation purpose in EPC Turn-Key basis"

N.B:

- A. The quantity means the sum total of similar items in all the works executed in one FY.
- B. These items might have been executed in different years separately, in last 5 years including the FY of invitation of tender.
- C. The bidder should submit self-attested copy of certificate of authenticity in the enclosed bidding documents from the concerned Executive Engineer/competent Officer-in-charge of execution regarding execution of major items of works during last 5 years. Last 5 years means: 5 years prior to the financial year of invitation of Tender (i.e. 2015-16 to 2019-20) and current financial year i.e. 2020-21.

#### **15.10.4 AVAILABILITY OF PLANTS AND MACHINERIES:**

The bidder should produce documentary evidence regarding availability of key plant and machineries and equipment in working condition required for execution of the work (either owned in his name or obtained on hire purchase scheme or by hiring from the reputed firms/ Contractor's firm). If the machineries are to be procured for specific period for completion of the work on lease/ rental basis, then a copy of registered MOU must be attached. **The contractor should attach an affidavit sworn before Notary or any Judicial Magistrate that the key plant and machinery/ equipment will be available during execution of work.**

#### **15.10.5 CREDIT FACILITY**

The firm must possess credit facilities of not less than **Rs. 17.50 Crores** and furnish the credentials from any nationalized / scheduled commercial bank along with the bid against the specific work by mentioning the name of work and tender identification number in prescribed proforma as given in below;

#### **BANK CREDIT FACILITY CERTIFICATE**

This is to certify that M/s\_\_\_\_\_ is a reputed company with a good financial standing. If the contract for the work, namely "Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13 Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)" having e-procurement notice no. **12/OCCL/2020-21 (On-line)** and Bid identification No. OCCL-TIP/01/2020-21 is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of **Rs. 17.50 Crores** (Rupees Seventeen crores fifty Lakhs) only to meet their working capital requirements for executing the above work.

**Signature & Seal of the Bank Manager  
Name & Address of the Bank**

### 15.10.6 **BID CAPACITY**

15.11 To qualify for award of contract each Bidder who meets the minimum qualification criteria will be qualified only if their available bid capacity is more than Rs. 87.10 Crores. The available bid capacity will be calculated as under:-

Assessed Available Bid Capacity =  $(A*N*2 - B)$ , where,

Where

A = Maximum value of the turnover of the bidder in any one year during the last five years updated by giving 10% simple weight age per year to bring it to the present 2020-21 price level.

N = Number of years prescribed for completion of the works for which bids are invited.

B = Value of existing commitments of on-going works to be completed during the period of completion of the project.

**Note:** *The statement showing the value of existing commitments and ongoing works as well as stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer-in-Charge not below the rank of Executive Engineer or An Affidavit towards existing commitment clearly stating the value at Current Price Level of the existing commitments and ongoing works must be furnished.*

### 16.0 **OPENING OF PRICE BID**

16.1 On acceptance of the technical bid by the Bid Accepting Authority the date & place of opening of Price Bid shall be notified by the Bid Inviting Authority. The Price Bid of technically responsive bidders shall be opened on the notified date & time in presence of bidders or their authorized representatives who wish to be present. The details submitted by the bidders online in **Cover-II: Financial Bid** shall be opened.

16.2 The responsive bidder's name and bid price shall be posted in the website.

### 17.0 **EVALUATION OF PRICE BID**

17.1 The prices shall be considered as filled up by the bidder online in the prescribed Price Bid Format given in Cover- II: Financial Bid.

(i) The bid is for execution of the work on "EPC" basis. The price mentioned in Price Bid shall be considered for evaluation as given below.

(ii) The bidder has to furnish the year wise breakup (in Rupees) for 5 years of the O & M cost of the bid (Sl. - 2 of Price Bid) as per Appendix F-2.

(iii) **Total Cost of the Bid** for evaluation shall be the sum of the Bid Price quoted or execution of work vide Sl. 1 & 2 of Price Bid.

(iv) The price bids of all the responsive & qualified Bidders shall be evaluated and compared.

17.2 Selection of Bidder among the lowest & equally quoted Bidders will be in the following orders:

17.2.1 The Bidder whose bid capacity is higher will be selected.

#### 17.2.2 **DELETED**

#### 17.2.3 **DELETED**

17.2.4 In case of any discrepancy between the overall contract price quoted in words and figures, the price quoted in words shall prevail.

## **18.0 PROCESS TO BE CONFIDENTIAL**

- 18.1 Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced by the Bid accepting authority.
- 18.2 Any effort by a Bidder to influence the processing of Bids or award decisions may result in the rejection of his Bid.
- 18.3 No Bidder shall contact the bid inviting authority or any authority concerned with finalization of Bids on any matter relating to its Bid from the time of the Bid opening to the time the Contract is awarded.
- 18.4 Before recommending/accepting the Bid, the Bid recommending/accepting authority shall verify the correctness of certificates submitted to meet the eligibility criteria and specifically experience. The authenticated contracts of previous works executed by the lowest Bidder shall be called for.
- 18.5 If the contract price quoted by a Bidder is found to be either abnormally high or within the reasonable limits but under collusion or due to unethical practices adopted at the time of Bidding process, such Bids shall be rejected.

## **19.0 AWARD OF CONTRACT**

- 19.1 After evaluation of price bid it will be recommended to Competent Bid Accepting Authority for acceptance of the bid of the Bidder who is found qualified as per the Bid conditions and whose price bid is evaluated as the lowest responsive bidder.
- 19.2 The Bid accepting authority reserves the right to accept or reject any Bid or all Bids and to cancel the Bidding process, at any time prior to the award of Contract, and shall not bear any liability for such decision and shall not have obligation to inform the affected Bidder of the reasons.
- 19.3 The Bidder whose Bid has been accepted will be notified of the award of the work by the Bid inviting authority, prior to expiry of the Bid validity period by registered letter/Speed Post. This letter (hereinafter and in the Contract called "Letter of Acceptance") will indicate the sum that the OCCL will pay the Agency in consideration of the execution, completion, and maintenance of the Work by the Agency as prescribed by the Contract (**hereinafter and in the Contract called "Contract Amount"**).

## **20.0 INITIAL SECURITY DEPOSIT (ISD)**

- 20.1 When a Bid is to be accepted, the concerned Bidder shall attend the office of the Engineer-in-Charge concerned on the date fixed in the Letter of acceptance. Upon intimation being given by the MD, OCCL/ SM, OCCL concerned of acceptance of his Bid, the successful Bidder shall have to pay Initial Security Deposit (ISD). Agreements in two parts, Part-I: Work and Part-II: Operation & Maintenance of the system shall be executed. The agreement amount for Part-I: Work shall be bid amount of Sl. 1 of Price Bid . The agreement amount for Part-II: Operation & Maintenance of the system shall be the bid amount of Sl. 2 of Price Bid. The ISD @ 2% of the amount for each part of agreement in the shape of NSC/Post Office Saving Bank Account/Post Office Time Deposit Account/ Kisan Vikash Patra/ Bank Guarantee (**as per Annexure-II** ) in favour of the Odisha Construction Corporation Limited from any nationalized/scheduled bank in India countersigned by its local branch at Bhubaneswar which shall be 2% of the value of the quoted amount and sign agreement in the required P.W.D. Form for the fulfillment of the contract in the concerned project office of OCC Ltd or as directed. The validity of the ISD for Part-I work shall be for a total period not less than the stipulated period of the completion of the work in question, plus the defect liability period plus three months. **The defect liability period is 5 years from certified date of commissioning of the UGPL Work.**

- 20.2 The **validity of the ISD for Part-II O & M Agreement** shall be for a total period not less than stipulated period of completion plus the period of O&M plus three months.
- 20.3 The bidder shall enter into a contract in the form prescribed by the OCCL for the due fulfillment of the contracts. Failure to attend the Engineer-in-Charge office on the date fixed, in the written intimation, to enter into the required contract shall entail forfeiture of the Earnest Money deposited. The written contract entered into between the agency and the OCCL shall be the foundation of the rights and obligations of both the parties and the contract shall not be deemed to be complete until the contract has first been signed by the agency and then by the proper officer authorized to enter into contract on behalf of the OCCL.
- 20.4 The successful Bidder has to sign the contracts within the date specified in the letter of acceptance. The issue of letter of acceptance shall be treated as closure of bid process and commencement of the contract process. On failure to do so his Bid will be cancelled duly forfeiting the E.M.D., paid by him without issuing any further notice and action will be initiated for black listing the Bidder.
- 20.5 The date of signing of the Agreement shall be treated as date of commencement of work.

### **21.0 BID AMOUNT**

**The bid amount to be quoted by the bidder shall be inclusive of all cost, taxes, royalty, duties & other ancillary works mentioned in the documents but excluding GST. No claim whatsoever in this connection shall be entertained.**

### **22.0 NO SANCTION FOR FOREIGN EXCHANGE**

It should be clearly understood that no foreign exchange sanctions will be made available either for purpose of equipments, plants, and machineries, materials of any kind or other things required for execution of work. It should be clearly understood that no request for importing equipments, materials, plants, etc. that may be required in carrying out the work even from rupee payment currency will be entertained except specifically mentioned in respective item of the tender documents.

### **23.0 CONSTRUCTION PROGRAMME**

- 23.1 The Bidder shall include in his Bid, a detailed construction programme of executing the project, describing broadly the Technology and Construction Methodology of Major Components of the Project including Planning, design & estimation, commissioning of total project, trial of total distribution system. The programme shall be supplemented with Master Control Network.
- 23.2 The MD, OCCL reserves the right to request for changes in the Master control Network during pre-award discussion with the responsive bidder. Mutually agreed Master Control Network shall form part of the Contract.

### **24.0 SPECIFIC ISSUES**

- 24.1 Every Bidder is expected, before quoting his bid, inspect the site of proposed work. He should also inspect the quarries and satisfy himself about the quality and availability of materials. The best class of materials to be obtained from quarries, or other source shall be used on the work. In every case the material must comply with the relevant standard specifications. Samples of materials as called for in the standard specifications or in the Bid notice or as required by the SM, OCCL, in any case shall be submitted for the SM's, approval before the supply to site of work is begun.
- 24.2 The Bidders particular attention is drawn to the sections and clauses in the standard specifications dealing with,
- 24.2.1 Test, Inspection and rejection of defective materials and work.
- 24.2.2 Carriage.
- 24.2.3 Construction plant.

- 24.2.4 Water and lighting.
- 24.2.5 Cleaning up during the progress and for delivery
- 24.2.6 Accidents.
- 24.2.7 Delays.
- 24.2.8 Particulars of payments.
- 24.3 The agency should closely peruse all the specifications, clauses, which govern the bid he is bidding.
- 24.4 The agency is responsible for the quality of works executed. If any defects are noticed during execution of the work and the defect liability period after completion of works, the agency has to rectify at his own cost
- 24.5 The agency shall maintain the system for a period of five years covering at least five Kharif & five Rabi seasons including water supply regulations, maintenance of the system, etc. The agency will carry out maintenance or repair or rectification works in case of any problem or emergency that may arise when the system is in operation including cost of all labours, materials and equipments. The agency shall also prepare an operation & Maintenance Manual and train the Govt. staff/selected Pani Panchayat Beneficiaries to carry out subsequent O & M of the scheme.
- 24.6 The Bidder will quote price on the work as indicated in the Price Bid.
- 24.7 A Bidder submitting a quotation which the Bid accepting authority considers excessive and or indication of insufficient knowledge of current Prices or definite attempt of profiteering will render himself liable to be debarred permanently from Bidding or for such period as the Bid accepting authority may decide.
- 24.8 The Bidder should demonstrate availability (owned or leased or to be procured against mobilization advance) of the Key and critical equipment in the shape of list and declaration supported by ownership documents necessarily be enclosed to the Bid on **Non Judicial Stamp Paper of worth of Rs.100/- stating. "I do hereby solemnly declare that I own ----- procured on lease the following equipment"**.
- 24.9 A prospective bidder is expected to examine all instructions, terms & conditions, forms and specifications in the Bid Document and fully inform himself as to all the conditions and matters which may in any way affect the works, his bid or the cost thereof. Further, failure of furnishing all information required by the Bid Document or submission of incomplete offers, conditional bids containing deviations from the bid document shall be rejected as non-responsive.
- 24.10 It will be imperative for each Bidder to fully inform himself of all local conditions and factors which may have any effect on the execution of the Works covered under the specifications and documents. In their own interest, the bidders are particularly requested to familiarize themselves with the prevailing Income Tax Act, Companies Act, Customs Act, prevailing Labour Laws and other related Acts and Law.
- Further, the bidders are requested to comply with the Insurance Act including Workmen's Compensation Act and third party insurance and other relevant provisions particularly with reference to the requirements of taking insurance for storage, Civil, testing and commissioning, operation and Maintenance, till the project is handed over to Employer. Employer shall not entertain any request for clarification from the bidders regarding such local conditions. It must be understood and agreed that such factors have properly been investigated and considered by the bidders while submitting their bids. Failure to do so will not relieve the bidders from responsibility for estimating properly the cost of successfully performing the work and completion time required for the Work. Employer will assume no responsibility for any understanding, or representation concerning conditions made by any of its officers or agents prior to award of the Contract. Neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the Employer, which arises out of lack of such clear knowledge or its effect on the

cost of execution of the contract on the part of the bidder. Employer shall not entertain any request for clarifications from the Bidders, regarding any statutory provisions.

- 24.11 Being a Turnkey Contract, the Bidder is to take full responsibility for the Surveying, Planning, Design, procurement and execution of entire UGPL system including commissioning, trial run of the system complete including operation & maintenance of the project for a period of 5 (five) years or five Kharif/ five Rabi water supply seasons whichever is later from the date of commissioning of UGPL system.
- 24.12 Planning, Designs, Technical Specifications and Technical Parameters shall conform to Bureau of Indian Standard Codes and/or International Standards & practices/C.W.C. Manuals/IRC Codes/Odisha Govt. Department specifications/ Circulars issued by Department from time to time and technical specification of the bid documents.
- 24.13 It is understood that all plant, equipment, and works connected with the normal efficient execution of the Project are covered in the scope, brought out in Bid Documents. In case of decisions to be taken on issues relating to technical matter of planning, design & construction, decision of MD, OCCL is final & binding on the agency.
- 24.14 While working out their price bid, the bidders are required to take into account entire scope of the work defined in Bid documents, additional Infrastructure and other related activities, whatsoever required.
- 24.15 Bidder shall also include in his price bid, cost of de-mobilization and shipping back the construction equipment and other equipment/materials etc. from the Project Site.

## **25 CORRUPT OR FRAUDULENT PRACTICES.**

- 25.1 The Government requires that the bidders/suppliers/ agencies under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Government define for the purposes of the provision, the terms set forth below as follows:
  - 25.1.1 "**Corrupt practices**" means the offering, giving, receiving or soliciting of anything of value to influence the action of a Government/OCCL official in procurement process or in contract execution: and
  - 25.1.2 "**Fraudulent practices**" means misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government and includes collusive practice among Bidders (prior to or after a Bid submission) designed to establish in Bid prices at artificial noncompetitive levels and to deprive the Government/OCCL of the benefits of free and open competition.
  - 25.1.3 Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
  - 25.1.4 Will blacklist/or debar a firm either indefinitely or for a stated period of time, if at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a Government/ OCCL Contract.
  - 25.1.5 Furthermore, Bidders shall be aware of the provisions stated in the General Conditions of Contract.

## **26.0 SUBLET OF CONTRACT**

No part of the contract shall be sublet nor shall transfer be made by power of attorney, authorizing others to receive payment on the agency's behalf.



**SECTION – III**  
**FORMS & ANNEXURES**

**LETTER OF SUBMISSION OF BID (ON BIDDER'S LETTER HEAD)****To**

The Managing Director,  
Odisha Construction Corporation Limited,  
Bhubaneswar, Odisha.

Sir,

I / We do hereby submit the Bid and if this Bid be accepted, undertake to execute and complete the following work:

Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)

As provided for in the “**conditions of the bid document**”:

1. I/We have quoted the rate in Price Bid for which I/we agree to execute the work at the quoted lump sum amount under the terms of the contract.
2. In case of any discrepancy between the bid price quoted in words and figures, the bid price quoted in words only shall prevail.
3. I/We agree to keep the offer in this Bid valid for a period of 90 days from the last date of submission of bid, mentioned in the Bid notice and not to modify the whole or any part of it for any reason within above period. If the Bid is withdrawn by me/us for any reasons whatsoever, the earnest money paid by me/us will be forfeited to OCCL.
4. I/We hereby distinctly and expressly, declare and acknowledge that, before the submission of my/our Bid I/We have carefully followed the instructions in the Bid document and have read the technical Specification therein and the and that I/We have made such examination of the contract documents and the plans, specifications and of the location where the said work is to be done, and such investigation of the work required to be done, and in regard to the equipments and material required to be furnished as to enable me/us to thoroughly understand the intention of same and the requirements of covenant/contracts, stipulations and restrictions contained in the contract, and in the said plans and specifications and distinctly agree that I/We will not hereafter make any claim or demand upon the OCCL based upon or arising out of any alleged misunderstanding or misconception /or mistake on my/or our part of the said requirement of covenants/contracts, stipulations, restrictions and conditions.

I/We have enclosed to my/our application the cost of bid (non refundable) and Earnest Money Deposit without any claim of interest on the OCCL.

5. I/We shall not assign the contract or sublet any portion of the same. In case if it becomes necessary I/We shall submit the same at the time of filing Bids itself or during execution, giving the name of the sub agency with details of his qualification and experience and agree to sublet with permission of Bid accepting authority only to

- such of the sub-agency who satisfies the qualification criteria in proportion to the value of work proposed to be sublet.
6. If upon written intimation to me/us about acceptance my/our bid, by the Authorized officer of OCCL, Bhubaneswar, I/We fail to attend the said office on the date herein fixed or and if I/We fail to make the initial security deposit (ISD) to enter into the required contract as defined in the instructions to Bidders, then I/We agree to the forfeiture of the earnest money. Any notice required to be served on me/us here under shall be deemed to have been sufficiently served on me/us if delivered to me/us personally or forwarded to me/us by post (registered/Speed Post/ ordinary/e-mail) or left at my/our address given herein.
  7. I/We fully understand that the written contract to be entered into between me/us and OCCL, Bhubaneswar shall be the foundation of the rights of the both the parties and the contract shall not be deemed to be complete until the contract has first been signed by me/us and then by the proper officer authorized to enter into contract on behalf of OCCL, Bhubaneswar.
  8. I/We declare that I/We agree to recover the salaries of the technical staff actually engaged on the work by the OCCL/department, from the work bills, if I/We fail to employ technical staff as per the Bid condition.

#### **BIDDERS / AGENCY'S CERTIFICATE**

1. I/We am/are prepared to furnish detailed data in support of all my quoted rates, if and when called upon to do so without any reservations.
2. I/We hereby declare that I/We shall not claim any price escalation except as provided in the bidding documents.
3. I/We declare that the I/We shall take up the responsibility for processing for ROW/ROU land acquisition, for execution of all components of work, in the name of Odisha Construction Corporation Limited, Bhubaneswar, Odisha as per conditions bid and arranging and obtaining the land for disposal of spoil/soil not useful for construction purposes shall rest with me/us. Crop compensation for executing the work and O & M of command shall be paid by us.
4. I/We hereby declare that the responsibility of getting statutory clearances of forest & environment & other department/commission/authority on behalf of the OCCL, Bhubaneswar for execution/completion of work rests on me/us if required.
5. I/We declare that I/We will execute the work as per the mile stone programme, and if I/We fail to complete the work as per the mile stone programme I abide by the condition to recover liquidated damages as per the Bid conditions.
6. I/We declare that I/We will abide for settlement of disputes as per the Bid conditions.
7. I/We have not been black listed in any department in Govt. of Odisha and in any other state/Union Govt. due to any reasons.

8. I/We have not been demoted to the next lower category for not filing the Bids after buying the Bid schedules in a whole year and my/our registration has not been cancelled for a similar default in two consecutive years.
9. I/We hereby certify that all the statement made and information supplied in enclosed Forms and accompanying statements and Annexure are true and correct.
10. I/We agree to disqualify me/us for any wrong declaration in respect of the above and to summarily reject my/our Bid.

Address of the Bidder:

Phone No:

Fax No:

E-mail id:

**Bidder/Authorised Signatory**  
**SEAL**

**ARTICLES OF CONTRACT**

Articles of contract made this \_\_\_\_\_ day of \_\_\_\_\_ between **Odisha Construction Corporation Limited** (herein after called **Corporation** which expression shall, where the context so admits, include his successors in office and assignees) of the one part and \_\_\_\_\_ of \_\_\_\_\_ (herein after called the agency which expression shall, where the context so admit, include his heirs, executors, administrators and legal representative) on the other part.

Whereas the Government of Odisha (herein after called the Government) are desirous of taking up the work of "Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)".

And have caused a proposal contained in Basic Project Profile, Instruction to Bidder, Conditions of contract, Special Conditions of Contract, Conditions of Contract for O&M and Price Bid ,Technical Specifications and drawings describing the work to be prepared /to be done.

And whereas the said Basic Project Profile, drawings, Notice inviting Tenders Instruction to Bidders, General condition of Contract, Special conditions ,Price Bid & Technical Specification, Conditions of contract for O&M & other appendices and annexures etc. of contract documents (herein after referred as contract) as have been signed by on behalf of the parties here to.

And whereas for the Part I: Works of Agreement, the agency has produced

1. Rupees \_\_\_\_\_ paid by him vide FDR No. \_\_\_\_\_ Date \_\_\_\_\_ issued by (Bank) \_\_\_\_\_ pledged in favour of S.M \_\_\_\_\_

and

2. Rupees \_\_\_\_\_ paid by him vide B G No. \_\_\_\_\_ date \_\_\_\_\_ issued by (Bank) \_\_\_\_\_ with validity of all the instruments upto \_\_\_\_\_ towards Initial security deposit of 2% of contract Amount for **Part I: Works** for the due fulfillment of the contract.

AND

For the **Part II: O & M** of Agreement the agency has produced

1. Rupees \_\_\_\_\_ paid by him vide FDR No. \_\_\_\_\_ Date \_\_\_\_\_ issued by (Bank) \_\_\_\_\_ pledged in favor of S.M \_\_\_\_\_ and \_\_\_\_\_

2. Rupees \_\_\_\_\_ paid by him vide BG No. \_\_\_\_\_ date \_\_\_\_\_ issued by (Bank) \_\_\_\_\_ with validity of all the instruments up to \_\_\_\_\_ towards Initial security deposit of 2% of contract Amount for **Part II: O & M** for the due fulfillment of contract.

And whereas the agency has agreed that during the course of the contract period an amount at the rate of 5.0 % (five) of the value of work done will be withheld from the bills as Performance Security Deposit.

And whereas the agency has agreed to execute upon the contract, subject to the Scope of work described in all sections and conditions & specifications forming part of the contract (herein after referred to as the said conditions), and set forth in Price Bid, as the price bid and comply with the rate of progress noted in the conditions for a sum of rupees ` \_\_\_\_\_ (Rupees \_\_\_\_\_) on lump sum basis and such other sum as may be arrived at under the clauses of the contract documents relating to payment

And whereas the agency has agreed to execute the subject work in two parts, namely **Part: I Works** for a sum of \_\_\_\_\_ (Rupees \_\_\_\_\_) and **(Part II: O&M** for a sum of \_\_\_\_\_ (Rupees \_\_\_\_\_), both totaling to a sum of \_\_\_\_\_ (Rupees \_\_\_\_\_) as mentioned in the para above.

Note: It is hereby agreed as follows:

1. Time shall be considered as the essence of the contract and the agency hereby agrees to commence the work as soon as the contract is signed and agrees to complete the work within 18 calendar months from the date of such signing the contract and to show the progress as per milestone subject nevertheless to the provisions for extension of time contained in the conditions of contract.
2. The conditions of the bid document & technical specification shall be read and construed as forming part of this contract and the parties here to will respectfully abide by and submit themselves to the conditions and stipulations and perform the contract on their part, respectively.
3. Upon the terms and conditions of this contract being fulfilled and preformed to the satisfaction of the Senior Manager, OCCL, the security deposited by the Agency as herein before recited or such portion thereof as he may be entitled to under the said condition shall be returned to the agency as provided in the contract.

In witness thereof, the agency M/s. \_\_\_\_\_ duly represented by Sri \_\_\_\_\_ has here unto set his hand and Sri \_\_\_\_\_ Senior Manager acting on behalf of and by the order and direction of **Managing Director, Odisha Construction Corporation Limited** has here unto set his hand the day and year first above written.

Signed by agency: \_\_\_\_\_

SEAL

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

Phone No.:                      Fax No.:                      e-mail id.:

In the presence of Witness i) Sri \_\_\_\_\_  
Address

Signed by on behalf of OCCL Sri \_\_\_\_\_

SEAL

Phone No.:                      Fax No.:                      e-mail id.:

In the presence of Witness i) Sri \_\_\_\_\_  
Address

FORM – C

## DETAILS OF COST OF TENDER DOCUMENTS, EMD

<b>Sr. No.</b>	<b>Description</b>	<b>Remarks</b>
1	Name of bidder	
2	Details of cost of Tender documents	
3	EMD Details	

**Address of the Office****SIGNATURE OF BIDDER****TELEPHONE NO:**



**RELATIONSHIP DECLARATION**

To,

**The Managing Director,  
Odisha Construction Corporation Limited  
Bhubaneswar (Odisha)**

**Subject:** Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)

**Reference:** Bid Identification No. OCCL-TIP/01/2020-21

Sir,

Pursuant to clause 14.7 of the ITB, it is to inform that I have relative(s) employed as an Officer in the rank of Manager, OCCL/ Assistant Executive Engineer/ Under Secretary or above under the \_\_\_\_\_ Department. His (Their) details are as follows.

Relationship:	Name:
Designation	Office
Address	

Pursuant to clause 14.7 of ITB, I am to submit herewith the names of persons who are working under my firm having near relatives to any gazette officer in the rank of Manager, OCCL/ Assistant Executive Engineer/ Under Secretary or above in the \_\_\_\_\_ Department.

Sl. No	Name of the my employee and his designation in the firm	Presently working at	Details of his relatives working in the Department
			Relationship Name: Office Address
			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employment with any gazette officer in the rank of Manager, OCCL/ Assistant Executive Engineer /Under Secretary or above under the Corporation/Department. I am aware that any breach of this condition would render my firm liable for penal action for suppression of facts.

I am also duty bound to inform that I have no relations with any employee working in the rank of Manager, OCCL/Assistant Executive Engineer/ Under Secretary or above under OCCL /Department of Water Recourses.

**Yours Sincerely,**

**SIGNATURE OF THE BIDDER**

NB: Please strike out the para not applicable.



**FORM – F****DETAILS OF WORKS IN HAND**

Sl. No.	Name of work	Place	Tendered amount in Crore	Date of issue of work order	Stipulated period of completion	Amount of work done up to the month previous to the month in which tender are invited in Lakh	Amount of works to be done during 2020-21 & 2021-22	Brief detail of delay if any	Remarks
1	2	3	4	5	6	7	8	9	10

Date:

**SIGNATURE OF BIDDER**

Note1: Amount of work done in column 7 should be given up to the month previous to the month in which the tender is invited.

Note2: Necessary certificates from the officer concerned shall be attached with the tender.

Note3: In Col. 8 amount of works to be done during the completion period for which the bid is invited is to be furnished.

FORM - G

**DETAILS OF FINANCIAL CAPABILITY**

<b>FINANCIAL CAPABILITY</b>					
<b>NAME OF APPLICANT:</b>					
<b>Financial information in Indian Rupees</b>	<b>Actual : Previous Five years</b>				
	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>
<b>Annual Turn over</b>					
<b>Total Assets</b>					
<b>Current Assets</b>					
<b>Total Liabilities</b>					
<b>Net Worth</b>					
<b>Working Capital</b>					
<b>Current liabilities</b>					
<b>Profits Before Taxes</b>					
<b>List of Banks &amp; their addresses:</b>					
<b>Financial resources like</b>	<b>a) Bank Guarantee Limits</b>				
	<b>b) Lines of Credit</b>				

**SIGNATURE OF BIDDER**

NB: Certified Audit Reports are to be furnished.

**FORM - H****DETAILS OF PERSONNEL**

Give details of Key Technical and Administrative Personnel who could be assigned the work in the following Proforma.

<b>A)</b>		<b>Details of the Board of Directors</b>	
	<b>1)</b>	Name of the Director	
	<b>2)</b>	Address	
	<b>3)</b>	Organisation of the Board of Directors	
<b>B)</b>		<b>Key Technical and administrative Personnel and Consultants</b>	
	<b>1)</b>	Project Manager (Min. 5years experience)	
	<b>2)</b>	Site Engineer	
	<b>3)</b>	Supervisor	
	<b>4)</b>	Technical assistants.	
<b>C)</b>		<b>Skilled and other labour (indicate number category-wise)</b>	
	<b>1)</b>	Skilled labour	
	<b>2)</b>	Other labour	

**SIGNATURE OF BIDDER**

**FORM - I****ADDITIONAL INFORMATION**

- (A) Please add any further information which the applicant considers relevant in regard to his capabilities.
- (B) Please give a brief note indicating why applicant considers himself as eligible.
- (C) List of works for which tender have already been submitted to the client but not awarded.

<b>Sr. No</b>	<b>Name of Work</b>	<b>Estimated amount (In Cores )</b>	<b>Date of Submission of Offer</b>	<b>Name of Client</b>	<b>Likely date of award</b>	<b>Position with ref. to lowest bid.</b>
<b>[1]</b>	<b>[2]</b>	<b>[3]</b>	<b>[4]</b>	<b>[5]</b>	<b>[6]</b>	<b>[7]</b>

**SIGNATURE OF BIDDER**

**DECLARATION BY AFFIDAVIT  
(ON NON JUDICIAL STAMP PAPER)**

I / We ..... have gone through carefully all the Bid conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or termination of contract or any other action deemed fit, taken by, the OCCL against us, if it is found that the statements, documents, certificates produced by us are false / fabricated.

I /we hereby declare that, I / We have not been blacklisted / debarred / Suspended / demoted in any department in Odisha or in any State due to any reasons.

I /we hereby declare that the Technical bid and financial bid are without any deviation and are strictly in conformity with the documents issued by the Employer.

**Signature of Bidder**

<b>FORM - 1</b>								
<b>GENERAL INFORMATION</b>								
1	Name of the Bidder							
2	Address of the Bidder with Pin code							
3	Telephone No. / Fax/ e mail id/ Mobile No.							
4	Name of Contact Persons & Tele Phone Nos.							
5	Place of Registration							
6	Legal Status of Firm							
7	Quality Assurance System Certified by							
8	Total Value of Civil Engineering construction work executed and payments received in the last five ears							
<b>FORM - 2</b>								
<b>WORKS OF SIMILAR NATURE EXECUTED OVER THE LAST FIVE YEARS</b>								
Sl. No	project Name	Name of the Employer	Descripti on of Work	Contract No.	Value of Contract	Date of issue of work order	Actual date of Comp letion	Quantity of UGPL work Executed in Ha.



<b>FORM - 3</b>							
<b>WORKS FOR WHICH BIDS ALREADY SUBMITTED</b>							
Sl.No	Description of work	Place State	Name & Address of Employer	Estimated Value of Works	Stipulated period of Completion	Date when decision is Expected	Remarks if any
1	2	3	4	5	6	7	8

**ANNEXURE - I**

**BANK GUARANTEE FORMAT FOR FURNISHING EMD**

**[Ref. Clause 13.0, Section – II, Vol – I of Bid Identification No. - \_\_\_\_\_]**

Whereas ..... (Name of Bidder) (Hereinafter called the "bidder") has submitted their offer dated ..... for the work of ..... (hereinafter called the "Bid") against the employer's Bid Identification No. .... KNOW ALL MEN by these presents that WE ..... of ..... (Name of Bank) having our registered office at ..... are bound unto Managing Director, OCCL, ..... (on behalf of OCC Ltd.) (hereinafter called the "employer") unconditionally & irrevocably for the sum of / ` ..... (Rupees.....) for which payment will and truly to be made to the said employer, the Bank binds itself, its successors and assigns by the presents.

Sealed with the

Common Seal of the said Bank this ..... day of .....20 .....

**THE CONDITIONS OF THIS OBLIGATION ARE:**

- (1) If the Bidder withdraws or amends, impairs or derogates from the bid in any respect within the period of validity of this bid.
- (2) If the Bidder having been notified of the acceptance of his Bid by the employer during the period of its validity in accordance with Instruction to Bidders of the Bid document.
  - a) If the Bidder fails to furnish the initial Security Deposit for the due performance of the contract.
  - b) Fails or refuses to accept/execute the contract.

WE undertake to pay 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 to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 60 days after the period of tender validity as specified in DNIT and any demand in respect thereof should reach the Bank not later than the above date.

We ..... (Name of Bank) hereby also undertake to have the signature of Branch Manager issuing Bank Guarantee verified from Local Branch of the Bank in Bhubaneswar, ..... (address of Local Branch Bhubaneswar, Odisha) for due authentication.

Our..... branch at Bhubaneswar (Name & Address of the ..... branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if it is served upon us by the employer at our Bhubaneswar Branch, a written claim or demand and received by us at our Bhubaneswar branch on or before Dt. .... otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

.....  
(Signature of the authorized officer of the Bank)

.....  
.....  
Name and designation of the officer

**ANNEXURE - II**

**BANK GUARANTEE FOR INITIAL SECURITY DEPOSIT (ISD)**

**Senior Manager, OCCL, (Name & address of Department)**

WHEREAS \_\_\_\_\_ (name and address of Agency) (hereinafter called "the Agency") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute the work of \_\_\_\_\_ [name of work]

AND WHEREAS it has been stipulated by you in the said Contract that the Agency shall furnish you with a Bank Guarantee by a Schedule bank for the sum specified therein as balance EMD/EMD for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Agency such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Agency, up to a total of \_\_\_\_\_ [amount of guarantee] \_\_\_\_\_ [in works], such sum being payable and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Agency before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Agency or of the Works to be performed there under or of any of the contract documents which may be made between you and the Agency shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid up to..... i.e. until 3 (three) months from the date of expiry of the Defects Liability period.

Signature & seal of the Guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

**ANNEXURE – III - DELETED**

**ANNEXURE – IV - DELETED**

**ANNEXURE-V**

LITIGATION HISTORY

**Name of Applicant :**

**Please describe:** Company's history of litigation or arbitration from contract executed in the last ten years or currently under execution. Please indicate for each case the year, name of employer, cause of litigation, matter in dispute, disputed amount, and whether the award was for or against the company.

**SIGNATURE OF BIDDER**

ANNEXURE – VI

BANK GUARANTEE FOR PERFORMANCE SECURITY DEPOSIT (PSD)

[Ref: - Clause 50 of Section – IV, Volume – I of Bid Identification No. - \_\_\_\_\_

WHEREAS \_\_\_\_\_  
(name and address of Contractor) (hereinafter called "the Contractor") has undertaken a contract, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ of Managing Director, OCCL \_\_\_\_\_ to execute the work of \_\_\_\_\_ [name of work] (hereinafter called "the contract")

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a Nationalized/Scheduled Commercial Bank with branches at Bhubaneswar for the release of Performance Security, for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantors and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ [amount of guarantee] \_\_\_\_\_ [in words], such sum being payable and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid up to \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_ i.e. upto 3 (three) months beyond the date of expiry of the Defects Liability period for the works portion / up to 3 months beyond the O&M period for O&M portion.

We \_\_\_\_\_ (Name of Bank) hereby also undertake to have the signature of Branch Manager issuing Bank Guarantee verified from Local Branch of the Bank in Bhubaneswar, \_\_\_\_\_ (address of Local Branch Bhubaneswar, Odisha) for due authentication.

Our \_\_\_\_\_ branch at Bhubaneswar (Name & Address of the \_\_\_\_\_ branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if it is served upon us by the employer at our Bhubaneswar Branch, a written claim or demand and received by us at our Bhubaneswar branch on or before Dt. \_\_\_\_\_ otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

(Signature of the authorized officer of the Bank)

.....  
.....

Name and designation of the officer

.....

Seal, name & address of the Bank and address of the Branch

**SECTION – IV**  
**GENERAL CONDITIONS OF CONTRACT (GC)**

## **GENERAL CONDITIONS OF CONTRACT**

### **A. GENERAL**

#### **1.0 INTERPRETATION**

- 1.1 In interpreting these Conditions of Contract, singular also means plural, male also means female, and vice-versa. Headings have no significance. Works have their normal meaning under the language of the contract unless specifically defined. The Engineer-in-Charge will provide instructions clarifying queries about the conditions of Contract.
- 1.2 The documents forming the Contract shall be interpreted in the following order of priority:
- a) Articles of Contract
  - b) Letter of Acceptance, notice to proceed with the works
  - c) Agency's Bid (Technical bid)
  - d) Conditions of contract
  - e) Specifications
  - f) Drawings
  - g) Any other document listed as forming part of the Contract.

#### **2.0 ENGINEER-IN-CHARGE'S DECISIONS**

- 2.1 Except where otherwise specifically stated, the Engineer-in-Charge will decide the contractual matters between the OCCL and the Agency in the role representing the OCCL.

#### **3.0 DELEGATION**

- 3.1 The Engineer-in-Charge may delegate any of his duties and responsibilities to other officers and may cancel any delegation by an official order issued.

#### **4.0 COMMUNICATIONS**

- 4.1 Communications between parties, which are referred to in the conditions, are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).
- 4.2 The agency at time of signing of Agreement shall furnish the permanent and temporary address of the firm for correspondence. He shall also designate his authorized representative for liasoning with the OCCL. In case of change of authorized representative, the new representative shall be promptly designated. The e-mail address, telephone number and Fax number of the firm & the representative shall also be furnished.

#### **5.0 SUB-CONTRACTING**

- 5.1 No part of the contract shall be Sublette nor shall transfer be made by power of attorney, authorizing others to receive payment on the agency's behalf.

#### **6.0 Other Agencies**

- 6.1 The Agency shall cooperate and share the site with other agencies, Public authorities, utilities, and the OCCL/ Department. The Agency shall also provide facilities and services for them as directed by the Engineer-in-charge.



## **7.0 Personnel:**

- 7.1 The Agency shall employ the required Key Personnel named in the Schedule of Key Personnel to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in-charge. The Engineer-in-Charge will approve any proposed replacement of Key Personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 7.2 Failure to employ the required technical personnel including quality management staff by the agency, the employer would engage any quality assurance staff for implementing quality management Plan. The amounts spent on such deployment will be recovered from the agency over and above the provision made in part two of schedule-A from the agency's bills. However, this will not absolve the agency from the responsibility of quality management on contract works.
- 7.3 The technical personnel including quality assurance personnel should be on full time and available at site whenever required by Engineer in Charge to take instructions.
- 7.4 The names of the technical personnel including quality assurance personnel to be employed by the agency should be furnished in the statement enclosed separately.
- 7.5 In case the agency is already having more than one work on hand and has undertaken more than one work at the same time, he should employ separate technical and quality assurance personnel on each work.
- 7.6 If the agency fails to employ technical and quality assurance personnel the work will be suspended, OCCL/ department will engage technical and quality assurance personnel and recover the cost thereof from the agency. This will not absolve the agency from the responsibility of maintaining quality of work and implementing quality management plan.
- 7.7 If the Engineer-in-Charge asks the Agency to remove a person who is a member of Agency's staff or his work force stating the reasons, the Agency shall ensure that the person leaves the site forthwith and has no further connection with the work in the contract.
- 7.8 All Agency's personnel employed at the plant/work site at any time during the period covered by the present Contract will be provided by him. The Employer is not liable for personnel in any way and cannot be held responsible in the event of litigation of any sort between the Agency and members of plant personnel or their representatives

## **8.0 AGENCY'S RISKS:**

- 8.1 All risks of loss or damage to physical property and of personnel injury and death, which arise during and in consequence of the performance of the Agency, are the responsibility of the Agency.

## **9.0 INSURANCE:**

- 9.1 The Agency shall provide, in the joint names of the OCCL and the agency, insurance cover from the start date to the end of the Defects Liability Period i.e. for 18 months & for maintenance period of 5 years or five Kharif /five Rabi crop seasons whichever is later for the following events.

- i. Loss of or damage of property in connection with the Contract; and

- ii. Personal injury or death of persons employed for construction
  - iii. Loss of or damage to the Works, Plant and Materials :
  - iv. Loss or damage to the Equipment.
- 9.2 Policies and certificates of insurance for events i. & ii. above shall be delivered by the Agency to the Engineer-in-Charge at the time of concluding Contract. The policies and certificates of insurance for the events (iii) & (iv) of above clause shall be delivered by the agency to Engineer-in-Charge on commencement of work & after finalization of planning & design. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred.
- i. The agency shall furnish insurance policy in force in accordance with proposal furnished in the Bid and approved by the OCCL for concluding the contract.
  - ii. The agency shall also pay regularly the subsequent insurance premium and produce necessary receipt to the Engineer-in-Charge, well in advance.
  - iii. In case of failure to act in the above said manner the OCCL will pay the premium and the same will be recovered from the Agency's payments.
- 9.3 Alterations to the terms of insurance shall not be made without the approval of the Engineer-in-Charge.

Any amounts not insured or not recovered from the insurers shall be borne by the Agency in accordance with their responsibilities under relevant Clause.

The Agency shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

- a. Death of or injury to any person, or,
- b. Loss of or damage to any property (other than the Works),

Which may arise out of in consequent of the Operation and Maintenance of the Facility and the remedying of any defects therein, and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Agency and to the Employer as separate insurers.

The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Agency or any Sub-agency, The Agency shall indemnify and keep indemnified the employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

The Agency shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him on the Facility. Provided that, in respect of any persons employed by any Sub-agency, the Agency's obligations to insure as aforesaid under this Sub-Clause shall be satisfied if the Sub-agency shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Agency shall require such Sub-agency to produce to the Employer, when required, such policy of insurance and receipt for the payment of the current premium.

In the event that the Agency or the Employer fails to comply with conditions imposed by the insurance policies affected pursuant to the Contract, each will indemnify the other against all losses and claims arising from such failure according to the Contract Conditions.

**10.0 SITE INSPECTIONS:**

- 10.1 The agency should inspect the site and also proposed quarries of choice for materials source of water and quote his bid price including quarrying, conveyance and all other charges etc.
- 10.2 The responsibility for arranging the land for borrow area rests with the Agency and no separate payment will be made for procurement or otherwise. The agency's quoted bid price will be inclusive of land cost.

**11.0 Agency to Execute the Works:**

- 11.1 The Agency shall conduct Surveying, Planning, designs, construction of all component, & Commissioning the work in accordance with the approved specifications and Drawings and work programme.

**12.0 Diversion of streams / Nallas / Drains:**

- 12.1 The agency shall at all time carry out construction of cross drainage works in a manner creating least interference to the natural flow of water while consistent with the satisfactory execution of work. A temporary diversion shall be formed by the agency at his cost where necessary. No extra payment shall be made for this work.
- 12.2 No separate payment for bailing out sub-soils, water drainage or locked up rain water for diversion, shoring, foundations, bailing of pumping water either from excavation of soils from foundations or such other incidental will be paid. The bid price to be quoted by the agency is for the finished item of work in situ and including all the incidental charges. The borrow pits are also to be de-watered by the agency himself at his expense, if that should be found necessary.
- 12.3 The work of diversion arrangements should be carefully planned and prepared by the agency and forwarded to the Engineer-in-Charge technically substantiating the proposals and approval of the Engineer-in-Charge obtained for execution.
- 12.4 The agency has to arrange for bailing out water, protection to the work in progress and the portion of works already completed and safety measures for men and materials and all necessary arrangements to complete the work.
- 12.5 All the arrangements so required should be carried out and maintained at the cost of the agency and no separate or additional payment is admissible.
- 12.6 Necessary coffer dams and ring bunds have to be constructed at the cost of agency and some are to be removed after the completion of the work. The agency has to quote his bid price keeping the above in view.

**13.0 Temporary Diversions (Works on Highways):**

- 13.1 The agency shall at all time carryout work on the highway in a manner creating least interference to the flow of traffic while consistent with the satisfactory execution of the same.

For all works involving improvements to the existing highway, the agency shall in accordance with the directions of the Engineer-in-Charge provide and maintain during the execution of the

work a passage for traffic, either along a part of the existing carriage way under improvement or along a temporary diversion constructed close to the highway.

- 13.2 If in the opinion of the Engineer-in-Charge, it is not possible to pass the traffic on part width of the carriage-way for any reason, a temporary diversion close to the highway shall be constructed as directed. It shall be paved with the materials such as hard moorum, gravel and stone, metal to the specified thickness as directed by the Engineer-in-Charge. In all cases, the alignment, gradients and surface type of the diversion including its junctions, shall be approved by the Engineer-in-Charge before the highway is closed to traffic.
- 13.3 The agency shall take all necessary measures for the safety of traffic during construction and provide erect and maintain such barricades, including signs, markings, flags lights and information and protection of traffic approaching or passing through the section of the highway under improvement. Before taking up any construction, an agreed phased programme for the diversion of traffic on the highway shall be drawn up in consultation with the Engineer-in-charge.
- 13.4 The barricades erected on either side of the carriage way portion of the carriage way closed to traffic, shall be of strong design to resist violation and painted with alternative black and white stripe. Red lanterns or warnings lights of similar type shall be mounted on the barricades at night and kept lit throughout from sunset to sunrise.

#### **14.0 Ramps:**

- 14.1 Ramps required during execution may be formed wherever necessary and some are to be removed after completion of the work. No separate payment will be made for this purpose.

#### **15.0 Monsoon Damages:**

Damages due to rain or flood either in cutting or in banks shall have to be made good by the agency till the work is handed over to the Department. The responsibility of de-silting and making good the damages due to rain or flood rests with the agency. No extra payment is payable for such operations and the agency shall therefore, has to .take all necessary precautions to protect the work done during the construction period.

#### **16.0 The works to be completed by the Intended Completion Date:**

The Agency may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the programme submitted by the Agency at the time of agreement, with the approval of the Engineer-in-Charge, and complete the work by the Intended Completion Date.

#### **17.0 Safety:**

The Agency shall be responsible for the safety of all activities at Site.

#### **18.0 Discoveries:**

Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Government. The Agency is to notify the Engineer-in-Charge of such discoveries and carry out the Engineer-in-Charges instructions for dealing with them.

#### **19.0 Possession of the Site.**

The OCCL/Department shall give possession of the site to the Agency. If possession of a part site is given, the OCCL/Department will ensure that the part site so handed over is amenable to carry out the work at site by the Agency.

**20.0 Access to the Site:**

The Agency shall provide the Engineer-in-Charge any person authorized by the Engineer-in-Charge, access to the site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

**21.0 Instructions:**

The Agency shall carry out all instructions of the Engineer-in-Charge comply with all the applicable local laws where the Site is located.

**22.0 Settlement of disputes:**

22.1 If any dispute of difference of any kind whatsoever arises between the OCCL and the Agency 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 for settlement by the Engineer-in-Charge who shall, within a period of thirty days of receipt of request of the Agency to do so, give written notice of his decision to the Agency. Upon receipt of the written notice of the decision of the Engineer-in-Charge the Agency shall promptly proceed without delay to comply with such notice of decision.

22.2 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 Agency is dissatisfied with the notice of the decision of the Engineer-in-Charge, the Agency may within thirty days of receipt of the notice of decision appeal to the General Manager who will give notice of his decision within thirty days of receipt of the appeal. In case of failure of General Manager to give the decision within stipulated period or if the agency is dissatisfied with the decision, he may within thirty days of receipt of such notice, appeal to the Managing Director, OCCL who shall offer an opportunity to the agency to be heard and to offer evidence in support of his appeal. Managing Director, OCCL shall give notice of his decision within a period of thirty days after the Agency has given the said evidence in support of his appeal. Such decision of the Managing Director, OCCL, in respect of every matter so referred shall be final and binding upon the Agency and shall

forthwith be given effect to by the Agency, who shall proceed with the execution of the works with all due diligence.

**23.0 Arbitration:**

In case the Agency is dissatisfied with any such decision of the Managing Director, OCCL, then the agency within thirty days may refer the matter or matters of dispute for arbitration. The arbitration shall be conducted in accordance with the provisions of Indian Arbitration and Conciliation Act 1996 or any statutory modification thereof.

## **24.0 TIME PERIOD FOR COMPLETION**

- 24.1 Time is the essence of the contract. The total period of completion is **18 calendar months** from the date of signing of Agreement which shall be the date of commencement of work. The period is inclusive of rainy seasons. After signing the contract, the Engineer-in-Charge shall forthwith notify the agency to go ahead with the work & the agency shall forthwith begin the work. The agency shall furnish a work programme containing CPM/PERT network within fifteen days of signing of contract so as to achieve the mile stones specified in the bid.
- 24.2 This being a EPC contract on turnkey basis, conducting of planning and design, are within the scope of the contract and the agency shall meticulously plan so as to obtain the required site for carrying out the work in the UGPL Scheme simultaneously. All the available field data shall be supplied by the department on written request of the agency for planning and design.
- 24.3 The agency shall bear all costs and charges for special or temporary way leases required by him in connection with access to the site. The agency shall also provide at his own cost any additional accommodation outside the site required by him for the purposes of the work.

## **B. Construction Programme & Progress**

### **25.0 Construction Programme:**

- 25.1 The Agency shall furnish within fifteen days of signing of the contract a work programme, containing CPM/PERT showing the sequence in which he proposes to carry out the work, monthly progress expected to be achieved, indicating date of procurement of materials plant and machinery. The schedule should be such that it is practicable to achieve completion of the whole work within the time limit fixed and in keeping with the Mile Stone programme specified and shall obtain the approval of the Engineer-in-charge. Further, rate of the progress as in the program shall be kept up to date. In case it is subsequently found necessary to alter this program, the agency shall submit sufficiently in advance the revised programme incorporating necessary modifications and get the same approved by the Engineer-in-Charge. The Engineer-in-Charge will get the program approval by the Managing Director, OCCL before communicating to the agency.

The Engineer-in-Charge shall have all times the right, without any way violating this contract, or forming grounds for any claim, to alter the order of progress of the works or any part thereof and the agency shall after receiving such directions proceed as per the order directed.

### **26.0 Speed of work:**

- 26.1 The Agency shall at all times maintain the progress of work to conform to the latest operative progress schedule approved by the Managing Director, OCCL, Bhubaneswar. The agency should furnish progress report indicating the programme and progress once in a month. The Engineer-in-Charge may at any time in writing direct the agency to slow down any part or whole of the work for any reason (which shall not be questioned) whatsoever, and the agency shall comply with such orders of the Engineer-in-Charge. The compliance of such orders shall not entitle the agency to any claim of compensation. Such orders of the Engineer-in-Charge for slowing down the work will however be duly taken into account while granting extension of time if asked by the agency for which no extra payment will be entertained.

## **26.2 Delays in Commencement or progress or neglect of work :**

If, at any time, the Engineer-in-Charge shall be of the opinion that the Agency is delaying Commencement of the work or violating any of the provisions of the Contract or is neglecting or delaying the progress of the work, he shall so advise the Agency in writing and at the same time demand compliance in accordance with instructions to Bidder and conditions of Contract. If the Agency neglects to comply with such demand within seven days after receipt of such notice, it shall then or at any time thereafter, be lawful for the Engineer-in-Charge to take suitable action in accordance with relevant Clauses of contract.

## **27.0 Suspension of works by the Agency:**

27.1 If the Agency suspends the works, or sublet the work without sanction of the Engineer-in-Charge, or in the opinion of the Engineer-in-Charge shall neglect or fail to proceed with due diligence in the performance of his part of the Contract as laid down in the Schedule rate of progress, or if he shall continue to default or repeat such default, the Engineer-in-Charge shall take action in accordance with Clauses of termination of contract.

## **28.0 Extension of completion date:**

28.1 No claim for compensation on account of delays or hindrances to the work from any cause whatever shall be accepted. Reasonable extension of time will be allowed by the Engineer-in-Charge or by the officer competent to sanction the extension, for unavoidable delays, such as may result from cause(s), which in the opinion of the Engineer-in-Charge are undoubtedly beyond the control of the agency. The Engineer-in-Charge shall assess the period of delay or hindrance caused by any written instructions issued by him.

28.2 The Agency shall give written notice to the Engineer-in-Charge whenever planning or progress of the works is likely to be delayed or disrupted unless any further drawings or order including a direction, instruction or approval is issued by the Engineer-in-Charge within a reasonable time. The notice shall include details of the drawing or order required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late. If by reason of any failure or inability of the Engineer-in-Charge to issue within a reasonable time in all the circumstances, any drawing or order requested by the agency the Agency suffers delay, then the Engineer-in-Charge shall take such delay into account in determining any extension of time for which no compensation shall be claimed by the agency.

28.3 In the event of the Engineer-in-Charge failing to issue necessary instructions and thereby causing delay and hindrance to the agency, the latter shall have the right to appeal to the Managing Director, OCCL whose decision will be final and binding. The agency shall lodge in writing to the Engineer-in-Charge a statement for time extension for any delay or hindrance referred to above, within fourteen days from its occurrence, otherwise no extension of time will be allowed.

28.4 Whenever authorized alterations or additions made during the progress of the work are of such a nature in the opinion of the Engineer-in-Charge as to justify an extension of time in consequence thereof, such extension will be granted in writing by the Engineer-in-Charge or other competent authority when ordering such alterations or additions.

28.5 Application for extension of time for the completion of a work on the grounds of unavoidable hindrance or any other grounds shall be submitted by the agency within 30 days of such hindrance & the Engineer-in-Charge shall authorize or recommend such extension of time as deemed necessary or proper within fifteen days of the receipt of the such an application. In

cases where the sanction of the higher authorities to the grant of extension of time is necessary, the Engineer-in-Charge should send his recommendation as expeditiously as possible. The higher authority should communicate his decision within 60 days from the date of receipt on recommendation in his office. If the orders of the competent authority are not received in time, the Engineer-in-Charge may grant extension of time under intimation to the concerned authorities so that the contract might remain in force, but while communicating this extension of time, he must inform the agency that the extension is granted without prejudice to OCCL/ Government's right to levy compensation under relevant clause of contract.

28.6 The power to grant extension of time vests with the authority who accepted the tender but the period of extension that can be granted by such an authority is limited to the period equivalent to the time originally stipulated in the Agreement for completion of the work beyond this, approval of next higher authority should be obtained before extension of time is granted.

28.7 The application for extension of time and sanction thereto should be made in the prescribed form.

**29.0 Delay Ordered by the Engineer-in-Charge.**

The Engineer-in-Charge may instruct the Agency to delay the start or progress of any activity within the Work.

**30.0 Early Warning:**

30.1 The agency is to bring to the notice of the Engineer-in-Charge at the earliest opportunity of specific likely future events or circumstances that may adversely affect the Execution of Works.

30.2 The Agency shall cooperate with the Engineer-in-Charge in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer-in-Charge.

**31.0 Management Meetings:**

The Engineer-in-Charge may require the Agency to attend management meetings. The business of a management meeting shall be to review the programme for remaining work and to deal with matters raised in accordance with the early warning procedure. The minutes of the meeting shall be given in writing for follow up by the parties.

**C. QUALITY CONTROL**

**32.0 Identifying Defects:**

32.1 The Engineer-in-Charge shall check the Agency's work and notify the Agency of any Defects that are found. Such checking shall not affect the Agency's responsibilities. The Engineer-in-Charge may instruct the Agency to verify the Defect and to uncover and test any work that the Engineer considers may be a Defect.

**33.0 Tests:**

33.1 If the Engineer-in-Charge instructs the Agency to carry out a test not specified in the Specification to check whether any work has a Defect, the Agency shall promptly comply and pay for the test and any sampling.

**34.0 Action in case of improper materials and workmanship:**



34.1 If in the opinion of the Engineer-in-Charge any work or part thereof is executed with improper materials or defective workmanship the agency(s) shall when required by the Engineer-in-Charge, forthwith re-execute the same and substitute proper materials and workmanship and in case of default by the agency(s) in so doing within a week from the date of the requisition, the Engineer-in-Charge shall have full power to employ other person to re-execute the work and the cost thereof shall be borne by the agency(s). Every time notice of a Defect is given, the Agency shall correct the notified defect within the length of time specified by the Engineer-in-Charge's notice

**35.0 Action and compensation payable in case of bad work:**

35.1 If at any time before security deposit is refunded to the agency it shall appear to the Engineer-in-Charge or his subordinate in charge of the work that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of inferior quality or that any materials or article provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or are otherwise not in accordance with contract, it shall be lawful for Engineer-in-Charge to intimate this fact in writing to the agency and then notwithstanding the fact that the work, materials or article complained of may have been inadvertently passed, certified and paid for, the agency shall be bound forthwith to rectify or remove and reconstruct the work so specified in whole or in part as the case may require or if so required shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in the written intimation aforesaid, the agency shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding ten days during which the failure so continues and in the event of any such failure as aforesaid, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace the materials or articles complained, at the cost of the agency. If the Engineer-in-Charge considers that such inferior work or materials as described above may be accepted or made use of it shall be within his discretion to accept the same at such reduced rates as he may fix therefore.

35.2 The Engineer-in-Charge may also introduce check lists which shall be kept in Bound registers by the construction supervision staff. The agency may be required to fill up these lists in the First instance & shall be subsequently checked by the Construction/Quality Control Engineers.

**36.0 Quality Control :**

Quality control monitoring reports, test results, reports of corrective action etc, shall be furnished to the employer at regular intervals.

Quality Audit shall get conducted by the Engineer-in-Charge, OCCL or by other organization and the agency shall extend the testing facilities to them also.

The agency shall produce the Quality records maintained by him to the OCCL/ department or his authorizing agent for the quality audit.

**D. COST CONTROL**

**37.0 Contract price:**

37.1 The contract price shall be the total value of work on EPC turnkey basis of the UGPL system as detailed in the scope of work which includes Operation and Maintenance of the total UGPL

Network for five years or five kharif five Rabi seasons whichever is later from the date of commissioning of the system.

- 37.2 The essence of the contract is to develop irrigation network for the command areas under UGPL system. At the stage of detailed planning of the UGPL scheme, care will be taken for achieving irrigation to the total CCA of 4082 ha.
- 37.3 The Contract Price shall be related to the CCA of the system and break up of contract price shall be made based on the approved CCA after the stage of approval of Planning and Design of the UGPL system (CCA in Ha).
- 37.4 The agency will be paid a firm contract price for completion of all works as specified under the scope of the work under the contract on Ha. basis.
- 37.5 Notwithstanding anything that is stated, the contract price once accepted by the employer shall be final and shall not be subject to any claims on any ground whatsoever of the Agency.
- 37.6 The contract price of the total work is divided among different component of works as per the percentages specified in Price Bid - Break up of Bid amount and payments will be regulated accordingly.
- 37.7 The agency shall pay all duties and taxes except GST in consequence of his obligations under the contract and the contract price shall not be adjusted for such costs.
- 37.8 Contract price will be paid to the Agency in Indian Rupees only.

**38.0 Changes in the Quantities:**

38.1 Being on EPC-Turnkey contract, the agency is bound to complete the entire work under the contract on a firm lump sum price quoted and on a single source responsibility basis. The Agency shall be deemed to have satisfied himself as to the correctness and sufficiency of the contract price. Therefore the agency is bound to execute all supplemental works that are found essential, incidental and inevitable for completion of work in all respect during execution of the system and also Operation and Maintenance for a period of five years or five Kharif and Rabi seasons whichever is later at no extra cost to the employer subject to the stipulation of variation of CCA in clause stated below.

38.2 **Variation in CCA:** As stated in clause 37.4 there could be variation of CCA in the system after the detailed planning is done and approved by competent authorities.

**38.3 In case of variation of CCA, payment shall be made as per actual CCA on ha. basis to the agency after verification.**

38.4 Entrustment of additional items :

38.4.1 Wherever additional items not contingent on the main work and outside the scope of original contract are to be entrusted to the original agency, entrustment of such items and the price to be paid shall be referred to a committee proposed by Government for final decision and it shall be binding on the contractor.

38.4.2 Entrustment of the additional items contingent on the main work will be authorized by the employer and the contractor shall be bound to execute such additional items at no extra cost to

the employer and the cost of such items shall be deemed to have been included in the contract price quoted.

**39.0 Cash flow forecasts:**

When the program is updated, the agency is to provide the Engineer-in-Charge with an updated cash flow forecast.

**40.0 PRICE BID & PAYMENT SCHEDULES:**

- 40.1 The bidder shall quote Bid Price for the entire work and O&M in the prescribed format given in Price Bid.
- 40.2 The total work specified under EPC turnkey contract is divided into different components of work to facilitate payments component wise as specified in Appendix F under Price Bid. The cost of each of the above components is specified as percentage of the total Bid price.
- 40.3 The payment for each of the components of works shall be limited to the respective amounts arrived on the basis of percentages specified in Appendix - F.
- 40.4 The components shown in Appendix-F have been further sub-divided into appropriate stages for the purpose of stage payment as specified in Appendix F1 & F2.
- 40.5 This stage payment shall be limited to the respective amounts arrived on the basis of percentages specified in the Appendix F1.
- 40.6 The stage payment mentioned in F1 may be further sub divided into sub components as percentages by the agency which shall be duly approved by the MD, OCCL before signing of agreement. The sub-component should have relation to the programme of construction taking due cognizance of interdependency of various activities. The sum of payment for the sub-components shall be limited to the respective stage amounts arrived on the basis of percentages specified Appendix F1.
- 40.7 Payment shall be released only on the basis of completion of work of respective component / sub-component.
- 40.8 The Engineer-in-Charge shall check the Agency's monthly statement within **7** days of submission.
- 40.9 The value of work executed shall be determined by the Engineer-in-charge.
- 40.10 The Engineer-in-Charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- 40.11 The agency shall be permitted to submit their work bills once in a month by 20th of every month and payment will be made after proper check of quantity and quality within three weeks.
- 40.12 The MD, OCCL is empowered to modify the percentage of components, on approval of design and drawing based on the detailed investigation, detailed drawings and detailed estimation done by the agency keeping the total price bid unaltered.
- 40.13 The MD, OCCL is empowered to modify the sub components stage-wise keeping the percentages of stages unaltered.

40.14 The agency shall give “Bill of Quantities” based on the detailed estimates prepared on the basis of approved designs; drawings and items of the estimate shall be suitably clubbed or grouped for assessment of value of work done.

**41.0 Measurement & Payments:**

- 41.1 The agency shall execute the various components of work as per approved drawings and specifications. The agency shall arrange to take and record all measurements of work done of various components of work in the Measurement Books/Level field books issued and plotted in the cross section sheets and quantities arrived as per actual execution as and when required.
- 41.2 In respect works, Measurement Books/Level field books have to be issued for recording measurements and levels jointly by OCCL/department and agency. The bills are to be submitted to the Engineer-in-Charge by the Agency along with a true extract of the entire set for checking and making payment. The Engineer-in-Charge has to keep the full set of true extract with him and return the originals to the agency for further use. The entire original record shall be finally handed over for record to the Engineer-in-Charge by the Agency.
- 41.3 Measurements will be recorded jointly by the agency and OCCL/department for the finished work only for which all tests are conducted and work done in accordance with specifications and contract conditions by using the materials specified in the contract.
- 41.4 The agency shall prepare monthly work bills based on the measurements of work done already recorded as stated above and submit to Engineer-in-Charge duly signed by them or his authorized signatory for arranging payment. Only completed portions of the works will be billed as per Break up of components & sub components by the agency.
- 41.5 The Engineer-in-Charge shall exercise check to see that the bill submitted by the Agency is in accordance with Agreement conditions & certified by the Department quality control authority and or 3<sup>rd</sup> party quality control monitors if both are deployed on the work.
- 41.6 The Engineer in Charge should check the claim with reference to the measurements recorded to see that the percentage at which the bill is claimed is clearly traceable into the documents on which payments are to be made. Payments shall be adjusted for recovery of advance payments, liquidated damages in terms of agreement conditions, security deposit for due fulfillment of the contract. Recoveries shall be affected towards royalty charges on the material used and GST and other statutory recoveries as per State and Central Government rules and Acts.
- 41.7 In case of over payments or wrong payment if any made to the agency due to wrong interpretation of the provisions of the contract or Contract conditions etc., such unauthorized payment will be deducted in the subsequent bills or final bill for the work or from the bills under any other contracts with the OCCL/Government or at any time thereafter from the deposits available with the OCCL/Government.
- 41.8 Any recovery or recoveries advised by the Government Department either state or central, due to non-fulfillment of any contract entered into with them by the agency shall be recovered from any bill or deposits of the agency.
- 41.9 No claim shall be entertained, if the same is not represented in writing to the Engineer-in-Charge within 15 days of its occurrence.

- 41.10 The agency is not eligible for any compensation for inevitable delay in handing over the site or for any other reason. In such case, suitable extensions of time will be granted after considering the merits of the case.
- 41.11 The Employer shall within 28 days of receiving a statement and supporting documents, give to the Agency notice of any items in the Statement with which the Engineer in charge disagrees, with supporting particulars. Payments due shall not be withheld, except that;
- a) If anything supplied or work done by the Agency is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and / or
  - b) If the Agency was or is failing to perform any work or obligation in accordance with the contract and as notified by the Engineer in charge, the value of this work, or obligation may be withheld until the work or obligation has been performed.
- The Employer may, in any payment, make any correction or modification that should properly be made, to any amount previously considered due. Payment shall not be deemed to indicate Engineer-in-Charge acceptance, approval, consent or satisfaction.
- 41.12 All progressive payments made to the Agency shall be reviewed on quarterly basis and reconciled with the break-up of the schedule. Over payments/under payments made, if any, shall be adjusted in the next interim/final payments
- 41.13 Measurement shall be signed and dated by both parties on the Site. If there is any dispute in any of the measurements a note to the effect shall be made in the measurement record against the disputed items and such note shall be signed and dated by both parties engaged in taking the measurements and the Parties shall discuss and resolve the same in accordance with relevant clauses of the contract.

#### **42.0 Interest on Money due to the Agency :**

- 42.1 No omission by the Engineer-in-Charge to pay the amount due upon certificates shall vitiate or make void the contract, nor shall the agency be entitled to interest upon any guarantee fund or payments in arrears, nor upon any balance which may, on the final settlement of his accounts, found to be due to him.

#### **43.0 Commissioning of Project:**

After completion of a scheme it shall be run for testing and commissioning in consultation with Engineer-in-Charge and the defects are to be rectified promptly. The date of commissioning of the scheme is to be notified by the Engineer-in-Charge in consultation with the agency considering the availability of water, crop standing in the field and drainage of the surplus water.

On the completion or part completion of the work, the completed pipe line distribution system shall be subjected to trial run for 24 hours up to 30 days to locate any defect and excessive seepage, if any. The trial run shall not be deemed as commissioning of the distribution system.

The Engineer-in-Charge shall notify the date on which the system was finally commissioned, to all concerned. This date of commissioning of the system shall be considered as the start date of defect liability period and Operation & Maintenance of the system.

**44.0 Certificate of Completion of works:**

44.1 On request of agency, on completion of the work, the agency (s) shall be furnished with a certificate by the Engineer-in-Charge of such completion. But no such certificate shall be given nor shall the work be considered to be complete until the agency(s) have rectified the defects, removed from the premises on which the work shall have been executed, all scaffoldings, surplus materials and rubbish and shall have cleaned of dirt from all wood work, doors, windows wall floors or other parts of any structures in or upon which the work has been executed or of which he / they may have had possession for the purpose of executing work, nor until the work shall have been measured by the Engineer-in-Charge or where the measurements have been taken by his subordinate until they receive the approval of the Engineer-in-Charge , the measurements being binding and conclusive against the agency(s). The completion certificate of the Engineer-in-Charge showing the final balance due or payable to the agency(s) shall be conclusive evidence of the work having been duly completed and that the agency(s) shall be entitled to receive payment of the final balance in accordance with such certificate, but without prejudice to the liability of the agency(s) under the provisions of the clause.

44.2 Similarly, the Agency may request and the Engineer-in-Charge shall issue a Certificate of Completion in respect of :

- a) Any section of the permanent works in respect of which a separate time for completion is provided in the Contract, and
- b) Any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer-in-Charge and occupied or used by the Department.

44.3 If any part of the Original/Permanent Works shall have been completed and shall have satisfactorily passed any final test that may be prescribed by the Contract, the Engineer-in-Charge may issue such certificate, and the Agency shall be deemed to have undertaken to complete any outstanding work in that part of the works during the period of Maintenance.

44.4 Issue of completion certificate shall not free the agency of its obligation to the execution of the works that may be pointed out by the Engineer-in-charge as essential for the fulfillment of the scope of work in a later date during maintenance period.

**45.0 Taxes included in the bid:**

45.1 The Bid price quoted by the agency shall be deemed to be inclusive of all Tax and other taxes on all materials that the agency will have to purchase for performance of this contract.

**46.0 DELETED**

**47.0 Liquidated Damages for delay:**

47.1 If for any reason, which does not entitle the agency to an extension of time, the rate of progress of works, or any section of works is at any time, in the opinion of the Engineer-in-Charge too slow to ensure completion by the prescribed time or extended time for completion, Engineer-in-Charge shall so notify the agency in writing and the agency shall there

upon take such steps as are necessary to expedite progress so as to complete the works or such section by the prescribed time or extended time. The agency shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Engineer-in-Charge under this clause the agency shall seek the Engineer-in-Charge's permission to do any work at night or on Sundays, if locally recognized as days of rest, or their locally recognized equivalent, such permission shall not be unreasonably refused.

- 47.2 If the Agency fails to complete the work substantially under contract by the stipulated date, he shall pay liquidated damages at the rate of 0.05 percentage of the contract value per day from the date of delaying the said work up to the date of completion and handing over to the Government.
- 47.3 However also if the agency fails to complete any part of the work as designated in the mile stone, by the time indicated against such part, he shall pay Liquidated damages at rate of 0.05 percentage of value of that part per day from the date of delaying the said part of the work up to the date of completion of the said designated part.
- 47.4 The aggregate maximum of liquidated damages payable under this clause shall not exceed 0.05 percentage of contract value per day and shall be subject to the maximum amount of 10% (ten percent) of the contract amount.
- 47.5 Delays requiring payment of liquidated damages amounting to 10% of the contract amount shall be sufficient cause for termination of contract and for forfeiture of security deposit.
- 47.6 If abnormal delay arises and not attributable to the agency, extra time will be allowed to complete the work and LD for delay for the stated reasons will not be levied without any additional financial benefit to the agency.

#### **48.0 Rescission of Contract**

Delays requiring payment of 10% of contract amount as liquidated damages shall be one of the cause for rescission of contract. To rescind the contract (of which the recession notice in writing to the agency under the hand of the Engineer-in-Charge shall be conclusive evidence) 20% of the value of left over work will be realized from the agency as penalty. In the Event of any of the above courses being adopted by the Engineer-in-Charge, the agency shall have no

claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials, or entered into any engagements, or made any advances on account of or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescinded under the provision aforesaid, the agency shall not be entitled to recover or be paid any sum for any work thereto for actually performed under this contract, unless and until the Engineer-in-Charge shall have certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified. (Works Dept No.10639 dated 27.05.2005).

#### **49.0 DELETED**

#### **50.0 Securities Deposit:**

**50.1 Performance Security Deposit:** OCCL shall retain from each payment due to the contractor, 5% of gross bill amount until completion of the whole of the Works. The retention

amount so accumulated may be on request of the contractor converted to interest bearing Fixed Deposit Receipt (FDR), pledged in favour of Odisha Construction Corporation limited till the total amount of FDR so converted becomes 2.5% of the contract value. Beyond this the performance Security accumulated can be released to the contractor on his request on writing against production of Bank guarantee on any Nationalised/ Scheduled Commercial Bank located anywhere in the country with branches at Bhubaneswar with facility of authentication & encashment of BG at Bhubaneswar Branch. The total of such release of Performance Security against BG shall not exceed 2.5% of contract amount. The performance Security shall be released after issue of completion certificate by the Engineer-in-charge after 60 days of defects liability period.

All compensation, Liquidate damages or other sums or money payable by the contractor to OCCL under the terms of this contract shall be deducted from or recouped by the realization of a sufficient part of his security deposit, or from the interest arising there from or from any sums which may due or may become due by OCCL to the Contractor on any account whatsoever whether in respect of this contract, or any other contract, or otherwise. In the event of his security deposit being reduced by reason of any such deduction or recoupment as aforesaid, the contractor shall within ten days thereafter, make good the sum or sums required to make good the shortfall in the amount of the security deposit.

All dues under this contract or other contract, or otherwise; shall be recovered from the aforesaid amount of security deposit and the balance shall be refunded after the completion of the defect liability period. While releasing the securities beyond the defect liability period, the sufficiency of securities for the recovery of cost for excess energy consumption beyond the guaranteed power consumption shall be taken into consideration. The defect liability period is 1 year from certified date of commissioning of the UGPL WORK.

#### **51.0 Cost of Repairs:**

Loss or damage to the Works or materials to the Works between the Start Date and the end of the Defects Correction Periods shall be remedied by the Agency at the Agency's cost if the loss or damage arises from the Agency's acts or omissions.

### **E. FINISHING THE CONTRACT**

#### **52.0 Completion:**

52.1 On completion of the work, the agency (s) shall be furnished with a certificate by the Engineer-in-Charge of such completion. But no such certificate shall be given nor shall the work be considered to be complete until the agency(s) have rectified the defects, removed from the premises, on which the work shall have been executed, all scaffoldings, surplus materials and rubbish and shall have cleaned of dirt from all wood work, doors, windows wall floors or other parts of any structures in or upon which the work has been executed or of which he / they may have had possession for the purpose of executing work, nor until the work shall have been measured by the Engineer-in-Charge or where the measurements have been taken by his subordinate until they receive the approval of the Engineer-in-Charge, the measurements being binding and conclusive against the agency(s). If the agency(s) shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus materials and rubbish and cleaning of dirt on or before the date fixed for the completion of the work, the Engineer-in-Charge may at the expense of the agency (s) remove such scaffolding, surplus materials and



rubbish and dispose of the same as he thinks it and clean off such dirt as aforesaid, and the agency(s) shall forthwith bear all the expenses to be incurred, but shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

52.2 The completion certificate of the Engineer-in-Charge showing the final balance due or payable to the agency(s) shall be conclusive evidence of the work having been duly completed and that the agency(s) shall be entitled to receive payment of the final balance in accordance with such certificate, but without prejudice to the liability of the agency(s) under the provisions of the clause.

### **53.0 Taking Over:**

The Department shall take over the site and the Works within fifteen days of the Engineer-in-Charge issuing a certificate of successful completion of Operation & maintenance work.

### **54.0 Final Account:**

The Agency shall supply to the Engineer-in-Charge a detailed account of the total amount that the Agency considers payable under the Contract before the end of the Defects Liability Period. The Engineer-in-Charge shall issue a Defects Liability Certificate and certify any final payment that is due to the Agency within 90 days of receiving the Agency's account if it is correct and complete. If it is not, the Engineer-in-Charge shall issue within 90 days a schedule that states the scope of the corrections or additions that are necessary. If the final Account is still unsatisfactory after it has been resubmitted, the Engineer-in-Charge shall decide on the amount payable to the Agency and issue a payment certificate within 90 days of receiving the Agency's revised account.

### **55.0 Termination:**

The OCCL may terminate the Contract if the agency causes a fundamental breach of the Contract.

55.1 Fundamental breaches of Contract include, but shall not be limited to the following.

- a) The Agency stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer-in-Charge.
- b) The agency is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
- c) The Engineer-in-Charge gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Agency fails to correct it within a reasonable period of time determined by the Engineer-in-Charge; and
- d) The Agency does not maintain a security which is required and
- e) The Agency has delayed the completion of works by the number of days for which the maximum amount of liquidated damages is to be paid as defined.
- f) If the agency, in the judgment of the OCCL has engaged in corrupt or fraudulent practices in competing for or in the executing the contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the OCCL and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the OCCL of the benefits of free and open competition.

55.2 Notwithstanding the above the OCCL or Engineer-in-Charge or Employer may terminate the contract for convenience.

55.3 If the Contract is terminated, the Agency shall stop work immediately, make the site safe & secured and leave the site as soon as reasonably possible.

#### **56.0 Payment upon Termination:**

If the Contract is terminated because of a fundamental breach of Contract by the Agency, the Engineer-in-Charge shall issue a certificate for the value of the work done less advance payments received upon the date of the issue of the certificate, less other recoveries due in terms of the Contract, less taxes due to be deducted at source as per applicable laws and less **20 percent** of the value of work not completed. Additional Liquidated Damages shall not apply. If the total amount due to the OCCL exceeds any payment due to the Agency the difference shall be a debt payable to the OCCL. In case of default for payment within 28 days from the date of issue of notice to the above effect, the agency shall be liable to pay interest at 12% per annum for the period of delay.

#### **57.0 Property:**

All materials on the site, plant, equipment, Temporary works and works are deemed to be the property of the OCCL/Department if the Contract is terminated because of Agency's default.

#### **58.0 Releases from Performance:**

If the Agency is frustrated by the outbreak of war or by any other event entirely outside the control of either the OCCL or the Agency the Engineer-in-Charge shall certify that the contract

has been frustrated. The Agency shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and for any work carried out afterwards to which commitment was made.

### **F. OTHER GENERAL CONDITIONS**

#### **59.0 Water Supply**

The Agency has to make his own arrangements for water required for the work and to the colonies and work sites, which are to be established by the Agency.

#### **60.0 Electrical Power**

The Agency will have to make their own arrangements for drawing electric power from the nearest power line after obtaining permission from the CESCO at his own cost. In case of failure of electricity, the Agency has to make alternative arrangements for supply of electricity

by Diesel Generator sets of suitable capacity at place of work. The agency shall satisfy all the conditions and rules required as per Indian Electricity Act 1910 and under rule-45(1) of the Indian Electricity Rules, 1956 as amended from time to time and other pertinent rules.

The power shall be used for bona-fide OCCL works only.

**60.1 Electric Power for Domestic Supply:**

- a) The agency has to make his own arrangements for the supply of electric power for domestic purposes and the charges for this purpose have to be paid by him at the rates as fixed by the CESCO from time to time.
- c) The agency will have to make his own arrangements to lay and maintain the necessary distribution lines and wiring for the camp at his own cost. The layout and the methods of

laying the lines and wiring shall have the prior approval of the Engineer-in-Charge. All camp area shall be properly electrified. All lines, streets, approaches for the camp etc., shall be sufficiently lighted for the safety of staff and labour of the agency, at the cost of the Agency and it will be subject to the approval of the Engineer-in-Charge.

**61.0 Land:**

**61.1 Land for Agency's use:**

The agency will be permitted to use Government land for his site office and colony. The agency shall have to make his own arrangements for acquiring and clearing the site, leveling, providing drainage and other facilities for labour staff colonies, At/PO- work- shop or stores and for related activities. The Agency shall apply to the Department within reasonable time after the award of the contract and at least 30 days in advance of its use, the details of land required by him for the work at site and the land required for his camp. Should any private land, which has not been acquired, be required by the agency for his use, the same may be acquired by the agency at his own cost by private negotiations and any claim shall not be admissible to him on this account.

The Engineer-in-Charge reserves the right to refuse permission for use of any government land for which no claim or compensation shall be admissible to the agency. The agency shall, however, not be required to pay cost or any rent for the Government land given to him.

**61.2. Surrender of Occupied Land:**

- a) The Government land as here in before mentioned shall be surrendered to the Engineer-in-Charge within seven days, after issue of completion certificate. Also no land shall be held by the agency longer than the Engineer-in-Charge shall deem necessary and the agency shall on the receipt of due notice from the Engineer-in-Charge, vacate and surrender the land which the Engineer-in-Charge may certify as no longer required by the Agency for the purpose of the work.
- b) The agency shall make good to the satisfaction of the Engineer-in-Charge any damage to areas, which he has to return or to other property or land handed over to him for purpose of this work Temporary structures may be erected by the agency for storage sheds, offices, residences etc., for non-commercial use, with the permission of the Engineer-in-Charge on the land handed over to him at his own cost. At the completion of the work these structures shall

be dismantled site cleared and handed over to the Engineer-in-Charge. The land required for providing amenities will be given free of cost from Government lands if available otherwise the agency shall have to make his own arrangements.

#### **62.0 APPROACH ROADS AND ROADS IN WORK AREA:**

In addition to existing public roads and roads Constructed by Government, if any, in work area all additional approach roads inside work area and camp required by the Agency shall be constructed and maintained by him at his own cost. The layout design, construction and maintenance etc. of the roads shall be subject to the approval of the Engineer-in-Charge. The agency shall permit the use of these roads by the Government free of charge.

It is possible that work at, or in the vicinity of the work site will be performed by the Government or by other agency engaged in work for the Government during the contract period. The agency shall without charge permit the government and such other agency and other workmen to use the access facilities including roads and other facilities, constructed and acquired by the agency for use in the performance of the works.

The agency's heavy construction traffic or tracked equipment shall not traverse any public roads or bridges unless the agency has made arrangement with the authority concerned. In case agency's heavy construction traffic or tracked equipment is not allowed to traverse any public roads or bridges and the agency is required to make some alternative arrangements, no claim on this account shall be entertained.

The agency is cautioned to take necessary precautions in transportation of construction materials to avoid accidents.

#### **63.0 Payment for Camp Construction:**

No payment will be made to the agency for construction, operation and maintenance of camp and other camp facilities.

#### **64.0 Explosive Magazines & Fuel Storage Tanks:**

No explosive shall be stored within 1/2 (half) KM of the limit of the camp sites. The storage of gasoline and other fuel oils or of Butane, Propane and other liquefied petroleum gases, shall conform to the regulations of Odisha State Government and Government of India. The tanks, above ground and having capacity in excess of 2000 litres, shall not be located within the camp area, nor within 200m of any building.

#### **65.0 Labour:**

The agency shall, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

Labour importation and amenities to labour and agency's staff shall be to the agency's account. His bid cost shall include the expenditure towards importation of labour amenities to labour and staff.

##### **65.1 Transportation of Labour:**

The agency shall make his own arrangement for the daily transportation of the labour and staff from labour camps colonies to the work site at his own cost. No extra payment will be made to the agency for the above transportation of the labour.

The agency will at all times duly observe the provisions of the Employment of Children Act- XXVI of 1938 and any enactment or modification of the same and will not employ or permit any person to do any work for the purpose under the provisions of this contract in contravention of said Act. The agency here by agrees to indemnify the OCCL from and against all claims, penalties which may be suffered by the OCCL or any person employed by the OCCL by any default on the part of the agency in the observance and performance of the provisions of the Employment of Children Act- XXVI of 1938 or any enactment or modification of the same.

The agency shall obtain the insurance at his own cost to cover the risk on the works to labour engaged by him during period of execution against fire and other usual risks and produce the same to the Engineer-in-Charge concerned before commencement of work.

#### **66.0 Safety Measures:**

The agency shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and agency shall add to and augment these precautions on his own initiative where necessary and shall comply with directions issued by the Engineer-in-Charge or on his behalf from time to time and at all times.

1. Providing protective foot wear to workers situations like mixing and placing of mortar or concrete sand in quarries and places where the work is done under much wet conditions.
2. Providing protective head wear to workers at places like underground excavations to protect them against rock falls.
3. Providing masks to workers at granulates or at other locations where too much fine dust is floating about and sprinkling water at frequent intervals by water hoses on all stone crushing area and storage bins abate to dust.
4. Getting the workers in such jobs periodically examined for chest trouble due to too much breathing in to fine dust.
5. Taking such normal precautions like fencing and lightening in excavation of trenches, not allowing rolls and metal parts of useless timber spread around, making danger areas for blasting providing whistles etc.
6. Supply work men with proper belts, ropes etc., when working in precarious slopes etc.
7. Avoiding named electrical wire etc. as they would electrocute the works.
8. Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle- them independently and taking all necessary precautions in around the areas where machines hoists and similar units are working.

#### **67.0 Fair Wage Clause:**

The agency shall not employ for the purpose of this contract any person who is below the age of fourteen (14) years and shall pay to each labourer for work done by such labourers fair wages. (PWD No.-22059 Dtd-16.08.77)

Explanation – “Fair Wage” means wages, whether for time or piece work prescribed by the state Public Works Department provided that where higher rates have been prescribed under the Minimum Wages Act’1948 wages at such higher rates should constitute fair wages.

The Engineer-in-Charge shall have the right to enquire into and decide ant complaints alleging that wages paid by the agency to pay labourer for work done by such labourer is less than the wages as per the sub-paragraph (1) above.

- (b) The agency shall notwithstanding the provisions of any contract to contrary, cause to be paid a fair wages to labourers indirectly engaged on the work including any labour engaged by his sub agency in connection with the said work, as if the labourers had been immediately employed by him.
- (c) In respect of all labour directly or indirectly employed in the works for the performance of the agency’s part of this agreement, the agency shall comply with or cause to be complied with all regulations made by Government in regard to payment of wages period deductions from wages, recovery of wages not paid and deductions unauthorisedly made, maintenance of wage register, wage cards, publications of scale of wages and other terms of employment, inspection and submission of periodical return and all other matters of a like nature.
- (d) The Engineer-in-Charge or Sub-divisional Officer concerned shall have the right to deduct, from the money due to the agency, any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages, which are not justified by their terms of the contract or non-observance of the regulations. Money so deducted should be transferred to the workers concerned.
- (e) Vis-à-vis, the Government of Odisha, the agency shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim indemnity from his sub-agency.
- (f) The regulations aforesaid shall be deemed to be a part of this contract and ant breach thereof shall be breach of this contract.
- (g) Under the provisions of the Minimum Wages Act’ 1948 and the Minimum Wages (Central Rules 1950) the agency is bound to allow or cause to be allowed to the labourers directly or indirectly employed in the work one day rest for six days continuous work and pay wages at the same rate as for duty. In the event of default the Engineer-in-Charge or Sub-divisional Officer concerned shall have the right to deduct the sum not paid on account of wages for weekly holiday to any labourers and pay the same to the person entitled there to from any money due to the agency.
- (h) The agency shall at his own expense provide or arrange for the provision of foot wear for any labour doing cement mixing work and black topping of roads (The agency has undertaken to execute under this contract) to the satisfaction of the Engineer-in-Charged on his failure to do so, OCCL/Government shall be entitled to provide the same and recover the cost from the agency.
- (i) The agency shall submit by the 4th & 10th every month to the Engineer-in-Charge true statement showing in respect of the second half of the preceeding month and the

first half of the current month respectively (1)the number of labours employed by him on the work (2)their working hours(3) the wages paid to them (4)the accident that occurred during the said fortnight showing the circumstances under which they happened and the content of damage injury caused by them and (5) the number of female workers who have been allowed maternity benefit according to clause K and the amount paid to them failing which the agency shall be liable to pay to OCCL/ Government as admissible for each default to materially incorrect statement. The decision of the Engineer-in-Charge shall be final in deducting from any bill due to agency amount levied as fine.

- (j) In respect of all labour directly or indirectly employed in the words for the performance of the agency's part of this agreement, the agency shall comply with or cause to be complied with all the rule, framed by Government employed by the Odisha Public Works Department and its agencies. This will apply to work places having 50 or more workers.

### **67.1 Odisha P.W.D Agency's Labour Regulation.**

**Short Title** – These regulations may be called “The Odisha Public Works Department/Electricity Department Agency's Regulations.”

**1. Definitions** – In these Regulations, unless otherwise expressed or indicated the following words and expressions shall have the meaning hereby assigned to them respectively that is to say –

(i) “**Labour**” means works employed by a agency of the Odisha Public Works Department/Electricity Department directly or indirectly through a sub-agency or other person, by an agent on his behalf.

(ii) “**Fair wages**” means wages whether for the time of piece work described y the State Public Works Department/Electricity Department for the area in which the work is done.

(iii) “**Agency**” shall include every person whether a sub-agency or headman or agent employing labour on the work taken on contract.

(iv) “**Wages**” shall have the same meaning as defined in the payment of Wages Act. and include time and piece rate wages, if any –

### **2. Display of notices regarding wages, etc.**

The agency shall –

(a) Before he commences his work on contract display and correctly maintain and continue to display, in a clean and legible condition, in conspicuous places on the work, notices in English and in the local Indian language spoken by the majority of the workers, giving the rate of wage prescribed by the State Public Works Department for the district where the work is done.

(b) Send a copy of such notices to the Engineer-in-Charge of the work.

### **3. Payment of Wages**

(i) Wages due to every worker shall be paid to him direct.

(ii) All wages shall be paid in current coin or currency or in both.

### **4. Fixation of wage period**

(i) The agency shall fix the wage period in respect of which wages be payable.

(ii) No wage period shall exceed one month.

(iii) Wages of every workman employed on the contract shall be paid before expiry of 3 days, after the last day of the wage period in respect of which the wages are payable.

(iii) When the employment of any worker is terminated by or on behalf of the agency, the wages earned by him shall be paid before the expiry of the day succeeding the one on which his employment is terminated.

(iv) All payment of wages shall be made on a working day.

**5. Wages book and wage cards, etc.**

(i) The agency shall maintain a wage book of each worker in such form as may be convenient, but the same shall include the following particulars –

(a) Rate of daily or monthly wages.

(b) Nature of work on which employed.

(c) Total number of days of work during each wage period.

(d) Total amount payable for the work during each wage period.

(e) All deductions made from the wages with an indication in each case of the ground for which the deduction is made.

(f) Wage actually paid for each wage period.

(ii) The agency shall also maintain a wage card for each worker employed on the work.

(iii) The Engineer-in-Charge may grant an exemption from the maintenance of wage bond, wage cards to a agency who, in his opinion may not directly or indirectly employ more than 10 persons on the work.

**6. Fines deduction which may be from wages**

(i) The wages of a worker shall be paid to him without any deduction of any kind except the following.

(a) Fines

(b) Deductions for absence from duty, i.e. from the place or place where by the terms of his employment he is required to work. The amount of deductions shall be in proportion to the period for which he was absent.

(c) Deductions for damages for damage to or loss of good expressly entrusted to the employed person for custody or for loss of money for which he is required to account where such damage or loss is directly attributable to his neglect or default.

(d) Any other deductions which the Odisha Government may from time to time allow.

(i) No fines shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity or showing cause against such fines or deductions.

(ii) The total amount of fines which may be imposed in any one wage period on a work shall not exceed an amount equal to five paise in rupee of the wages payable to him in respect of that wage period.



(iii) No fine imposed on any worker shall be recovered from him by installments, or after the expiry of 60 days from the date on which it was imposed.

**7. Register of Fines, etc.**

(i) The agency shall maintain a register of fines and of all deductions for damage or loss. Such Register shall mention the reason for which fine was imposed or deduction for damage or loss was made.

(ii) The agency shall maintain a list in English and in the local Indian language, clearly defining acts and omissions for which penalty or fine can be imposed. It shall display such list and maintain it in a clean and legible condition in conspicuous places in the work.

**8. Preservation of Register**

The wage register, the wage cards and the register of fines, deduction required to be maintained under these regulations shall be preserved for 12 months after date of the last entry made in them.

**9. Power of Labour Welfare Officer to make investigation or enquiry –**

The Labour Welfare Officer or any other persons authorized by the Government of Odisha on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and the provision if these of these regulations. He shall investigate into any complaint regarding default made by the agency, sub-agency in regard to such provisions.

**10. Report of Labour Welfare Officers-**

The Labour Welfare Officers or others authorised as aforesaid shall submit a report of the results of his investigation or enquiry to the Engineer-in-Charge concerned, indicating the extent, if any, to which the default has been committed with a note that necessary deduction from the agency's bill be made and the wages and other dues be paid to the labourers concerned.

**11. Appeal against the decision of Labour Welfare Officers-**

Any persons aggrieved by the decision and recommendation of the Labor Welfare Officer or other person so authorised may appeal against such decision to the Labour Commissioner within 30 days from the date of decision forwarding simultaneously a copy of his appeal to the Engineer-in-Charge concerned but subject to such appeal, the decision of the officer shall be final and binding upon the agency.

**12. Inspection of registers –**

The agency shall allow inspection of the wage book and wage cards to any of his workers or to his agent at a convenient time and place after due notice is received, or to the Labour Commissioner or any other person authorised by the OCCL/ Government of Odisha on his behalf.

**13. Submission of return –**

The agency shall submit periodical returns as may be specified from time to time.

**14. Amendments –**

The Government of Odisha may from time to time, add to or amend these regulations and on any question as to the application, interpretation of effect of the regulations, the decision of the Labour Commissioner or any other person authorised by the Government of Odisha in that behalf shall be final.

### **67.2 Maternity benefit rules for female workers employed by Agency.**

Leave and pay during leave shall be regularized as follows.

1. Leave : i) In case of delivery : Maternity leave not exceeding 8 weeks up to and including the day of delivery or 4th weeks following that day.  
ii) In case Miscarriage: Up to 3 weeks from the date of miscarriage.
  
2. Pay: i) In case of delivery: Leave pay during maternity leave will be at the rate of the woman's average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of which she gives notice that the excepts to be confirmed or at the rate of daily wage whichever is greater.  
ii) In case of Miscarriage : Leave pay at the rate of daily earnings calculated on the total wages earned on the date when full time work was done during a period of 3 months immediately preceding the date of such miscarriage.

**Condition of the grant of Maternity Leave:** No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period not less than 8 months immediately preceding the date on which she proceeds on leave.

### **MODEL RULES FOR HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY ODISHA P.W.D ON ITS AGENCY.**

1. Application: These rules shall apply to construction work in charge of Odisha Public Works Department which are expected to continue for a year or more.
  
2. Definitions: (i) "Work Place" means a place at which averages of fifty or more workers are employed in connection with construction work.  
(ii) Large work place means a place at which an average of 500 or more workers is employed in connection with construction work.
  
3. First Aid: (a) At every work place there shall be maintained in readily accessible place First-Aid appliances including an adequate supply of sterilizer dressings and sterilized cotton wool. The appliances shall be kept in good order and in large work place they shall be readily available during working hours.  
  
(b) At large works places, where hospital facilities are not available within easy distance of the works, First-Aid posts shall be established and run by a trained compounder.  
  
(c) Where large work places are remote from regular hospital an indoor ward shall be provided with one bed for every 250 employees.  
  
(d) Where large work places are situated in cities, towns or in their surplus and no beds are considered necessary owing to the proximity of city town hospital and ambulance

shall be provided to facilitate removal of urgent cases to these hospitals. At the work place, some conveyance facilities such as a car shall be kept ready to take injured person or persons suddenly taken seriously ill, to the nearest hospitals.

4. Drinking Water: (a) In every work place, there shall be provided and maintained at suitable place easily accessible to labour, a sufficient supply of water fit drinking.
  - (b) Where drinking water is obtained from an intermittent public water supply each work place shall be provided with storage where such drinking water shall be stored.
  - (c) Every water supply of storage shall be at a distance of not less than 60 feet from any latrine, drain or other sources of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells be entirely closed in and be provided with a trap door which shall be dust and water proof.
  - (d) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked open only for cleaning or inspection which shall be done at least once 2 months.
  - (e) The temperature of drinking water supplied to workers shall not exceed 90° F.
5. Washing and Bathing Place:
  - (i) Adequate washing and bathing place shall be provided separately for man and women.
  - (ii) Such places shall be kept in clean and drained condition.
6. Scale of accommodation in latrines and Urinals: There shall be provided within the premises of every work place latrines and urinals in an accessible places and the accommodation, separately for each of them shall not be less than the following.
  - (a) Where the number of persons employed does not exceed 50.No. of seats 1.
  - (b) Where the number of persons employed exceeds 50 but does not exceed 100. No. of seats 3 per 100.
  - (c) For every additional 100, 3sets  
(In particular cases the Engineer-in-Charge shall have the power to vary the scale where necessary). Latrines and Urinal for women: If women are employed, separate latrines and urinal for women. If women are employed, separate latrines separate from that for women and marked in the vernacular in conspicuous letter. For women only shall be provided on the scale laid in rule.
7. Latrines and Urinals: Except in work places provided with water flushed latrines connection with a water borne sewerage system, all latrines shall be provided with receptable on dry earthen system which shall be cleaned and at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. The receipt tables shall be tarred inside and outside at least once a year.
8. Constructions of latrines: The inside wall shall be constructed of masonry or stone materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in register maintained for this purpose and kept available for inspection.

9. Disposal of Excreta : Unless otherwise arrange for by the local sanitary authorities, arrangement for a proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator approved by Asst. director of Public Health or Municipal Medical Officer of Health as the case may be, in whose jurisdiction the work place is situated. After natively excreta may be disposed of putting of a layer of.
10. Night soil at the bottom of pucca tank prepared for the purpose and covering it with a layer of waste or refuse and then covering it up with a layer of 6" of waste or refuse and then covering it up with a layer of each for a fortnight (when it will turn in to manure).
11. Provision of shelters during rest-at every work place, there shall be provided free of cost two suitable sheds and for meals and the other for rest the use of labourers. The height of the shelter shall not be less than 11 feet, from the floor level to the lowest of the roof.
12. Creche: (a) At every work place at which more than 50 women workers are employed, there shall be provided only one creche for the use of children under the age of 6 years, belonging to such women and shall be used for infant's games and play and their bed room. The huts shall not be constructed on a lower standard than the following:
- h) Thatched roofs
    - ii) Mud floors and walls
    - iii) Planks spread over the mud floor and covered with matting

The hut shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision for sweepers to keep the place clean. There shall be two dais in attendance, sanitary, utensils shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the hut shall be restricted to children, their attendants and mothers of the children.

- (b) Where the number of women workers is more than 50, the Agency shall provide one hut and a Dai to look after the children of women workers.
  - (c) The size of creche shall vary according to the number of women workers.
  - (d) The creche shall be properly maintained and necessary equipment like toys etc. shall be provided.
13. Canteen: A cooked food Canteen on moderate scale shall be provided for the benefits of workers whenever it is considered expedient.

#### **68.0 Indemnity Bond:**

The agency has to furnish the bond at the time of signing of the Agreement.

Name of work- Construction of under Ground Pipe Line Irrigation System (Gravity Flow) in 13Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA on EPC-Turn Key basis- (Package No-III)

I \_\_\_\_\_ agency S/o \_\_\_\_\_ aged \_\_\_\_\_ Resident of \_\_\_\_\_ do hereby bind myself to pay all the claims may come (a) under Workmen's Compensation Act' 1933 with any statutory modification thereof and rules there under or otherwise for or in respect of any

damage or compensation payable in connection with any accident or injury sustained (b) under Minimum wages Act'1948 (c) under payment of wages Act'1936 (d) under the Agency labour (Regulation and Abolition) Act' 1970 by workmen engaged for the performance of the business relating to the above contract i.e., failing such payment of claims of workmen engaged in the above work, I abide in accepting for the recovery of such claims, effected from any of my assets with the OCCL/departments.

#### **69.0 Compliance with Labour Regulations:**

During continuance of the contract, the agency and his sub agencies shall abide at all times by all existing labour enactments and rules made there under, 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 notifications that may be issued under any labour law in future either by the State or the Central Government or the local authority and also applicable labour regulations, health and sanitary arrangements for workmen, insurance and other benefits. Salient features of some of the major labour laws that are applicable to construction industry are given below. The agency shall keep the OCCL/Department indemnified in case any action is taken against OCCL/Department by the competent authority

on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the OCCL/Department is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provision stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the agency, the Engineer-in-Charge/Department shall have the right to deduct any money due to the agency including his amount of performance security. The Department/Engineer-in-Charge shall also have right to recover from the agency any sum required or estimated to be required for making good the loss or damage suffered by the OCCL/Department.

The employees of the Agency and the Sub-agency in no case shall be treated as the Department of the OCCL/Department at any point of time.

#### **70.0 Salient features of some major labour laws applicable to establishment engaged in buildings and other construction work:**

- a) Workmen compensation Act' 1923: The Act provides for compensation in case if injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act' 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if any employee has completed 5 years service or more, or on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments, employing 10 or more employees.
- c) Employees P.F. and Miscellaneous provision Act' 1952: The Act provides for monthly contributions by the OCCL/Department plus workers @ 10% or 8.33%. The benefits payable under the Act are:
  - i) Pension or family pension on retirement or death, as the case may be.
  - ii) Deposit linked insurance on the death in harness of the worker.

- iii) Payment of P.F. accumulation on retirement/death etc.,
- d) Maternity Benefit Act' 1951: The Act provides for leave and some other benefits to women employees in case of confinements or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act' 1970: The Act provides for certain welfare measures to be provided by the agency to contract labour and in case the Agency fails to provide, the same are required to be provided by the Principal Department by Law. The Principal Department is required to take certificate of Registration and the agency is required to take license from the designated Officer. The Act is applicable to the establishments or Agency of Principal Department if they employ 20 or more contract labour.
- f) Minimum wages Act' 1948: The Department is supposed to pay not less than the Minimum wages fixed by appropriate Government as per provisions of the Act if the employment is a
- g) scheduled employment construction of Buildings, Roads, Runways are scheduled employments.
- h) Payment of wages Act' 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- i) Equal Remuneration Act' 1979: The Act provides for payment of equal wages for work of equal nature to Male or Female workers and for not making discrimination against Female employee in the matters of transfers, training and promotions etc.
- j) Payment of Bonus Act'1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payment of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing `3500/- per month or less. The bonus to be paid to employees getting `2500/- per months or above and up to `3500/- per month shall be worked out by taking wages as `2500/- per monthly only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- k) Trade Unions Act' 1926: The Act lays down the procedure for registration of trade unions of workmen and Departments. The Trade Unions registered under the act have been given certain immunities from civil and criminal liabilities.
- l) Child Labour (Prohibition & Regulation) Act' 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes, Employment Child Labour is prohibited in Building and Construction Industry.
- m) Inter-State Migrant workmen's (Regulation of Employment & Conditions of service) Act' 1979: The Act applicable to an establishment, which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another State). The inter State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- n) The Building and Other Construction workers (regulation of Employment and conditions of service) Act' 1996 and the Cess Act of 1996: All the establishments who carry on any

building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Department of the establishment is required to provide safety measures at the Building or construction work

and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Department to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

## **71.0 Liabilities of the Agency:**

### **71.1 Accident Relief and workmen compensation:**

The agency should make all necessary arrangements for the safety of workmen on the occurrence of the accident, which results in the injury or death of any of the workmen employed by the agency, the agency shall within 24 hours of the happenings of the accident and such accidents should intimate in writing to the concerned Asst. Engineer / Asst. Engineer-in-Charge of the Department the act of such accident. The agency shall indemnify Government against all loss or damage sustained by the Government resulting directly or indirectly from his failure to give a intimation in the manner aforesaid including the penalties or fines, if any, payable by Govt. as a consequence of Govt. failure to give notice under Workmen's Compensation Act or otherwise conforming to the provisions of the said Act in regard to such accident.

71.2 In the event of an accident in respect of which compensation may become payable under the Workmen's Compensation Act VIII 23 whether by the agency, by the Government it shall be lawful for the Engineer-in-Charge to retain such sum of money which may in the opinion of the Engineer-in-Charge be sufficient to meet such liability. The opinion of the Engineer-in-Charge shall be final in regard to all matters arising under this clause.

71.3 The agency shall at all times indemnify the Govt. of Odisha. Against all claims which may be made under the workmen's compensation act or any statutory modification thereafter or rules there under or otherwise consequent of any damage or compensation payable in consequent of any accident or injuries sustained or death of any workmen engaged in the performance of the business relating to the agency.

## **72.0 Agency's Staff, Representatives and Labour:**

(a)The agency shall, at all times, maintain on the works, staff of qualified Engineers, and Supervisors of sufficient experience of similar other jobs to assure that the quality of work turned out shall be as intended in the specifications. The agency shall also maintain at the works, a Work Manager or sufficient status, experience and office and duly authorize him to deal with all aspects of the day-today work. All communications to any commitments by the Work Manager shall be considered as binding on the Agency.

(b)The Agency shall at all times submit details of skilled and unskilled labour and equipment employed to the Engineer-in-Charge in prescribed proforma as he may require to assess and ensure the proper progress of work.

(c) If the agency does not employ the technical person agreed to on the work a fine of Rs.25,000/- will be imposed. If he does not employ for 30 days, thereafter it becomes a fundamental breach of contract.

(d) The Agency shall at all times, maintain on the work a staff of qualified Engineers and Supervisors of sufficient experience of similar other jobs to ensure that the quality of work turned out shall be as intended in these-specifications and they shall be present at the work spot during working hours and at the time of inspection by the OCCL/Department Officers. All orders and direction given to such supervisory or other staff of the agency to be present on any specified inspection and the agency shall comply with such requisitions.

(e) The agency shall supply to the Engineer-in-Charge details of name, qualifications and experience in regard to all supervisory staff employed by the agency and notify the changes when made and satisfy the Engineer-in-Charge regarding the quality and adequacy of staff thus employed.

(f) The Engineer-in-Charge will have the unquestionable right to ask for change in the agency's supervisory staff and to other removal from the work and connection herewith of any of such staff. The agency shall comply with such order and effect replacement to the satisfaction of the Engineer-in-Charge.

(g) The Agency shall not without written authorization permit entry on site of work of any person authorized agents, engaged in connection with work.

(h) All vehicles used by the agency shall be clearly marked with agency's name.

#### **73.0 Accommodation and food:**

The agency should arrange accommodation he needs, at his own cost. The agency shall make his own arrangements for supply of food grains, fuel and other provision to his staff and labourers including controlled commodities.

#### **74.0 Relationship:**

Agency shall have to furnish information along with Bid, about the relationship he is having with any officer of the Department Government of Odisha of the rank Assistant Engineer and above engaged in the work and any officer of the rank of Assistant Secretary and above of the Department of Government of Odisha.

#### **75.0 Protection of adjoining premises:**

The agency shall protect adjoining sites against structural, decorative and other damages that could be caused by the execution of these works and make good at his cost any such damages.

#### **76.0 Work during night or on Sundays and holidays:**

The works can be allowed to be carried out during night, Sundays or authorised holidays in order to enable him to meet the schedule targets and the work shall require almost round the clock working keeping in view:

- i) The provisions of relevant labour laws being adhered to:
- ii) Adequate lighting, supervision and safety measures are established to the satisfaction of the Engineer-in-Charge and



- iii) The construction programme given by the Agency and agreed upon by the Engineer-in-Charge envisages such night working or working during Sundays or authorised holidays.

**77.0 Layout of materials stacks:**

The agency shall deposit materials for the purpose of the work on such parts only of the ground as may be approved by the Engineer-in-Charge before starting work. A detailed survey, clearly indicating position and areas where materials shall be stacked and sheds built is to be

conducted by the agency at his own cost and only after obtaining necessary approval of the plan for use of sites by the Engineer-in-Charge, the Agency can use the sites accordingly.

**78.0 Use of blasting materials:**

Procurement of blasting materials and its storage is the responsibility of the agency. The agency shall engage licensed blaster for blasting operation. The agency is to act in accordance

with Indian Explosive Act and other rules prevailing, during the execution of work. It is the responsibility of the agency to see, that works by other agencies in the vicinity are not hampered, in such cases if any claim is made by other agencies that should be borne by the agency. Carriage of blasting materials, from the magazine to the work site, is the responsibility of the agency.

**79.0 Plant and Equipment:**

- 79.1. The agency shall have sufficient plant, equipment and labour and shall work such hours and shifts as may be necessary to maintain the progress on the work as per the approval progress schedule. The working and shifts hours shall comply with the Govt. Regulations in force.
- 79.2 It is to expressly and clearly understand that agency shall make his own arrangements to equip himself with all machinery and special tools and plant for the speedy and proper execution of the work and the OCCL does not undertake responsibility towards their supply.
- 79.3 The OCCL shall supply such of the machinery that may be available on hire basis but their supply cannot be demanded as matter of right and no delay in progress can be attributed to such non-supply of the plant by the OCCL and the OCCL cannot be made liable for any damage to the agency. The Agency shall be responsible for safe custody of the OCCL machinery supplied to him (which will be delivered to agency at the machinery yard at site of work) and he has to make good all damages and losses if any other than fire, wear and tear to bring it to the conditions that existed at the time of issue to the agency before handing over the same to the OCCL. The hire charges for the machinery handed over to the agency will be recovered at the rate prevalent at the time of supply. The agency will have to execute supplemental contract with Engineer-in-Charge at the time of supply of the machinery.
- 79.4 The acceptance of OCCL machinery on hire is optional to the agency.

**80.0 Steel forms:**

Steel forms should be used for all items involving use of centering and shuttering. They shall be such that the concrete surface obtained after removal of centering and shuttering shall be single plane without any dents and undulations.

**81.0 Inconvenience to the public:**

The agency shall not deposit materials at any site, which will cause inconvenience to public. The Engineer-in-Charge may direct the agency to remove such materials or may undertake the job at the cost of the agency.

**82.0 Contract documents and materials to be treated as confidential:**

All documents, correspondences, decisions and orders, concerning the contract shall be considered as confidential and/or restricted in nature by the agency and he shall not divulge or allow access to them by any unauthorised person.

**83.0 General obligations of Agency:**

83.1 The agency shall, subject to the provision of the contract and with due care and diligence, execute and maintain the works in accordance with specifications and drawings.

83.2 The agency shall promptly inform the OCCL and the Engineer-in-Charge of any error, omission and fault and to rectify the defect in the design or specifications for the works which are discovered when reviewing the contract documents or in the process of execution of the works.

**84.0 Security measures**

- a) Security requirements for the work shall be in accordance with the Governments general requirements including provisions of this clause and the Agency shall conform to such requirements and shall be held responsible for the actions of all his staff, employees and the staff and employees of his sub-agencies.
- b) All agencies' employees, representatives and sub-agency's employees shall wear identifications badges provided by the agency. Badges shall identify the agency, showing and employee's number and shall be worn at all times while at the site. Individual labour will not be required to wear identification badges.
- c) All vehicles used by the agency shall be clearly marked with agency's name.
- d) The agency shall be responsible for the security of the works for the duration of the contract and shall provide and maintain continuously adequate security personnel to fulfill these obligations. The requirements of security measures shall include, but not limited to maintenance of order on the site, provision of all lighting, fencing, guard flagmen and all other measures necessary for the protection of the works within the colonies, camps and elsewhere on the site, all materials delivered to the site, all persons employed in connection with the works continuously throughout working and non working period including nights, Sundays and holidays for duration of the contract.
- e) Other agencies working on the site concurrently with the agency will provide security for their own plant and materials. However, their security revisions shall in no way relieve the agency of his responsibilities in this respect.

- f) Separate payment will not be made for provision of security services and the cost of this work shall be deemed to have been included in the bid.

**85.0 Fire fighting measures:**

- a) The agency shall provide and maintain adequate firefighting equipment and take adequate fire precaution measures for the safety of all personnel and temporary and permanent works and shall take action to prevent damage to destruction by fire of trees shrubs and grasses at his own cost.

**86.0 Sanitation:**

The agency shall implement the sanitary and watch and ward rules and regulations for all employees employed under this contract and if the Agency fails to enforce these rules, the Engineer-in-Charge may enforce them at the expenses of the Agency.

**87.0 Training of personnel:**

The agency, shall, if and as directed by the Engineer-in-Charge provide free of any charge adequate facilities, for vocational training of Government Officers, students, Engineers, supervisors, foremen, skilled workmen etc. not exceeding six in number at any one time on the

agency's work. Their salaries, allowances etc. will be borne by the Government and the training schemes will be drawn up by the Engineer-in-Charge in consultation with the agency.

**88.0 Ecological balance:**

- a) The agency shall maintain ecological balance by preventing de-forestation, water pollution and defacing of natural landscape. The agency shall so conduct his construction operation as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. In respect of the ecological balance, agency shall observe the following instructions.
- i) Where unnecessary destruction, scarring, damage or defacing may occur, as result of the operation, the same shall be repaired replanted or otherwise corrected at the agency's expense. The agency shall adopt precautions when using explosives, which will prevent scattering of rocks or other debris outside the work area. All work are including borrow areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape as directed by the Engineer-in-charge.
- ii) All trees and shrubbery which are not specifically required to be cleared or removed for construction purposes shall be preserved and shall b protected from any damage that may be caused by the Agency's construction operation and equipment. The removal of trees and shrubs will be permitted only after prior approval by the Engineer-in-Charge. Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the agency shall adequately protect such trees by use of protective barriers or other methods approved by the Engineer-in-Charge. Trees shall not be used for anchorages. The agency shall be responsible for injuries to trees and shrubs caused by his operations. The term "injury" shall include, without limitation bruising, scarring, tearing

and breaking of roots, trunks or branches. All injured trees and shrubs be restored as nearly as practicable without delay to their original condition at the agency's expense.

- iii) The agency's construction activities shall be performed by methods that will prevent entrance or accidental spillage of solid matter contaminants, debris and other objectionable pollutants and wastage into river. Such pollutant and waste include earth and earth products, garbage, cement concrete, sewage effluent, industrial wastes, radioactive substances, mercury, oil and other petroleum products, aggregate residuals, mineral salts and thermal pollutants. Pollutants and wastes shall be disposed off in a manner and at sites approved by the Engineer-in-Charge.
- iv) In conduct of construction activities and operation of equipments the agency shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize the air pollution. The excessive omission of dust in to the atmosphere will not be permitted during the manufacture, handling and storage of concrete aggregates and the agency shall use such methods and equipment as a necessary for collection and disposal or prevention of dust during these operations. The agency's methods of storing and handling cement shall also include means of eliminating atmospheric discharges of dust, equipment and vehicles that give objectionable omission of exhaust gases shall not be operated. Burning of materials a resulting from clearing of trees, bushes, combustible construction materials and rubbish may be permitted only when atmospheric conditions for burning are considered favorable.
- b) Separate payment will not be made for complying with the provisions of this clause and all cost shall be deemed to have been included in the unit rates and prices included in the contract if any provision is not complied with within a reasonable time even after issue of a notice in this respect, the necessary operations would be carried out by the Engineer-in-Charge at the cost of the Agency, Orders of the Engineer-in-Charge in this respect would be final and binding on the agency.

**89.0 Preservation of existing vegetation:**

- a) The agency will preserve and protect all existing vegetation such as trees, on or adjacent to the site which do not unreasonably interfere with the construction as may be determined by the Engineer-in-Charge. The agency will be held responsible for all unauthorized cutting or damage of trees, including damage due to careless operation of equipment, stockpiling of materials or trekking of grass areas by equipment Care shall be taken by the Agency in felling trees authorized for removal to avoid any unnecessary damages to vegetation and trees that are to remain in place and to structures under construction or in existence and to workmen.
- b) All the produce from such cutting of trees by the agency shall remain the property of Government and shall be properly stacked at site, approved by the Engineer-in-Charge. No payment whatsoever shall be made for such cutting and its stacking by the Agency. If any produce from such cutting is not handed over to the Government by the agency, he shall be charged for the same at the rates
- c) to be decided by the Engineer-in-Charge. The recovery of this amount shall be made in full from the intermediate bill that follows.

d) The agency shall also make arrangements of fuel deposits for supply of required fuel for the labourers to be employed for cooking purpose at his own cost in order to prevent destruction of vegetation growth in the surrounding area of the work site.

**90.0 Possession Prior to completion:**

The Engineer-in-Charge shall have the right to take possession of or use any completed part of work or works or any part thereof under construction either temporarily or permanently. Such possession or use shall not be deemed as an acceptance of any work either completed or not completed in accordance with the contract specification except where expressly otherwise specified by the Engineer-in-charge.

**91.0 Access to the Agency's books:**

Whenever it is considered necessary by the Engineer-in-Charge to ascertain the actual cost of execution of any particular extra item of work or supply of the plant or material on which advance is to be made or of extra items or claims, he shall direct the agency to produce the relevant documents such as payrolls, records of personnel, invoices of materials and any or all data relevant to the item or necessary to determine its cost etc. and the agency shall when so required furnish all information pertaining to the aforesaid items in the mode and manner that may be specified by the Engineer-in-Charge.

**92.0 Drawing to be kept at site:**

The agency is to supply seven sets of corrected drawings for approval of the Project authority. The approving authority will forward four sets of approved drawing to the Engineer-in-Charge and two sets to the agency for his/their own use. The agency shall keep one complete set of drawings and specifications in the site in charge of the agency's agent to whom the instructions can be given by the Engineer-in-Charge.

**93.0 B.I.S Books and Standard Specification / OPWD code to be kept site:**

A complete set of Indian Standard specification referred to in "Technical Specifications" and OPWD Code shall be kept at site for reference.

**94.0 Site Order Book:**

An order book shall be kept at the site of the work. As far as possible, all orders regarding the work are to be entered in this book. All entries shall be signed and dated by the OCCL Officers in direct charge of the work and by the agency or by his representative. In important cases, the Engineer-in-Charge or MD, OCCL will countersign the entries, which have been made. The order book shall not be removed from the worksite, except with the written permission of the Engineer-in-Charge. The Site Order Book shall be issued by the Engineer-in-Charge for use at site.

**95.0 Variations by way of modification, omissions or additions:**

The agency(s) shall not vary or deviate from the drawings or specifications except upon the express authority of the Engineer-in-Charge which shall be obtained by an order in writing of the Engineer-in-Charge or by plan or drawing expressly given or signed by him or by any subsequent written approval signed by him. For example the foundation shall be carried to the depths in suitable strata, shown in the drawing. But if the Engineer is of opinion that they

should be shallower or deeper and so directs the agency in writing the instruction of the Engineer-in-Charge shall be binding on the agency.

**95.1 The Power to make additions and alteration in drawing or specification etc.:** The Project authority shall have power to make any alternations in or additions to the original specification, drawing, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the agency(s) shall be bound to carry out the work in accordance with the instructions which may be given to him/them in writing signed by the Engineer-in-Charge and such alterations shall not invalidate the contract, and any additional work beyond the scope of the work which the agency may be directed to do in the manner above specified as part of the work or any curtailment of the work from the scope of the work as designed, which may be found necessary during the period of construction shall be carried out or omitted by the agency(s) on the same conditions in all respects on which he/they agreed to do the main work. If the additional or altered work for which no rates can be arrived from the main work then the agency shall within seven days of the date of the receipt by him/them of the order to carry out the work, inform the Engineer-in-Charge of the rate which he/they propose to charge for such class of work. If the Engineer-in-Charge does not agree to this rate he shall by notice in writing be at liberty to cancel his order to carry out such a class of work and arrange to carry it out in such manner as he may consider it advisable. In the event of dispute the decision of the MD, OCCL shall be final. The time limit for the completion of the work shall be extended or curtailed in the proportion to the increase or decrease in its costs. As alteration or curtailment bears to the cost of the original contract work, the certificate of the Engineer-in-Charge as to such proportion shall be conclusive.

**96.0 Care and diversion of river / stream. :**

The agency shall submit details regarding the diversion and care of river or stream during construction of the work along with a separate print-out of the time table showing earliest and latest start and finish dates of various activities. He should submit a detailed labour plan with drawings for the diversion and care of river during construction of work. The above arrangements shall be at agency's cost.

**97.0 INCOME TAX:**

- a) During the currency of the contract, deduction of income tax as per Income tax Rule shall be made from the gross value of each bill of the contract.
- b) The agency's staff, personnel and labour will be liable to pay personnel income taxes in respect of their salaries and wages as are chargeable under the laws and regulations for the time being in force; and the agency shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

**98.0 ROYALTY CHARGES:**

The agency shall pay the royalty to the competent authority / local body as per rules. The agency shall furnish quarterly statement showing quantity of quarried materials from whom purchased (with full address of the seller) & copies of bills for purchase to the District Officer of the Revenue Department authority competent to levy royalty in the area of work. Agency shall also furnish such additional information as regards royalty payment to the royalty collecting Authority as may be called for. The royalty charges paid shall be borne by the agency & shall not be reimbursed by the Engineer-in-Charge.

**99.0 GST:**

- 99.1 GST as applicable shall be deducted at source during the currency of the contract while making payments to the agency.
- 99.2 The agency should produce a valid GST Certificate before the payment of the final bill; otherwise payment to the agency will be withheld.
- 99.3 The tax structure is liable for revision as per the orders of the Government issued from time to time and in such case; the same tax will be deducted at source at the revised rates only while making payment to the agency.
- 99.4 Excess recovery due to downward revision in sales tax rates as per orders of Government from time to time will be reimbursed.

**100.0 Labour Welfare Cess.**

Labour welfare cess @ 1% of gross bill amount is to be deducted during currency of contract subject to the amendments made by Govt. from time to time.

**101.0 SUPPLY OF CONSTRUCTION MATERIALS:**

The agency(s) is/are to provide every article or thing which may be necessary and requisite for the due and proper execution of all the works to satisfactory completion of the contract in all respect.

**102.0 SETTING OUT:**

The agency shall be responsible for the true and proper setting out of the works and the correctness of positions, levels, dimensions and alignments of all parts of the work and for the provisions of all necessary instruments, appliances and labour in connection therewith, If, at any time, during the progress of the work, any errors, appear or arise in the positions, levels, dimensions or alignments of any part of the work, the agency, on being required to rectify such errors by the Engineer-in-Charge shall at his own expense do so to the satisfaction of the Engineer-in-charge. The checking of and setting out of any line or level by the Engineer-in-Charge or his representative shall not in any way, relieve the agency of his responsibilities for their correctness and other things used in setting out of the work. The agency shall carefully protect and observe all bench-marks, site-nails, pegs and other things used in setting out of the work.

**103.0 Sufficiency of the contract price:**

The Agency shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price. Unless otherwise stated in the Contract, the Contract price covers all the Agency's obligations under the Contract (including those under provisional sums, if any) and all things necessary for the proper planning & design, execution and completion of the Works and the remedying of any defects during construction and maintenance period.

**104.0 Unforeseeable Difficulties:**

Except as otherwise stated in the Contract:

- a. the Agency shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works:

- b. by signing the Contract, the Agency accepts total responsibility for having foreseen all difficulties and costs of successfully completing.
- c. the Works; and the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.

#### **105.0 Rights of Way and Facilities:**

The Agency shall bear all costs and charges, other than the statutory charges, for special and/or temporary rights-of-way, which he may require, including those for access to the Site. Department shall bear the statutory charges for R. O. R. The Agency shall also obtain, at his risk and cost, any additional facilities outside the site, which he may require for the purposes of the Works.

#### **106.0 Avoidance of Interference:**

The Agency shall not interfere unnecessarily or improperly with:

- a) The convenience of the public, or
- b) The access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others. –

The Agency shall indemnify and hold the Employer harmless against and from all -damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

#### **107.0 Access Route:**

The Agency shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. The Agency shall use reasonable efforts to prevent any road or bridge from being damaged by the Agency's traffic or by the Agency's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

##### **Except as otherwise stated in these Conditions:**

the Agency shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; the Agency shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions; the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route, the Employer does not guarantee the suitability or availability of particular access routes, and Costs due to non-suitability or non-availability, for the use required by the Agency, of access routes shall be borne by the Agency.

#### **108.0 Transport of Goods:**

- a) The Agency shall give the Employer, not less than 21 days' notice, of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- b) The Agency shall be responsible for packing, loading, transporting, receiving. Unloading, storing and protection all Goods and other things required for the Works; and
- c) The Agency shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.



**109.0 Agency's Equipment:**

The Agency shall be responsible for all his/their equipment. When brought on to the Site, Agency's Equipment shall be deemed to be exclusively intended for the execution of the Works.

- 1) All Constructional Plant, Temporary Works and materials provided by the Agency shall, when brought on to the site, be deemed to be exclusively intended for the execution of the Works and the Agency shall not remove the same or any part thereof, except for the purpose of moving it from one part of the site to another, without the consent, in writing, of the Engineer, which shall not be unreasonably withheld.
- 2) Upon completion of the works the Agency shall remove from the site all the said Constructional Plant and Temporary Works remaining thereon and any unused materials provided by the Agency.
- 3) The Employer shall not at any time be liable for the loss of or damage to any of the said Constructional Plant, Temporary Works or materials.

**110.0 Progress Reports:**

Monthly progress reports shall be prepared by the Agency and submitted to the Employer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 5 days after the last day of the period to which it relates.

Reporting shall continue until the Agency has completed all work. The work which is known to be outstanding at the completion date is to be completed stated in the Taking-Over Certificate for the Works.

**Each report shall include:**

- ( a ) Charts and detailed descriptions of progress, including each stage of design, Agency's Documents, procurement, manufacture, delivery to Site, construction, commissioning and trial operation;
- (b) Digital photographs showing the status of progress on the Site;
- (c) For the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
  - (i) Commencement of manufacture,
  - (ii) Agency's inspections,
  - (iii) Tests, and
  - (iv) Shipment and arrival at the Site;
- (d) The details of Agency's Personnel and Equipments.
- (e) Copies of quality assurance documents, test results and certificates of Material;
- (f) List of Variations, notices given
- (g) Safety statistics, including details of any hazardous incidents and Activities relating to environmental aspects and public relations; and

- (h) Comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

### **111.0 Design:**

#### **111.1 General Design Obligations:**

The Agency shall be deemed to have scrutinized, prior to the Base Date, the Employer's Requirements (including design criteria and calculations, if any). The Agency shall be responsible for the planning and Design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Employer shall not be responsible for any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information. Any data or information received by the Agency, from the Employer or otherwise shall not relieve the Agency from his responsibility for the Planning, design and execution of the Works.

#### **111.2 Agency's Documents:**

The Agency's Documents shall comprise the technical documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, and the documents.

The Agency shall prepare all his Documents, and shall also prepare any other documents necessary to instruct his Personnel.

If the Employer's Requirements describe the Agency's Documents which are to be submitted to the Employer for review, they shall be submitted accordingly, together with a notice as described below. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Employer for review, and (ii) "Agency's Documents" exclude any documents which are not specified as being required to be submitted for review.

The Employers may give notice to the Agency that his Document fails (to the extent stated) to comply with the Contract. If his Document so fails to comply, it shall be rectified, resubmitted and reviewed in accordance with this Sub-Clause, at his cost.

For each part of the Works, and except to the extent that the Parties otherwise agree:

- (a) Execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Agency's Documents which are relevant to its design and execution.
- (b) execution of such part of the Works shall be in accordance with these Agency's Documents, as submitted for review; and if the Agency; wishes to modify any design or document which has previously been submitted for review, the Agency shall immediately give notice to the Employer. Thereafter, the Agency shall submit revised documents to the Employer in accordance with the above procedure.
- (d) If the Employer's Representative instructs that further Construction Documents are necessary for carrying the works, the Agency shall upon receiving the Employer's Representative Instructions, prepare such construction documents and shall not be considered as variation. Any such contract (under the preceding paragraph) or any review

(under this Sub-Clause - or otherwise) shall not relieve the Agency from any obligation or responsibility.

### **111.3 As-Built Documents:**

The Agency shall prepare, and keep up-to-date, a complete set of 'as-built' records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Two copies shall be supplied to the Employer prior to the commencement of the quantity checks / Verification Tests on Completion.

In addition, the Agency shall supply to the Employer as-built drawings of the Works, showing all Works as executed, and submit them to the Employer for review under Sub-Clause [Agency's Documents]. The Agency shall obtain the consent of the Employer as to their size, the referencing system, and other relevant details.

Prior to the issue of any Taking-Over Certificate, the Agency shall supply to the Employer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The Work shall not be considered to be completed for the purposes of taking-over [Taking Over of the Works and Sections] until the Employer has received these documents.

### **111.4 Design Error:**

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Agency's Documents, they and the Works shall be corrected at the Agency's cost, notwithstanding any consent or approval under this Clause.

### **112.0 Programme:**

112.1 The Agency shall submit a work programme to the employer within 15 (fifteen) days after the conclusion of contract / commencement date whichever is earlier and the programme shall be based on the basic time period for completion and milestone as indicated in the Contract Document. His programme shall be considered effective upon acceptance by the Engineer-in-Charge.

The Agency shall also submit a revised work programme whenever the previous programme is inconsistent with actual progress or with the Agency's obligations. Unless otherwise stated in the contract each work programme shall include:

- (a) The order in which the Agency intends to carry -out the Works, including the anticipated timing of each major stage of the Works.
- (b) The periods for reviews under Clause [Agency's Documents],
- (c) The sequence and timing of inspections and tests specified in the Contract, and
- (d) A supporting report which includes:
  - (i) A general description of the methods which the Agency intends to adopt for the execution of each major stage of the Works, and
  - (ii) The approximate number of each class of Agency's Personnel and of each type of Agency's Equipment for each major stage.

### **112.2 Rate of Progress:**

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause [Programme], then the Employer may instruct the Agency to submit, under Sub Clause, a revised programme and supporting report describing the revised methods which the

Agency proposes to adopt in order to expedite progress and complete within the Time for Completion of the mile stone and the work. Unless the Employer notifies otherwise, the Agency shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Agency's Personnel and/or Goods, at the risk and cost of the Agency.

### **113.0 Charge of site**

From the commencement of the works to the completion of the same, they are to be under the agency (s) charge. The Agency(s) is / are to be held responsible for and to make good all injuries, damages and repair occasioned or rendered necessary to the same by fire or other causes and they are to hold the employer harmless from any claims for injuries to persons or for structural employer harmless from any claims for injuries to persons or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the agency's(s) or of any one in his/their employees during the execution of the works.

### **114.0 Changes in drawing**

If at any time before or after the commencement of the work the employer shall for any reason whatsoever.

- a) Cause alterations, omissions or variation in the drawings and specification involving any curtailment of the works as originally contemplated or
- b) Not required the whole of work as specified in the Bid to be carried out, the agency(s) shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which he/they might have derived from the execution of the work in full as specified in the Bid but which he/they did not derive in consequence of the curtailment of the works by reason of alterations, omissions or variations or in consequence of the full amount of the work not having been carried out.

**Section - V**  
**Special Conditions of Contract**

## **Special Conditions of Contract**

### **1.0 GENERAL**

The data and information given in the Contract Document are based on the survey & investigation carried out by the department. The Agency shall receive all the available data/information from the department on his written request. If additional data is required the agency will make required survey at his own cost for which it will not be reimbursed from OCCL.

### **2.0 SUFFICIENCY OF BID**

**2.1** The Agency shall be deemed to have visited and carefully examined the Project site and it's surrounding to have satisfied himself to the nature and conditions of the means of transport and communications, whether by land or air, as available at present and as to possible interruptions thereto including the access and regress conditions for the Site. The Agency is also deemed to have made enquiries, examined and satisfied himself as to the sites source for obtaining sand, stones, bricks and other materials, labour, the sites for disposal of surplus materials and accommodation for depots, colonies, workshops and other infrastructure facilities as may be necessary for executing and completing the Works, as also the sub-soil water and variations thereof, storms, prevailing winds, climatic conditions and all other similar matters affecting the works including law & order.

**2.2** Any neglect or omission or failure on the part of the Agency in obtaining necessary and reliable information upon the foregoing or any other matter affecting the Contract shall not relieve him from any risks or liabilities or the entire responsibility for the completion of the works in accordance with the Contract.

**2.3** No verbal agreement or inference from conversation with any officer or employee of the Employer either before or after the signing of the Contract shall in any way affect or modify any of the terms or obligations herein contained. The Agency shall also be deemed to have inspected and examined the Site and to have satisfied himself, before submitting his Bid, as to the form and nature thereof including the sub-surface conditions and other local conditions, the hydrological, geological and climatic conditions, the extent and nature of work and materials necessary for the completion of the Works of all schemes under the cluster, the means of access to the Site and the land for accommodation etc. he may require and, in general, shall be deemed to have obtained all necessary information, as to risks, contingencies and all other circumstances which may influence or affect his Bid.

### **3.0 MAJOR PROJECT COMPONENTS AND PROJECT BASIC PARAMETERS**

**3.1** The major components as proposed by the Employer along with the basic project design parameters fixed by the Employer for the UGPL Irrigation System in 13 nos. MIP are indicated below:

Major components are:

- a. Distribution Network through underground pipe line and accessories.
- b. Command Area Development Network through underground pipe line and accessories.
- c. Operation & Maintenance of UGPL network.

## 4.0 SCOPE OF WORK

### 4.1 General

4.1.1 The major components of works to be executed by the agency under this contract shall be as described section - wise as follows.

4.1.2 Any requirements of work whether requested by the Employer or otherwise and whether specifically described in the Contract or not but are necessary or required for the proper completion and functioning of the Works in accordance with the Contract including remedying of any gaps and deficiencies in the Works shall not be deemed to be considered as any change in the Scope of Work and shall not entitle the agency for any extra payment.

### 4.2 Planning, Design and Execution:

4.2.1 The planning & design for UGPL network consists of various control & regulation valves and turnout structures, **which includes providing, supplying, laying, jointing etc. complete in all respects for UGPL distributaries, Minors, Sub minors & CAD works. Moreover providing off-take structures, control structures, air valves, blow off assemblies, flush valves, turnout structures etc. whatever required for serving the total command of 4082 ha efficiently up to 1.00 ha. Chak.**

4.2.1.1 **At 1.00 ha. chak head, minimum discharge should not be less than 15Lps with minimum velocity at 0.6 m/s and minimum dia of pipe shall not be less than 100mm considering the silt load.**

4.2.1.2 **Sufficient driving head at intake point is to be provided to achieve above mentioned velocity and discharge.**

### 4.3 Civil Works

The scope of work under this section are Surveying, Planning and design, **Pipe laying including jointing for UGPL distributaries, Minors, Sub minors & CAD works providing off-take structures, control structures, turnout structures, air valves, blow off assemblies, flush valves, etc. whatever required for serving the total command of 4082 ha efficiently up to 1.00 ha. Chak.**

**Delivery chamber of required section shall be constructed by agency as per approved drawing and specification at each out let point of chak. Agency has to quote his bid inclusive cost of delivery chamber.**

### 4.4 DELETED

## 5.0 TESTS AND QUALITY CONTROL

5.1 The Agency shall be required to carry out all tests in accordance with relevant Clauses of the Conditions of contracts and the Technical Specifications and as per relevant I.S. Codes.

Employer's authorized representative and/or an outside inspection agency acting on behalf of the Employer shall have access to the site and shall have the power to inspect and

examine all works, the materials and workmanship of the project works, during execution. The Agency shall provide necessary labours, tools, or any other assistance as desired by the Employer's authorised representative without any extra payment. Necessary test results of the pipes and its appliances should be submitted to the OCCL prior to laying at site. The agency has to make arrangements from time to time for inspection of testing of materials at factory site.

- 5.2.1 Where the Engineer or his Representative attends the tests as provided in clause 5.1 above, and has any objection to any works or workmanship which in his opinion is not in accordance with the Contract he shall advise the Agency of his objection during tests/inspections. The Agency shall give due consideration to such objections and shall make modifications that may be necessary to meet the said objective. The inspection/tests by Engineer/ Engineer's Representative/Agency and/or his countersigning inspection/test certificate(s) thereon shall in no way limit the liabilities and responsibilities, of the Agency as stipulated in the Contract. The Agency shall maintain and record all measurements and test results and submit the same to the Employer after completion of such inspection/tests.

## **6.0 MEASUREMENTS AND PAYMENTS**

- 6.1 The Agency is entitled for interim payment under various sections of the work in accordance with the Conditions of Contract as specified in the payment schedule. Measurement/verification for interim payment certificate of various items, under various sections of the works, shall be made jointly by the Engineer-in-Charge or his Subordinate Staff and the Agency or his authorized representative for verifying the claims of the Agency's interim payment/running bills.

## **7.0 SUPPLEMENTARY REQUIREMENTS**

### **7.1 Drawings and Designs:**

The agency will submit 7 (Seven) copies of designs & drawings of distribution system, excavation/earthwork and concrete structures to the Engineer-in-Charge for approval. All soft copies and software used for computation shall be made available to the Engineer-in-Charge for vetting of the designs, drawings and estimates by the competent authority.

The documents and drawings shall be in sufficient detail for review. The scale of the drawing has to be chosen in coordination with the Engineer-in-Charge. The drawings shall be of standardized sizes and as instructed by the Engineer-in-Charge. The drawings shall contain the following basic information in the nameplate:

- a) Project name
- b) Name and number of the Contract
- c) Agency's name
- d) Number and title of the drawing
- e) Date and scale
- f) Draftsman's name and signature
- g) Name of the designer responsible and signature



- h) Revision Number (R0 for drawing submitted initially and R1, R2, etc., for Drawings submitted subsequently).
- i) Name and designation of checking official and space for signature.
- j) Approving authorities name and designation as specified by the Engineer-in-Charge and space for the signature.

A blank space 90 x 50 mm shall be provided immediately above the title block for the approval stamp. The Agency shall be responsible for preparation of working drawings and the construction documents for works, as specified in the Contract. Drawings given are indicative, but will form part of the contract.

All the studies layouts, drawings, design notes, which have been submitted to the OCCL, shall become the absolute property of OCCL under the copy right act and the agency shall not use the same in whole or part thereof elsewhere for any purpose without explicit written permission from the OCCL. In all difference of opinion on technical matters between the agency and the Engineer-in-Charge, the decision given by the MD, OCCL shall be final and binding on the agency.

## **7.2 Agency's Work Programme**

- 7.2.1 Within 15 (fifteen) days from the Date of Commencement, the Agency shall submit to the Employer a work programme showing the sequence in which he proposes to carry out various components for completing the Works as per the Master Control Network within the TIME FOR COMPLETION. The Master Control Network shall indicate the sequence of various activities and highlight the critical activities including delivery of equipment. Such work programme shall be subject to review and revision by the Employer/Engineer in consultation with the Agency from time to time in order to achieve completion of the Works within the TIME FOR COMPLETION. The agency shall also use computer aided project management software to generate Bar Chart based on network technique.

## **7.3 Action when the progress of any crucial item of work is unsatisfactory :**

If the progress of a crucial item of work, which is important for timely completion of work is unsatisfactory, the Engineer-in-Charge shall, notwithstanding that the general progress of work is satisfactory, in accordance with relevant clause, be entitled to take action under this clause after giving the agency 15 days notice in writing and the agency will have no claim for compensation for any loss sustained owing to such action.

## **7.4 Programme – Scheduling / Re-Scheduling**

- 7.4.1 The Works shall be executed and performed in accordance with the Master Control Network (Work Programme) which shall clearly indicate the interlinking / interdependencies of all the works. The Programme shall be reviewed jointly by the Employer/ Engineer and the Agency, at least once in a month where-in the hold ups/delays, if any, in the progress of Works, with reference to the agreed Schedule shall be given Special Attention. Necessary modifications (updating / Revisions) of the Programme, within the overall Time for Completion, shall be carried out by mutual agreement between the Employer/ Engineer and the Agency.

7.4.2 If for any reason, any parts of the Works of the Project are delayed, then the total programme may be re-scheduled by the Employer/ Engineer and the Agency, if necessary, keeping the overall completion schedule of the project unaltered. No extra cost whatsoever, on account of such re-scheduling shall be payable to the agency.

7.4.3 Progress Report:

The Agency shall submit to the Engineer, Engineer's Representative and Engineer-in- Charge monthly progress report by 5th day of following months in such form and details as prescribed by Engineer-in-Charge.

## **8.0 Inspection and tests:**

Except as otherwise provided all materials and workmanship if not otherwise designated by the specifications shall be subject to inspection, examination and test by the Engineer-in-Charge at any and all times during manufacture and/or construction and at any/all places where such manufacture or construction are carried on. The Engineer-in-Charge shall have the right to reject defective material and workmanship or require its corrections. Rejected workmanship shall be satisfactorily replaced with proper material without charge thereof and the agency shall properly segregate and remove the rejected material from the premises, if the agency fails to proceed at once with the replacement of the rejected material and / or the construction of defective workmanship, the Engineer-in-Charge may replace such material and / or correct such workmanship and charge the cost thereof to the agency.

The Agency shall be liable for replacement of all defective equipment/machineries/works during the contract period including extended time and Operation and Maintenance period.

The agency shall furnish promptly without additional charge, all facilities, labour and material necessary for the safe and convenient inspection and tests that may be required by the Engineer-in-Charge.

All inspections and tests by the OCCL shall be performed in such a manner as not to unnecessarily delay the work.

## **9.0 Damage to Works**

The works, whether fully completed or incomplete in any works, materials, machinery, plants, tools, temporary buildings and other things connected there with, shall remain at the risk and in the sole charge of the agency until whole of the completed work wise under the Contract has been delivered to the Engineer-in-Charge. Until such delivery of the entire completed work the agency shall at his own cost take all precautions reasonably to keep all the aforesaid works, materials, machinery, plants, temporary buildings and other things connected there with free from any loss or damage and in the event of the same or any part thereof being lost or damaged, he shall forth with reinstate and make good such loss or damage at his own cost. The complete system shall be insured against all possible risks.

**10.0 Examination and tests on Completion**

On the completion of the work the Engineer-in-Charge shall make such examination and tests of the work as may then seem to him possible, necessary or desirable, and the agency shall furnish free of cost any materials, equipments and labour which may be necessary thereof, and shall facilitate in every way all operations required by the Engineer-in-Charge, in making examination and tests.

**11.0 Trial run of Pipe line System**

On the completion or part completion of the work, the completed pipe line distribution system shall be subjected to trial run for 24 hours up to 30 days or as decided by Engineer-in-Charge to locate any defect and excessive seepage, if any. The trial run shall not be deemed as commissioning of the distribution system.

**12.0 Haul Roads**

The Agency shall have to make the work sites accessible to the OCCL/departmental officers for inspection by way of constructing/maintaining all weather roads/approaches, the cost of which shall be borne by the Agency.

**13.0 Layout of construction of road**

The Agency shall have to submit detailed plan to the Engineer-in-Charge showing the layout of the work site, roads and approach roads proposed by him, before he starts the actual work. Such a road layout plan will be scrutinized by the Engineer-in-Charge and any modifications suggested by him shall be binding on the agency. If it is decided by the Engineer-in-Charge to have some of the roads proposed by the Agency as common road for common use of OCCL/department and other agency or convenient and for compact and planned layout of work site, the Agency will be bound to construct them and allow them to be used simultaneously by other Agency and OCCL/departments. In case of disputes, the decision of the Engineer-in-Charge shall be final and the binding on the Agency.

**14.0 REGULATIONS AND BYE-LAWS**

The agency shall conform to the regulation, bye-laws, any other statutory rules made by any local Authorities or by the Government and shall protect and indemnify Government against any claim or liability arising from or based on the violation of any such laws, ordinance, regulations, orders, decrees, etc.

**15.0 SIGNING LONGITUDINAL SECTIONS & MEASUREMENT BOOKS**

Before starting the work, and at the end before the work is covered, levels for plotting the longitudinal sections (along the axis as decided by Engineer-in-Charge or his authorised representative) shall be taken by authorised Engineer of the agency in the presence of the Engineer-in-Charge or his authorised representative and the same shall have to be got attested from the Engineer-in-Charge.

If the agency fails to take measurements and sign them, then the measurements recorded by the Engineer-in-charge, or his authorized representative in the authorised books shall be final and binding on the agency. For this purpose, suitable date or dates shall be fixed by the Engineer-in-Charge and intimated to the agency. If the agency, or his duly – authorised agent fails to attend on the appointed date or dates, the levels and measurements shall be taken in his absence and such levels and measurements and longitudinal sections and cross sections based there on shall be final and binding on the Agency. Similar procedure for record of measurements shall hold good for all other items and activities involved in execution of the work. All the levels/measurements shall be recorded by the Engineer-in-Charge or his authorised representatives in the authorised level / measurement books.

#### **16.0 QUALITY CONTROL**

The agency shall produce results of quality control tests carried out on the works by his staff and the quality audit conducted by the department or by OCCL's Representative on these works. If the test result do not fulfil the stipulated criteria laid down in specifications the payment will be limited as per the provisions in the specification(s) and if number of results fail beyond the limit of acceptance, then the agency shall not be paid unless he rectified all such imperfect work(s). The decision of the Engineer-in-Charge in respect of the matters pertaining to the quality control shall be final and binding on the Agency.

#### **17.0 CLEANING UP**

- a) The Agency shall at all time keep the construction areas and his colony and storage free from accumulation of waste or rejected materials.
- b) Prior to the completion of the work, the Agency shall remove all rubbish from and around the premises. The premises will be left in a manner fully satisfactory to the Engineer-in-Charge.

#### **18.0 COMPENSATION FOR DELAY BY DEPARTMENT/ OCCL IN APPROVAL OF DESIGN DRAWING**

The agency shall not be entitled to claim any compensation from OCCL/department for the loss suffered by him on account of delay by OCCL/department in approval of alignment, designs & drawings.

#### **19.0 WORKS TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.**

The Agency shall execute the whole and every part of the work in the most substantial and workmen like manner and both as regards materials and otherwise in every respect in strict accordance with specifications. The Agency shall also confirm exactly, fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the Engineer or Engineer-in-Charge and lodged in his office, and to which the agency shall be entitled to have access at such office or on the site of the work for the purpose of inspection during office hours, and the agency shall, if he so requires, be entitled at his own expense to make or cause to be made copies of specifications and of all such designs, drawings and instructions as aforesaid.

**20.0 ALTERATIONS IN SPECIFICATIONS AND DESIGNS**

Engineer-in-charge shall have power to make any alterations in, or omissions from, addition to, or substitutions for the original specifications and approved drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the agency shall be bound to carry out the work in accordance with any such instruction which may be given to him in writing signed by the Engineer-in-Charge and such alterations omissions, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work, which the agency may be directed to do in the manner above specified as part of the work, shall be carried out by the agency on the same conditions, in all respects on which he agreed to do the main work and at the same contract cost.

**21.0 TIME LIMIT FOR UNFORESEEN CLAIMS**

Under no circumstances whatsoever, shall the Agency be entitled to any compensation from OCCL on any account unless the Agency shall have submitted claim in writing to the Engineer-in-Charge within one month of cause of such claim occurring.

**22.0 RECOVERY OF DUES FROM THE AGENCY**

Whenever any claim, against the Agency for the payment of a sum of money arises out of or under the Contract. OCCL shall be entitled to recover such sum by appropriating, in part or whole, the Security Deposit of the Agency and to sell any Government promissory notes etc., forming the whole or part of such security. In the event of the security being insufficient or if no security has been taken from the Agency, then the balance or the total sum recoverable, as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Agency under this or any other contract with OCCL/Government.

**23.0 WORKS TO BE OPEN FOR INSPECTION**

All works, under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer-in-Charge and his subordinates and the agency shall at all times during the usual working hours and at all other times at which reasonable notice of the intention of Engineer-in-Charge or his subordinate to visit the work shall have been given to the agency, either he himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the agency's agent shall be considered to have the same force as if they had been given to the agency himself.

**24.0 NOTICE TO BE GIVEN BEFORE WORK IS COVERED UP**

The agency shall give not less than fifteen days notice in writing to the Engineer-in-Charge of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be verified/checked and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of verification/checking of any work without the consent in writing of the Engineer-in-Charge of the work, and if any

work shall be covered up or placed beyond the reach of verification/checking without such notice having been given or consent obtained, the same shall be uncovered at the agency's expense or in default thereof, no payment or allowance shall be made for such work or materials with which the same was executed.

#### **25.0 AGENCY TO ARRANGE PLANT, LADDERS, SCAFFOLDING ETC.**

The agency shall supply at his own cost materials, plant, tools appliances and temporary works requisite for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage to and from the work. The agency shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out works and counting, weighing & assisting in the checking measurement or examinations at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the agency and the expenses may be deducted from any money due to the agency under the contract, or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof. Agency is liable for damages arising from non provisions of lights, fencing etc., The agency shall also provide at his own cost, except when the contract specifically provided other wise and except, for payment due, all necessary fencing and lights required to protect the public from accidents, and shall be bound to bear the expenses or defence of every suit, action or other proceedings of law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings, to any such persons or which may be paid to compromise any claim by any such person.

#### **26.0 AUDIT AND TECHNICAL EXAMINATIONS:**

OCCL shall have the right to cause any audit and technical examination of the works and the final bills of the Agency including all supporting vouchers, abstracts etc to be made after payment of the final bill and if as a result of such audit and technical examinations any sum is found to have been overpaid in respect of any work done by the agency under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed, the agency shall be liable to refund the amount of overpayment and it shall be lawful for OCCL to recover the same from him in the manner prescribed in clause "Recovery of dues from agency" and if it is found that the agency was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Government to the agency. Provided that Govt. shall not be entitled to recover any sum overpaid, nor the Agency shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Engineer-in-Charge on one hand and the Agency on the other hand under any terms of the Contract, permitting payment for work after assessment by the Engineer-in-Charge.

## **27.0 PERMISSION FOR CROSSING RAILWAY, NH/SH/ROADS/CANALS/PIPE LINES Etc.**

The works of the pipe line systems is likely to have several crossings for Railway, State Highway, Other Roads, other pipelines etc., and as such necessary letter to grant the permission for crossing those premises shall be issued by the respective authorities to the Engineer-in- Charge. The agency will have to process, follow-up and obtain timely clearance from the concerned authorities. ***Statutory costs of those crossings will be paid by the Government or will be reimbursed to the agency if paid by him on production of receipt.***

## **28.0 LAND ACQUISITIONS**

No land acquisition is required as the agency will execute the UGPL irrigation system as per prevailing act under ROW or ROU. In exigency if land acquisition is required , the agency will facilitate LA proposal but LA cost will be burn by the Department.

## **29.0 THE SPECIAL CONDITIONS**

- 29.1 Cultivator wise register for outlets with hydraulic particulars has to be prepared and maintained.
- 29.2 No extra payment will be made to the bidder if there is any change in type of structure, specifications, variation in quantities as per actual site conditions.
- 29.3 Display Boards should be displayed of size 1.20m x 1.00m on rising main at change of reaches, off- take structures, road crossing or where ever necessary or by engraving on the structure with enamel painting. Boards/direction boards should also be displayed to facilitate for inspection both at investigation and execution stages.
- 29.4 The Agency shall furnish draft reports on design Engineering, drawings in four hard copies and soft copy in C.D. for obtaining the approval of the competent authority. After approval the agency shall furnish 7 copies of booklets and 1 soft copy in C.D. for record of the OCCL/ department at his cost and no separate payment will be made towards this.
- 29.5 The Agency shall provide and fix chainage cum boundary stone of standard design at a interval of 100 meter along the rising main, distributaries and minors/sub-minors, 0.2 km and Kilometre stones of standard design along all roads and cost thereof is deemed to be included in the quoted contract price.
- 29.6 Catch drains are to be provided wherever necessary to facilitate drainage all along the pipe lines within the scope of the contract at no extra cost.
- 29.7 All the crossings of pipe line system of State Highways, District Roads, Village roads and all other roads shall be provided with suitable bridges as per standards of the respective departments and as per the permissions granted by them. The approaches to these bridges shall be provided as per the standard of their respective departments. The cost of these bridges shall be deemed to have been included in the contract price quoted.
- 29.8 If the proposed pipe line system is crossing any existing irrigation canals or channels, supply channels or Sources/Streams to Minor Irrigation tanks, suitable structures are to be provided within the quoted contract price by the agency.
- 29.9 If the pipe line system is crossing oil pipe lines, gas pipe lines, water supply pipeline, or any other pipe lines, the agency shall provide suitable crossing in consultation with the authorities concerned after obtaining the approval either by himself or getting them executed by the concerned authorities as a deposit work duly depositing the requisite amount to them. The Engineer-in-Charge will help in processing the proposals to the authorities concerned to obtain their permission. The cost of such crossings shall be deemed to be included in the contract price.
- 29.10 The agency has to make his own arrangement for diversion of flow and dewatering of foundation etc. wherever necessary within the quoted contract price.

- 29.11 The concrete mixes to be adopted for all the structures shall be design mixes only and these design mixes shall be conducted in the reputed laboratories and got approved by the Engineer-in-Charge before adoption.
- 29.12 In case of pipe line crossing works, drainage works, the agency shall excavate necessary approach/Tail channels to these structures to have smooth drainage through the structure. The cost of excavation of such channels shall be borne by the Agency within quoted contract price. The cost of Land Acquisition for such channels will be borne by the department.
- 29.13 Operation Schedule for the opening and closing of valves, multiple outlets of the distribution system is to be provided by the agency.

### **30.0 MODERN TECHNOLOGY**

The Agency should adopt the latest/modern methodologies and State of Art Techniques in the investigation, design of pipeline system, structures etc. and also construction, measuring devices, operation and maintenance, monitoring mechanism using computers.

### **31.0 BLACK LISTING OF AGENCY**

The Agency shall resort to suspension of registration or black listing the contractor in the following circumstances.

- 1) The affidavit sworn before Notary or any Judicial Magistrate/ self declaration contains any false information or suppress any material information.
- 2) Such bidder whose Bid is accepted fails to execute the agreement. The suspension will in addition to forfeiture of his earnest money or any other penalty imposed as per the tender condition.
- 3) Contractor fails to use mobilization advance given to him for the purpose it was meant.
- 4) Contractor fails to renew the securities deposited to the OCCL.
- 5) If documents is submitted are found to be false.
- 6) The contractor found to be non-serious in executing the works or leaves the work incomplete, irrespective of the expiry of full contract period.
- 7) The contractor fails to rectify any lapse(s) in quality of the work done within a reasonable time.
- 8) Contactor fails to maintain /repair/redo the work up to the expiry of performance guarantee period. When it is specifically brought to his notice.
- 9) On any other ground which is considered reasonable after recording reason.

#### **Note:-**

- i) During the period of suspension neither his registration will be renewed nor fresh registration will be issued.
- ii) Black listed contractor will not be allowed fresh registration or renewal of his registration till order of black listing is revoked or cancelled.
- iii) Contractor or firms black listed or suspended or any of its partners will not be registered under any other name.

Period of suspension should be for a definite period.

### **32.0 Taxes**

- (i) The Bidder shall have to quote rates exclusive of GST but inclusive of all other taxes, levies, duties, cess, toll etc.
- (ii) Payments:- All payments shall be adjusted for deductions for advance payment if any, security deposit, other recoveries in terms of contract and taxes at source as



applicable under the law. Payment of GST shall be made separately to the contractor as per prevailing rate at the time of raising bill / invoice by the contractor.

**Above clauses shall supersede provisions of taxes and payment certificate mentioned elsewhere in the documents.**

**Section VI**

**CONDITIONS OF CONTRACT FOR OPERATION &  
MAINTENANCE**

## **CONDITIONS OF CONTRACT FOR OPERATION & MAINTENANCE**

### **1.0 Introduction:**

After completion and commissioning of the UGPL irrigation System, the Agency shall be responsible for the operation and maintenance of the system for a period of five years or five Kharif/five Rabi crop seasons whichever is later from the date of issue of commissioning certificate of the system, under the Agreement for O&M of the UGPL irrigation System. The Agency shall be responsible for the operation & maintenance of all components of the project including associated works in accordance with prudent utility practice. The O&M contract will overlap with the defect liability period of five calendar years or five Kharif/ five Rabi crop seasons from the certified date of commissioning of the system whichever is later.

The UGPL irrigation System is primarily aimed for supplementation of Kharif water demand. Normally the Kharif water supply starts after 15<sup>th</sup> July and ends by 31<sup>st</sup> October & each year depending on water availability and rainfall. Rabi Irrigation starts from 15<sup>th</sup> December to 30<sup>th</sup> April and shall be provided only on availability of water and Rabi crop planning duly approved by Project authority.

### **2.0 ADMINISTRATIVE PROVISIONS:**

The following additional clauses shall apply during the Operation & Maintenance period.

#### **DEFINITIONS :**

In this Agreement the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

1. "Operation and Maintenance" shall mean O&M of the whole system and delivery of water to the 1Ha. Chak of the command area.
2. "Operation and Maintenance period" shall mean five years or five Kharif /five Rabi crop seasons whichever is more from the certified date of commissioning of the UGPL irrigation system.
3. "Contract" shall mean the agreement between the Employer and the Agency along with all documents incorporated therein by reference and all documents incorporated by these Conditions of Contract.
4. "Agency's Equipment" shall mean all equipment, instruments, tools, machinery and other appliances and things of whatsoever nature required for the fulfillment of the Contract or of the Agency's Obligations, but not including those items which are intended to form, or which form part of the Facility.
5. "Agency's Obligations" shall mean the obligation to execute the Project in its entirety and shall, without limitation, include the Agency's Operation and Maintenance.

6. "Date of Taking Over" shall mean the date of Successful Completion of operation & maintenance period as per agreement clause and taking over of the entire work & process by Department.
7. "Defect Liability Period" shall mean the Defect Liability Period of FIVE years for all works commencing on and from Date of commissioning of system including satisfactorily passing tests on completion during which the Agency shall undertake the responsibilities, and have the liability for the facility.
8. "Facility" shall mean the entire system to be designed and constructed in accordance with the provisions hereof, including the structures, ramps, pits, pipes, fencing, lighting, testing and analysis equipment, tools, computers, software programs, safety equipment, plant machinery, supplies, instruments and inventory incorporated therein, as well as all open areas within the site, and including any additions, modifications, alterations, replacement and repairs as may be made thereto from time to time.
9. "Governmental Authority" shall mean any Indian entity, authority or body exercising executive, legislative, judicial, regulatory or administrative functions, including, without limitation, any government authority, agency, department, board, commission or instrumentality of Indian or any political subdivision thereof, court and tribunal.
10. "Law" shall mean and include all the provisions of all Indian statutes, regulations, ordinances, codes, official or other standards, administrative or other rules, zoning and other plans and restrictions, building and other permits, judgments awards and decrees of, or agreements with any Governmental, semi-Governmental or quasi-Governmental Authority as currently in effect or as may be in effect from time to time and /or as may be amended or supplemented from time to time.
11. "Maintenance Standard" shall mean the requirements for operating, maintaining, repairing, and renewing the Facility:
  - i. As set forth in the O & M Manual; bidder shall furnish this before commissioning of scheme.
  - ii. Required pursuant to applicable Law;
  - iii. As may be necessary for keeping the facility in a satisfactory condition such that the Facility will continuously, comply with the Operation Standard; and
  - iv. As may be necessary to ensure that the Facility shall continuously be in an optimum condition and state in relation with the lifetime of the Facility.
12. "O&M Manual" shall mean the final Manual for the Operation and Maintenance of the entire system of pumping schemes to be prepared in accordance with the Bid Documents.
13. "Operation and Maintenance Obligations" shall mean the obligation of the Agency pursuant to the Agreement to operate and maintain the Facility on and from the Date of commissioning of the system until the date of completion of this Agreement.
14. "Operation and Maintenance Price" shall mean the amount payable by the Employer to the Agency, for the fulfillment of the Agency's Operation and Maintenance Obligations. This price is the price derived from the Break of the bid Amount of the contract document.
15. "Operation Standard" shall mean: a) The Performance Guarantees; b) All applicable Laws; c) All of the requirements, policies and procedures set forth in the O & M Manual d) All other operational requirements set forth in this Agreement.
16. "Site" shall mean that specific area specified in the Bid Documents and shall include any

other places as may be specifically designated by the Employer from time to time as forming part of the Site.

## 2.1 Scope of Services

**A.** The scope of services during defect liability period of five years after the certified date of commissioning of the system.

2.1.1 During the defect liability period, the agency will have to bear additional responsibility in addition to normal O & M as defined under clause 2.2 B below.

2.1.2 The responsibility of the agency during defect liability period will be at par with other general contracts.

2.1.3 During the defect liability period the soundness, longevity, performance and defects will be under scrutiny and observation & any defects noticed will be repaired, replaced and brought to perfect running condition by the agency at his own cost as per the direction of the Engineer-in-charge. This responsibility will be in addition to the O & M operation as envisaged in the agreement.

**2.2 B.** The duties and responsibility of the agency under the O & M agreement will be as under.

2.2.1 To maintain the UGPL canal system & CAD network including its structures, valves, turnouts.

2.2.2 To provide all services necessary to maintain the project efficiently, maximize the availability of the project, optimize the useful life of the project etc. to maintain the system efficiently.

2.2.3 To provide requisite numbers of qualified (and if required licensed) personnel to perform the services.

2.2.4 To carryout maintenance of the total water conductor system including distribution pipeline and carryout repair and preventive maintenance in accordance with the recommendations of the employer.

2.2.5 To carry out any maintenance or repairs or rectification work in case of any problem or emergency that may arise while the system is in operation during the maintenance period of five years or five Kharif / five Rabi crop seasons whichever is later as directed by the Project Authority.

2.2.6 To provide technical and other assistance to the employer, for managing operational and maintenance problems.

- 2.2.7 Maintain all roads, yards, walkways, housekeeping and security of the project.
- 2.2.8 Operation and Maintenance Schedule needs improvement for better performance.
- 2.2.9 To prepare Annual Operation Plan and submit to the Employer for approval.

### **3.0 OBJECTIVES OF CONTRACT**

#### **3.1 Risks and Obligation of the Agency**

For the duration of O&M period of 5(five) years or five khariff/five Rabi season crops, Agency shall render and make available to the Employer the following services:

- i. Preparation of Operation & Maintenance manual covering the water supply schedule to be furnished prior to commissioning of the system.
- ii. Preparation of training manual for training of the staff and the Department & Panipanchayat to be furnished prior to commissioning of the system.
- iii. To provide equipments, tools & plant, spares required for smooth Operation & Maintenance list to be furnished along with the Bid.
- iv. To provide deployment schedule of personnel to be employed by the agency for Operation & Maintenance to be furnished along with the Bid.
- v. Control and Operation of UGPL irrigation system.
- vi. Maintenance of all components of the UGPL system.
- vii. Supply of water to the requirements of crops as per the Operation & Maintenance manual & water supply schedule of the crop seasons every year.
- viii. Developing MIS for management of the scheme and furnishing it before commissioning of the system.

The Agency shall take full responsibility for the care of the Facility and materials of the project from the date of commissioning of the system until the date of completion of the Operation and Maintenance period, when the responsibility for the care shall pass to the Employer.

If any loss or damage happens to the Facility, or any part thereof, or materials for incorporation therein, during the period for which the Agency is responsible for the care thereof, from any cause whatsoever, other than the risks defined in Sub-Clause of Risks and obligation of the employer, the Agency shall, at his own cost, rectify such loss or damage so that the Facility conform in every respect with the provisions of the Contract to the satisfaction of the Employer. The Agency shall also be liable for any loss or damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligation under Sub-Clause Risks and Obligation of the Agency.

#### **3.2 Risks and Obligation of the Employer**

In case of non availability of sufficient quantum of water in the reservoir the Engineer-in-

Charge and the Employer will revise the water drawl program which shall be followed by the agency and the agency shall not be held responsible for the water availability and consequent less coverage of command area during Operation & Maintenance period.

#### **4.0 COMMENCEMENT AND DURATION OF O&M:**

The trial & commissioning of the system shall be taken up as per relevant conditions of contract. Should the Engineer-in-Charge wish to propose an extension to the O & M Period, he will give 180 days prior notice of its intention to exercise such option. Extension of the O&M Period would involve a negotiated revision to the Terms and Conditions of the Agreement. The decision of the Project authority shall be final whether to extend or not the O & M period.

#### **5.0 Maintenance Personnel**

The Agency shall deploy **experienced personnel** for maintenance of the UGPL System. The deployment schedule indicating the number of the Managers, Supervisors, Helpers/Fitters, Mechanics, & other support staff etc. for O&M of the system as a whole in general, responsibility assigned to each of them shall be furnished along with the bid. For effective O&M, local people of the villages preferably Pani Panchayat representatives of the command area may be selected by the agency and are to be trained during the construction stage for their deployment during the O&M period. The bio-data of all O&M personnel shall be provided to Engineer-in-charge before commencement of operation and maintenance for approval.

**Additional staff** required for smooth and efficient operation of the system is to be deployed by the agency as per requirement for which no extra payment will be admissible.

All Agency's personnel employed at the work site at any time during the period covered by the present Contract will be provided by him. The **Employer is not liable for personnel** in any way and cannot be held responsible in the event of litigation of any sort between the Agency and members engaged by him. All decisions related to staff numbers and qualifications should be approved by the Employer. The Agency undertakes to comply with applicable legislation and the code of labour law on matters of health, hygiene and safety, and shall assume responsibility for works required in the event of any change in applicable regulations.

#### **6.0 Right to perform upon agency's default**

If at any time, the Agency fails to perform and such failure is likely to cause injury to any person or damage to the project, the Employer may, but shall have no obligation to, perform any such obligation of the agency. The cost to the Employer of affecting such performance would be deducted from the payment due to the Agency.

No extra payment shall be made for operation and maintenance services during the maintenance period and shall be deemed to be included in the quoted contract price.

#### **7.0 Acceptance tests on completion of maintenance period**

Upon completion of prescribed maintenance period, the acceptance tests shall be carried out before the project is taken over by the Employer. These acceptance tests shall be identical to the tests conducted during commissioning of the project.

The Contactor shall also make available the proof that maintenance of total system was

carried out during operation & maintenance period in accordance with the maintenance schedule & O&M manual.

## **8.0 FORCE MAJEURE**

“Force Majeure” means an event beyond the control of the Employer and the Agency, which makes it impossible or illegal for a party to perform, including but not limited to:

- i) Act of God
- ii) War, hostilities (whether war be declared or not), invasion, act of foreign enemies, mobilisation, requisition, or embargo;
- iii) Rebellion, revolution, insurrection, or military or usurped power, or civil war
- iv) Contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive, or other hazardous properties of any explosive nuclear assembly or nuclear component of such assembly
- v) Riots, commotion or disorder, unless solely restricted to employees of the Agency or of his Sub-agencys.

If either party is prevented from or delayed in performing any of his obligations under the Contract by any circumstances of Force Majeure, then he shall notify the other party thereof within seven days, and specify how these circumstances are detrimental in the performance of the Contract.

If the performance of the operation is substantially disrupted for a continuous period of three months by virtue of any event of Force Majeure, then either party may by written notice to the other terminate the Contract. The provisions of Clause 8 shall apply to such termination as for indemnification.

The Employer will indemnify the Agency against all additional costs incurred as a result of the performance of the operation during circumstances of Force Majeure, as well as for the consequences of the termination resulting there from.

## **9.0 ASSIGNMENT**

The Agency will not be entitled to sub-contract any part of his obligation to any third party under any circumstances.

## **10.0 LIABILITY**

The Agency will not under any circumstances be liable for costs or loss of profit that the Employer may incur as a result of the unavailability of the plant on account of force majeure.

## **11.0 INSURANCE**

The Agency shall, without limiting his or the Employer’s obligations and responsibilities insure:

- a. The works, together with materials and Plant for incorporation therein, to the full replacement cost (term “cost” in this context shall include profit).
- b. The Agency’s Equipment and other things brought onto the site by the Agency, for a sum sufficient to provide for their replacement at the site.

The insurance detailed above shall be in the joint names of the Agency and the Employer at the Agency’s cost and shall cover the Employer and the Agency against all loss or damage



from whatsoever cause arising, other than as provided in Clause of Risks & Obligations, from the start of the operation and maintenance until the date of completion of operation and maintenance in respect of the Facility or any Section or part thereof as the case may be.

Any amounts not insured or not recovered from the insurers shall be borne by the Agency in accordance with their responsibilities.

The Agency shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

- a. Death of or injury to any person, or,
- b. Loss of or damage to any property (other than the works),

Which may arise out of in consequent of the Operation and Maintenance of the Facility and the remedying of any defects therein, and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause **Risks and Obligation of the Employer**.

The "exceptions" referred to in Sub-Clause 1.2 is:

- a. The permanent use or occupation of land by the works, or any part thereof.
- b. The right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,

## **12.0 MAINTENANCE**

The Agency shall be responsible for maintenance of each components of UGPL network along with related civil structures, off takes structures, turn out structures, valves etc. within the limits of his scope of work, under this Contract.

## **13.0 PERFORMANCE STANDARDS**

The Agency will operate and maintain in a state of continuous operational readiness all UGPL irrigation systems to meet the flow requirements. It shall remain the Agency's responsibility to ensure that UGPL systems are at all times able to operate to the maximum capacity.

## **14.0 CONSUMABLES AND UTILITY SERVICES - SPARE PARTS –STORES**

### **14.1 Consumables and Utility Services**

Unless stipulated otherwise elsewhere in the document, for the duration of the O&M period, the Agency will be responsible for the supply and control of all spare parts and consumable materials necessary for the continuous operation of the works.

### **14.2 Spare Parts and Stores**

The agency is to furnish the list of spare parts for use during O&M period of the system along with the bid. The list shall be approved by the Engineer-in-Charge before commencement of O & M period and this shall be binding on both the parties.

The store's inventory, the issuing and recording of spare parts will be the responsibility of the Agency and shall be verified by the Engineer-in-Charge quarterly.

The Agency is also responsible for providing spare parts and material required for the operation and maintenance during the operation period, and shall bear the cost for the same, including the cost of storing and safeguarding.

The Agency will make all necessary arrangements to ensure the continuous supply of spare

parts and material for the works and the rate of supply of these materials shall be in such quantities and amounts as would ensure uninterrupted operation.

Any spare parts used during the O&M period shall be replaced by purchasing new spare parts and total set of spare parts shall be handed over to the Engineer-in-Charge after completion of 5 years maintenance period / extended O & M period if any.

### **14.3 Miscellaneous Equipment**

#### **14.3.1 Workshop Equipment**

All the necessary and required workshop equipment for the proposed project shall be supplied by the Agency under this Contract. Bidder shall give a comprehensive list of the same.

## **15.0 INSPECTION**

### **15.1 General Provisions**

The Employer shall check the operation of the plant or designate an organization of his choice to carry out inspections regularly. The Employer or the organization appointed by him shall check that the Agency is performing the tasks for which he is responsible with due diligence. The Agency shall at his cost provide all the assistance to the Employer requires to complete these inspections.

### **15.2 Measurement and Analysis**

The Employer has the right to perform any analysis or inspection he deems necessary. Before any inspection, the Employer shall give a prior written notice of three days to the Agency and shall cover the costs of such action.

### **15.3 Documents to be provided by the Agency**

#### **15.3.1 Operation Log Book**

The Agency shall keep a permanent record of water supplied in the command area on daily basis. This log book shall be kept at the site and shall be presented on request to representatives or agents approved by the Employer.

#### **15.3.2 FINANCIAL PROVISIONS**

### **15.4 Method of Payment**

The Employer will pay the Agency for the O&M Price on submission of bill after providing irrigation to the stipulated CCA. The payment for operation and maintenance shall be based on the year-wise breakup of the O&M cost furnished by the bidder in Appendix F-2 of Financial Bid.

#### **LIQUIDATED DAMAGES FOR SUPPLY OF WATER TO MEET THE REQUIREMENT:**

15.5 The agency shall ensure water supply to the command area as per crop water requirement of approved CCA of the system during O&M period. For the regular supply during the O&M period, the agency shall get the demand requirement from the Engineer-in-Charge and run the

system accordingly as per the varying demand during the O&M period. Liquidated damages at the rate of 1.0 percent per day of the scheme wise O&M cost shall be levied on the agency for non supply of water as per requirement of the approved CCA due to the system deficiency and or management deficiency till the supply is restored.

- 15.6 In case the water supply is not restored within three days of breakdown of the water supply system, it will be treated as a system and management deficiency for the purpose of imposition of liquidated damages.

**16.0 TAXES, LICENSES, PERMITS AND FEES**

These shall be as per General Conditions of Contract.

**17.0 TERMINATION OR FORE CLOSURE OF CONTRACT**

- 17.1 The OCCL may terminate the contract in event of poor performance of the agency after sufficient notice given and failure of the agency to take corrective measures to improve the O&M condition to desired level by giving 15 days' notice

- 17.2 The OCCL reserves the right to foreclose the contract before its scheduled period without assigning any reason by giving 30 days' notice. The agency shall have no claim for balance period and shall peacefully handover the project to department as instructed by Engineer-in-Charge.

- 17.3 Payment will be made on prorata basis after adjustment of any dues or penalty or **LIQUIDATED DAMAGES** as applicable arising out of the contract.

**18.0 TRAINING**

This shall be as per General Conditions of Contract.

**19.0 O&M MANUAL**

This shall be as per General Conditions of Contract.

**20.0 HANDING OVER OF SYSTEM:**

The system shall be considered as separate entity for the purpose of O&M and handing over to the Engineer-in-Charge after successful completion of O&M. The system shall be handed over to the Engineer-in-Charge on completion of the stipulated O&M period as per conditions of contract.

**SECTION VII**  
**TECHNICAL SPECIFICATIONS**

**GENERAL**

THE SPECIFICATIONS CONTAINED UNDER DIFFERENT SECTIONS IN THIS DOCUMENT ARE FOR GENERAL GUIDANCE. IN CASE OF DISAGREEMENT BETWEEN THE SPECIFICATION OF THE OCCL/DEPARTMENT AND STANDARD PRACTICES BEING FOLLOWED AND / OR SPECIFICATIONS NOT PROVIDED SPECIFICALLY, THEN RELEVANT SPECIFICATIONS UNDER INDIAN STANDARDS & CWC GUIDELINES SHALL PREVAIL.

## EXTENT OF WORK

### 1.0 GENERAL

This Technical Specification relates to the Surveying, Planning, Designs, Construction & Commissioning of the under Ground Pipe Line Irrigation System (Gravity Flow) in 13 Nos. of Minor Irrigation Projects including distribution system and command area development for 4082 ha. of CCA including F.O.T work and O & M for five years on EPC-Turn Key basis"; comprising of Detailed surveying, Planning, Design, Drawing, Estimation, Preparation of ROW/ROU schedules and commissioning of the UGPL irrigation system along with CAD works and Operation & Maintenance of completed commissioned system for five years or five Khariff / five Rabi crop seasons whichever is later.

### 1.1 OPERATION & MAINTENANCE STAFF FOR UGPL IRRIGATION SYSTEM

The agency shall provide all the necessary operating staff and maintenance personnel to operate and maintain the works for five years Operation and Maintenance contract period under the contract. Agency will train local personnel of Pani Panchayat and engage them in the O&M so that the capacity of beneficiaries is enhanced and they become capable to effectively manage the system. The agency shall provide a detailed proposed staffing schedule covering all categories of his staff with duties, responsibilities, qualification, experience and their salaries, etc. The staffing schedule shall be prepared on assumption that the system will be operated on a 24 hours per day basis with three equal shifts of 8 hours each for the crop calendar period. The inspection vehicles and staff required for the maintenance and operation of the pipeline shall also be considered for three equal shifts of 8 hours.

### 1.2 DRAWINGS, DOCUMENTS, CERTIFICATES & MANUALS

The envisaged UGPL irrigation System is independent catering to command area of 4082 Ha. Hence the Detailed Planning and Design Works can be taken up simultaneously.

#### Submission and review of Engineering Documents

1.2.1 The agency will submit **within 90 days** from award of contract, the following designs and drawings for review and approval of the Engineer-in-Charge generally in the sequence given below:

- (a) General layout plan of the entire UGPL irrigation System on village maps
- (b) General arrangement drawings for all works
- (c) Structural design calculations and drawings for all works shall be prepared and signed by his authorised engineer. As far as possible drawings shall be drawn with the appropriate scale, neatly giving all the sections and details necessary for the easy understanding and smooth execution of the work.

- 1.2.2 After review by the OCCL/consultant of the OCCL, Engineer-in-Charge will convey comments, within 30 days from receipt of details from agency, which the agency shall incorporate by modifying designs and drawings accordingly.
- 1.2.3 In no case will design, calculations / drawings will be considered complete or acceptable, if
- (a) They are not duly signed by respective Design Engineer(s).
  - (b) They are not thoroughly checked and duly signed in the appropriate places by the agency.
  - (c) Design calculations are not accompanied by supporting engineering, drawings or appropriate sketches.
  - (d) Design calculations are incomplete or not fulfilling the design requirements or are shabbily done or are without adequate reference, or other necessary back-up data.
  - (e) Any comments previously made are not incorporated on revised drawings /calculations.
- 1.2.4 Such unaccepted drawings / designs as described above shall be summarily rejected and agency will be informed. Agency shall arrange to resubmit the same duly checked, revised and signed within 15 days. No claim from agency for extension of time or for extra cost on this account will be entertained under any circumstances.
- 1.2.5 The review of civil design calculations and drawings shall be carried out only in respect of correctness of centre-to-centre distances, elevations, important / typical details, orientation and sizes of important components, general design principles and approach, adherence to requirements of the relevant IS or other statutory codes, compliance with the Technical Specifications, general or specific notes and with the requirements of good engineering practice and whether the details shown on drawings confirm to design calculations. Check for any interference and taking remedial action is the responsibility of the Agency.
- 1.2.6 No check will be specifically carried out by the Consultant / Engineer-in-Charge to verify arithmetical / numerical accuracy of the calculations, which shall remain entirely the Agency's responsibility, irrespective of any approval that may have been accorded thereto by the Consultant / Engineer-in-Charge.
- 1.2.7 All values / dimensions / elevations, etc. without supporting back-up data adopted / assumed by the agency in his calculations / drawings shall be taken by the Consultant / OCCL/Department to be correct unless they are specified.

- 1.2.8 Approval from Engineer-in-Charge to the Agency's design or drawings shall not relieve the agency of any of his contractual obligations or liabilities under the contract or his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly, performance particulars and conformity of the suppliers with the Indian statutory laws as may be applicable, nor does it limit the Engineer-in-Charge's rights under the Contract.
- 1.2.9 Should it be found at any time after approval has been given by Engineer-in-Charge that any designs, drawings or documents submitted by the agency are not consistent with any design, drawings or documents submitted or approved previously or deviate from any major aspect of the Contract Document, then such alterations or additions as may be deemed necessary by the Engineer-in-Charge shall be made therein by the agency and the works carried out accordingly for which no extra payment shall be made.
- 1.2.10 No revision shall be made by the agency after design, drawings or documents are "approved" by the Engineer-in-Charge. In case the agency desires to incorporate any minor amendments in the "approved" drawing, he shall resubmit the same for formal approval. Agency shall not make any revision in design / drawings, which is not related to the comments conveyed by Engineer-in-Charge.
- 1.2.11 The design would have to be got approved from the Project authority. All compliances to the technical requirements are to be fulfilled.

### **1.3 Certificates**

- 1.3.1 EPC agency shall ask manufacturer to submit the Quality Assurance Plan (QAP) for the equipment manufactured by them. The QAP will indicate clearly the tests to be carried out at manufacturer's works which will be as per I.S. Specifications and as specified in technical specifications of the tender documents. The QAP shall be approved by Employer. The Engineer-in-Charge can depute third party inspector /consultant's representative / Client representative to witness the tests as per approval given for Quality Assurance Plan and technical specifications of the equipment given in the tender.
- 1.3.2 Where certificates are required by the Specification or relevant Reference Standard, the original and one copy of each such certificate shall be provided by the Agency.
- 1.3.3 Manufacturer's and supplier's test certificates shall be submitted as soon as the tests have been completed and in any case not less than seven calendar days prior to the time that the materials represented by such certificate are needed for incorporation into the Works.
- 1.3.4 Certificates of test carried out during the construction or on completion of parts of the works shall be submitted within 7 days of the completion of the test.



## **1.4. CRITERIA FOR DESIGN**

### **1.4.1 INTRODUCTION**

This section forms the engineering design. The content of these documents is to form the guidelines for engineering design and to provide information about other disciplines concerned.

This is technical specification summarizes the concept and relevant IS codes (Latest Revision) to be followed.

### **1.4.2 LIST OF DESIGN CODES AND STANDARDS**

All designs shall be based on the latest Indian Standard (IS) Specifications or Codes of Practice as well as CWC guideline for planning and design of piped irrigation network. In case of any variation or contradiction between the provision of the IS Standards or Code and the specifications given with the submitted tender document, the provision given in the Specification shall be followed.

Some of I.S.Codes & other materials are mentioned below. During execution other relevant I.S.Codes shall be followed if necessary.

#### **(i) Reinforcement:**

IS 1786 : High strength deformed steel bars

IS 2502 : Bending and fixing of bars for concrete reinforcement

IS 5525 : Recommendation for detailing of reinforcement in concrete works

#### **(ii) Cement and Fine & Coarse Aggregates:**

IS-455 Portland slag cement

IS-1489 Part 1 Portland Pozzolana Cement (PPC) fly ash based

IS-1489 Part 2 PPC Calcined clay based

IS-8112 43 grade Ordinary Portland Cement

IS-12330 Sulphate Resisting Portland Cement

IS-12269 53 grade ordinary Portland cement

IS-383 Coarse and Fine aggregate

#### **(iii) Miscellaneous:**

IS:1172 Code of basic requirements for water supply, drainage and sanitation

SP:16 Design Aids for reinforced concrete to IS:456

SP:24 Explanatory handbook on Indian Standard Code of Practice for plain and reinforced concrete

SP:34 Handbook of concrete reinforcement & detailing (SCIP)

**(iv) Pipe laying**

IS-12288 Pipe laying

IS-14846 Sluice valve

IS-13095 Butterfly valve

IS-14845 Air valve

IS-8008 Reducer

IS-8360 Tee

- (v)** All the BIS and other codes referred to in “Guideline For Planning And Design of Piped Irrigation Network”, CWC, MoWR, River Development and Ganga rejuvenation, Gol, New Delhi, including the guideline itself (herein after called “the Guideline”).

**1.4.3 Design Aspect**

**a. Earth Pressure Load**

Earth pressure for all underground structures shall be calculated using coefficients of earth pressure at rest or coefficient of active earth pressure (whichever is applicable). In addition to earth pressure a minimum surcharge load of 20 kN/sqm shall also be considered for the design of all underground structures or railway load (in case the railway track is located nearby) whichever is critical. The underground structures shall be subjected to sub surface water pressure. Calculations shall be based on the weight of the soil plus full hydrostatic pressure. The full upward pressure of water below base raft shall be taken over the entire area.

**b. Hydrostatic Pressure Load**

Ground water level for calculation of load shall be considered as indicated in the geotechnical report or high flood level whichever is maximum / at Finished Ground Level.

**c. Impact Factor**

Loads for cranes, hoists and elevators shall be taken as per IS: 875(Part 2). The minimum impact factors to be used in design shall be as follows:

**d. Crane Loads**

- a. For vertical force, an impact factor of 25% of the maximum static loads.

- b. A lateral crane surge of 10% of the weight of the crab plus lifted load applied at the top of crane rail acting on any one crane track rail. For frame analysis, this force shall be applied on one side of the frame at a time in either direction.
- c. A longitudinal surge of 5% of the maximum static wheel loads of the crane applied at the top of the rail.
- e. **Temperature Load**  
Expansion and contraction due to changes of temperature of materials of a structure shall be considered and adequate provisions shall be made for the effects produced (as per provision in relevant IS codes). Suitable expansion joints shall be provided in the longitudinal direction wherever necessary. The maximum distance of the expansion joint shall be as per the provisions of IS: 800 and IS: 456 for steel and concrete structures respectively.  
Coefficient of thermal expansion of steel shall be taken as per IS: 800. Coefficient of thermal expansion for concrete shall be taken as per IS: 456.
- f. **Vibration Loads**  
Vibration Loads shall mean the vibration forces caused by heavy vibrating equipment or machinery and dynamic forces caused by fluids in the normal operation. Frames, structures and foundations for machinery or equipment causing vibration shall be designed to limit vibrations to an acceptable level. It shall be designed such that whether they are independent or part of the building, it shall not only safely carry the loads for such items but also prevent resonance. Natural frequencies of frames, structures and foundations must differ by more than 20% from that of the machinery under operating conditions. While carrying out dynamic analysis of foundations/structures supporting dynamically loaded equipments, the loads indicated by vendor in his documents shall be used.
- g. **Soil Bearing Capacity**  
The agency has to assess soil bearing capacity for all works at his own cost and design the structures on the basis of data received after investigation. The soil investigation report has to be submitted to OCCL.

## 1.5 PLANNING, DESIGN AND DRAWING

Design purpose: The Culturable Command Area for design purpose will be the area of the village/villages that can be irrigated, worked out from Revenue Record after deducting (i) Un-commandable higher lands, (ii) Pastures, (iii) fallow land (iv) Gochar, (v) cremation ground (vi) roads, (vii) devasthanas and (viii) abadi area.

Chak:

It is a sub division of C.C.A. typically about 1 ha in size. The outlet point is expected to be on highest ground level within a chalk.

The above definitions are only for guidelines and the Agency is at liberty to use and incorporate latest technology for regulating piped flow for irrigation.

**1.5.1 SCOPE OF WORK :**

- i) The scope of work to be carried out for the UGPL Irrigation System shall be as under :-
- ii) Construction of Temporary Bench Marks.
- iii) Preparing a General Arrangement Plan for the system with Planning and furnishing most economical and feasible diameter of distributaries, minors & sub-minors etc. up to outlet point, preparing & obtaining approval for the most economical and feasible alignment from the Project authority.
- iv) After getting approval to the alignment from the project authorities, the agency has to fix the chainage pillar at 100m interval along alignment on central line and apex stones at every deviation of alignment duly indicating apex No. and chainage.
- v) Temporary Bench Marks with values should be furnished on site. Their location shall however be decided in consultation with the project authorities.

**SERVICE AREA:**

The size of chak shall generally be about 1 ha. The entire command of the project will be subdivided into service area of 200 ha to 500 ha which will be the basic unit for allocation of water. The service area would be combined to limits of a single village. The agency is required to study Pani Panchayat Act of Odisha and study the local habits and suggest model operational plan to be implemented or to be enforced for safety of project and smooth functioning of the system.

**2.0 EXCAVATION****2.1 CLEARING THE SITE :**

The site of excavation shall be cleared of all grass vegetation, fencing, bushes, and trees as directed by the Engineer-in-Charge. The materials, obtained from such clearance shall be the property of the Govt. and shall be stacked as directed by the Engineer-in-Charge so as not to cause obstruction to the work.

**2.2 LAY OUT:**

All materials such as pegs, bamboos and strings and templates for marking out slopes, and tools required for line out shall be provided by the Agency at his own cost. The centre line of excavation shall be clearly marked by pegs or by stones at each chain or change of direction or at shorter intervals on curves, in the beginning. The final line out will be done by fixing reference stone at suitable distances on either side of the centre line.

Agency shall provide and maintain the quarry roads and temporary roads required for conveying and transport of materials at his cost.

For the points, which are not covered by these specifications, the instructions given by the Engineer-in-Charge shall be final and binding on the Agency.

The material available from all excavation and remaining surplus after use on the work from adjacent work etc. can be used by the Agency free of cost provided these materials are used solely for the specific agency work and prior approval of the Engineer-in-Charge is taken.

### **2.3 EXCAVATION**

Section shall be excavated as shown on the drawings or as directed by the Engineer- in- Charge. Suitable arrangements for drainage shall be provided to take surface water clear of excavation during the progress of work.

Excavation may be carried out by manual labour or by excavating machine.

### **2.4 EXCAVATION IN ROCK:**

Excavation in rock shall be mostly controlled blasting so as not to endanger surrounding structures. All sharp points of rock are chipped off. Blasting in a manner, which is likely to produce over breakage, which in the opinion of Engineer-in- Charge is excessive, shall not be permitted. Special care shall be taken to prevent over-breakage or loosening of materials on bottom and side slopes. Excavation in excess of the prescribed section shall not be permitted and no payment will be made beyond scope of agreement.

The material excavated shall be stacked on either side as specified on the drawing or as directed by the Engineer- in- Charge.

The Excavation shall be carried out according to the design with side properly slopped as shown in the drawings and as directed by the Engineer- in- Charge.

The excavation shall actually be carried out in steps. The steps shall have such width and depth that after they are cut, the required final side slopes is attained. Cutting of steps shall be done when altered level is reached and after one monsoon.

### **2.5 REMOVAL OF LOOSE ROCK ETC:**

Before any work of excavation is taken up all loose rock, semi-detached rock in /or close to the areas to be excavated, that is liable to fall or otherwise endanger the workmen on the project shall be stopped. The methods employed shall be such as will not shatter or render unstable and therefore unsafe any rock that was originally sound or safe. Any material not requiring removal as contemplated herein, but which may later become loosened or unstable shall be promptly and satisfactorily removed. The cost of such clearing shall be deemed to have been included in the unit rates accepted under the different items under excavation.

### **2.6 MAINTENANCE OF SLOPES IN EXCAVATION:**

Any shoring and strutting required during excavation and afterwards shall be deemed to be covered by the rates quoted for the items. No extra payment will be made for this purpose.

**2.7 SLIPS:**

Slips shall be avoided, but if any slips occur on account of any reason, the excavation shall be promptly restored to stability. No extra claims shall be entertained for such slips.

The Agency shall have to make good the work immediately at his cost.

**2.8 USE OF EXCAVATED STUFF:**

Excavation shall be done systematically. Only those excavated stuff, which will be permitted for use, shall be used.

**2.9 DEPOSITION OF EXCAVATED STUFF CLEAR OFF TRAFFIC LINES ETC.**

Disposal of all material from excavation shall be as per approved disposal plan of instructions of Engineer- in- Charge, regarding the location and deposition of the stock piles, spoil banks of embankment. Before any excavation is started the deposition of spoil shall be carefully planned so as not to obstruct normal traffic and traffic lines required for the construction materials, and shall be dumped sufficiently clear off the edges of the excavation so as not to endanger stability of the slopes of the excavation and also to permit ample space for lorry paths, installation and lifting of dumping devices, stacking construction materials etc.

**2.10 SORTING AND STACKING OF MATERIALS:**

Excavated materials shall be sorted out and stacked as under.

- a) **Soft Strata** : All the excavated materials from the soft strata shall be sorted on. The material not useful shall be deposited as directed by the Engineer - in - Charge. Materials useful shall be, sorted out and neatly stacked. Every stockpile of the material shall be of regular size and not less than 5 m. in height.
- b) **Hard Strata** : Rubble and boulders from hard strata shall be stacked in separate area as directed by the Engineer-in-Charge. Stockpiles shall be of regular shapes, allowing for easy measurement No stockpiles shall measure more than 200 Sq.m. In plan, less than 60m in length and more than 1.5 m. in height, unless specifically permitted by the Engineer-in-Charge in writing.

**2.11 SURPLUS MATERIALS:**

The excavated materials, if not required shall be stacked in spoil banks with neatly made stable slopes at top and a suitable berm being left between the toe of bank, and edge of excavation, as directed.

**2.12 STACKING IN STOCK AND WASTE PILES:**

After sorting is done, useful materials of various types shall be stacked in stockpiles and rest may be disposed off as directed by the Engineer-in-Charge.

The excavated material shall be stacked within the area approved by the Engineer- in- Charge. If the excavated material is deposited in unauthorized land, such work will not be measured for payment unless suitable action as may be directed by the Engineer- in- Charge. In addition to non - payment of such work suitable amounts as directed by the Engineer- in- Charge will be recovered from the Agency as directed towards any extra cost which may have to bear on account of the Agency's un-authorized action.

### **2.13 USE OF EXCAVATED MATERIALS**

All the materials available from excavation will be the property of Govt. and shall be deposited as directed by the Engineer- in- Charge. The Material of approved quality may be used by the Agency in the item of work included in Schedule of requirement of the tender or on ancillary for preparatory work free of charge. Prior approval of the Engineer- in- Charge for such free use shall however be taken.

### **2.14 SILTING DUE TO FLOODS, EMPLOYER NOT RESPONSIBLE:**

If excavated pits get silted due to intervening floods, slips or any other cause, till completion of the work, the Agency shall excavate and restore the pits and section to the required shape and dimensions without any extra cost.

### **2.15 D E L E T E D**

### **2.16 EXCAVATION IN WET CONDITION AND DEWATERING:**

Unless otherwise specified no distinction will be made as to whether the material being excavated is dry, moist or in wet condition.

### **3.0 BLASTING:**

#### **3.1 OBSERVING RULES REGARDING BLASTING:**

In conducting blasting operations proper precautions shall be taken for the protection of life and property, work etc. All relevant laws and procedures relating to the design and location of magazine, transport and handling of explosives and other measures for the prevention of accident shall be strictly observed. Warning signs shall be prominently displayed on the magazines for each blast. Specifications for blasting given under the separate section shall be carefully and rigidly observed.

#### **3.2 STORING OF EXPLOSIVES:**

Explosives shall be stored in a safe place at sufficient distances from the work and under the special care of watchman so that in case of accidents no damage occurs to the other part of work. Explosives, detonators and fuses shall be each separately stored. No Objection Certificate from District Magistrate or inspector of Explosives shall be obtained as required by the Agency.

### **3.3 RESTRICTIONS ON BLASTING:**

- a) Blasting which may disturb or endanger the stability safety or the quality of the foundation will not be permitted.
- b) Blasting within 30 meter of masonry work in progress of a permanent structure shall not be permitted.
- c) Blasting operation shall be monitored so as not have peak practical velocity near important structures to exceed 10 ppv.
- d) Progressive blasting shall be limited to two third of the total remaining depth of excavation.
- d) No large scale blasting operation shall be restored to when the foundation excavation reaches the last half meter. Only small charges preferably black powder may be allowed so as not to shatter the foundation
- e) Rules of blasting are as appended.

### **3.4 EXCAVATION IN HARD STRATA WITH CHISELING AND / OR CONTROLLED BLASTING:**

#### **3.4.1 EXCAVATION IN HARD STRATA:**

Where the excavation in hard strata is involved, since usual blasting operations are likely to damage the adjoining houses, transmission lines or hinder the traffic on important roads. The excavation for a good length is required to be done under controlled blasting conditions and / or chiseling. The item will include excavation in hard strata to correct sections as shown in the drawings with chiseling and / or controlled blasting and depositing the excavated stuff as and where directed.

The holes for blasting shall be drilled for a depth of only 40 cm thus increasing the number of holes and correspondingly decreasing the charge required for each holes.

The holes as far as possible shall be slant. All the holes after charging will be covered by grill of steel rods which shall be suitably loaded by gunny bags filled with sand or moorum. The steel grill shall be so lowered over the holes that it does not to cause any damage to the fuse wire or charges and care shall be taken to see that the fuse wires remain free. The loading shall be sufficient to prevent the overthrow of rock after blasting In addition to the above loading; the steel grill shall be securely anchored to the adjoining rock by chains. The steel grill shall extend at least 3 meters beyond the area to be blasted.

Chiseling manually or excavation by pneumatic rock breakers shall be restored to as directed by Engineer -in - charge where blasting cannot be permitted.

Any alternate technique approved by the Engineer- in - charge may be used, but approval to execute the work by the above mentioned method or alternate technique would not relieve the Agency of the responsibility of damage to the power line and properties.



#### **4.0 DEWATERING**

##### **4.1 SCOPE:**

The item shall include all dewatering during construction work of under ground pipe line, intake structures, Flush structure, Turnouts etc. and diversion work required in a manner hereinafter specified.

##### **4.2 GENERAL:**

The area of work shall be kept dry by resorting to pumping or in combination with manual labour for bailing cut water with buckets, etc., or any other satisfactory method to be adopted shall be entirely left to the choice of the agency provided dewatering is carried out satisfactorily and the scheduled programme is adhered to. The agency shall plan, construct and maintain satisfactorily, safe and full proof arrangement for dewatering to ensure safe condition excavation and laying works. The agency shall have responsibility for the adequacy of dewatering arrangement and for the quality and safety of the work, for all of which the agency shall be solely responsible.

##### **4.3 PUMPING:**

Adequate pumping arrangement shall be made for dewatering and keeping the same dry while laying pipes or concreting is in progress. Pumps of required capacity and required number and stage shall be provided to ensure the above. Pumping shall be done in such a way as not to cause damage to the work or property blow subsidence etc.

The agency shall make his own arrangement for necessary labour, materials pumps, engines, well points and other suitable machinery and devices required for successful execution of item of dewatering.

##### **4.4 AGENCY RESPONSIBLE FOR DIVERSION ETC:**

The Agency shall plan, construct and maintain satisfactorily necessary diversion channels and other temporary diversion and protective works and furnish, install, maintain and operate all necessary pumping and for dewatering the various parts of the works and maintaining the work site as free from water as directed by the Engineer-in-Charge.

##### **4.5 DESILTING:**

If channel excavation is filled due to accumulation of surface flow during the progress of the work or during rainy season or due to any other cause, all pumping required for dewatering the pits and removing silt shall be done without extra cost.

##### **4.6 REPAIRS AND REMOVAL OF DIVERSION CHANNEL, BUNDS ETC.:**

After having served their purpose the temporary bunds shall be removed to the extent by the agency at his cost as directed by the Engineer from time to time.

**4.7 DISPOSAL OF WATER:**

The water from the excavated area shall be disposed off in the manner detailed below or in any other manner as per the direction of Engineer-in-Charge.

In undeveloped areas such as countryside where sewerage system has not been introduced the water may be led to the nearest natural drain or pond through properly laid and dug channels or through pipes.

Disposal of water shall in no case cause inconvenience or nuisance to the inhabitants of the area or cause damage to property and structure nearby.

Government regulations shall be complied with the rights of private land owners shall be respected regarding disposal of water.

Agency shall be responsible for all the incidental like obtaining permission of local bodies and persons concerned to lead the water to the open channels, making use of lands and properties owned by private persons or public bodies etc. and for the damage caused in the operation of this item.

**5.0 CONCRETING****5.1. SCOPE OF WORK:**

The work covered by this item shall consist of Cement Concrete for required structures in UGPL System.

- i) Furnishing all materials, equipment and labour for the manufacture, transport, placing and curing of concrete and performing all the functions necessary and ancillary thereto including the concrete to the required shape as per drawing.
- ii) No extra payment will be made for the installation of this embedded metal work or for delays or for interruptions arising there from.
- iii) Providing and removal of all form work comprising furnishing all materials, equipment and labour for the manufacture, transport, erection, keeping in place with necessary fixtures and supports oiling etc. complete.
- iv) Necessary sampling and tests for material and concrete,
- v) Compensation for injury to persons and damages to work or property.

**THE FOLLOWING SPECIFICATION WILL APPLY IN GENERAL OF ALL TYPES OF CONCRETE WORKS INCLUDING R. C. C. WORK.**

## 5.2 CEMENT

Cement shall be obtained by the Agency and confirm to the Bureau of Indian Standard for Portland pozzolan confirming I.S./8112 of 1989. The cement shall be procured- in standard bags as received from the manufactures and is to conform to the specifications.

## 5.3 SAND

The sand shall consist of hard, dense, durable, uncoated siliceous gritty materials obtained from rock fragments. It shall be free from injurious amount of dust, clay lumps soft and flaky particles, shale, alkali, organic matter, mica and other deleterious substance. The texture should necessarily be course, matching grading specifications. The maximum percentage of deleterious, substance in the sand delivered for use in concrete or mortar shall not exceed the following values. The material should be as per relevant I.S.Code.

Approval of quality of material by the Quality control Organisation of the DOWR is binding on the agency.

## 5.4 COARSE AGGREGATE.

Coarse aggregate for concrete shall consist of hard dense, durable uncoated crushed rock and shall be free from injurious amount of soft, feeble thin elongated or laminated pieces alkali, organic matter or other deleterious substances. Flaky and weathered stones shall not be used.

The broken stone shall be free from dust and dirt and shall be washed if necessary to ensure that all faces or the stones are perfectly clean. The material should be as per relevant I.S.Code.

Approval of quality of material by the Quality control Organisation of the DOWR is binding on the agency.

### GRADING :

The approximate range in grading of coarse aggregate shall be as under, coarse aggregate shall be of such size as shall be retained on a mesh 5 mm.Sq.

Maximum size of aggregate	Normal range mm	Percentage of coarse aggregate (mm)				
		40 to 80	20 to 40	5 to 20	10 to 20	5 to 10
20 mm	10 to 20	--	--	100	50 to 67	33 to 45
40 mm	20 to 40	--	40 to 50	50 to 60	28 to 40	18 to 30
80 mm	40 to 80	20 to 366	16 to 36	35 to 44	10 to 30	13 to 29

The grading between the limits specified above shall be such as shall produce a dense concrete of the specified Proportions and consistency that will work readily into position without segregation and without the use of excessive water content.

The use of gravel fraction left behind sieving river sand for winning fine aggregates shall be permitted in the bending of coarse aggregate if asked for after suitable experiments and without rate variations.

SIZE :

The maximum size of coarse aggregate for a particular grade or concrete shall be as large as possible but normally not greater than 1/4th of minimum thickness of the concrete member provided that in the case of R.C.C. this size present no difficulty to surround the reinforcement thoroughly and fill up the corners of the form work fully and is less than the minimum cover by 6 mm.

Generally a maximum size of 20 mm should be found satisfactory for reinforced concrete work.

The grading between the maximum size and minimum size of 5 mm shall be such as to produce a dense concrete of 'the specified proportion and consistency that will work readily into position without segregation and without the use of excessive water content.

The Agency shall at all times maintain a minimum storage of all grades of the aggregate for the day's requirements at work site .

#### **5.5 WATER:**

Water used in concrete shall be clean and free from objectionable quantities of silt organic matter, alkali, salt and other impurities which are likely to be injurious. The turbidity of water forming shall not be more, than 200 parts per million and shall preferably be lower.

#### **5.6 GRADING AND RELATIVE PROPORTION :**

Grading of the aggregates (fine and coarse) brought on the site shall be done by the agency and shall be got approved from the Engineer-in-charge. The grading of sand and coarse aggregate is liable to be modified beyond the limit specified above to suit local condition in order to obtain required strength and workability.

#### **5.7 MIX VARIATION:**

Cement variation in the concrete mix is not liable for compensation

#### **5.8 DESIGN MIX:**

The ratio of the Volumes of the fine and coarse aggregate may be varied within limit of 1:1.5 to 1:2.5 as directed by the Engineer-in-charge to suit the maximum size of coarse aggregate the grading, density, workability and strength without extra cost.

The quantity of water shall be just sufficient, but not more than sufficient to produce a dense concrete of required workability for its purpose. An accurate control shall be kept on the quantity of mixing water. An allowance shall be made for surface moisture present in the aggregate when computing water content as indicated in IS.456 - 2000.

Exact proportions in which the materials are to be used for different part of the work shall be determined by carrying out mix design to obtain the specified strength of the concrete. The design of mix shall be submitted by the agency and got approved from Deptt. Quality Control Laboratory at least one month before commencement of the work. The design may be changed at any given time at the discretion of the Engineer-in-charge during progress of the work. The samples of aggregates and cement and the resulting concrete as well as the concrete mix design shall be tested as per relevant I.S. code method. The tests shall be made by the agency at frequent intervals as decided by the Engineer-in-charge, so as to secure the required workability, density, impermeability, strength & economy.

## 5.9 TESTS FOR CEMENT CONCRETE.

A) STIPULATED CRUSHING STRENGTH : Concrete should confirm to

Nominal mix	Equivalent ISS mixes	Preliminary lab test at 28 days (N/mm <sup>2</sup> )	Stipulated crushing strength in works tests	
			At 7 days (N/mm <sup>2</sup> )	At 28 days (N/mm <sup>2</sup> )
1:1:2	M-25	32	17	25
1:1:5:3	M-20	26	13.5	20
1:2:4	M-15	20	10	15
1:3:6	M-10	13.5	7.5	10
1:4:8	M-7.5	10	5	7.5

B) STANDARD OF ACCEPTANCE:

Not a single sample of work test cubes shall have at the age of 28 days, a crushing strength less than the stipulated crushing strength of concrete. The Engineer-in-charge may at his discretion occasionally accept the crushing strength of a sample, which is less than the stipulated strength but which is equal to or more than 85 % of the stipulated, strength. Each sample of work test cubes shall assume to represent 30 M3 concrete and amount of corresponding quantity of concrete showing crushing strength less than stipulated strength shall be recovered as under.

	Crushing strength.	Amount to be recovered (Recovery rate )
1)	Equal to or more than 95 %	Nil.
2)	Equal to or more than 90 % but less than 95 %	5 % of rate of Concrete in current Schedule of rate.
3)	Equal to or more than 85 % but less than 90 %	10 % of rate of Concrete in current Schedule of rate .

The recovery rate shall be approved by the Project Authority.

If the crushing strength falls below 85 % of the stipulated crushing strength then the quantity of concrete represented by these samples shall be removed and redone by the agency at his cost. Unit for acceptance or these tests will be one working season.

#### C) SLUMP TESTS.

In order to test the consistency of the mixed concrete, slump test shall have to be made by the Agency when and where required by the Engineer in charge, as per Indian Standard Specification. The allowable slump shall be decided by the Engineer-in-charge, depending upon the location of the concrete.

In the case of reinforced concrete work, the workability shall be such as the concrete will surround and properly grip all the reinforcement. Water cement ratio will be such as will give concrete just sufficiently wet to be placed and compacted without difficulty.

Concrete shall have a consistency such that it will be workable in the required position and in the case of R.C.C. flow around reinforcing steel also.

For vibrated concrete slump shall range between 2.5 cm. to 5 cm. The slump shall be the less permitted by workability. The slump shall be determined as detailed in Appendix 'G' of IS.456-2000 and maintained throughout the concreting operation.

#### D) FORMS

Form to confine the concrete and shape as required shall be used wherever necessary. The form shall have sufficient strength and rigidity to hold concrete and to withstand the pressure of ramming and vibration without excessive deflection from the prescribed lines the more so when the concrete is in vibration. The Agency shall have to get the design and drawing of the centering approved from the Engineer-in-charge before erection. Form work shall be of Steel shuttering.

#### DESIGN

The detailed designs of the formwork shall be prepared by the Agency and got approved by the Engineer-in-charge well in time. Such an approval however, will not relieve the Agency of his responsibility for the adequacy and strength of the formwork .

6.0 to 6.28 DELETED

## 6.29 PIPELINE WORKS

### GENERAL

#### TYPE OF PIPES TO BE PROVIDED FOR DIFFERENT COMPONENTS OF UGPL IRRIGATION SYSTEM.

SI No	Components of the UGPL Irrigation System	Type of pipes to be provided
1	Pipe for distributary, minor & sub-minors (As per design approved by Project authority)	DI pipes as per detailed specification
2	Pipes For CAD Networks (As per design approved by Project authority)	UPVC pipe as per detailed specification

Design will be done for UGPL pipe network of the entire ayacut of 4016ha. in 13 Nos. of MIP to supply irrigation water through outlet at 1 ha. The D.I pipe will be used in pipe network while design dia is 200mm or above and UPVC pipe will be used while design dia less than 200mm.

#### 6.29.1 DUCTILE IRON (DI) PIPES, FITTINGS & SPECIALS

##### GENERAL

This specification covers the specific requirement of design, material, manufacturing, fabrication, constructional features, inspection & testing, transportation, handling, laying, site testing and annual maintenance contract of Ductile Iron (DI) Pipes, Joints, fittings and specials.

#### 6.29.2 DUCTILE IRON (DI) PRESSURE PIPES

##### 2.a. Design Requirements

##### 2.a.(i) Classification

The class of DI pipes to be provided shall be as specified in the data sheet attached. The external diameter and wall thickness of socket and spigot pipes for the specified Class shall be as per IS 8329 or equivalent international standard.

Pressure class and thickness class of pipe flanges shall be as specified in the data sheet attached with this sub-section and shall conform to the requirements of IS 8329 or equivalent international standard.

##### 2.a.(ii) Length

Socket and Spigot pipes shall be supplied in standard working lengths of 4m, 5m, 5.5m & 6m and flanged pipes in lengths of 4m I 5m I 5.5m as per requirements.

##### 2.a.(iii) Tolerances

Tolerances on External diameter, ovality, thickness and length of pipes etc. shall conform to the provisions of IS: 8329 or equivalent international standard.

2.b(i) Material Requirements

The metal used for manufacturing the pipes shall be of good quality, commensurate with the mechanical requirements laid down in IS 8329 or equivalent international standard.

2.c(i) Manufacturing Requirements

Pipes supplied shall be centrifugally cast (spun) Ductile Iron pipes conforming to IS 8329 or equivalent international standard.

The pipes shall be stripped with all precautions to avoid warping or shrinkage defects, detrimental to their good quality. The pipes shall be sound and free from surface or other defects.

2.c(ii) External layer

The DI pipes supplied shall be provided with external protection of metallic zinc coating with finishing layer of bituminous paint as per IS 8329 or equivalent international standard.

2.c(iii) Internal lining

The pipes shall be provided with suitable cement mortar internal lining as per IS 8329 or equivalent international standard.

2.d(i) Joints

Push-on flexible joints shall be provided for pipe to pipe connection as per IS 8329 or equivalent. Wherever, flange joints are required e.g. at terminal points, valves, over ground and underground pipe connection etc., Welded on flanges shall be used.

2.d(ii) Rubber gaskets

Rubber gasket used with push-on flexible joints shall conform to the requirements of IS: 5382 or equivalent.

Rubber gaskets for use with flanged joints shall conform to IS 638 or approved equivalent.

### **6.29.3. DI FITTINGS & SPECIALS**

3.a Design Requirements

3.a(i) Classification

The class of DI fittings to be provided shall be as specified in the data sheet attached with this sub-section. The external diameter and wall thickness of fittings for Push-on-joints for the specified Class shall be as per IS.9523 or equivalent.

The Pressure class of flanged fittings shall be as specified in the data sheet attached with this sub-section and shall conform to the requirements of IS 9523 or equivalent.

3.a(ii) Permissible deviations on length of fittings

The permissible deviations on the length of fittings shall be as per IS: 9523 or equivalent.



## 3.a(iii) Tolerances

Tolerances on external diameter, Raised face height, thickness and Flange drilling of fittings etc. shall conform to the provisions of IS: 9523 or to the provisions of international equivalent standard to which they are supplied.

## 3.b(i) Material Requirements

The metal used for manufacturing the fittings shall conform to the appropriate grade as specified in IS 1865, in commensurate with the requirements of IS 9523 or equivalent.

## 3.c(i) Manufacturing Requirements

The fittings shall be stripped with all precautions to avoid warping or shrinkage defects, detrimental to their good quality. The fittings shall be sound and free from surface or other defects.

## 3.c(ii) External layer

The DI fittings supplied shall be provided with external protection of metallic zinc coating or zinc rich paint coating with finishing layer of bituminous paint as per IS 9523 or equivalent.

## 3.c(iii) Internal-lining

The fittings shall be provided with suitable cement mortar internal lining as per IS 9523 or equivalent.

**6.29.4 Joints between pipe and fittings**

4.a. Push-on flexible joints shall be provided for pipe to fitting connection as per IS 9523 or equivalent. Flange joints, wherever required, shall conform to the requirements of IS 9523 or equivalent.

## 4.b. Rubber gaskets

All the DI fittings shall be provided with rubber gaskets for each socket. Rubber gasket used with push-on flexible joints shall conform to the requirements of IS: 5382 IS 9523 or equivalent.

Rubber gaskets for use with flanged joints shall conform to IS 638 or equivalent.

**6.29.5 SPECIFICATION OF RESTRAINED JOINTS**

For all 45° and 90° bends restrained joint pipes and fittings will be used.

DI pipes with restrained joints shall be utilized in underground application where pipelines have to cross roads through existing ducts and in areas with restricted accessibility where the use of concrete anchor blocks is prohibited, or as directed by the Engineer-in-Charge.

Whenever, in the course of work, the CONTRACTOR intends to utilize restrained joints, he shall obtain prior approval from the Engineer-in-Charge.

Restrained joints shall be designed in accordance with ISO 10804:2018. The permissible angular deflection will be as declared by the manufacturer. The Performance Type Test of this Joint in line with ISO 10804/EN545 has to be

established by the manufacturer by getting it witnessed by a NABCB (National Accreditation Board for Certification Bodies), or,

IAF (International Accreditation Forum) or EA (European Cooperation for Accreditation) accredited institution / certification agency.

If a manufacturer has conducted the Performance Type Test already in line with above, then acceptance can be guaranteed on the basis of witnessing such Performance Type Test Certificates.

Rubber ring for joints shall be of a type that will not deteriorate when stored under manufacturer's guidelines or during operation. The rubber gasket shall be of EPDM elastomer in accordance with IS: 5382 suitable for water supply."

#### 6.29.6 MARKING

Each Pipe shall have as cast or stamped or legibly and indelibly painted on it with the following marks:

- a) The Manufacturers name or trademark on each pipe.
- b) The nominal diameter of pipes and batch number.
- c) Class of Pipes and fittings.
- d) A white ring line showing length of insertion at spigot end.
- e) Standard ISI certification mark for the pipes conforming to IS or international standard mark to which they are supplied.
- f) The last two digits of the year of manufacture.
- g) Any important information that the manufacturer deems fit to be inscribed on pipe.

#### 6.29.7 LAYING AND JOINTING OF DIPIPES

As per IS 12288: 1987.

#### DATA SHEET FOR DI PIPES, FITTINGS & SPECIALS

Sl.no.	Description	Units	Parameters
1.	Pipe Material		Ductile Iron (DI) pipe internally cement mortar lined and externally coated with metallic zinc & finishing layer of bituminous paint
2.	Applicable standards		IS / ISO / AWWA / BS as listed in technical specification
3.	Pipe Class		K7/K9 as per IS 8329
4.	Pipe Joint type		Push-on flexible joints as per IS 8329
5.	Pipe Joint type at valves, pumps and other piping		Flange Joints as per IS 8329 & IS 9523
6.	Welded-on Flange (as applicable) Pressure Class		PN10/16 (except with valves where PN 10/16 flange can be provided)
7.	DI fittings class		K12 as per IS 8329 or equivalent
8.	Restrain mechanism at bends, specials etc.		Thrust Blocks/Restrained Joints
9.	Maximum field hydrostatic test pressure	N/mm <sup>2</sup>	As per relevant Indian Standard
10.	Other Requirements		As per technical specification

### 6.30 INSPECTION & TESTING:

As per prevailing practice, the Review of Reports shall be carried out.

Up-stream reservoir (in case of gravity mains) and name of the client. Kilometer markers shall be located 500 mm to the left of the pipe centre line viewing in the direction of flow.

### 6.31 Supply, laying and jointing of DI & UPVC Pipes & Fittings.

#### 6.31.1 Scope

This specification covers the requirements for successfully designing, manufacturing, supplying, laying, jointing and testing at works and site of pipes used for water supply. Use of DI & UPVC pipes shall be pressure class of Pressure class of minimum 6Kg/cm<sup>2</sup> and 4kg/cm<sup>2</sup> or above respectively.

#### 6.31.2 Applicable Codes

The manufacturing, testing, supplying, laying, jointing and testing at work sites of DI & UPVC Pipes shall comply with all currently applicable statutes, regulations, standards and Codes. In particular, the following standards, unless otherwise specified herein, shall be referred. In all cases the latest revision of the Codes shall be referred to. **If requirements of this specifications conflict with the requirements of the standards/codes, standards / codes shall govern.**

Others Codes not specifically mentioned here but pertaining to the use of pipes form part of these Specifications.

#### 6.31.3 Designation

Pipes shall be designated as per IS 12288, 8329 (for DI) and IS 4985/1988 for UPVC.

#### 6.31.4 Materials

The material used for the manufacturer of pipes should not constitute toxicity hazard, should not support microbial growth, should not give rise to unpleasant taste or odour, cloudiness or discoloration of water. Pipe manufacturers shall obtain a certificate to this effect from the manufacturers of raw material by any internationally reputed organization as per the satisfaction of the Engineer-in-Charge in charge.

Code No.	Title/Specification
IS 4984	High Density Polyethylene Pipes for Water Supply
IS 8329 IS 12288	Ductile Iron pipes
IS 1239	M S pipes
IS 5382	Rubber sealing rings for gas mains, water mains and sewers
IS 4985/ 1988	Un-plasticised Poly Vinyl pipe
IS 4905	Methods for random sampling
IS 7328	High density polyethylene materials for moulding and extrusion
IS 7634	Laying & Jointing of Polyethylene (PE) Pipes

IS 9845	Method of analysis for the determination of specific and/or overall migration of constituents of plastics material and articles intended to come into contact with foodstuffs
IS 10141	Positive list of constituents of polyethylene in contact with food stuffs, Pharmaceuticals and drinking water.
IS 10146	Polyethylene for its safe use in contact with foodstuff, Pharmaceuticals and drinking water.

#### 6.31.5 Anti-oxidant

The percentage of anti-oxidant used shall not be more than 0.3 percent by mass of finished resin. The anti-oxidant used shall be physiologically harm less and shall be selected from the list given in IS 10141

#### 6.31.6 Reworked Material

No addition of Reworked/ Recycled Material from the manufacturer's own rework material resulting from the manufacture of pipes is permissible and the vendor is required to use only 100% virgin resin compound.

#### 6.31.7 Maximum Quality of Pipe

The outside diameter of pipes, tolerance on the same and Quality of pipe shall be as given in relevant Codes and the guideline. Quality shall be measured as the difference between maximum outside diameter and minimum outside diameter measured at the same cross section of the pipe, at 300 mm away from the cut end. For pipes to be coiled the Quality shall be measured prior to coiling. For coiled pipes, however, re-rounding of pipes shall be carried out prior to the measurement of Quality.

#### 6.31.8 Workmanship / Appearance

Pipes shall be free from all defect including indentations, delaminating, bubbles, pinholes, cracks, pits, blisters, foreign inclusions that due to their nature degree or extent detrimentally affect the strength and serviceability of the pipe. The pipe shall be as uniform as commercially practicable in colour opacity, density and other physical properties as per relevant IS Code or equivalent International Code. The inside surface of each pipe shall be free of scouring, cavities, bulges, dents, ridges and other defects that result in a variation of inside diameter from that obtained on adjacent unaffected portions of the surface. The pipe ends shall be cut clearly and square to the axis of the pipe. Relevant Codes and the guideline will be followed for visual appearance.

#### 6.31.9 Handling, Transportation Storage and Lowering of pipes

During handling, transportation, storage and lowering, all sections shall be handled by such means and in such a manner that no distortion or damage is done to the section or to the pipes as a whole.

The following procedures should be followed so as to eliminate potential damage to pipes and fittings and to maintain maximum safety during unloading, lifting and lowering.

- Pipes must not be stored or transported where they are exposed to heat sources likely to exceed 60°C.

- Pipes shall be stored such that they are not in contact with direct sunlight, lubricating or hydraulic oils, petrol, solvents and other aggressive materials.
- Scores or scratches to a depth of greater than 10% or more of wall thickness are not permissible; any pipes having such defects should be strictly rejected.
- Pipes should not be subjected to rough handling during loading and unloading operations. Rollers shall be used to move, drag the pipes across any surface.
- Pipes shall not be dropped to avoid impact or bump. If any time during handling or during installation, any damage, such as gouge, crack or fracture occurs, the pipe shall be repaired if so permitted by the competent authority before installation.
- Straight lengths should be stored on horizontal racks giving continuous support to prevent the pipe taking on a permanent set.
- Pipes manufactured at factory are to be carried to the site of work directly or stacked suitably and neatly along the alignment/road side/elsewhere near by the work site or as directed by the Engineer-in-Charge.
- Damages during transit, handling, storage will be to the Agency's account and replacement for such pipes has to be made by the Agency without any extra cost as directed by the Engineer-in-Charge.

#### **6.31.10 Lowering, Laying of Pipes**

- Each pipe shall be thoroughly checked for any damages before laying and only the pipes which are approved by the Engineer-in-Charge shall be laid.
- While installing the pipes in trenches, the bed of the trench should be level and free from sharp edged stones. In most cases, the bedding is not required, as long as the sharp and protruding stones are removed, by sieving the dug earth, before using the same a backfill material. While laying pipe in hard rock or D.I Rock zone a suitable bed of sand of minimum thickness of 15cm should be provided in case of D.I.Pipe and 10cm thickness of sand in case of UPVC pipe as approved by the Engineer-in-Charge.
- During the pipe laying joint should be snap type with rubber ring and coupler wall procedure or other suitable means & should be followed for DI pipe and spigot or bell type joint with liquid adhesive for UPVC Pipe.
- The Installation of flanged fittings such as connections to sluice/air/gate valves and hydrant tees etc., requires the use of stub ends (collars/flange adaptors complete with backing rings and gaskets. Care should be taken when tightening these flanges to provide even and balance torque.
- Provision should be made at all heavy fittings installation points for supports (such as anchoring of the flange in the soil) for the flange joint to avoid the transfer of valve wheel turning torque on flange joint.
- Pipe is lighter than water. Hence care should be taken for normal installations where there could be a possibility of flooding of the trench thus the trench shall be kept free of water till the jointing has been properly done
- When flooded, some soils may lose cohesiveness, which may allow the pipe to float out of the ground. Several design checks are necessary to see if groundwater flotation may be a concern. Obviously, if the pipeline typically runs full or nearly full of liquid, or if groundwater is always below the pipe, flotation may not be a significant concern.

- However, weights by way of concrete blocks (anchors) are to be provided so that the pipe does not float when suddenly the trench is flooded and the soil surrounding the pipe is washed away. Thus site conditions study is necessary to ensure the avoidance of flotation.
- Delivery chamber of required section shall be constructed by agency as per approved drawing and specification at each out let point of chak. Agency has to quote his bid inclusive cost of delivery chamber.

#### **6.31.11 Jointing of Pipes**

The pipe shall have joint with stopper gasket for joining two pipes and coupler is employed to connect two pipes. The double bell couplers should have grooves inside the couplers to retain the elastomeric seal to provide water tightness. Spigot or bell type joint with liquid adhesive for UPVC Pipe to provide for fluid tightness for the intended service conditions.

### **6.32 Bedding, Backfilling and Compaction**

#### **6.32.1 Bedding**

The bottom face / trench bed with minimum thickness of sand 15cm shall be placed and compacted for rigid base to receive D.I pipe laying in hard rock or D.I Rock zone and 10cm thickness of sand bedding in case of UPVC laying as per direction of Engineer-in-charge. The minimum cover over buried pipe should be 1.20 m.

#### **6.32.2 Back Filling**

Backfilling should be placed in layers not exceeding 15cm thickness per layer, and should be properly compacted. The refilling should be done on both sides of pipe together & height difference in earth fill on each side should not be more to cause lateral movement of pipe.

It is very important that the pipe zone backfill material does not wash away or migrate in to the native soil. Likewise, potential migration of the native soil in to the pipe zone backfill must also be prevented.

Heavy earth moving equipment used for backfilling should not be brought until the minimum cover over the pipe is 90 cm in the case of wide tracked bulldozers or 120 cm in the case of wheeled roaders or roller compactors.

#### **6.32.3 Compaction**

Backfilling should be made with proper compaction to achieve level ground.

#### **6.32.3 Thrust Block**

**CC** thrust block as per relevant IS codes should be suitably designed & provided at bends and at places of reduction in cross section to take care of thrust as directed by Engineer-in-charge.

#### **6.32.4 Fittings & Specials**

All fittings and accessories required for UGPL Irrigation system should confirm to relevant IS Codes.

**6.32.5****Training**

The Agency shall provide on-site training on DI and UPVC pipe laying, jointing, testing and maintenance etc., to the personnel authorized by EMPLOYER.

**6.32.6****Manuals**

Technical Manual on DI and UPVC pipe including precautions to be taken during operation of the pipeline.

**6.32.7****Flanges**

All flanges employed in the project must be compatible whatever material used.

**6.32.8****Marking**

All pipes shall be marked at maximum interval of 1 m.

The marking shall indicate at least the following information.

- 1) Manufacturer's name & / or trade mark.
- 2) The dimensions (nominal outside diameter X nominal wall thickness)
- 3) The outside diameter tolerance (A or B)
- 4) The designation of pipes material
- 5) The nominal pressure (PN)
- 6) The production period (date or code)
- 7) The BIS standard number and ISI logo.

Apart from online marking on pipes, pipe shall have screen printing on both end of pipes conforming to relevant IS codes.

**6.32.9****Packing & Transport**

The pipes should be preferably transported by road from the factory and stored as per the manufacturer specifications to protect damage.

**7.0****Field Hydraulic testing of the pipelines****7.1****Sectional tests**

After laying and jointing the pipeline shall be tested for tightness of barrels and joints, and stability of thrust blocks in sections approved by the Engineer-in-Charge. The length of the sections depends on the topographical conditions. Preferably the pipeline stretches to be tested shall be between two chambers (air valve, scour valve, bifurcation, other chamber). At the beginning, the Agency shall test stretches not exceeding 1 km. After successful organization and execution of tests the length may be extended to more than 1 km after approval of the Engineer-in-Charge. The hydraulic testing shall have to be commenced immediately after laying and jointing of 1 km reach is completed.

The water required for testing shall be arranged by the agency himself. The Agency shall fill the pipe and compensate the leakage during testing. The Agency shall provide and maintain all requisite facilities, instruments, etc. for the field testing of the pipelines. The testing of the pipelines generally consists in three phases:

preparation, pre-test/saturation and test, immediately following the pre-test.

Generally, the following steps are required which shall be monitored and recorded in a test protocol.

- \_ Complete setting of the thrust blocks.
- \_ partial backfilling and compaction to hold the pipes in position while leaving the joints exposed for leakage control
- \_ opening of all intermediate valves (if any)
- \_ fixing the end pieces for tests and after temporarily anchoring them against the soil (not against the preceding pipe stretch)
- \_ at the lower end with a precision pressure gauge and the connection to the reciprocating pump for establishing the test pressure
- \_ at the higher end with a valve for air outlet
- \_ If the pressure gauge cannot be installed at the lowest point of the pipeline, an allowance in the test pressure to be read at the position of the gauge has to be made accordingly
- \_ Slowly filling the pipe from the lowest point(s).
- \_ the water for this purpose shall be reasonably clear and free of solids and suspended matter
- \_ Complete removal of air through air valves along the line.
- \_ Closing all air valves and scour valves.
- \_ Slowly raising the pressure to the test pressure while inspecting the thrust blocks and the temporary anchoring.
- \_ Keeping the pipeline under pressure for the duration of the pre-test / saturation of the lining by adding make-up water to maintain the pressure at the desired test section. Make up water to be arranged by Agency himself at his own cost.
- \_ Start the test by maintaining the test pressure at the desired section; record the water added carefully and the pressure in intervals of 15 minutes at the beginning and 30 minutes at the end of the test period.



The pipeline stretch will pass the test if the water added during the test period is not exceeding the admissible limits. No section of the pipe work shall be accepted by the Engineer-in-Charge until all requirements of the test have been obtained.

## **8.0 APPURTENANCES & MISCELLANEOUS ITEMS**

### **8.1 Sluice Valves**

#### **8.1.1 General**

The sluice valves shall confirm to IS: 14846. Double flanged short body, Gland less (stem sealing rings) type Sluice valves with appropriate pressure rating. The material to be supplied under this sub-section shall include, but not be limited to, the following: All necessary fittings including bolts, nuts, gaskets, backing rings, counter flanges, jointing material, strainers etc. shall be supplied as required. All the Gland less (stem sealing rings) sluice valve shall be provided with ball thrust bearing and spur gear arrangement.

The working pressure on the valves shall be appropriate to the working conditions and approved by the Employer. The flanges and their dimensions of drilling shall be in accordance with IS: 1538

#### **8.1.2 Marking, Testing and Inspection**

The standard marking and packing of the valves shall be done as per Clause 11 and 13 of IS: 14846. The direction of rotation for OPEN, CLOSE position shall be marked on the hand wheel and on the bonnet of the valve. Hydraulic testing of each sluice valve shall be done for close end test in accordance with IS: 14846 Annex B, to the test pressure and test duration as specified in table 5 and 6 of the IS.

All the valves shall be inspected for flaw detection test in accordance with IS: 14846, clause 10.2. The design, construction material, manufacture, inspection, performance and testing shall comply with all applicable Indian Standards and Codes. Nothing in the specification will be construed to relieve the supplier of this responsibility.

#### **8.1.3 Manufacturer's Test certificate**

The manufacture shall provide a test certificate confirming that all the valves have been tested in accordance with IS: 14846 and stating the pressures and medium used in the test.

#### **8.1.1 Installation**

The installation of the sluice valves shall be done at the locations shown on approved L-sections of UGPL as washout valves and isolating valves for air valves.

## **8.2 BUTTERFLY VALVES**

### **8.2.1 GENERAL**

The Butterfly valves shall confirm to IS: 13095. Double flanged short body butterfly valves of required nominal diameter and pressure rating shall be supplied. The material to be used shall include, but not be limited to, that as shown in the table given below. All necessary fittings including bolts, nuts, gaskets, jointing material etc. shall be supplied as required.

The butterfly valves shall be with disc and shaft and shall be designed to withstand the maximum pressure differential across the valve in either direction of flow. The valves shall have no visible leakage past the disc in closed position under test conditions.

The working pressure on the valves shall be appropriate to the working conditions and approved by the Employer. The flanges and their dimensions of drilling shall be in accordance with IS: 1538.

### **8.2.2 OPERATION**

All valves shall be capable of being operated at a differential pressure across the disc as marked on the valves. Leaver, worm gear / travelling nut type or any other suitable type of operator can be used.

Manually operated valves shall be closed by turning hand wheel or leaver in a clockwise direction when facing the hand wheel or leaver. The design of leaver when fitted shall be such that the leaver may only be assembled to the valve so that it is parallel to the direction of flow when the valve is open.

### **8.2.3 TESTING**

All valves shall be hydraulically tested by the manufacturer before dispatch. The pressure shall be applied without any significant hydraulic shock. Testing shall be carried out before application of paint or other similar treatment.

### **8.2.4 MANUFACTURER'S CERTIFICATE**

The manufacture shall provide a test certificate confirming that all the valves have been tested in accordance with relevant. The manufacturer shall also provide documentary evidence of having manufactured and supplied BFV of similar design and specifications, working satisfactorily for minimum 10 years in India, through Performance Certificate.

### **8.2.5 THIRD PARTY INSPECTION**

The inspection and testing of the sample butterfly valves shall be carried out by the employer and or inspecting agency appointed by the employer, in the manufacture's workshop before application of any paint. All the tests as required as per the relevant I.S Code shall be conducted in presence of the inspecting agency on the sample valves from the lot (Number of valves to be tested from a lot shall be as per the relevant IS for sampling and testing). The valves shall be dispatched only after issue of the test certificate by the inspecting agency for satisfactory performance of the tested valves. The inspection charges for such tests shall be first paid by the agency to the inspecting agency, which shall be reimbursed on production of the documentary evidence for the payment made.

### **8.2.6 MARKING**

Marking shall be cast integral on the body or on a plate securely attached to the body. Marking shall be as specified under the relevant clause of IS Code. The design, construction material, manufacture, inspection, performance and testing shall comply with all applicable Indian

Standards and Codes. Nothing in the specification will be construed to relieve the supplier of this responsibility.

### **8.2.7 ACCEPTABLE MAKES FOR THE VALVES**

Acceptable makes for the double flanged butterfly valves shall be either, Fouress, VAG, IVC or equivalent. All the valves shall have the same make. Agency should not place order with any other manufacturer for the above said item till it has been recommended in writing by employer for the makes listed above.

### **8.2.8 INSTALLATION**

The installation of the butterfly valves shall be done at the locations shown on L sections of the UGPL System. The job covers supply of the valves at work site including all type of taxes and duties, cost of packing, loading, transportation, unloading, stacking and installation at the specified location with cost of all jointing material. The valve after installation for the specified test pressure for the respective pipeline section.

### **8.2.9 SPECIFIC PERFORMANCE GUARANTEE**

For the rubber seated valves, the agency shall guarantee that in the closed position and with a disc differential pressure as specified the valves shall be water tight.

The agency shall guarantee that the operating mechanism shall open and close the valve under the specified maximum differential pressure within the time specified.

The valve shall be suitable for frequent operation during initial commissioning operation after a long period of inactivity.

### **8.2.10 MARKING**

The mark stated by the Employer in the Material Request shall be printed on the body, of all valves and relevant accessories (control columns and relevant connecting elements to the valve, counter flanges, valves for the auxiliary control if separately supplied, etc.).

The face of each hand wheel shall be clearly marked "Open" and "Shut" with arrows indicating the direction of rotation to which they refer. Each hand wheel shall also be fitted with a circular name plate indicating the service for which the valve is intended and valve tag number.

Each spare part shall be individually marked with metal plates suitably punched for an easy identification

### **8.2.11 TESTING AND INSPECTION**

All valves shall be checked for correctness in respect of flange details as specified. The valves shall be tested as per the requirement of AWWVA C-504 (latest version) IS .Proof of design-tested valve shall not be supplied for the project.

### **8.2.12 SITE TEST**

The valves shall be tested at site for opening and closing time, valve operation etc. The valve should operate without any flutter, noise, and vibration.

## **8.3 Air valves**

### **8.3.1 General**

Air valves are required with pressure rating appropriate for the working conditions and approved by the Employer, conforming to relevant IS Code & the guideline

### **8.3.2 Scope and general design features**

The air valves shall be capable of exhausting air from pipeline automatically when being filled. Air shall be released at sufficiently higher rate so that there shall be no restriction for the inflow rate. Similarly, the valves shall be capable of ventilating pipeline automatically when being emptied. The air inflow rate should be sufficiently high to avoid development of vacuum in the pipeline.

The design shall be such that, higher the rate of flow the greater the resultant down thrust, keeping the ball 'glued' to its seat until the last drop of air is expelled from the pipe system.

Each air valve shall be provided with an isolating sluice valve with flanged end connection. The possible air velocity (inflow and outflow) must be at least 10 m/s.

### **8.3.3 Manufacturer's Test certificate**

The manufacture shall provide a test certificate confirming that all the air valves have been tested in accordance with the relevant standards and performance of the test results observed.

### **8.3.4 Third party inspection**

The inspection and testing of the sample air valves shall be carried out by the employer and or inspecting agency appointed by the employer, in the manufacture's workshop before application of any paint. All the tests as required as per relevant Codes and the guideline shall be conducted in presence of the inspecting agency on the sample valves from the lot (Number of valves to be tested from a lot shall be as per the relevant IS for sampling and testing). The valves shall be dispatched only after issue of the test certificate by the inspecting agency for satisfactory performance of the tested valves. The inspection charges for such tests shall be first paid by the agency to the inspecting agency, which shall be reimbursed on production of the documentary evidence for the payment made.

### **8.3.5 Marking**

Each valve shall be permanently marked with a plate securely fixed to the body with the information as specified under relevant clause related IS Code.

The design, construction material, manufacture, inspection, performance and testing shall comply with all applicable Indian Standards and Codes. Nothing in the specification will be construed to relieve the supplier of this responsibility.

### **8.3.6 Installation**

The installation of the air valves shall be done with isolating sluice valve. The job covers supply of the valves at the work site including all taxes and duties, cost of packing, loading, transportation, unloading, stacking and installation at the specified location with cost of all jointing materials

**SECTION – VIII**

**FINANCIAL BID  
&  
MILE STONES**

## FINANCIAL BID

### 1.0 General

Details of the Financial Bid has been described under Section IV clause-40. The work, excluding O&M has been assigned a value in terms of percentage of Bid amount in Appendix F-1. The year wise O & M cost for five years shall be given by the bidder as per Appendix F-2 in pdf format along with price bid. In case of any deviation/alterations/modifications of methodology leading to change in components or its quantity or incorporation of new items of work after approval of detailed design and estimates, the competent authority shall have full powers to revise the percentage breakup of components keeping the contract price same as quoted by the bidder.

Each component is further sub-divided into four stages as given below.

Sl. No.	PARTICULARS
1	2
1.	Surveying, Planning & Design and Approval
2.	Procurement of various components, Supply at site, Testing, QA & QC
3.	Construction of the various components, QA & QC
4.	Testing & Commissioning

The percentage break up of each Component to Stages is given in Appendix F-1. The Project Authority shall have power to revise the percentage breakup of the stages within the components, if felt necessary, after approval of the design and drawing. The bidder may furnish further breakup of the stages into sub-components before signing of agreement, duly approved by the Project Authority, keeping the percentages of stages intact, to facilitate payment. This break up to sub-components shall be finalized only after the finalization of design and approval of estimate. All payments shall be limited to the amount arrived on the basis of percentage of Bid value as specified in Appendix F & Appendix F-1

### 2.0 Evaluation of Bid

Evaluation of Bid shall be carried out as per Clause 17 of Section II: Instruction to Bidder.

**APPENDIX -F 1****PAYMENT SCHEDULE FOR**

UGPL Pipe Network for Irrigation Distribution System & CAD work in 13 Nos. of MIP for CCA of 4082 ha.

<b>Sl. No.</b>	<b>PARTICULARS OF THE COMPONENT</b>	<b>PERCENTAGE OF COMPONENT AMOUNT</b>
<b>1</b>	<b>2</b>	<b>3</b>
1.	After Surveying, Planning, design, drawing, fixing alignment on the village maps for UGPL Irrigation network, getting approval of the design and drawing from Project Authorities, preparation of detail working estimate on the basis of approved design, drawing for clubbing of items for record of measurement and basis of payment, getting approval from competent authorities as per design criteria of Department, relevant I.S. Codes, IRC Publications and circulars issued by the Department from time to time, preparing of ROW / ROU cases (Private land, Government land, Forest land if any), coming under approved alignment of distribution network & CAD work for obtaining permission from appropriate authority etc complete.	2
2.	After supplying of pipes with all accessories for all distributaries, minors, sub-minors & outlets and CAD work as per approved design, drawing, Tech specifications laid down by the Department, relevant I.S. Codes and circulars issued by the Department from time to time and keeping record of measurement of items etc. complete. Amount of running Bill = Bill amount as per actual quantity of work executed based on clubbing of items as approved by the competent authorities in S. No. 1 x "A" Where "A" = (Amount derived from percentage of "BID AMOUNT" of this item) ÷ (Estimated amount)	73
3.	After completion of laying & fixing of pipes with all accessories, controlling structures and successful testing for all distributaries, minors and sub-minors, outlets and CAD work as per approved design, drawing, specifications of Department, relevant I.S. Codes, IRC Publications and circulars issued by the Department from time to time and keeping record of measurement of items corresponding to the items of working estimates etc. complete. Amount of running Bill = Bill amount as per actual quantity of work executed based on clubbing of items as approved by the competent authorities in S. No. 1 x "A" Where "A" = (Amount derived from percentage of "BID AMOUNT" of this item) ÷ (Estimated amount)	20
4.	After commissioning and successful trial irrigation to the command area through UGPL network.	5
Total		100

## APPENDIX – MS

<b><u>MILE STONES</u></b>			
<b>Milestone No.</b>	<b>Particular</b>	<b>Milestone to be achieved as physical % of respective item</b>	<b>Time in month for achieving milestone from the commencement of work</b>
<b>MS 1</b>	6.30 Surveying, Collection of RoR & other information, Contouring on the village sheet covering ayacut of 4082 ha, General layout plan of the entire UGPL irrigation System on village sheet.  6.31 Detail Planning, design, drawing, fixing of alignment on the village maps for UGPL network, getting approval of the design and drawing from Project Authority, preparation of detail working estimate on the basis of approved design, drawing, preparing of ROW/ ROU cases for obtaining permission from appropriate authority etc complete for ayacut of 4082 ha.	50%	By end of 2nd month
		50%	By end of 3rd month
		50%	By end of 6 <sup>th</sup> month
		50%	By end of 8 <sup>th</sup> month
<b>MS 2.</b>	Supplying of pipes with all accessories for all distributaries, minors, sub-minors, outlets & CAD works as per approved design, drawing, Tech specifications laid down by the Department, relevant I.S. Codes and circulars issued by the Department from time to time and keeping record of measurement of items etc. complete for ayacut of 4082ha.	50%	By end of 8 <sup>th</sup> month
		50%	By end of 12 <sup>th</sup> month



<b>MS 3.</b>	Laying & fixing of pipes with all accessories, controlling structures and successful testing for all distributaries, minors and sub-minors, outlets and CAD work as per approved design, drawing, specifications of Department, relevant I.S. Codes, IRC Publications and circulars issued by the Department from time to time and keeping record of measurement of items corresponding to the items of working estimates etc. complete for ayacut of 4082 ha.	50%	By end of 12 <sup>th</sup> month
		50%	By end of 16 <sup>th</sup> month
<b>MS 4.</b>	Testing & Commissioning of the UGPL System.	100%	By end of 18 <sup>th</sup> month

**SECTION IX**  
**DRAWINGS**

**DRAWING & DESIGNS PROVIDED IN THE SECTION ARE INDICATIVE ONLY .  
DURING EXEUTION DRAWING AND DESIGNS APPROVED  
BY THE CHIEF ENGINEER,  
MINOR IRRIGATION PROJECT, BHUBANESWAR  
WILL BE FOLLOWED.**

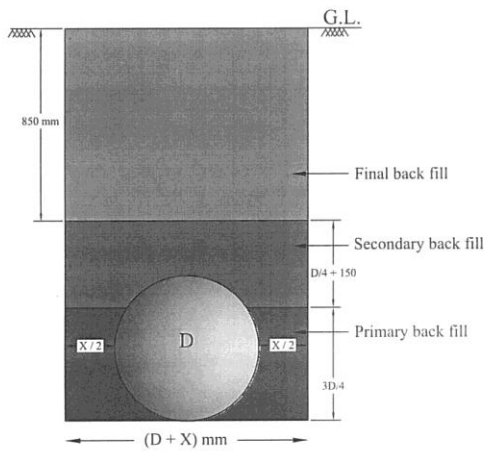


# TYPICAL DRAWING OF PIPE LAYING IN DIFFRENT STRATA

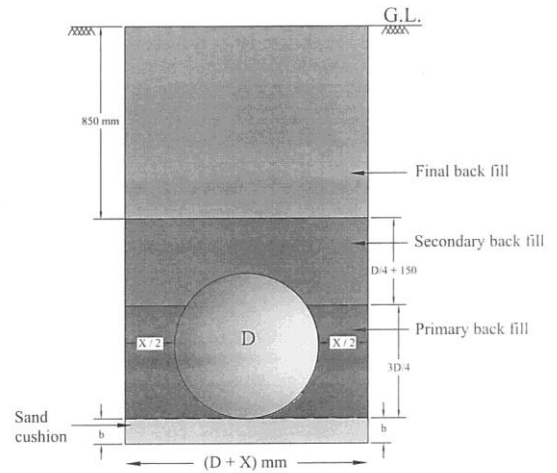
## INSTALLATION GUIDELINES FOR PIPES :

Trench Width =  $D + X$   
 When  $D \leq 315$  mm,  $X = 300$  mm  
 And  $D > 315$  mm,  $X = 400$  mm  
**D = OUTER DIAMETER OF PIPE**  
 Material of back fill should be excavated stuff, except in soft/hard rock strata  
 Minimum sand cushion below pipe,  
 $b = (100 + D/100)$  mm

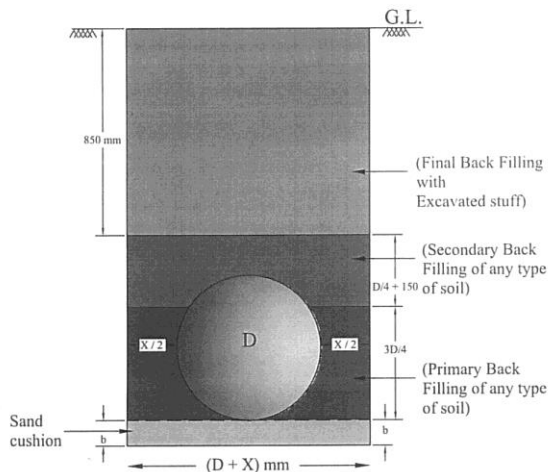
**CASE-I** Pipe laying in all soil including Murram



**CASE-II** Pipe laying in black cotton soil



**CASE-III** Pipe laying in soft & hard rock



**NOTE:**  
 IF DEPTH OF CUTTING IS MORE THAN 2 m, SIDE SLOPE MAY BE CONSIDERED ACCORDING TO TYPE OF SOIL. DECISION MAY BE TAKEN BY ENGINEER INCHARGE. GENERALLY SIDE SLOPE SHOULD BE 0.1 TO 0.25, WHERE DEPTH OF CUTTING IS MORE THAN 2m.

**7.1 Bedding**

**7.1.1** The pipe should be uniformly and continuously supported through its whole length with firm stable bedding material. Pipe bedding material should be Coarse Grained Soil as per the requirements on the backfill material.

**Note: Not to scale**  
 (ALL DIMENSION ARE IN MM)

TYPICAL DETAILED DRAWING FOR PIPE LAYING IN DIFFRENT TYPE OF STRATA	
	APPROVED BY
WAPCOS	SUPT. ENGINEER
DRG NO - WAPSSP	EXECUTIVE ENGINEER
MONTH/YEAR - Dec/2016	BY EAE ENGINEER

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

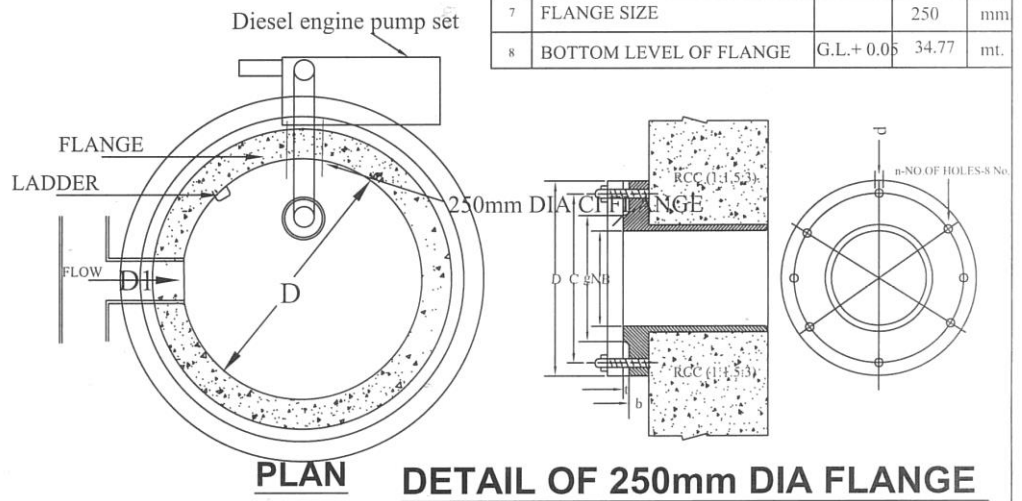
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

### DATA OF 250mm DIA FLANGE

NORMAL SIZE	FLANGE DIA	FLANGE THIK	PCD	RAISED FAIED DIA	RAISED THIK	DIA OF BOLT HOLE	NOS. OF BOLT HOLE	DIA OF BOLTS
NB	D	b	C	g	t	d	n	
mm	mm	mm	mm	mm	mm	mm		mm
250	395	26.5	350	319	3	23	12	20

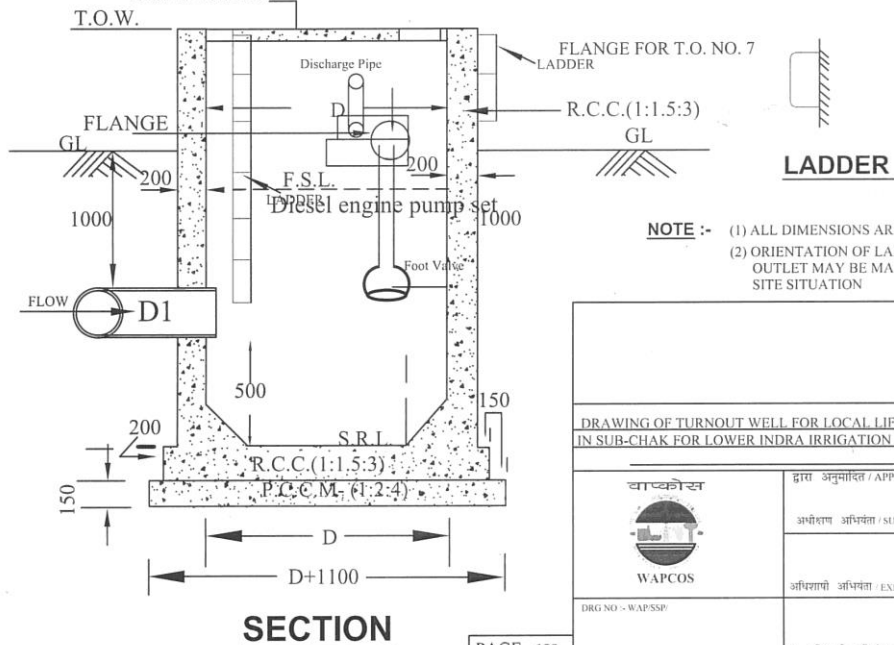
### DATA SHEET

SR. NO.	NOMANCLATURE	SYMBOL	DIM.	UNIT
1	DIA. OF WELL	D	1500	mm
2	DIA. OF INLET PIPE OF SM.	D1	225	mm
3	TOP R.L. OF WELL	T.O.W.	35.62	mt.
4	F.S.L.	F.S.L.	33.16	mt.
5	SILL R.L. OF WELL	S.R.L.	32.14	mt.
6	G.L.	G.L.	34.72	mt.
7	FLANGE SIZE		250	mm
8	BOTTOM LEVEL OF FLANGE	G.L.+ 0.05	34.77	mt.



HOLES DRILLED OFF CENTERS UNLESS OTHERWISE SPECIFIED

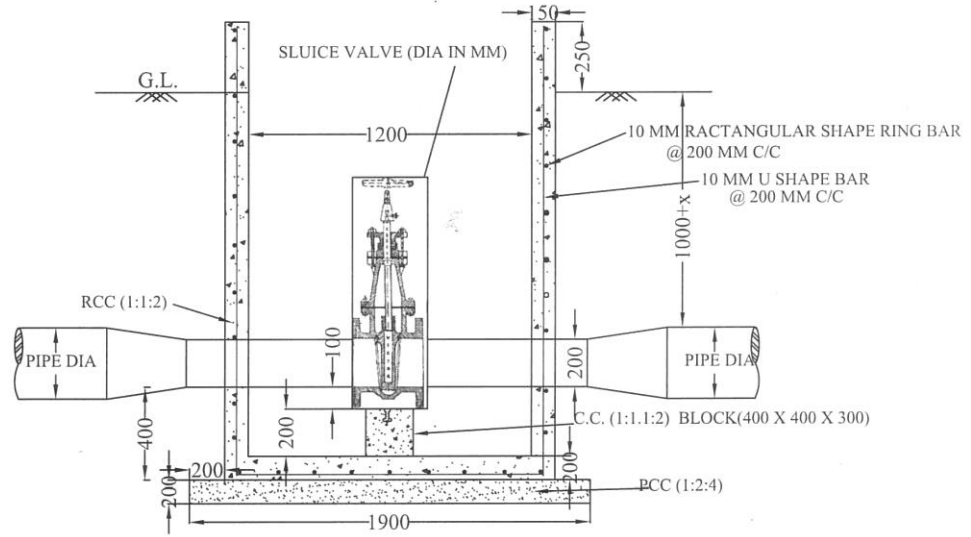
3 Nos 75 mm TH. PRE-CAST R.C.C SLAB (1:1.5:3)  
1900 X 630 X 75



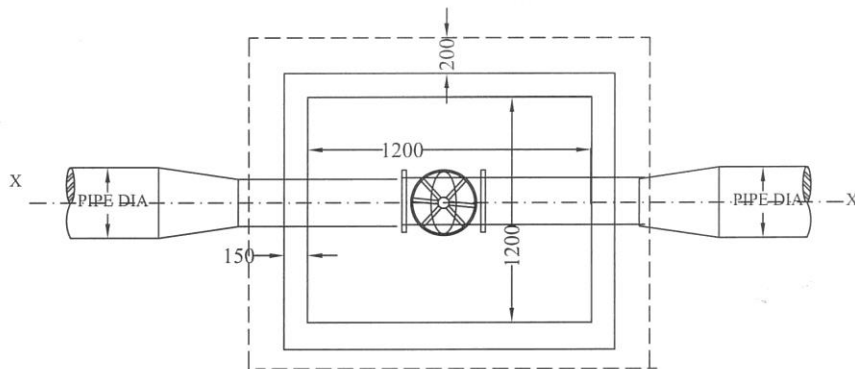
DRAWING OF TURNOUT WELL FOR LOCAL LIFTING OF WATER  
IN SUB-CHAK FOR LOWER INDRA IRRIGATION PROJECT AS UGPI

<p>WAPCOS</p>	द्वारा अनुमोदित / APPROVED BY अभियंता अभियंता / SEPT. ENGINEER
	अभियंता अभियंता / EXECUTIVE ENGINEER
DRG NO - WAPSSP MONTH/YEAR - DEC/2016	उप अभियंता अभियंता / DY. ENR. ENGINEER

**TYPICAL DETAILED DRAWING OF SLUICE VALVE STRUCTURE**



**SECTION X-X**



**PLAN**

**Note: Not to scale**  
(ALL DIMENSION ARE IN MM)

TYPICAL DETAILED DRAWING OF SLUICE VALVE STRUCTURE  
FOR LOWER INDRA IRRIGATION PROJECT AS UGPL



DRG NO :- WAP/SSP/

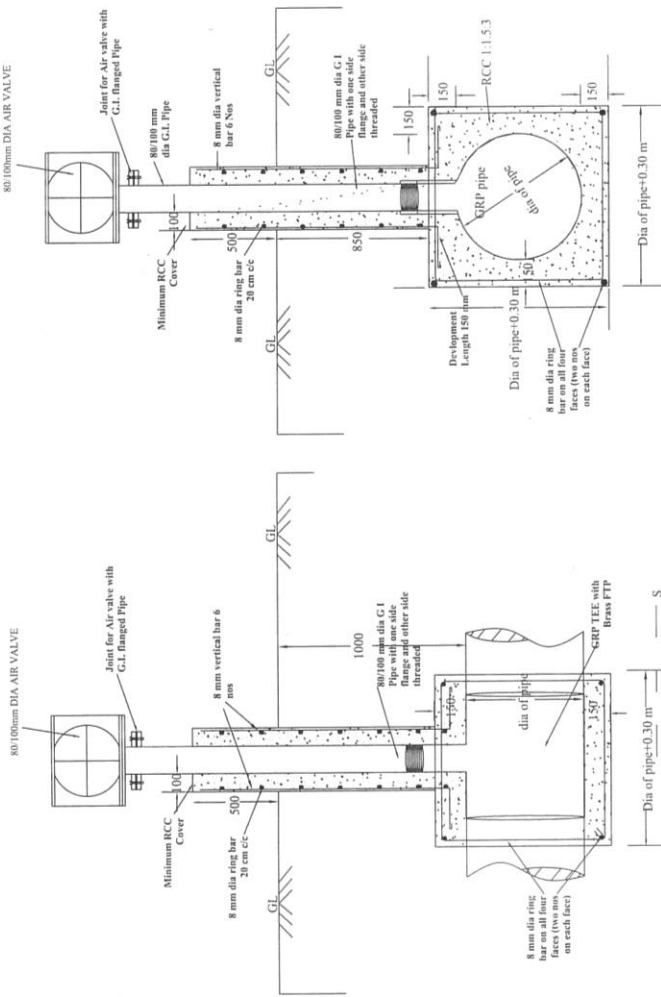
द्वारा अनुमोदित / APPROVED BY  
अधीक्षण अभियंता / SUPT. ENGINEER  
अधिराशी अभियंता / EXECUTIVE ENGINEER

PAGE 125

MONTH/YEAR :- DEC/2016

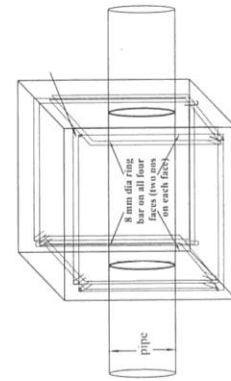
उप अधिराशी अभियंता / DY. EXE. ENGINEER

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

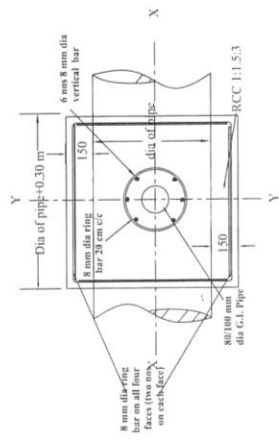


SECTION Y-Y

SECTION X-X

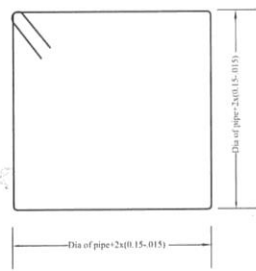
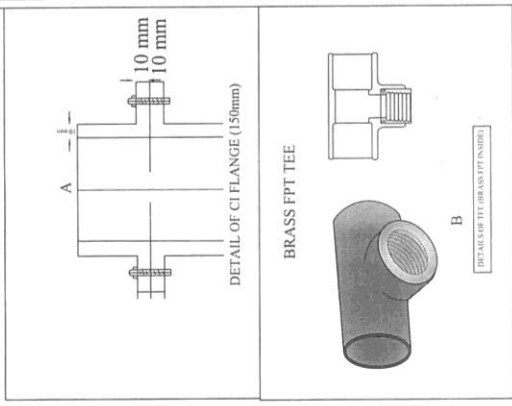


3 D View



PLAN

DETAILS OF AIR VALVE STRUCTURE



8 mm dia ring bar on for 4 faces (two nos on each face)

Note: Not to scale  
SCALE: 1:10 (SECTION), 1:20 (PLAN)

TYPICAL DRAWING OF AIR VALVE STRUCTURE FOR DIST. MINOR FOR LOWER INDIA IRRIGATION PROJECT

DATE: 15/07/2022

WAPDA

PROJECT NO: 15/07/2022

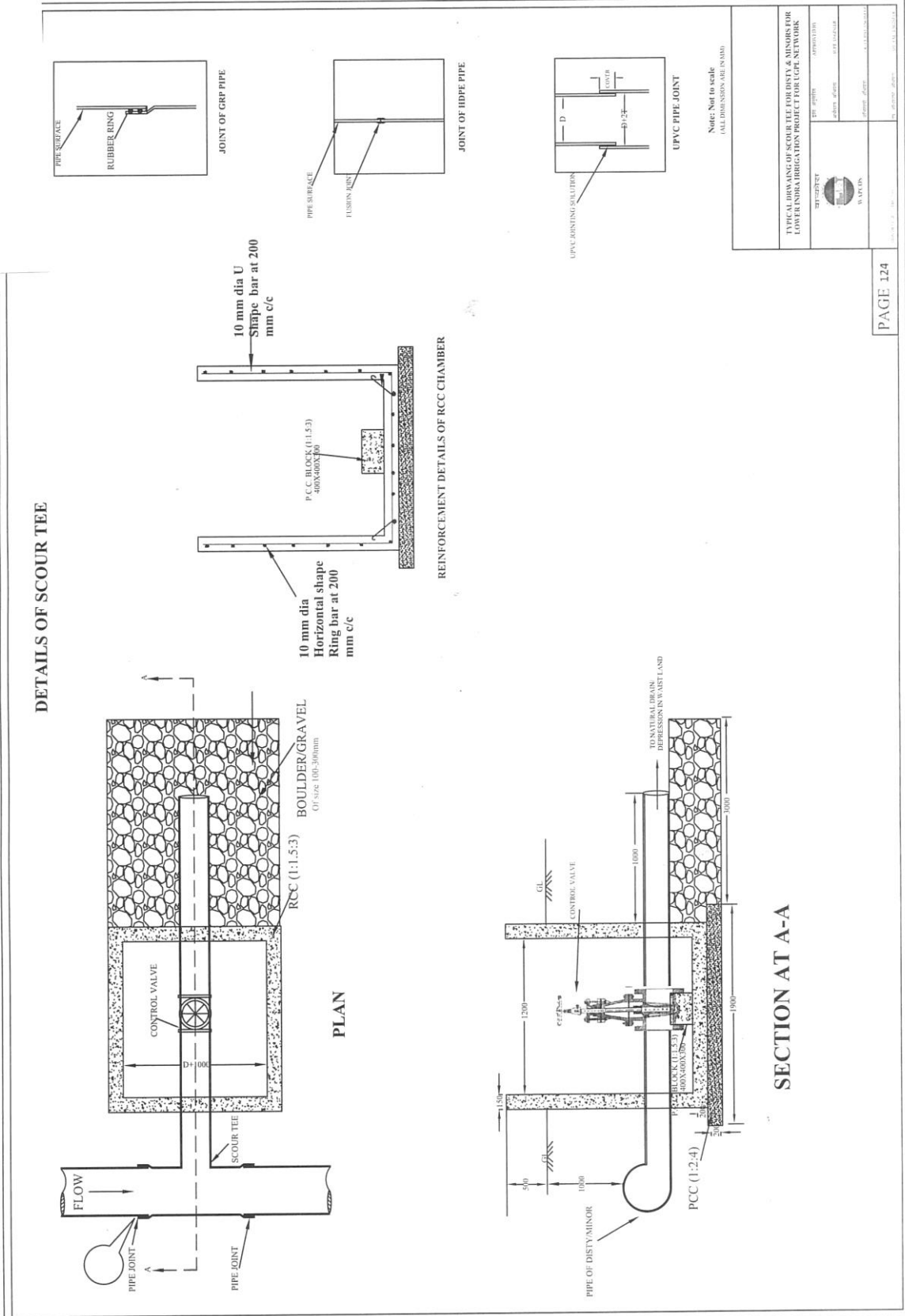
DESIGNER: [Name]

CHECKER: [Name]

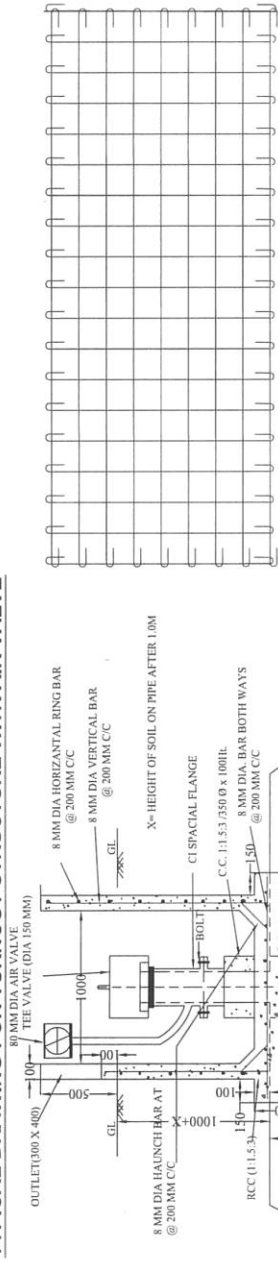
APPROVED: [Name]

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

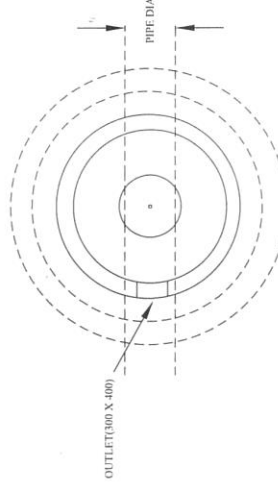




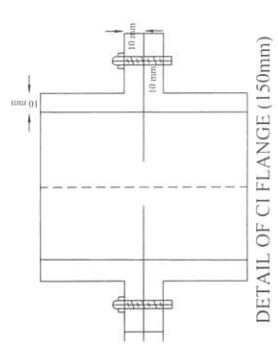
**TYPICAL DRAWING FOR TURNOUT STRUCTURE WITH AIR VALVE**



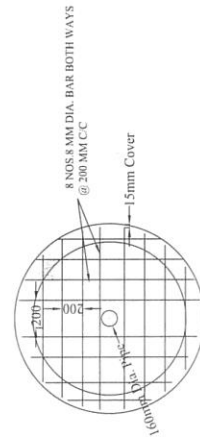
SECTION



PLAN



DETAIL OF CI FLANGE (150mm)



Reinforcement Details at Base

(ALL DIMENSION ARE IN MM)

DRG NO. - WAPSP	APPROVED BY
MONTH/YEAR - DEC 2016	SUPT. ENGINEER
	EXECUTIVE ENGINEER
	IN CHARGE ENGINEER